An Coimisiún um Rialáil Fóntais
Commission for Regulation of Utilities

Price Review Six (PR6)

Transmission Revenue for 2026 - 2030

Draft Determination Paper

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The Exchange, Belgard Square North, Tallaght, Dublin 24, Ireland
T +353 1 4000 800 | F +353 1 4000 850 | www.cru.ie

CRU Draft Strategic Plan 2025-27

Executive Summary

Purpose of this document

The Commission for Regulation of Utilities (CRU) is responsible for the economic regulation of the electricity network companies in Ireland. To do this, the CRU sets Price Reviews which limit the revenues that the relevant licensees can recover from electricity customers. Price Reviews are set every 5 years and the upcoming Price Review Six (PR6) will cover the period, 1st January 2026 to 31st December 2030.

This document sets out the CRU's Draft Determination on the allowed expenditure and the associated allowed revenues for EirGrid and ESB Networks (ESBN), licensed by the CRU as the Transmission System Operator (TSO) and Transmission Asset Owner (TAO).

The CRU is seeking stakeholder views on all aspects of the CRU's Draft Determination (see Appendix 1). Responses will be considered prior to the publication of the CRU's Final Determination.

Background to PR6 and lessons learned from PR5

The electricity transmission system is responsible for delivering power from generation sources to local distribution networks. It consists of an interconnected grid of substations, transformers,

and transmission lines that ensure electricity reaches homes, businesses, and industries efficiently and reliably. A well-functioning transmission system is crucial for maintaining grid stability, enabling energy security, and supporting the transition to a decarbonised electricity system by integrating renewable energy at scale.

For PR6, the CRU's Strategy Paper set out the strategic approach, objectives and outcomes that should be delivered by ESBN and EirGrid (together the "network companies") including the ambition to build on the progress made through the previous price review period, Price Review 5 (PR5)[1].

It is important to recognise that PR5 represented a significant change for the regulatory framework in Ireland, with increased importance placed on achieving outcomes and objectives, particularly around decarbonisation, relative to previous price reviews. Overall, this has driven positive, but mixed, results for customers, with evidence that network companies have helped progress delivery of some decarbonisation and net zero targets, but have fallen short in other areas such as resolving local security of supply issues.

Another positive development in PR5, was the introduction of the Agile Investment Framework (AIF), comprising of a series of mechanisms to allow access to additional revenues during the price review period, thus allowing for a more flexible approach to network investments. However, lessons learned from its implementation point to the need for further clarity and codification before the start of the price review period.

In the Price Review Six Regulatory Framework Paper (CRU202590), the CRU sets out in detail proposals for the PR6 regulatory framework including the approach to cost recovery and managing uncertainty, performance incentives (PIs), and reporting, monitoring and governance arrangements. For the purpose of this document, which sets out the allowed expenditure and revenues, it is important to understand the changes that have been proposed to the AIF, which is now referred to as the Agile Investment and Monitoring Framework (AIMF). The PR6 regulatory framework will include a suite of proposed mechanisms to deal with the inevitable changes in priorities and circumstances (and hence costs) that will arise over the period.

Ireland's electricity system is undergoing rapid change, which is driving a significant step change in the level of investment required in the networks, while also increasing the overall level of uncertainty around the timings, pathways and delivery of different projects and investment programmes. The CRU expects that network companies' allowed expenditure and associated revenues will need to adjust during the price review period to reflect changes in scope and or

[1] CRU202427 – Price Review Six Strategy Paper

investment pathway. As noted above, the AIF was introduced in PR5 to provide agility and flexibility, but in practice network companies did not have confidence that it would sufficiently allow for flexing up/down of expenditure and revenues and it struggled to deal with the degree of change that actually occurred during PR5. For example, it was not designed to manage the step-changes associated with Climate Action Plan (CAP) 2021 and the security of supply challenges that arose mid-period.

The newly proposed AIMF for PR6, building on the AIF, is expected to perform a fundamental role as an agile, light-touch framework to provide the pathway for network companies to flexibly access additional expenditure and associated revenues during the period.

To give confidence to network companies that additional revenues will be available when required, and to manage the level of risk that customers should bear, the CRU proposes to provide a clear *ex-ante* commitment on the envelope of revenue allowances that may ultimately be required to deliver on the PR6 outcomes and objectives.

As set out in this document, the CRU have proposed:

- *ex-ante* baseline operational expenditure (opex) and capital expenditure (capex) allowances – as discussed above, part of which are ring-fenced to particular programmes as part of delivery obligations; and
- opex and capex allowances which the CRU confirms are accessible to companies by the AIMF (also referred to as 'high case' allowances).

The approved baseline allowances are forecast business and PR6 project / programme costs, for which the CRU currently has higher confidence in the need, additionality, scope and cost based on the technical reports provided by the CRU's advisors, CEPA and GHD (CRU202599a, CRU202599b and CRU202599d).

The approved high case allowances are expenditure that the CRU confirms may be needed and is approving as accessible during PR6. Network companies are expected to seek approval through the AIMF's targeted (scheme / category specific) reopeners and volume driver mechanisms for additional allowances in the high case to be released into allowed revenues during PR6 (refer to the Price Review Six Regulatory Framework paper (CRU202590) for more information on these proposals).

The CRU's proposed evolution of the regulatory framework, set out as part of this Draft Determination, improves funding flexibility and introduces clearer accountability for delivery. It reflects the CRU's commitment to enable delivery of the infrastructure required to meet the evolving needs of the transmission system, while safeguarding the interests of current and

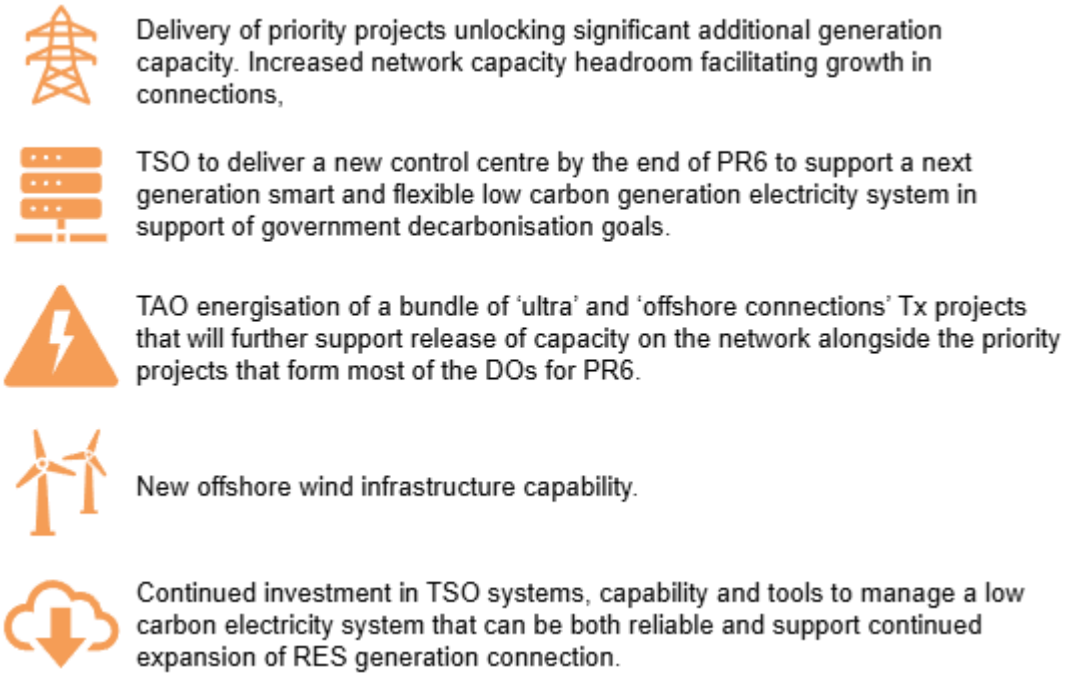
future consumers. The CRU will review these baseline and envelope allowances ahead of Final Determination in light of the responses and representations made to this consultation.

What PR6 is expected to deliver for customers

The Network Needs Assessment paper (CRU202597) published alongside this Draft Determination highlights the significant technical challenges from a network perspective in the achievement of Ireland's net zero ambition. This includes the need for substantial upgrades to the electricity grid to accommodate the anticipated increase in demand from the electrification of heat and transport, provision of new connections and integration of renewable energy sources, as well as to overcome existing network constraints.

The PR6 Business Plans submitted by the TSO and TAO focussed on addressing these issues. The CRU supports the need to invest in the network to provide sufficient capacity which is a critical enabler to economic growth and the drive to decarbonisation. A snapshot of what PR6 is expected to deliver for customers is set out below.

Figure 1: Expected Delivery in PR6



Review of Historic and Forecast Expenditure

The CRU has applied a rigorous cost assessment process that ensures only well-justified and efficient expenditure is included within the allowed revenues. This includes both an *ex-post*, or historic review, into the actual outturn expenditure incurred in PR5, and the associated outputs, and an *ex-ante* review into forecast expenditure for PR6. The steps taken and elements considered in the cost assessment are set out in the introduction to Section 4 below.

The following sub sections set out a brief summary of the CRU's historic (2021 - 2025) and forecast (2026 - 2030) review of TSO and TAO costs.

The CRU expects the TSO and TAO to rely on their internal governance processes to assess and justify their cost requests, providing additional information that sufficiently supports their cost requests in response to this Draft Determination. Once received, and if the additional information is deemed satisfactory, the CRU will include the additional expenditure allowance, and associated revenues, in the Final Determination. Therefore, the allowances approved in the Final Determination may be higher than the allowances set out in the baseline recommendation in this paper.

Unless otherwise stated, all prices stated within this document are expressed as real prices at 2024 price levels, based on the Harmonised Index of Consumer Prices (HICP). Also note that for PR5 expenditure this is often referred to as outturn expenditure, although it includes a mix of actual outturn costs for 2021 - 2023, and a mix of some outturn and budgeted or forecast costs for 2024 - 2025.

PR5 Historic Expenditure Review (2021 – 2025)

The TSO's expected controllable opex outturn for PR5 is €385.7m. This is €18.5m (5%) above the CRU allowance of €367.2m. The TSO's expected overall opex outturn for PR5 is €6,367.0m. This is €4,875.7m (327%) above the CRU allowance of €1,491.3m. The overspend is driven largely by the TSO's spend on the TAO Payment (€1,510.4m), the PSO Levy (€1,690.4m) which are non-controllable costs[2] not included in the PR5 allowance and exceptional costs associated with the Security of Supply Programme (€1,314.0m).

The TSO's spend on opex delivered, *inter alia*, Temporary Emergency Generation (TEG) and retention of existing generation units under the Security of Supply Programme, which were key measures in addressing the shortfall in generation capacity which caused a number of System Alerts in 2021 and 2022. The spend also delivered ancillary services (€1,134.3m), which are non-energy products required to ensure the secure operation of the transmission system.

The TAO's overall expected opex outturn for PR5 is €384.0m. This is €5.9m lower than the CRU allowance of €389.9m. This outcome has been delivered through an overspend on controllable opex of €14.2m and an underspend on non-controllable opex of €20m.

[2] Controllable costs are costs that the TSO can manage and influence, while non-controllable costs are deemed as pass-through. The TAO Payment and PSO Levy are both examples of non-controllable costs and are defined in Section 3.2.1.

Table 1 provides a breakdown of the Draft Determination for the TSO and TAO's historic opex. A more detailed explanation of the CRU's review is set out in Section 3.2.

Table 1: PR5 Transmission Opex Draft Determination

PR5 Transmission *Ex-post* Opex Allowance Categories	*Ex-ante* PR5 Allowance (€m)	PR5 Outturn/Forecast (€m)	*Ex-post* PR5 Allowance (€m)
Total TSO Controllable Opex	367.2	385.7	385.7
Total TSO Non-Controllable Opex	1,124.1	4,412.5	4,412.5
Total TSO Exceptional Items	-	1,568.8	1,568.8
Total TSO Opex	**1,491.3**	**6,367.0**	**6,367.0**
Total TAO Controllable Opex	192.5	206.7	197.6
Total TAO Non-Controllable Opex	197.3	177.3	177.3
Total TAO Opex	**389.9**	**384.0**	**374.9**
Total	**1,881.2**	**6,751.0**	**6,741.9**

The TSO's net outturn total capital expenditure is expected to be €347.8m, an overspend of €66.9m or 24% of the PR5 allowance, noting that the 2024 and 2025 outturn is forecasted. Network capital expenditure is forecast to be €143.5m, an overspend of €60.9m or 74% of the CRU PR5 allowance. Non-network PR5 capital expenditure is forecast to be €204.3m, an overspend of €6.0m or 3% of the CRU PR5 allowance. EirGrid requested a number of in-period adjustments for non-network capex, which *inter alia* includes preparatory spend to facilitate the eventual incorporation of Offshore wind farms and new Interconnectors (Celtic and Greenlink) onto the grid.

The TAO's expected net outturn for PR5 is €1,184.9m which is an underspend of €117.8m when compared to the PR5 allowance. The underspend is primarily driven by a significant underspend on pipeline projects. The TAO forecasts delivery of 113.1km of overhead lines, 137.2km of underground cables, 14 transformer units and 274 switchgear units by the end of PR5.

Table 2 provides a breakdown of the Draft Determination for the TAO and TSO's historic capex. A more detailed explanation of the CRU's proposals is set out in Section 3.1.

Table 2: PR5 Transmission Capex Draft Determination

	Ex-ante PR5 Allowance (€m)	PR5 Outturn/Forecast (€m)	*Ex-post* PR5 Allowance (€m)
TSO Capex	280.9	347.8	347.8
TAO Capex	1,302.7	1,184.9	1,184.9
Total	**1,583.6**	**1,532.7**	**1,532.7**

PR6 Forecast Expenditure Review (2026 – 2030)

EirGrid as TSO and ESBN as TAO have requested a total PR6 transmission allowance of €13.8bn[3] (baseline and agile framework). This represents an increase of 66% on PR5 outturn. ESBN, as TAO, has proposed Baseline allowance proposals to account for uncertainty related to external factors. In addition to the Baseline, ESBN identify the total costs needed to deliver against the targets and objectives associated with 2030 and PR6. These costs are separated in Table 3 below. The CRU's review of this forecast expenditure flagged concerns around instances of limited or insufficient information. In addition, the proposed PR6 allowances also reflect concerns around deliverability and the readiness for some of these investment programmes to proceed.

For opex, the CRU has recommended a considerable increase (*circa* 93%) when compared to the TSO's PR5 outturn. This reflects the CRU's commitment to ensure that the TSO has the resources and capability to deliver on the PR6 strategic objectives.

Table 3: PR6 Transmission Opex Draft Determination (Excluding Frontier Shift)

PR6 Transmission *Ex-ante* Opex Allowance Categories	PR6 Request (€m)	PR6 Baseline Allowance (€m)	PR6 High Allowance (€m)
Total TSO Controllable Opex	950.3	744.2	824.2
Total TSO Non-Controllable Opex	5,446.9	5,446.9	5,446.9
Total TSO Exceptional Items	745.4	745.4	745.4
Total TSO Opex	**7,142.6**	**6,936.5**	**7,016.5**
Total TAO Controllable Opex	211.6	192.8	192.8
Total TAO Non-Controllable Opex	215.0	215.0	215.0
Total TAO Opex	**426.6**	**407.8**	**407.8**
Total	**7,569.2**	**7,344.3**	**7,424.1**

Additional information is required where there is insufficient justification or where either some or all of the PR6 assessment gateways (need, additionality and efficiency of costs) have not been met. There is a potential for a change in revenues between Draft Determination and Final Determination subject to additional, targeted, information being submitted by network companies, which will be considered during the consultation period and prior to Final Determination.

For capex, the TAO's capex requirement has also increased by *circa* 380% when compared to PR5 outturn. This substantial increase is reflective of the need for the transmission network to,

[3] Including customer contributions.

amongst other legislative targets, have the ability to accommodate the anticipated increase in demand from the electrification of heat and transport, provision of new connections, integration of up to 80% of electricity from renewable sources by 2030, as well as to overcome existing network constraints to maintain security of supply and system resilience.

Additional information is required from the TSO and TAO where need, additionality and/or cost efficiency has not been fully demonstrated. More detail is set out in Section 4.1.

The CRU's PR6 capex Draft Determination proposals are summarised in Table 4 below[4].

Table 4: PR6 Transmission Capex Draft Determination

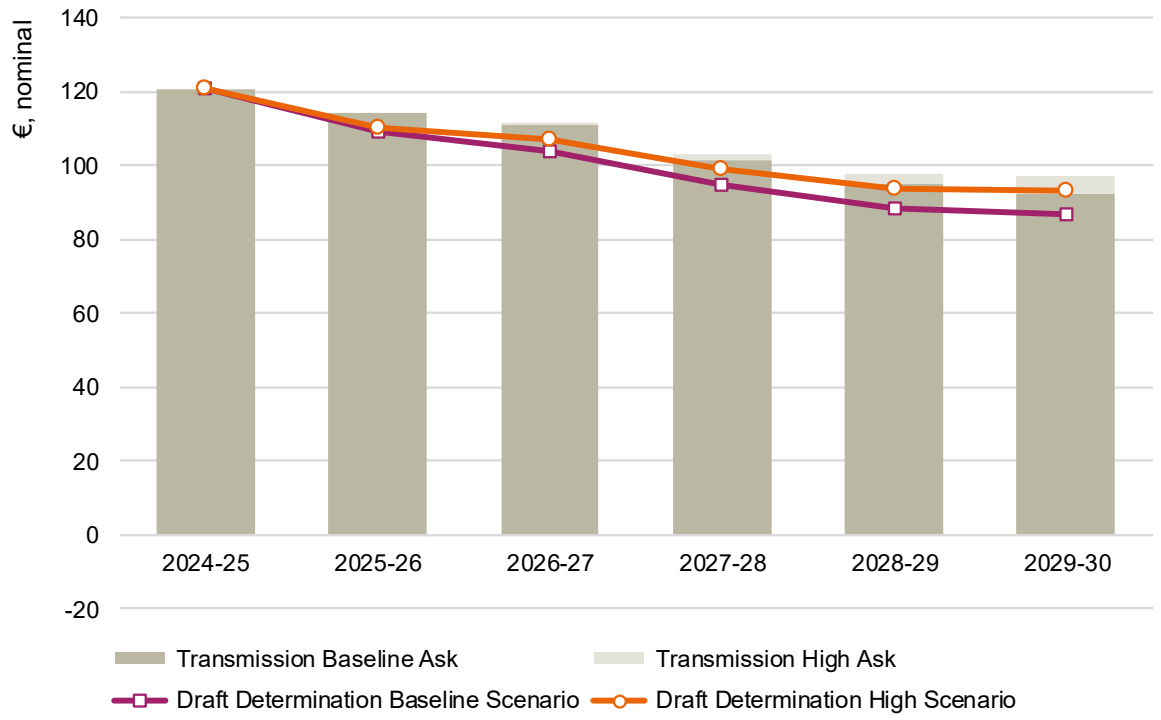
PR6 Transmission *Ex-ante* Capex Allowance Categories	PR6 Baseline Request (€m)	PR6 Request (€m)	PR6 Baseline Allowance (€m)	PR6 High Allowance (€m)
Total TSO Capex	853.0	853.0	659.7	837.6
Total TAO Capex[5]	3,171.0	5,704.8	4,017.0	5,675.5
Customer Contributions	-140.0	-340.0	-140.0	-198.0
Total	**3,884.0**	**6,217.8**	**4,536.7**	**6,315.1**

Consumer Impact Summary

Transmission-related (including TAO and TSO) domestic network costs are expected to decrease (in nominal terms), when comparing relevant estimated charges for 2029/30 with 2024/25. The CRU's assessment included two different consumer impact scenarios relating to the Draft Determination: a baseline and a high scenario. Figure 2 below shows the potential consumer impacts of the Draft Determination proposals on the transmission network charges which relate to an archetypical customer, as well as the impact of the baseline company ask.

[4] Although not included in the figures in this Draft Determination, it should be noted that the total TAO capex submission includes the TSO network capex request which is invoiced to the TAO.
[5] TAO capex exclusive of TSO network capex invoiced to the TAO

Figure 2: Transmission Network Charges: Draft Determination Domestic Customer Impacts (Nominal Values)



The general downward trend shown in Figure 2 is caused by a variety of factors. A key driver is the reduction in security of supply costs from 2024/25 (€331m allowance in 2025 allowed revenues (CRU202482), 2024 prices), down to zero by the end of PR6[6]. This has a significant impact on the trend as it is part of the TSO's external costs, which are all recovered through Demand Transmission Use of System (DTUoS) tariffs. Transmission cost items which are classified as TSO internal costs or TAO costs are not entirely recovered through DTUoS only, which also means that the impact of increasing allowances in these categories in the Draft Determination baseline scenario is slightly muted when it comes to the DTUoS charges.

Regulatory Framework and Delivering for Consumers

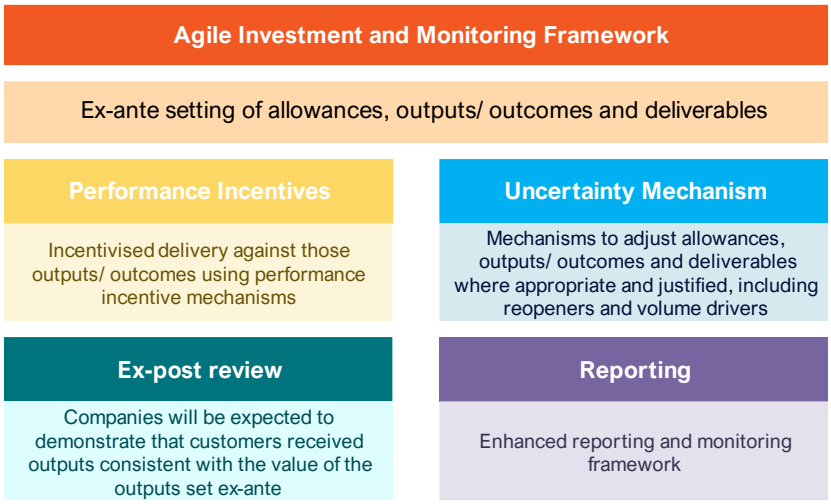
As in PR5, the proposed building blocks of the PR6 Regulatory Framework can be considered in several broad categories. In PR6 this will be referred to as the AIMF and will consist of the following components:

[6] Draft Determination baseline scenario values for security of supply (2024 values) over PR6 are as follows: 2026: €274m; 2027: €219m; 2028: €84m; 2029: €23m; 2030: €0m.

- ***Ex-ante* setting** of allowances, outputs/outcomes and deliverables – including regulatory commitment by the CRU to a high case as well as a baseline envelope of allowed revenues;
- **Incentivised delivery** against those outputs/outcomes using PI mechanisms;
- Mechanisms **to adjust allowances**, outputs/outcomes and deliverables where appropriate and justified during the PR6 period, including reopeners and volume drivers.
- The ***ex-post* review** at the end of the PR6 period; and
- An **enhanced reporting and monitoring** framework.

Each of these building blocks will be supported through an evolved focus on delivery of specified outputs and outcomes given the significant step up in investment.

Figure 3: Agile Investment and Monitoring Framework Building Blocks



Finance and Cost of Capital

The CRU proposes to set separate Weighted Average Cost of Capitals (WACCs) for EirGrid (TSO) and ESBN (TAO/DSO) for PR6, accounting for the asset light characteristics of the TSO directly in the cost of capital. Table 5 below summarises the TSO and TAO cost of capital proposals for PR6.

Table 5: Cost of Capital Estimates and Proposals – TSO and TAO

	CEPA PR6 - TSO		TSO PR6		CEPA PR6 - TAO		TAO PR6	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Cost of debt	**1.34%**	**1.63%**	**2.73%**		**1.28%**	**1.70%**	**1.25%**	**1.69%**
Tax[7]	12.5%	15%	15%		12.5%	15%	12.5%	
Cost of equity (pre-tax)	**8.06%**	**9.62%**	**5.38%**	**6.97%**	**5.22%**	**6.38%**	**5.17%**	**6.18%**
Notional Gearing	55%				55%			
WACC (real, pre-tax)	**4.37%**	**5.23%**	**3.92%**	**4.64%**	**3.05%**	**3.81%**	**3.01%**	**3.71%**
Inflation adjustment	0.10%	0.40%	0.3%		0.10%	0.40%	0.58%	0.83%
WACC (real, pre-tax) after inflation expectations adjustment	**4.47%**	**5.63%**	**4.22%**	**4.92%**	**3.15%**	**4.21%**	**3.6%**	**4.54%**
Cost of Capital	**P67 = 5.23%**		**4.86%**		**P67=3.85%**		**P67=4.23%**	

The proposed PR6 WACC estimate for TSO (onshore) is 5.23%, which is higher than the PR5 estimate of 3.8% and EirGrid's PR6 estimated range, primarily due to bringing in the margin element for high operating cost into the WACC estimation (through asset beta). The CRU considers it appropriate to remunerate for the risk associated with high operational cost through the WACC rather than through a margin, as it is the allowed WACC that compensates the shareholders for systematic risk.

The CRU proposes to allow a real pre-tax cost of capital of 3.85% for the TAO in the PR6 period. This is lower than ESBN's point estimate of 4.23% primarily due to a difference in the inflation adjustment estimates. For PR6, the CRU has looked at estimating the cost of debt for the TAO by taking a weighted average of the embedded debt and new debt.

As in the previous price reviews, the CRU has used a notional capital structure to ensure that the consumers only pay for an efficient cost of capital structure.

The Price Review Six Financeability Assessment (CRU202596) suggests that based on the notional financial metrics of the utility businesses and investment plans over PR6, the proposed TSO WACC of 5.23% and TAO WACC of 3.85% are consistent with the network companies being adequately financeable over the PR6 period with sufficient headroom.

[7] Ireland has signed Pillar Two of OECD Agreement on tax, with a higher 15% tax rate for firms that meet certain conditions.

Public/Customer Impact Statement

The CRU's Transmission Price Review Draft Determination sets the framework for how much money EirGrid (TSO) and ESBN (TAO) can recover and what must be delivered in return. These decisions not only impact consumer bills and the quality of service they receive, but also play a crucial role in enabling increased levels of renewable energy, supporting decarbonisation, achieving climate targets, enhancing energy independence, and fostering price stability in the long term.

Ireland's electricity networks deliver secure electricity supplies to homes and businesses in the country. The CRU allows the network companies to charge money towards the cost of building, safely operating and maintaining the electricity system in Ireland. These charges are passed onto suppliers, which are then typically reflected in customers' electricity bills and make up the network companies' revenue allowances.

The CRU's role is to protect electricity customers by ensuring that the network companies spend customers' money appropriately and efficiently to deliver necessary services and make necessary investments in infrastructure. The CRU does this through what is called a Price Review which is carried out every five years. The current Price Review (PR5) started in 2021 and will end in 2025. PR6 will follow PR5 and will determine the use of system charges for the period 2026 to 2030, and therefore, will have an impact on customers' electricity bills over that period.

The transmission network and operation of same are critical to delivering electricity safely and reliably to homes and businesses across Ireland. Through this Draft Determination, the CRU aims to strike the right balance between ensuring consumers only pay for well justified plans and proposals and the need to invest in smarter, greener and more resilient energy for the future.

The proposed allowed revenues set out in this Draft Determination paper are targeted at delivering value for customers while enabling the network companies to deliver on outcomes and objectives through PR6 linked to Ireland's decarbonisation, climate change and renewable energy ambitions. The CRU considers it critical that throughout PR6 network companies provide resilient electricity networks and supplies while supporting high-quality, secure and cost-effective services to customers and networks users.

The impact of these Draft Determination proposals on electricity consumers has been analysed in detail in the accompanying Information Paper on the topic (CRU202591). Overall, transmission-related network charges for the archetypical domestic customer are expected to decrease (in nominal terms) by €34 in the Draft Determination baseline scenario and by €28 in the high scenario, when comparing relevant forecast charges for 2029-30 with 2024-25.

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Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
the Act	Electricity Regulation Act, 1999
AICR	Accrual-based Interest Coverage Ratio
AIF	Agile Investment Framework – PR5
AIMF	Agile Investment and Monitoring Framework – PR6
AIP	All Island Programmes
BAU	Business As Usual
BPQ	Business Plan Questionnaire
Capex	Capital Expenditure
CAP	Climate Action Plan
CAPM	Capital Asset Pricing Model
CAV	Closing Asset Value
CBCA	Cross-Border Cost Allocation
CEPA	Cambridge Economic Policy Associates
CoD	Cost of Debt
CoE	Cost of Equity
CORESO	CooRdination of Electricity System Operators
CRE	Commission de Régulation de L'Énergie
CRU	Commission for Regulation of Utilities
DAC	Designated Activity Company
DAO	Distribution Asset Owner – ESB Networks

DD	Draft Determination
DMS	Dimson, Marsh and Staunton
DO	Delivery Obligation
DSO	Distribution System Operator – ESB Networks
DTUoS	Demand Transmission Use of System
DUoS	Distribution Use of System
ECC	Emergency Control Centre
ECP	Enduring Connection Policy
EI	Energisation Instruction
EMRP	Equity Market Risk Premium
FASS	Future Arrangements for System Services
FFO	Funds From Operations
FTE	Full-time Equivalent
GHD	Gutteridge, Haskins and Davy
HICP	Harmonised Indices of Consumer Prices
IDC	Interest During Construction
KPI	Key Performance Indicators
MEAV	Modern Equivalent Asset Value
MEC	Maximum Export Capacity
NCC	National Control Centre
NCCS	Network Code on Cybersecurity
NECP	National Energy and Climate Plan
NEDS	National Energy Demand Strategy
NIS 2	Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high

	common level of cybersecurity across the Union
OAO	Offshore Asset Owner
OAV	Opening Asset Value
OECD	Organisation for Economic Co-operation and Development
Opex	Operational Expenditure
ORC	Operations Readiness Centre
ORESS	Offshore Renewable Electricity Support Scheme
OTP	Outage Transformation Programme
PC5	Price Control 5
PI	Performance Incentive
PR	Price Review
PRSI	Pay Related Social Insurance
RAB	Regulated Asset Base
RAG	Red, Amber, Green
RCF	Retained Cash Flow
RES-E	Renewable Energy Source – Electricity
RESS	Renewable Electricity Support Scheme
REU	Retention of Existing Units
RPE	Real Price Effects
S&D	Scheduling and Dispatch
SCADA	Supervisory Control and Data Acquisition
SEM	Single Electricity Market
SEMC	Single Electricity Market Committee
SEMO	Single Electricity Market Operator

SMP	Strategic Markets Programme
SNSP	System Non-Synchronous Penetration
SONI	System Operator for Northern Ireland
TAO	Transmission Asset Owner – ESB Networks
TEG	Temporary Emergency Generation
TFP	Total Factor Productivity
TMR	Total Market Return
TSO	Transmission System Operator – EirGrid
TSSPS	Transmission System Security Planning Standards
TUoS	Transmission Use of System
Tx	Transmission
WACC	Weighted Average Cost of Capital

1. Background

The CRU is responsible for the economic regulation of the system operators and asset owners for electricity transmission and distribution systems in Ireland. To do this, the CRU carries out reviews of the allowed revenue for the transmission and distribution businesses through price reviews. Price reviews set the revenue that the relevant network company can recover from electricity consumers and are set every five years. The transmission business consists of EirGrid, licensed by the CRU as the TSO and ESB, acting through its ESB Networks business unit, is the licensed TAO. ESB Networks DAC is licensed by the CRU as Distribution System Operator (DSO), and ESB, acting through its ESB Networks business unit, is the licensed Distribution Asset Owner (DAO).

In December 2020, the CRU set its price reviews for the Price Review 5 (PR5) period for EirGrid as TSO, and for ESBN as TAO and DSO/DAO. PR5 comes to an end in 2025, therefore, the CRU has initiated the review of the allowed revenue for the transmission and distribution businesses for the next price review period (PR6). PR6 will cover the five-year period from 2026 to 2030. This Draft Determination outlines the proposed revenue that EirGrid as TSO and ESBN as TAO are allowed recover and access (as part of the AIMF) during a the PR6 period.

In recent years, there have been major policy developments at national and European level that have and will continue to drive significant change in the energy sector. European policies have set EU-wide targets to achieve carbon neutrality (net-zero emissions) by 2050. To facilitate this, national policies recognise the need to promote the large-scale deployment of renewables which will be critical to decarbonising the power sector as well as enabling the electrification of other technologies. The major policy developments that impact the strategic context of PR6 are described in detail in Section 2 of the PR6 Strategy Paper[8].

We are seeking comments from members of the public, the industry, customers and all interested parties on proposals put forward in this paper. These include the proposed operational expenditure allowance, and capital expenditure allowance over the PR6 period. The CRU is also seeking stakeholders' views on where additional information is required of the TSO and TAO's revenue requests and the proposed regulatory framework (CRU202590). Responses will assist and inform the CRU in reaching its final decision on the TSO and TAO's revenue allowances for the PR6 period.

[8] CRU202427 – Price Review Six Strategy Paper

The CRU has acquired the services of economic and engineering experts to assist in the review of the TSO and TAO's historic and forecast costs as well as their respective performances in PR6. Cambridge Economic Policy Associates (CEPA) with the support of Gutteridge, Haskins and Davy (GHD) were procured to provide advice on the economic, policy and technical aspects of the review. Specifically, GHD reviewed and provided advice on the TSO and TAO's capex costs while CEPA reviewed and provided advice on the TSO and TAO's proposed opex costs and the Cost of Capital.

The advice put forward by the CRU's consultancy support has informed the proposals outlined in this Determination. In addition, the reports put forward by both GHD and CEPA are published alongside this paper. To avoid repetition, this paper does not reproduce the analysis carried out by GHD and CEPA but focuses on the conclusions. Accordingly, this Draft Determination should be read in conjunction with the CEPA and GHD reports listed in Section 1.6 in order to gain a full understanding of all aspects of the review of the TSO and TAO businesses.

1.1. The CRU's Legislative Remit

Under Section 35 of the Electricity Regulation Act, 1999 ('the Act'), the CRU approves charges for the use of the electricity transmission system in Ireland. An extract from Section 35 is below.

> **35** – (1) Subject to *subsection (2)*, within such time as the Commission may direct, the Board shall prepare a statement for the approval of the Commission setting out the basis upon which charges are imposed —
>
> *(a)* for use of the transmission or distribution system of the Board, and
>
> *(b)* for connection to the transmission or distribution system of the Board.
>
> (2) The Commission may give directions to the Board from time to time in respect of the basis for charges for use of and connection to the transmission system or distribution system of the Board.
>
> […]
>
> (4) A charge for connection to or for the use of the transmission or distribution system of the Board shall be calculated in accordance with directions given by the Commission under this section so as to enable the Board to recover— (a) the appropriate proportion of the costs directly or indirectly incurred in carrying out any necessary works, and (b) a reasonable rate of return on the capital represented by such costs.
>
> (5) The Commission, solely, will determine what constitutes an "appropriate proportion" referred to in subsection (4)(a) and a "reasonable rate of return" referred to in subsection (4)(b).
>
> […]

(7) The Commission shall publish the statement referred to in subsection (1).

(8) With a view to increasing transparency in the market and providing all interested parties with all necessary information and decisions or proposals for decisions concerning transmission and distribution tariffs, as referred in Article 60(3) of the 2019 Internal Electricity Market Directive, the Commission shall make publicly available the detailed methodology and underlying costs used for the calculation of the relevant network tariffs, while preserving the confidentiality of commercially sensitive information.

In accordance with Section 35 of the Act, this document outlines the CRU's proposals on the revenue that the ESB in its capacity as the licensed TAO and EirGrid, as the licensed TSO will be allowed to recover from TUoS customers during the period from 2026 to 2030. In accordance with Section 35(4), these charges are to be calculated to enable recovery of:

- the appropriate proportion of the costs directly or indirectly incurred in carrying out any necessary works; and
- a reasonable rate of return on the capital represented by such costs.

The Infrastructure Agreement between the TSO and TAO, entered into on 16 March 2006 pursuant to the requirements of S.I. No. 445 of 2000, as amended) governs the arrangement for payments between the TSO and TAO of the TUoS collected.

The rationale for the CRU's decisions is explained in detail in the remainder of this paper. The level of revenue (historical and future) is detailed in Sections 3 and 4.

Section 36 of the Act requires the statement of charges, prepared in accordance with Section 35, be submitted to the CRU for approval. The statement of charges will not take effect until approved by the CRU.

In accordance with Section 35(7) of the Act, the TSO's approved statement of charges for each year of PR6 will be published annually by the CRU in August for the upcoming 1st October to 30th September tariff period.

1.2. PR6 Strategy

On 24 April 2024, the CRU published the PR6 Strategy Paper. This paper sets out the CRU's objectives and preferred outcomes for PR6. A summary and review of the responses received to the Strategy Paper can be found in Appendix 2 of this Draft Determination paper.

In recent years, there have been major policy developments at national and European level that have and will continue to drive significant change in the energy sector. The publication of the CAP24[9] was the third annual update to the CAP19[10] and reaffirmed the challenge ahead for the electricity sector in Ireland. These developments are set out in greater detail in the PR6 Strategy Paper.

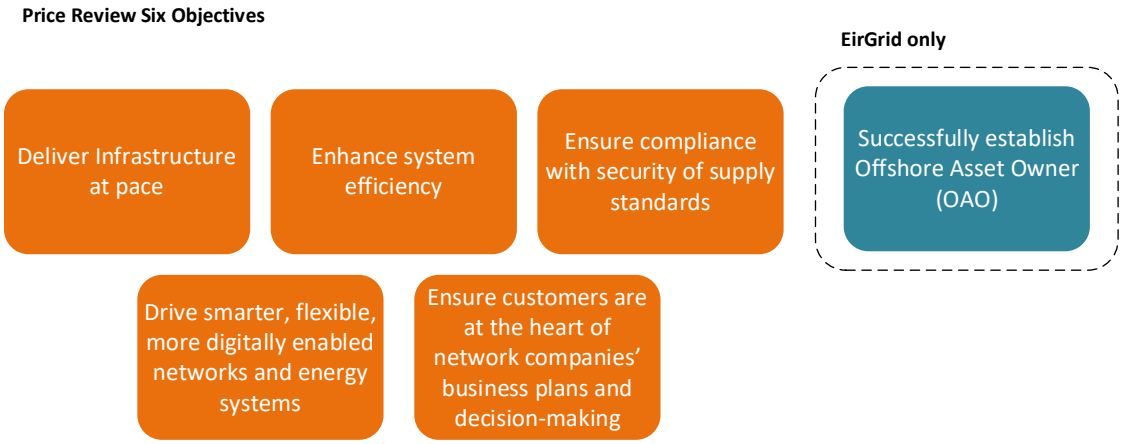
PR6 will be a critical price review for network companies to fulfil their role in the delivery of Ireland's decarbonisation and renewable electricity ambitions. It is also important that throughout PR6, network companies continue to provide resilient energy networks and supplies while also ensuring high-quality and secure services to customers and networks users. To achieve this, CRU has set three outcomes that it expects network companies to deliver. Transforming Ireland's electricity networks as part of the energy system transition, presents a significant challenge that requires emphasis on shaping PR6 to be a more outcomes focused price control.

- **Decarbonised electricity:** Network companies must facilitate realisation of Ireland's decarbonisation ambitions, enabling high levels of renewable electricity integration, driving an environmentally sustainable, low carbon energy system.
- **Secure and resilient networks and supplies:** Network companies must ensure safe, secure, resilient electricity networks and supplies which customers can rely on.
- **Empower customers:** Network companies must deliver high quality and reliable services to customers, ensuring their voice is heard and reflected in the work they do, and that the cost of the transition is minimised.

To ensure delivery of these key outcomes, the CRU considers the objectives in Figure 4 to be central to the network companies for PR6:

[9] Available here.
[10] Available here.

Figure 4: The CRU's PR6 Objectives



- **Deliver infrastructure at pace** to support decarbonisation, the realisation of Ireland's renewable energy and climate change targets and reducing the cost of constraints to consumers.
- **Enhance system efficiency** while continuing to meet the needs of the network and protecting the long and short-term customer interest.
- **Ensure compliance with security of supply standards** by efficiently managing and developing the networks.
- **Drive smarter, flexible, more digitally enabled networks** and energy system to improve capabilities and ongoing efficiency.
- **Customers at the heart of business planning and decision making**.
- The EirGrid only objective to **Successfully establish Offshore Asset Owner (OAO)** is discussed in a separate Draft Determination published alongside this paper.

1.3. PR5 Outturn Figures

Within this paper, the figures provided by the TSO and TAO on their respective expenditure during the PR5 period have been labelled as actual or outturn values. This is not strictly correct. In some cases, the 2024 and 2025 values are the TSO and TAO's best estimate of the expenditure they will incur in both years.

The final values for 2024 and 2025 will be reviewed when these are available and if necessary, any under or over-recovery from the TUoS customer will be corrected at that time to reflect the actual outturn values through the annual tariffing process.

1.4. Responding to this Paper

Responses to this paper should be returned by email by 17:00 on 11 September 2025 and marked with the reference CRU202588.

Responses by e-mail should be sent to CRU at pricereview6@cru.ie.

Please note the CRU intends to publish all submissions received. Unless marked confidential, all responses may be published on the CRU's website. Respondents may request that their response is kept confidential. The CRU shall respect this request, subject to any obligations to disclose information. Respondents who wish to have their responses remain confidential should clearly mark the document to that effect and include the reasons for confidentiality. Responses from identifiable individuals will be anonymised prior to publication on the CRU website unless the respondent explicitly requests their personal details to be published. Our privacy notice sets out how we protect the privacy rights of individuals and can be found here.

Information on the CRU's role and relevant legislation can be found on the CRU's website at www.CRU.ie.

1.5. How to Navigate This Paper

A high-level summary of the approach the CRU has adopted to determine the proposed revenue that the TSO and TAO can recover from TUoS customers during the period 2026 to 2030 is set out below. The CRU recognises that this is a large paper and covers a range of proposals. To assist the readers, the below summarises the key sections of the paper.

Section 3: Review of Allowance Expenditure between 2021 – 2025

- **Section 3.1: Review of Historic Capital Expenditure**

  The capital expenditure incurred by the network companies over the period 2021 to 2025 is reviewed and a summary of key conclusions provided.

- **Section 3.2: Review of Historic Operational Expenditure**

  The operational expenditure incurred by the network companies over the period 2021 to 2025 is reviewed and a summary of key conclusions provided.

- **Section 3.3: Conclusions and Draft Determination Questions**

Section 4: Review of Forecast Expenditure between 2026 – 2030

- **Section 4.1 Review of Forecast Capital Expenditure**

  The capital expenditure program proposed for the PR6 period, as forecasted by the network companies was examined, with particular focus on ensuring value for money and the CRU's PR6 objectives as set out in Section 1.2.

- **Section 4.2 Review of Forecast Operational Expenditure**

  The operational expenditure program proposed for the PR6 period, as forecasted by the network companies was examined, with particular focus on ensuring value for money and the CRU's PR6 objectives set out in Section 1.2.

- **Section 4.3: Conclusions and Draft Determination Questions**

Section 5: The Regulatory Asset Base

- Following the above reviews of historic capital expenditure any variances between the approved and actual expenditure which had been efficiently incurred by the network company were reflected by adjusting the regulatory asset base (RAB).

- The RAB was also adjusted to allow for the forecast capital expenditure. This adjusted RAB will be used for the forthcoming review period (2026 to 2030) and is published as part of the CRU's Price Review model, alongside this paper. Key proposals are summarised, and a number of Draft Determination questions are set out.

Section 6: Determining the proposed Cost of Capital

- A cost of capital to be applied to both the network companies' regulatory asset base, respectively, has been developed and this has been addressed in Section 6 of this paper. Key proposals are summarised, and a number of Draft Determination questions are set out.

Section 7: Financeability

- A summary of the financeability assessment is provided. As noted in Section 7, the CRU must have regard to the ability of network companies to finance their operations.

Section 8: Determining the proposed Allowed Revenue

- The output of the above steps is then used to develop the proposed allowed revenues for the TSO and TAO (which will be recovered from the TUoS customer) for each calendar year

within the period 2026 to 2030. This revenue feeds through into the setting of the annual TUoS tariffs, which cover the period 1 October to 30 September.

Section 9: Customer Impact Summary

- Provides a summary of the impacts of the PR6 Transmission Draft Determination proposals on charges for domestic customers.

The CRU has assumed that the TSO and TAO functions will continue to remain as distinct commercial semi-state enterprises, each operating under its own independent governance structure for the duration of the review, and there will be no substantial changes made to its structure, although improvements in their independence and governance are expected over the period.

Therefore, the transmission allowed revenues for 2026 to 2030 have been set on the basis of the current industry structure and the CRU is assuming that this structure will be in place for the entire PR6 period, allowing for the expected changes in the role of the TSO and TAO noted above. Should this position change, or if it is likely to change, at some point over the five years of this price review period (2026 to 2030), the CRU will take the appropriate steps to review the regulatory structures and revenues in place.

1.5.1. Conduct of the Review

To facilitate this review, the CRU procured expert consultancy support for the provision of technical and financial advice over the course of the project. Detail on this is provided above in Section 1.

To ensure that the CRU and its advisors attained an adequate understanding of the TSO's and TAO's business, the CRU engaged with both parties to ensure that the relevant data was provided in a useable format. Figure 5 sets out the CRU's PR6 engagement with network companies prior to the publication of the Draft Determination Paper.

Figure 5: Engagement with Licensees prior to Draft Determination

Engagement for PR6 had some notable changes to PR5. In particular, the CRU began using dedicated supplementary questions to obtain more detailed information on specific queries and set realistic response times for the network companies. There has also been a significant increase in the level of engagement with EirGrid, including (but not limited to):

- 5 Workshops on the Business Plan Submissions prior to issuance to EirGrid by CRU;
- 6 Information Sessions prior to Business Plan Submissions by EirGrid;
- 6 Workshops and deep-dive sessions post-Business Plan Submissions; and
- 158 supplementary questions issued.

The aim of this engagement was to clarify significant points related to each network companies' submissions, and to allow CRU to seek clarifications to better understand the network companies' justifications.

The engagement allowed the CRU, with the assistance of its advisors, to complete a comprehensive review of the TSO's and TAO's historic, forecast and additional information submissions and ultimately lead to the development of the decisions outlined in this paper.

The CRU has updated the licensees on the progress of the Draft Determination and held *adhoc* meetings to discuss various topics of concern to each licensee. This included an in-person workshop where the CRU's proposals for the Draft Determination were shared. Prior to the publication of the consultation, both parties were provided with an opportunity to review the documentation for factual accuracy.

Following publication of the Draft Determination, the CRU will establish a structured process for post-Draft Determination engagement.

1.6. Related Documents

Further background relevant to this decision document can be found in the following documents:

Document Number	Title	Document Type
CRU202586	Price Review Six Summary Paper	Consultation Paper
CRU202589	Price Review Six Offshore Paper	Consultation Paper
CRU202590	Price Review Six Regulatory Framework	Consultation Paper
CRU202591	Price Review Six Impact Analysis Note	Consultation Paper
CRU202592	Price Review Six Infographic	Information Paper
CRU202593	Price Review Six Inflation Trends and Ongoing Efficiency	Information Paper
CRU202594	Price Review Six Onshore Cost of Capital	Information Paper
CRU202596	Price Review Six Financeability Assessment	Information Paper
CRU202597	Network Needs Assessment	Information Paper
CRU202598	Review of the Financial Regulatory Framework of the TSO for PR6	Information Paper
CRU202599a	PR5 and PR6 TSO Opex Cost Assessment	Information Paper
CRU202599b	PR5 and PR6 TAO Opex Cost Assessment	Information Paper
CRU202599d	Review of TSO and TAO Capex PR5 and PR6	Information Paper
CRU202599g	PR6 TSO Revenue Model	Information Paper
CRU202599h	PR6 TAO Revenue Model	Information Paper

2. Regulatory Framework

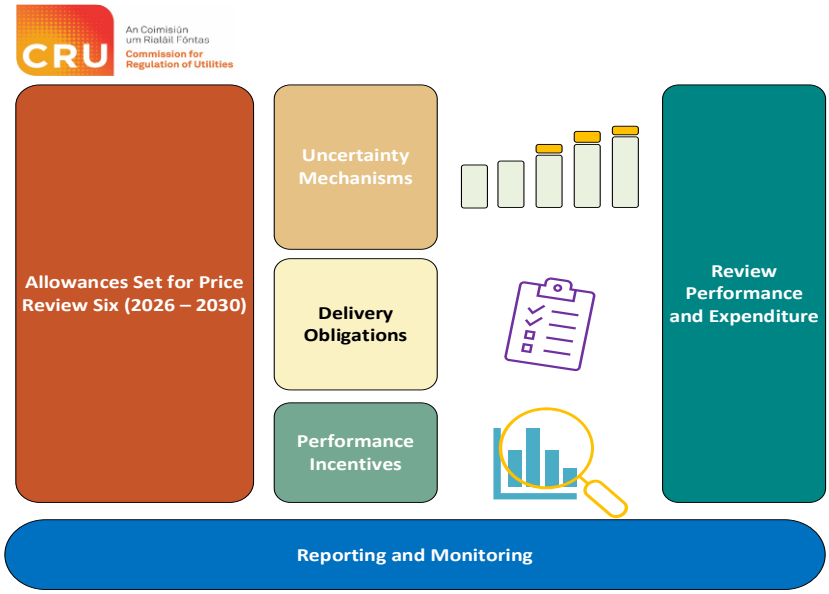
As set out within the PR6 Strategy Paper, the PR6 regulatory framework will represent an evolution of the PR5 framework and will retain several methodologies used in PR1 through to PR5.

The regulatory framework plays a central role in setting clear expectations for the services the network companies must deliver, such as reliability, capacity etc and links their financial returns to performance against these targets. This ensures that network companies are focused on delivering the outcomes that service consumers interests. The framework also promotes efficient investment, innovation and accountability. A clear framework also gives network companies the confidence to invest in infrastructure and tools, knowing they can recover efficient costs through regulated revenues.

2.1. PR6 Proposed Regulatory Framework

The CRU considers that continuing the move to a more outcome-focussed process; providing flexibility within the framework for the network companies and requiring best-in-class performance will facilitate the necessary transformation needed to deliver the ambitious 2030 targets in a sustainable manner minimising the cost for consumers.

Figure 6: PR6 Regulatory Framework Snapshot



With this in mind, the CRU is proposing a number of changes to the current regulatory framework. These are summarised below:

- A targeted set of allowances clipped to 33 **Delivery Obligations (DOs)** with remaining allowances flexible across portfolio subject to *ex-post* reviews on meeting required outputs.
- **Enhanced reporting and monitoring**, particularly for the most critical projects, with increased incentives to deliver.
- Clearer mechanisms for tracking changes to milestones and outputs and the associated costs. This is facilitated through the proposed **Agile Investment and Monitoring Framework** (AIMF). This will allow for adaptive and flexible processes (via Volume Drivers and Reopeners) for approving additional funding requests during the period, giving companies confidence that contingent allowances above baselines will be available to them.
- An evolved and more targeted set of 16 **Performance Incentives** (PIs).
- **Increased strength of the delivery and performance incentive package** overall, with the introduction of new delivery incentives and re-anchored and sharper performance incentives.

The proposed PR6 Regulatory Framework is set out in greater detail in a paper alongside this Draft Determination (CRU/202590).

3. Review of Allowed Expenditure between 2021 – 2025

This part of the paper sets out the CRU's Draft Determination of allowed TSO and TAO expenditure for PR5 (2021 – 2025) and the forecast expenditure for PR6 (2026 – 2030). The following sections will summarise the:

- Review of Historical Capital Expenditure; and
- Review of Historical Operational Expenditure.

The main objectives in the PR5 review of the TSO and TAO's historical expenditure are to assess whether the expenditure has been incurred efficiently and the expected benefits for customers have been achieved. Consistent with previous price reviews, the following areas were examined in detail:

- Comparing the outturn expenditure (and currently projected for 2024 and 2025) with the allowed expenditure;
- Understanding the differences between allowed expenditure and the outturn expenditure; and
- Assessing cost drivers and their impact on performance.

3.1. Review of Historical Capital Expenditure

This section examines the historical capex undertaken by the TSO and TAO over the PR5 period (2021 – 2025). The outturn expenditure is assessed, looking at the output in terms of delivery and efficiency. A more detailed description and breakdown is provided in an accompanying Review of TSO and TAO Capex PR5 and PR6 (CRU202599d). Table 6 summarises the outcome of the historic capex review for TSO and TAO.

Table 6: Summary of Historical Capex (2021 - 2025) Review

Cost Category	*Ex-ante* PR5 Allowance (€m)	PR5 Outturn (€m)	*Ex-post* PR5 Allowance (€m)
TSO Capex	280.9	347.8	347.8
TAO Capex	1,302.7	1,184.9	1,184.9
Total	**1,583.6**	**1,532.7**	**1,532.7**

Please note that all costs set out in the review of historic capital expenditure are in 2024 prices and some costs are rounded to the nearest €0.1m.[11]

3.1.1. Review of TSO and TAO Capital Expenditure

The CRU is proposing to allow just over €1,532.7m of capex related to network and non-network investments for both the TSO and TAO following the *ex-post* review for PR5. This includes €347.8m of network and non-network capex for the TSO and €1,184.9m of network capex for the TAO.

The final outturn for the PR5 period is estimated as €1,532.7m, which results in a total capex underspend of €50.9m relative to the allowed capex revenue approved by the CRU. Having reviewed the advice of GHD, the full underspend appears largely due to significant underspends by the TAO in 2021 and 2022 of €143.0m and €79.9m, respectively. The CRU is proposing to allow the full outturn of €347.8m of TSO capex and €1,184.9m of TAO capex as reasonable in PR5.

The total PR5 capital expenditure (TSO and TAO) compared to the PR5 allowance is set out in Table 7 below.

Table 7: PR5 Transmission Capital Expenditure

Category	2021 € m	2022 € m	2023 € m	2024 € m	2025 € m	PR5 Total € m
TSO Network Capex Outturn	16.6	13.0	26.9	29.7	57.2	143.5
TSO Network Capex Allowance	24.1	22.4	16.6	11.5	8.0	82.6
TSO Network Capex Variance	-7.4	-9.4	10.3	18.2	49.2	60.9
TSO Non-Network Capex Outturn	9.7	17.6	16.0	61.7	99.3	204.3
TSO Non-Network Capex Allowance	11.1	14.8	26.3	37.3	108.8	198.3
TSO Non-Network Capex Variance	-1.4	2.8	-10.3	24.4	-9.5	6.0
TAO Network Capex Outturn	195.2	204.7	234.9	263.3	286.8	1,184.9
TAO Network PR5 Allowance	338.2	284.6	248.2	228.9	202.8	1,302.7
TAO Network Capex Variance	-143.0	-79.9	-13.2	34.4	84.0	-117.8

3.1.2. Review of TSO Capital Expenditure

As shown in Table 7, the TSO is projecting a €60.9m or 74% overspend in network capex for PR5. The largest percentage annual increases are forecast in 2024 (158%) and 2025 (615%). €113.9m of the €143.5m is forecast to be spent on projects envisioned at PR5 Final

[11] For the exact amounts proposed in the PR6 Draft Determination, please refer to the PR6 Transmission model published alongside this paper.

Determination. The remainder of the TSO network capex spend (€29.6m) is attributed to new projects added in PR5 that were not accounted for within the allowance. The TSO was allowed €32.1m for projects that it did not progress during PR5 and that it does not forecast any spend for.

Network Capex

The TSO's outturn costs correspond to development of a number of projects that were not initially included in the original PR5 Business Plan submission and subsequent Final Determination allowance. The reporting of outturn spend for such new projects, along with spend on projects that were included in the PR5 Final Determination allowance, is deemed to be reasonable based on identification of new requirements during the period.

In analysing the PR5 network project capex, consideration needs to be given to the requested (unfactored) capex, allowed (factored) capex and the outturn capex for the projects that progressed and those that did not. The allowance given to projects was a factored value based on the requested capex, due to the uncertainty of whether individual projects would progress. This was with the expectation that projects that did go forward would have outturn costs comparable with the unfactored values. In practice, the outturn TSO capex is closely aligned with the unfactored values for the projects that progressed, indicating that the assumptions applied to determine the factored request were overly optimistic for the TSO.

The individual reasoning for each initiative and any reported variances was examined. A high-level view of the overall programme efficiency was taken, with recommendations to pursue greater visibility of the expected outputs and consistent reporting to track changes as they occur during PR6.

Non-Network Capex

Non-network capex was subject to substantial change in the PR5 period. An additional allowance of €122.7m was granted on top of the initial allowance of €75.6m, an additional 162%. There was an overall underspend of €11.6m on the original allowance, offset by the positive variance observed for the elements subject to in-period adjustment (€17.5m). The in-period adjustments for non-network capex requested by the TSO, *inter alia* includes preparatory spend to facilitate the eventual incorporation of Offshore wind farms and new Interconnectors (Celtic and Greenlink) onto the grid.

The CRU are satisfied that the aforementioned variations in outturn non-network capex spend vs. forecast are reasonable and have been suitably explained by the TSO.

Further analysis of the TSO's network and non-network capex is detailed in the Review of TSO and TAO Capex PR5 and PR6 (CRU202599d) and a summary of the TSO's PR5 capex allowance is set out in Table 8 below.

Table 8: TSO *Ex-post* PR5 Capex Allowance

PR5 TSO *Ex-post* Capex Allowance Categories	Outturn/Forecast (€m)	Draft Determination PR5 Total (€m)
TSO Network Capex Outturn/Forecast	**143.5**	**143.5**
TSO Non-Network Capex Actual/Forecast		
1. IT Asset Replacement	26.8	26.8
2. Cloud Hosting Transition	0.7	0.7
3. IT Operating Model Review	1.8	1.8
4. Resilience & Market Complexity	4.3	4.3
5. Cyber Security	2.9	2.9
6. Facilities	6.8	6.8
7. Sustainability & Decarbonisation	12.9	12.9
8. Operate, Develop & Enhance Grid	7.9	7.9
9. Engage for Better Outcomes	0.0	0.0
Subtotal (original PR5 initiatives)	64.1	64.1
Market-related functions (FASS, SMP, Market System Release Capital, Celtic, S&D)	110.1	110.1
Non-Market-related functions	30.2	30.2
TSO Total Non-Network Capex Allowance	**204.3**	**204.3**
Total	**347.8**	**347.8**

3.1.3. Review of TAO Capital Expenditure

Net outturn network capex for the TAO is expected to be €1,184.9m for the PR5 period. This represents 91% of the allowance which was set at €1,302.7m.

Similarly to the TSO, the TAO's outturn costs include work to progress a number of projects that were not initially included in the original PR5 Business Plan submission and subsequent Final Determination allowance. The reporting of outturn spend for such new projects, along with spend on projects that were included in the PR5 Final Determination allowance, is deemed to be reasonable based on identification of new requirements during the period.

In analysing the PR5 network project capex, consideration needs to be given to the requested (unfactored) capex, allowed (factored) capex and the outturn capex for the projects that progressed and those that did not. The allowance given to projects was a factored value based on the requested capex, due to the uncertainty of whether individual projects would progress, with the expectation that projects that did go forward would outturn costs comparable with the unfactored values. In the TAO's case, the outturn spend for projects with PR5 Final Determination allowances that have been progressed correspond to a 10% underspend compared with the factored allowance. This suggests that the unfactored project costs put forward at the outset of PR5 did not reflect the true project costs, or that different outputs have been delivered. Based on the information submitted, it has only been possible to compare outturn PR5 spend versus PR5 Final Determination allowances, as detailed delivery outputs (e.g. MVA capacity additions, km of lines to be added) were not provided.

A review was undertaken of the projects with the highest variances between outturn and allowed capex in PR5. The individual reasoning for the reported variances was examined, which were all deemed to be reasonable given their contribution to system needs (implementation of projects consisting of extensions, asset replacements and permanent connections). As such, a high level view of the overall programme efficiency was taken, with recommendations to pursue greater visibility of the expected outputs and consistent reporting to track changes as they occur during PR6.

Additional commentary is provided below about the asset volumes added to the system in PR5 compared with the forecast volumes for a range of categories.

Overhead Lines

During PR5, the proposed investments in overhead lines were ambitious, with a forecasted cumulative investment reaching 132km by 2023. However, the actual investments fell short of these projections, achieving a cumulative total of 111km by 2024, and an expected total outturn of 113km by the end of PR5. It should be noted that the forecast included 104km of 400kV overhead line, but the outturn volumes do not include any 400kV circuit (North-South interconnector project delayed).

Underground Cables

In PR5, the planned investments in underground cables aimed for a cumulative total of 132km by 2025. Notably, the actual investments surpassed these expectations, reaching 137km in 2025, a 4% increase on the expected allowance. Several factors have contributed to exceeding the initial targets, such as certain projects requiring adjustments or expansions beyond the initial scope, leading to the increased investment.

Transformers

In PR5, the forecasted investments in transformers was a total of 8 units added by 2025. However, the actual investments exceeded these projections, reaching a cumulative total of 14 to be completed by the end of this year, a 75% increase on the expected volume to be delivered over PR5. The increased investment in PR5 reflects the need to replace aging transformers, accommodate growing demand, and integrate renewable energy sources more effectively.

Switchgear

During PR5, the forecasted investments in switchgear were set to reach a cumulative total of 156 units by 2025. However, the actual investments significantly exceeded these projections, achieving a cumulative total of 261 units in 2024. The total PR5 outturn volume is expected to reach 274 units, a 76% increase on the forecast investment units. This substantial overachievement suggests a strategic prioritisation of switchgear enhancements, reflecting the need to modernise and expand the switchgear infrastructure to enhance system reliability and safety.

Further analysis of the TAO's network capex is detailed in the Review of TSO and TAO Capex PR5 and PR6 (CRU202599d) and a summary of the TAO's PR5 capex allowance is set out in Table 9 below.

Table 9: TAO *Ex-post* Capex PR5 Allowance

PR5 TAO *Ex-post* Network Capex Allowance Categories	Allowance (€m)	Draft Determination PR5 Total (€m)
PR5 project not progressed	43.4	-0.1
PR5 pipeline project not progressed	363.2	-
Project with no PR5 TAO allowance – not progressed	-	-
PR5 project progressed	741.6	716.6
PR5 pipeline project developed	154.4	92.5
Project with no PR5 TAO allowance – progressed	-	323.6
Project with no PR5 TAO allowance – adjustments	-	-3.0
Reconciliation	-	55.3
Total	**1,302.7**	**1,184.9**

3.2. Review of Historical Operational Expenditure

This section examines TSO and TAO's operational expenditure over the PR5 period (2021 to 2025). The outturn expenditure is assessed, looking at the output in terms of delivery and efficiency. Table 10 summarises the outcome of the historic opex review for TSO and TAO. A more detailed description and breakdown is provided in the PR5 and PR6 TSO Opex Cost Assessment (CRU202599a) and PR5 and PR6 TAO Opex Cost Assessment (CRU202599b). Please note that all costs set out in the review of historic operational expenditure are in 2024 prices.

Table 10: Summary of Historical Opex (2021 - 2025) Review

PR5 TSO *Ex-post* Opex Allowance Categories	Outturn/Forecast (€m)	Draft Determination PR5 Total (€m)
Total TSO *Ex-post* Controllable Opex Allowance	385.7	385.7
Total TSO *Ex-post* Non-Controllable Opex Allowance	4,412.5	4,412.5
Total TSO *Ex-post* Exceptional Items Opex Allowance	1,568.8	1,568.8
Total	**6,367.0**	**6,367.0**
PR5 TAO *Ex-post* Opex Allowance Categories	**Outturn/Forecast (€m)**	**Draft Determination PR5 Total (€m)**
Total TAO *Ex-post* Controllable Opex Allowance	206.7	197.6
Total TAO *Ex-post* Non-Controllable Opex Allowance	177.3	177.3
Total	**384.0**	**374.9**

3.2.1. Review of TSO Operational Expenditure

The TSO's actual/forecast expenditure for PR5 is set out in Table 11. Overall, the TSO's expected opex outturn for PR5 is circa €6,367.0m. This is €4,875.7m (327%) above the CRU allowance of €1,491.3m. Overall, the TSO is expected to spend €4,412.5m in non-controllable costs over PR5. This represents a €3,288.4m (293%) overspend relative to the PR5 allowance and is driven primarily by the TAO Payment and PSO Levy, which were not included in the PR5 Final Determination. The TSO also spent €1,568.8m on Exceptional Items.

Table 11: TSO PR5 Opex Expenditure

PR5 Costs	PR5 Allowance (€m)	Actual / Forecast (€m)
Staff and related costs	207.3	200.5
Contractors	9.8	40.4
Telecommunications	32.4	27.5
Premises	34.6	32.4
IT Costs	47.5	43.9
Insurance and Compensations	1.8	4.5
Public Engagement	15.9	11.3
Professional Services	25.0	42.1
Grid Maintenance & Client Engineering	3.9	5.0
Rates	3.5	3.1
Promotion of Research	2.7	2.5
Intercompany Recharges	-18.2	-27.5
PR5 Reporting Requirement	0.9	0.0
Total Controllable Opex	**367.2**	**385.7**
Inter TSO Compensation	12.3	26.0
TAO Payment	-	1,510.4
CORESO Subscription	3.3	4.9
Interconnector Services	4.8	8.0
CRU Levy	5.8	10.5
DUoS Costs	19.0	28.1
Ancillary Services	1,078.9	1,134.3
PSO Levy	-	1,690.4
Total Non-Controllable Costs	**1,124.1**	**4,412.5**
Exceptional Items	**0.0**	**1,568.8**
Total	**1,491.3**	**6,367.0**

There are a number of points to note regarding the review of the TSO's PR5 opex.

Contractors

Contractors are typically used to either support existing staff in their operations or to assist in resourcing challenges. The TSO overspent its PR5 allowance for Contractors by €30.6m or 312%. The overspend on contractors was driven not only by challenges in recruiting internal full-time equivalents (FTEs) but also by unforeseen events, such as the Security of Supply programme.

Given the constraints the TSO faced in relation to internal staffing, alongside the increased output required from the organisation, the outturn allowance of €40.4m in this cost category during PR5 is considered reasonable. However, not all of this outturn is considered as a baseline for PR6 as many of the activities leading to costs are not considered business as usual (BAU). This is the case for a number of cost categories and is detailed further in Section 4.2.1.

Professional Services

Similarly to Contractors, Professional Services are typically used to either support existing staff in their operations or to assist in resourcing challenges. The TSO overspent its PR5 allowance for Professional Services by €17.1m or 68%. Similarly to contractor costs, this overspend was driven by a combination of challenges in the recruitment of internal FTEs, but also by unforeseen events such as the Security of Supply programme, and the need for the TSO to deliver increasing outputs, all while facing recruitment and retention challenges.

Similarly to Contractors, given the constraints the TSO faced in relation to internal staffing, alongside the increased output required from the organisation, the outturn allowance of €42.1m in this cost category during PR5 is considered reasonable. However, not all of this outturn is considered as a baseline for PR6 as many of the activities leading to costs are not considered BAU. This is detailed further in Section 4.2.1.

Insurance and Compensations

The TSO overspent its PR5 allowance for Insurance and Compensations by €2.7m or 155%. The TSO's insurance costs are sourced externally, and post-COVID, there has been a general increase in insurance premiums, which was neither anticipated nor accounted for in the initial allowance. The outturn cost of €4.5m is therefore deemed reasonable.

TAO Payment

This category refers to pass-through costs associated with the TAO's allowed revenues. The outturn allowance of €1,510.4m is deemed reasonable it is a pass-through cost.

It should be noted that this is reflected in both the TSO's non-controllable opex and the TAO's capex totals, but is only collected once from the customer (i.e. the TAO collects this revenue from the TSO, who collects the revenue from the customer).

PSO Levy

The PSO is a levy applied to all final electricity consumers in Ireland, used to fund government schemes supporting the construction and operation of renewable electricity sources. The increase during PR5 occurred because it was not initially included as part of the allowances

throughout the period. The outturn allowance of €1,690.4m is deemed reasonable as the PSO Levy is a pass-through cost.

Exceptional Items

These are costs that are atypical and are not likely to persist, unlike non-controllable opex costs. The largest contributing cost category to Exceptional Items has been **Security of Supply**, which is described in detail below.

Security of Supply

In the 2021-2030 All-Island Generation Capacity Statement[12], EirGrid and SONI identified a potential capacity shortfall of 260 MW for the capacity year 2022/23, rising to 1050 MW in 2023/24 and 1850 MW in 2024/25. This was a result of a significant growth in electricity demand primarily driven by data centres, the aging and closure of older fossil fuel plants, procured capacity failing to deliver and lower than expected procurement in Capacity Auctions.

In line with Article 28(10) of S.I. 60 of 2005[13], where a *"likely and substantial risk to security of supply"* has been identified by the CRU, following consent from the Minister for the Environment, Climate and Communications, the CRU directed EirGrid in its role as TSO to undertake all or any such arrangements as the CRU considers necessary, including financial arrangements, relating to security of supply in a manner approved by the CRU.

These arrangements were outlined in the Security of Electricity Supply Programme of Actions[14] published by the CRU in September 2021. The actions focus on the procurement of additional generation, extending the operation of older generation on a temporary basis and measures to improve performance of existing generators.

Given that the PR5 Final Determination was published in December 2020, none of the requests related to the Programme of Actions were accounted for in the initial PR5 allowances. The requests made by the TSO related to the Security of Supply Programme of Actions through the annual revenue process are summarised below:

- For the 2022 annual revenues, the TSO was allowed €115.0m (in 2022 prices) to procure a first tranche of 300 MW of TEG1[15].

[12] All-Island Generation Capacity Statement 2021-2030
[13] S.I. No. 60/2005 – European Communities (Internal Market in Electricity) Regulations 2005
[14] CRU21115 – Security of Electricity Supply – Programme of Actions
[15] This number subsequently fell to 241 MW by 2023.

- For 2023, the TSO was allowed €478.0m (in 2023 prices), consisting of an additional €105.0m to procure TEG1 and €373.0m to procure the second tranche of 450 MW of TEG (TEG2) following a direction the CRU[16].
- For 2024, the TSO was allowed €371.8m (2024 prices). The TSO's request included, *inter alia*, an additional €155.8m for the procurement of TEG1 and €60m for TEG2 and €27.3m for its work in retaining conventional existing generation capacity until new capacity is developed.
- For 2025, the TSO was allowed €331.3m (2025 prices). The TSO requested an additional €167.1m for payment of TEG1 and TEG2 generators, €101m of government grants, €1m of internal staff costs, and €68.2m for retention of existing units.

Each of these allowances were given as placeholders, meaning that the CRU would review these costs *ex-post* for efficiency, appropriateness and allocation of costs. The CRU is proposing to allow these costs in full, firstly as the TEG costs, which account for the majority of the Security of Supply costs, were the outcome of a procurement process, and secondly as the costs incurred during these procurement exercises were largely driven by the cost structures of generators, which the TSO has limited control over.

Table 12 below shows the actual spend for 2021, 2022 and 2023 and forecast spend for 2024 and 2025 on Security of Supply costs by the TSO.

Table 12: PR5 Security of Supply Actual and Forecast Costs

PR5 In-period Adjustments (2024 prices)	2021	2022	2023	2024	2025	Total €m
Security of Supply	-	113.5	420.4	442.8	337.3	1,314.0

Taking the above points into account, the CRU is proposing a PR5 *ex-post* allowance of €6,367.0m.

3.2.2. Review of TAO Operational Expenditure

The TAO's expected opex outturn for PR5 is €384.0m and is set out in Table 13. There is an expected overspend of €14.2m (7%) in controllable opex costs.

[16] CRU202264 – Electricity Security of Supply Programme of Work Update

Table 13: TAO PR5 Expenditure

PR5 Costs	*Ex-ante* Allowance (€m)	Actual / Forecast (€m)
Transmission Operations	11.7	17.3
Planned Maintenance	109.9	109.4
Fault Maintenance	13.5	12.7
Transmission Retirements	-	-0.04
Asset Management[17]	2.9	4.2
Company Wide Costs	21.4[18]	2.4
Corporate Charges		22.2
Insurance	3.8	4.4
Legal	1.3	-
Pension	2.4	2.1
IT Opex[19]	-	-
Miscellaneous[20]	-	9.1
Professional Fees	15.0	13.7
Telecom Fees	10.5	9.2
Total Controllable	**192.5**	**206.7**
Network Rates	190.7	165.1
CRU Levy	6.6	12.3
Total Non-Controllable	**197.3**	**177.3**
Total	**389.9**	**384.0**

In contrast to the controllable opex, the TAO forecasts total non-controllable opex of €177.3m compared to an allowance of €197.3m, mostly as a result of lower than anticipated Network Rates, which have a forecasted Outturn that is €25.1m or 13.4% less than the PR5 allowance.

There are three points to note regarding the review of the TAO's PR5 opex.

[17] This cost category was referred to as 'Wayleaves' during PR5.
[18] Both of these costs were included under the 'Corporate Costs' category in PR5 Final Determination. Since these costs were assessed collectively, individual allowance values for each are not available.
[19] This is a newly requested cost category for PR6, under which no costs were incurred or allowed for PR5.
[20] These are non-regulated costs and are proposed to be not taken into account in the setting of allowances.

Transmission Operations

Transmission Operations costs primarily consist of maintenance and regulatory compliance. It is understood that the costs associated with Transmission Operations are in part driven by the length of the transmission network. The TAO overspent its Transmission Operations allowance by €5.6m or 48%. It is understood that this difference has been driven by changes in the mix of activities envisaged at the time of the original forecast including additional generation being connected to the network. The CRU are generally satisfied with the explanation that the TAO has provided for the additional costs, and that this has been driven by external drivers, and as a result, we consider the outturn spend for this cost category as reasonable.

Asset Management

Asset Management costs are driven by the overhead line network length. The TAO overspent its Asset Management allowance by €1.3m or 42%. The CRU concurs with information provided by the TAO that demonstrates that the unit cost for asset management has increased, and therefore the outturn spend is deemed reasonable.

Miscellaneous

This category relates to accounting provisions and adjustments and is a cost category that is not included within the allowance for PR6. The TAO spent €9.1m under this category. The CRU are unable to assess whether the PR5 outturn is efficient, therefore further information is required to allow an outturn for this category.[21]

3.3. Conclusions

Overall, in PR5 the total TSO and TAO opex allowed outturn was €6,367.0m and €374.9m, respectively, against the PR5 allowed expenditure of €1,491.3m and €389.9m, respectively. There was a 327% increase and 4% decrease in the TSO and TAO opex outturn, respectively.

The TSO and TAO capex outturn was €347.8m and €1,184.9m against the PR5 allowed revenue of €280.9m and €1,302.7m, respectively. The CRU notes the following:

[21] During the quality assurance process, the TAO clarified that these costs were included for information purpose as opposed to for seeking an *ex-post* allowance. This will be reflected in Final Determination.

- The TSO overspend for opex is primarily driven by exceptional and non-controllable costs such as the TAO Payment (€1,510.4m), PSO Levy (€1,690.4m) and Security of Supply (€1,314.0m).
- The TSO overspend for capex was driven by in-period adjustments for non-network capex projects.
- The TAO underspend was driven in part by an under delivery of overhead lines.

Question(s):

1. What are your views on the TSO and TAO's PR5 Operating Expenditure allowed revenue and the CRU Draft Determination Outturn allowance?
2. What are your views on the TSO and TAO's PR5 Capital Expenditure allowed revenue and the CRU Draft Determination Outturn allowance?
3. Do you have any comments or views on the any of the proposals set out in this Section?

4. Review of Forecast Expenditure 2026 – 2030

This part of the paper sets out the CRU's Draft Determination of allowed TSO and TAO expenditure for PR6 (2026 – 2030). The following sections will summarise the:

- Review of Forecast Capital Expenditure; and
- Review of Forecast Operational Expenditure.

The objective of the forecast review is to set the transmission allowances at an efficient level that allows the TSO and TAO to carry out their functions and to ensure consumer interest is protected. In addition, given the transformational change that is expected over PR6 and beyond, the CRU has also considered step changes and new activities that may be required from the TSO and TAO in order deliver transformational change and climate action targets. The submitted cost requests are reviewed based on the need for, additionality and cost efficiency of the step change:

1. **Need:** Is there clear evidence that there is expected to be a change in the activities or costs incurred by the network company and has the change been clearly mapped to the business plan questionnaire (BPQ)?
2. **Additionality:** Has it been clearly demonstrated that the costs associated with the proposed step-change are additional relative to the base level?
3. **Cost Efficiency:** Has it been clearly demonstrated that the costs associated with the step-change are efficient? Have other options been explored that could achieve the same outcome? What metrics have been used to test that the requested costs are efficient?

It should be noted that ESBN has put forward a factored Baseline capex proposal, that is presented in its submission on an annual basis. This figure has been put forward to account for uncertainty related to external factors (customer requirements, external dependencies, etc), as well as constraints on delivery of the full programme. In addition to the Baseline, ESBN has put forward additional costs required to deliver against the 2030 targets and objectives. This corresponds to the 'High' cost forecast for PR6.

The subsequent sections follow the above approach. For further detail please see the PR5 and PR6 TSO Opex Cost Assessment (CRU202599a), PR5 and PR6 TAO Opex Cost Assessment (CRU202599b) and Review of TSO and TAO Capex PR5 and PR6 (CRU202599d) published alongside this paper.

4.1. Forecast Capital Expenditure

This section sets out the CRU's Draft Determination in relation to the TSO and TAO capex for PR6. As with PR5, where it is not possible for the network companies, at the beginning of the period, to provide sufficiently detailed forecasts/evidence of the projects that will be undertaken during the period, a full allowance will not be provided *ex-ante*. However, the CRU recognises the potential for changing requirements within the PR6 period and has considered how best to progress projects/initiatives through uncertainty mechanisms.

Table 14 below summarises the outturn, baseline request, high request and the CRU's Draft Determination. As stated above, the high allowance represents the additional expenditure that can be sought through the CRU's proposed AIMF for PR6 (see Review of TSO and TAO Capex PR5 and PR6 (CRU202599d)). The breakdown on allowances is also set out in Appendix 3.

Table 14: Summary of Capital Expenditure Items over the PR6 period (2026 – 2030)

Category	PR5 Outturn (€m)	PR6 Request (€m)		Draft Determination (€m)	
		Baseline	High	Baseline	High
TSO Network Capex	143.5	262.6	262.6	223.7	262.6
TSO Non-Network Capex	204.3	590.3	590.3	436.0	575.0
Total TSO Capex	**347.8**	**853.0**	**853.0**	**659.7**	**837.6**
TAO Network Capex[22]	1,184.9	3,142.4	5,675.5	4,017.0	5,675.5
TAO Non-Network Capex	0.0	28.6	28.6	0.0	0.0
Total Capex (Gross)	**1,532.7**	**4,024.0**	**6,557.1**	**4,676.7**	**6,513.1**
Interest During Construction	-	-	-	-	-
Customer Contributions	-146.4	-140.0	-340.0	-140.0	-198.0
Total Capex (Net of Contributions)	**1,386.3**	**3,884.0**	**6,217.1**	**4,536.7**	**6,315.1**

Please note that all costs set out in the review of forecast capex are in 2024 prices.

As noted above, the TSO/TAO network capex submission included two scenarios, a baseline scenario and a baseline plus AIMF scenario. The TSO and TAO requested €3.4 billion across 369 projects under its baseline scenario, with a view to potentially unlock the requisite additional funding of €2.5 billion during PR6 via the AIMF. The TSO and TAO cited the need to balance

[22] TAO network capex exclusive of TSO network capex invoiced to the TAO.

affordability with the ambition to deliver the required transmission infrastructure as their reasoning for this scenario.

The TAO has provided its baseline request using a factored approach to reflect associated delivery risk[23]. In the CRU's view, application of such factoring limits the level of transparency provided by having clear visibility of the outputs to be delivered for a full cost allowance. In practice, the network needs support the investment to provide additional capacity and undertake the key 29 transmission projects, and partial delivery of these projects would not be a good outcome for customers given that these projects will unlock significant additional network capacity to facilitate and enable national energy development strategies.

It should be noted that the requested allowance for the TSO is the same under both the Baseline and High scenario (€262.6m) as the early stage project planning activities undertaken by TSO will be required regardless of the speed of asset delivery by the TAO.

Following a review of the TSO and TAO submissions, the CRU is proposing an allowance of €4,676.7m in the baseline. This is a 205% increase compared to PR5 outturn. The CRU is also proposing provide access to an additional €1,836.4m (excluding customer contributions) through the AIMF.

4.1.1. Review of Forecast Network Capital Expenditure

The TSO and TAO's capex request includes 369 projects split across eight categories. These are defined in Table 15 below. The 61 projects contained under Category 1 represent *circa* 60% of the overall request made by the TSO and TAO, or €3.95 billion out of €6.59 billion[24], averaging €64.8m per project. Category 3, which contains the onshore elements of Offshore connections has the next highest average gross spend per project at €36.8m.

[23] The factoring approach applies weighting factors to each of the transmission projects determined from the product of two factors for 'project development & delivery' and 'outage performance', respectively.
[24] This reflects the gross costs of the programme request before the deduction of IDC and Customer Contributions.

Table 15: Description of PR6 Onshore Capex Categories

Category	Description	# of Projects
1	Large key priority projects, system reinforcements, refurbishments and uprate projects which provide most of the forecasted expenditure and additional network capacity in the submitted plans.	61
2	Existing contracted renewable energy from previous renewable schemes and auctions such as RESS, ECP 2.1, ECP 2.2, and ECP 2.3. This category includes a mix of solar, wind, batteries and new technology projects.	31
3	The required system reinforcement projects to facilitate delivery of the 6 ORESS1 connection projects, to minimise constraints and improve the efficiency of the system.	12
4	Delivery of transmission DSO connected demand and large demand customers.	53
5	A large number of projects which will delivery significantly less additional renewables and capacity and therefore equates to a minority of the forecasted investment expenditure.	74
6	Various refurbishment projects such as replacement of overhead line conductors and transformers, station refurbishments and fibre wrapping.	26
7	System reinforcement and system operator preferred connection method projects such as Renewable Hubs and additional future reinforcements and capacity for renewable projects.	26
8	Future renewable projects not included in Category 2 including solar, battery storage and wind under ECP 2.3 and ECP 2.4.	86

4.1.1.1. TSO Network Capital Expenditure

As set out in Section 4.1, the TSO has proposed both a Baseline and High scenario, although the requested allowance for the TSO is the same under both scenarios. The total network expenditure requested by the TSO and the CRU's Draft Determination is set out in Table 16.

Table 16: PR6 TSO Network Capital Expenditure Request and CRU Draft Determination

TSO Capex (€m 2024 prices)	PR6 Baseline Request (€m)	PR6 High Request (€m)	Draft Determination Baseline (€m)	Draft Determination High (€m)
TSO Network Capital Expenditure Total	262.6	262.6	223.7	262.6

Following a review of the TSO's submissions, a number of points are noted:

The TSO is seeking an increase of 83% above its PR5 Outturn (€143.5m to €262.6m).

- 44% of the request is for 29 priority projects identified by the TSO as priority projects, 26 of which are Category 1 projects. The majority of these have been ongoing or in planning for some time and consequently the project investment need and alternative options have been reviewed as part of previous TSO price reviews. The CRU is proposing to allow the

full requested TSO PR6 capex allowance for the key 29 priority projects given the strategic importance of these projects, and reasonable material presented concerning capex cost, delivery timeline, key project risks and the solution development evolution for each project. Additionally, a bundled DO is being proposed for progression of these projects (see Review of TSO and TAO Capex PR5 and PR6 (CRU202599d)).

- A number of projects' Energisation Instruction (EI) dates have changed since the PR6 Business Plans were submitted in October 2024. For example, the North-South 400 kV Interconnector is now due for energisation in Q3 2031 instead of Q4 2028. The Fingal to East Meath Grid Reinforcement EI date has been brought forward to Q4 2031 from Q4 2032. These revised project delivery dates will be included in the final agreed bundled DO applicable to the TSO for PR6.
- The TSO is requesting €11.4m for the remaining Category 1 projects. These projects are largely 110/220kV transmission circuit uprates and capacity enhancements and are accompanying elements of the 29 key projects described above. The CRU is proposing to allow the full requested TSO PR6 capex allowance for this group of projects given that they are intrinsically linked with the 29 high priority transmission projects and of relatively high importance.
- 157 non-priority projects fall within categories 2, 4 and 5, with a requested allowance of €44.0m. The drivers for these projects are 'Contracted Renewables,' 'Demand' and 'System Reinforcement,' respectively. The CRU is proposing to allow the full requested TSO PR6 capex allowance for this group of projects.
- The TSO is requesting €13.2m for 10 non-priority category 3 (offshore connections) projects. The CRU is proposing to allow the full requested TSO PR6 capex allowance for this group of projects.
- The TSO requested €77.9m for 138 of the 369 projects which are defined as 'early pipeline' projects or under consideration (Categories 6-8 or Group 5). Whilst there is a clear need for a significant proportion of the projects and associated works, at the present time the TSO's work requirements (stage 1) for the projects is unclear, e.g. planned delivery outputs, costs and timeline. A baseline allowance of €38.9m is proposed for this group. Additional information is required in advance of Final Determination in order for the TSO to support their request. Alternatively, a reopener mechanism is proposed that can be followed by the TSO to allow for additional funding to be released based on justification provided during the period.

The CRU agrees with the view that the forecast network capex spending in the TSO's proposed capex programme, with the exception of the projects defined as 'early pipeline' or under consideration, is appropriate to be included in the baseline allowance.

In the PR5 Draft Determination, the CRU requested that the TSO submitted more than the three scenarios that it did in PR5 in the PR6 submission. As summarised in Section 4.1, the TSO only submitted two scenarios. The TSO's submission would have benefitted from additional central scenarios to provide a range of plausible PR6 scenarios and better demonstrate the appropriateness of the TSO's preferred scenario. The TSO will need to consider such an approach for Price Review Seven (PR7).

The TSO's PR6 capex request and CRU's Draft Determination allowance are outlined in Table 17 below.

Table 17: TSO PR6 Capex Request and Draft Determination

	PR6 Total Request (€m)	PR6 Recommended Allowance (€m)
Group 1 – Priority projects	116.2	116.2
Group 2 – Remaining Category 1	11.4	11.4
Group 3 – Category 2, 4 & remaining category 5	44.0	44.0
Group 4 – Category 3	13.2	13.2
Group 5 – Category 6, 7 & 8	77.9	38.9
Total TSO Capex	**262.6**	**223.7**

4.1.1.2. TAO Network Capital Expenditure

The objective of the TAO forecast capex review is to assess the reasonableness of the TAO's proposals to achieve the required outputs during the PR6 period, and set appropriate allowances for investment in projects/initiatives. The review of the TAO's capex submission principally considers the total PR6 request, whilst recognising TAO's consideration of deliverability included in the baseline scenario. The total request is summarised in Table 18.

Table 18: TAO Network Capex Request

TAO Capex (€m 2024 prices)	PR6 Baseline Request (€m)	PR6 High Request (€m)	Draft Determination Baseline (€m)	Draft Determination High (€m)
TAO Network Capital Expenditure Total[25]	3,142.4	5,675.5	4,017.0	5,675.5
Interest During Construction Total	0.0	0.0	0.0	0.0
Customer Contributions	-140.0	-340.0	-140.0	-198.0
Total TAO Network Capex Request (Net)	**3,002.4**	**5,335.5**	**3,877.0**	**5,477.5**

Following the review of the TAO's PR6 submission in relation to network capital expenditure and the needs likely to arise over the PR6 period, a number of points are noted:

- The TAO's PR6 net expenditure on network capex is forecast to increase by €4,491.3m (379%), from €1,184.9m in the PR5 outturn to €5,675.5m in the PR6 forecast. Average annual expenditure increases from PR5 outturn of €237.0m to €1,135.2m in the PR6 forecast.
- In the context of the regulatory framework, the approach to setting allowances is based on the expectation of full delivery of priority projects where possible, in line with delivery plans put forward and allowing for changes during the period based on explanation of the reasons. This approach looks to focus TAO activities and incentivise the delivery of these through careful management of the associated risks, with the view that it is more appropriate to deliver the full achievable project progress (including addition of network capacity) in critical areas over PR6. To that end, DOs are proposed for Groups 1, 2 and 4 (individual DOs for each priority project in group 1; separate bundled DOs for all of the projects in each Group 2 and 4).
- For Groups 3 and 5, category allowances are recommended with reopeners to allow for additional funding to be released based on justification provided during the period (anticipated to be light touch, based on demonstration of the ESBN internal governance processes, but including demonstration that progressing other non-priority projects can be achieved without impacting on the delivery of priority projects). As such, progress can be made on these remaining projects under the baseline category allowances, with reopeners to flex up the allowances.

[25] TAO network capex exclusive of TSO network capex invoiced to the TAO

For Group 3, a 25% partial allowance is proposed as there is less clarity to support the specifics of what will be delivered from these projects, and they are (somewhat) less critical to the system needs, so considering the deliverability challenge we deem it to be appropriate to propose this reduced allowance with the ability to flex up via a reopener. However, the expenditure on this group should be considered separate from the ringfenced allowances for the priority projects, as there needs to be transparency related to changes to these.

For Group 5, a 20% partial allowance is proposed as whilst there is a need for the projects and associated works within Group 5, at the present time it is unclear as to full TAO work requirements. The nature of these projects, including that a number of these are placeholder projects, means that there is likely to be a degree of churn and potential replacement, cancellation and revision.

- The 29 key projects (of the 369 projects) in Category 1 form approximately 52% of total PR6 forecast expenditure in the period. The CRU is proposing a full allowance for these projects as the need has been sufficiently demonstrated, costs are deemed reasonable, and these projects are critical to allow Ireland to achieve its national and European energy targets. A DO has been applied to these projects.

  As noted in Section 4.1, the TAO provided a baseline scenario using factoring weights to reflect its view on the challenges and potential issues associated with project delivery through PR6. Whilst the basis for the factoring approach is broadly understood, given the need for the TAO to deliver transmission infrastructure at pace through PR6 and to obtain clarity of delivered outputs associated with allowances, it was considered more appropriate to focus on full PR6 project costs. Hence, whilst considered in aggregate, the factored costs have not been adopted directly for the priority projects.

  It should also be noted that applying DOs on a factored basis would be potentially challenging, as project progress is not necessarily linear with capital spend and, if money is moved across projects due to deliverability issues, this may not necessarily result in equivalent outcomes or benefits, meaning less overall benefit is obtained for customers for the same spend. Retaining transparency and visibility of actual incurred project capital spend tied to a direct capital allowance is therefore considered an important aspect of the proposed PR6 regulatory framework.
- The TAO is requesting €428.1m for the remaining Category 1 projects. These projects are largely 110/220kV transmission circuit uprates and capacity enhancements and are

accompanying elements of the 29 key projects described above. The CRU is proposing a full allowance for these projects under a single bundled DO given that they are intrinsically linked with the 29 high priority transmission projects and of relatively high importance.

- The TAO requested €1,571.0m under Categories 2, 4 and 5 (Group 3). An allowance of 25% (€392.8m) is proposed, with additional information required from the TAO in order to support their request. A category allowance has been applied to the 25% and a reopener applied to the remainder of the request to allow for additional funding to be released based on justification provided during the period.
- The TAO is requesting €133.6m under Category 3. The CRU is proposing a full allowance under a DO given the importance of these offshore wind development projects in achieving national and European energy targets.
- The TAO is requesting €600.2m for 138 projects defined as 'early pipeline' or under consideration under Categories 6, 7 and 8 (Group 5). While there is a clear need for a variety of projects and associated works, it is unclear as to the full TAO work requirements. An allowance of 20% (€120.1m) is proposed, with additional information required from the TAO in order to support their request. A reopener mechanism is proposed to allow for additional funding to be released based on justification provided during the period.

The CRU is satisfied that the TAO has the allowances to deliver the PR6 capex plan, however, it represents a very challenging work programme that requires a significant step up in resourcing, planning and coordination across the business (as well as with the TSO). The TAO will need to introduce and focus on flexible and innovative development and delivery approaches to deliver projects in a timely manner.

The TAO's PR6 capex request and CRU's Draft Determination allowance[26] are outlined in Table 19 below.

[26] A reopener covering Groups 1, 2 and 4 is also applicable. It can be triggered annually, if the overall costs are forecast to exceed the total baseline allowance. See Review of TSO and TAO Capex PR5 and PR6 (CRU202599d) for further detail.

Table 19: TAO PR6 Capex Request and Draft Determination[27]

	PR6 Total Request (€m)	PR6 Recommended Allowance (€m)
Group 1 – Priority projects	2,942.5	2,942.5
Group 2 – Remaining Category 1	428.1	428.1
Group 3 – Category 2, 4 & remaining category 5	1,571.0	392.7
Group 4 – Category 3	133.6	133.6
Group 5 – Category 6, 7 & 8	600.2	120.1
Total TAO Capex	**5,675.5**	**4,017.0**

4.1.2. Non-Network Capital Expenditure

The following subsections summarises the CRU's review of TSO and TAO non-network proposals for PR6.

4.1.2.1. TSO Non-Network Capital Expenditure

The total non-network capex requested by the TSO for the PR6 period is summarised in Table 20 below.

Table 20: TSO PR6 Non-Network Capex Request

Cost Items	PR6 Request (€m)
TSO Transformation	133.7
Technology Resilience and Modernisation	100.9
Power System Capability Enhancement	90.2
Digital Transformation	49.2
Celtic Operational Readiness	32.0
Physical Control Centres	23.4
Cyber Security	13.3
TSO/DSO Coordination	11.1
Workplace/Facilities Capex	5.3
Capability Catchup	4.1
FASS	18.2
SMP	89.3
Market System Release Capital	19.6
Non-Network Capital Expenditure Total	**590.3**

[27] TAO network capex exclusive of TSO network capex invoiced to the TAO.

For its non-network capex proposals, the TSO has requested allowances under the following projects.

TSO Transformation

This programme is targeted at building the TSO's capacity and capability to adjust the system to support the movement towards decarbonised power systems. It encompasses a broad range of initiatives to facilitate a successful transition to a low-carbon energy future. The TSO has requested €133.7m under this cost category. Based on the assessment, the need for the sub-programmes generally has been demonstrated, albeit with some uncertainty around specific outputs and demonstration of efficient costs. The CRU proposes a baseline allowance of €65.9m[28], alongside a reopener to enable addition funding to be released should this be justified during the PR6 period. Additional information is required from the TSO in order to substantiate the initial request.

Technology Resilience and Modernisation

A programme which seeks to invest in the TSO's IT infrastructure for grid management. Maintenance of a reliable, up-to-date system mitigates the risk of an outage causing any significant shortages of supply, underpins the TSO's functions and enables other PR6 initiatives such as Power System Capability Enhancement, TSO/DSO Coordination, Digital Transformation and Physical Control Centres. The TSO has requested €100.9m under this cost category. The CRU requires additional information in relation to four sub-programmes where a lower level of detail has been provided to support the requested capex allowance. This results in a proposed baseline allowance of €94m.

Power System Capability Enhancement

A project aimed at delivering the capabilities required to operate the power system in a secure and resilient manner as higher levels of non-synchronous renewable generation is accommodated. The TSO has requested €90.2m under this cost category. The overall need for the sub-programmes is reasonably clearly demonstrated, in many cases related to RES-E and 2030 energy targets. However, there is an absence of a more detailed and bespoke optioneering assessment for substantial initiatives within this category, and a lack of clarity about the basis for

[28] During the CRU's quality assurance process prior to publication, it was identified that an allowance of €4.2m for costs associated with Condition 42 of SONI Licence was included in error. The CRU is proposing not to allow this as part of Final Determination and will reflect this in the Final Determination and the annual k-factor. The CRU will engage with the TSO on this topic during the Draft Determination consultation period.

capex cost estimates. This results in a proposed baseline allowance of €45.3m, which is to be provided in conjunction with a reopener mechanism (single mechanism covering TSO non-network costs). Additional information is required from the TSO in order to support their request.

Digital Transformation

The TSO describe this programme as one that will *"support meeting regulatory objectives by focusing on enhancing network efficiency, reliability, and sustainability through digital transformation."* The TSO state that the programme focuses on transforming its IT systems that support its *"customers, stakeholders, workplace, human capital management, and overall data capability."* The TSO has requested €49.2m under this cost category. The overall need for the sub-programmes is reasonably clearly demonstrated. However, there is an absence of a more detailed and bespoke optioneering assessment for substantial initiatives within this category, and a lack of clarity about the exact outputs and outcomes to be provided. This results in a proposed baseline allowance of €24.8m, which is to be provided in conjunction with a reopener mechanism. Additional information is required from the TSO in order to support their request.

Celtic Operational Readiness

A strategic initiative aimed at ensuring the integration from the construction phase to the operational phase of the Celtic Interconnector into the TSO's systems. The work associated with ensuring compliance with all relevant regulations is being progressed through the Strategic Markets Programme (SMP) described below. The TSO requested €32.0m under this cost category. The need for the works is clear, with the cost request being split into capex costs associated with labour and resourcing and separately for IT Systems. However, there is uncertainty in the resourcing element of the requested allowance, resulting in a proposed baseline allowance of €28.9m. Additional information is required from the TSO in order to support their request.

Physical Control Centres

Upgrading the TSO's National Control Centre (NCC); replacing the TSO's Emergency Control Centre (ECC) and developing an Operations Readiness Centre (ORC). The TSO has requested €23.4m under this cost category. The CRU proposes to provide a full allowance, based on the detailed business case submitted, with a DO to deliver the proposed works according to the stated plans.

Cyber Security

A programme of works to build on the foundation delivered in PR5 to address and combat the growing cybersecurity threats, and meet statutory and regulatory requirements. This includes

compliance with relevant EU directives and delegated acts, most notably the Network Code on Cybersecurity (NCCS)[29] and the NIS 2 Directive[30], aligning with international standards and maintain up-to-date infrastructure and subject matter expertise. The TSO has requested €13.3m under this cost category. The need for the works and expenditure is understood, with specific requirements and legislation to be fulfilled. However, there are limitations in the demonstrated optioneering for the works. This results in a proposed baseline allowance of €10.4m. Additional information is required from the TSO in order to support their request.

TSO/DSO Coordination

As stated in the PR6 Strategy Paper, the TSO and DSO must adopt a whole-of-system approach as this can minimise costs to customers, improve system efficiency and support the delivery of infrastructure at pace. The TSO has requested €11.1m under this cost category. The need for the works and expenditure is understood, with specific requirements and legislation to be fulfilled. The optioneering comparison presented is limited, with no real defined benefits or alternatives presented. Supporting details for the cost build have been provided, although the requirement for the specific outlined FTE number is also not supported. As a result, the CRU proposes a baseline allowance of €8.7m. Additional information is required from the TSO in order to support their request.

Workplace/Facilities Capex

The TSO has requested a number of specific plant and equipment replacements and upgrades as part of this project. It includes upgrading workplaces, replacing aging equipment, improving security and energy saving initiatives. The TSO has requested €5.3m under this cost category. The CRU proposes to provide a full allowance as the need for the works are clear and the specific plant and equipment items to be replaced as part of this initiative are defined, with itemised capex values which are considered reasonable on the basis of previous outturn costs.

Capability Catch Up

The TSO are seeking to scale up its core resources and unlock non-labour efficiencies to support the increased volume of activity required across new and expanded business functions. The TSO has requested €4.1m under this cost category. The need and specific outputs underpinning each

[29] Commission Delegated Regulation (EU) 2024/1366 of 11 March 2024 supplementing Regulation (EU) 2019/943 of the European Parliament and of the Council by establishing a network code on sector-specific rules for cybersecurity aspects of cross-border electricity flows
[30] Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high common level of cybersecurity across the Union, amending Regulation (EU) No 910/2014 and Directive (EU) 2018/1972, and repealing Directive (EU) 2016/1148

of the three individual capex line items (Expansion of Core Remit, Sustainability and Stakeholder Engagement) within this initiative is considered reasonable, clear and understood. However, the basis for the costs provided is not fully clear, and it is uncertain whether the costs will be capex items (they may be transferred to opex). This results in a proposed baseline partial allowance €2.2m, which is to be provided in conjunction with a reopener mechanism. Additional information is required from the TSO in order to support their request.

Future Arrangements for System Services (FASS)

A project aimed at designing a competitive framework for the procurement of system services ahead of the short-term energy and balancing capacity markets. Programme cost estimates for FASS are approved through the Single Electricity Market Committee's (SEMC) All Island Programmes (AIP) framework. The submissions received and analysis formed during this approval stage is then passed onto the CRU for consideration as part of the revenue and tariff setting process[31]. The TSO requested €18.2m under this cost category. The expected outputs of this project are clear, and while less supporting detail is provided on the basis of the costs, work is expected to be completed by the end of 2026, therefore it is it considered that the TSO's forecast for one year ahead is reasonable and low risk. The CRU proposes to provide a full allowance on this basis.

Strategic Markets Programme (SMP)

An all-island programme to facilitate the reintegration of the Single Electricity Market (SEM) within the European Internal Market for Energy to prepare for the commissioning of the Celtic Interconnector. Programme cost estimates for SMP are approved through the AIP framework. The TSO requested €89.3m under this cost category. The AIP submission included a full optioneering assessment with ten prospective outputs detailing the impact of this programme. The CRU proposes to provide a full allowance on this basis.

Market System Release Capital

A suite of capital projects focused on modernising the Single Electricity Market Operator's (SEMO's) IT capabilities. Programme cost estimates for Market System Release Capital are approved through the AIP framework. The TSO requested €19.6m under this cost category. These costs are already approved through SEMO 2024 – 2029 Price Control. The CRU proposes to provide a full allowance on this basis.

[31] SEM-24-034 – All Island Programmes: Approach to Governance and Revenue Recovery Arrangements

As set out in Table 20, a total of 13 projects representing €590.3m are included in the TSO's non-network capex submission.

To summarise, 74% of requested non-network allowances have been included within the baseline allowance this Draft Determination (see Table 22). The proposed allowance of €436.0m for PR6 represents a circa 113% increase on PR5 outturn. This Draft Determination includes a number of opportunities for the TSO to access additional revenue through Reopener mechanisms. More detail on these mechanisms can be found in the Review of TSO and TAO Capex PR5 and PR6 (CRU202599d).

When evaluating the allowances, the CRU focused on the likely need for the projects over the PR6 period that align with the CRU's PR6 objectives and whether the need for, additionality and cost efficiency of each project was sufficiently demonstrated. Changes in expenditure against these allowances will need to be explained and substantiated with evidence at the close of PR6 (i.e. as part of PR6 lookback).

4.1.2.2. TAO Non-Network Capital Expenditure

The TAO made two non-network capex requests, which are summarised in Table 21 below.

Table 21: PR6 TAO Network Capital Expenditure Request and CRU Draft Determination

TAO Non-Network Capex Request (€m 2024 prices)	PR6 Request (€m)	DD Baseline (€m)	DD High (€m)
Distribution Asset Management (Support & Planning)	15.3	0.0	0.0
Enterprise Applications	13.3	0.0	0.0
Total	**28.6**	**0.0**	**0.0**

No supporting narrative was provided to justify these requests. Additionally, the categories listed are identical to programmes within the DSO submission. Additional information is required from the TAO in order to support their request.

4.1.3. Proposed Allowed PR6 Capital Expenditure

The CRU's proposal on the TSO's network and non-network capex is €223.7m and €436.0m, respectively. This represents a 90% increase over PR5 outturn. The TAO's proposed PR6 network capex is €5,675.5m, an increase of 379% compared to the TAO's PR5 outturn. Table 22 summarises the PR6 Draft Determination. A more detailed (annual breakdown) is set out in Appendix 3.

Table 22: PR6 Draft Determination

TSO Capex (€m 2024 prices)	PR6 Request (€m)	DD Baseline (€m)	DD High (€m)
Network Capex	262.6	223.7	262.6
Network Capex Total	**262.6**	**223.7**	**262.6**
TSO Transformation	133.7	65.9	133.7
Technology Resilience and Modernisation	100.9	94.0	94.0
Power System Capability Enhancement	90.2	45.3	90.2
Digital Transformation	49.2	24.8	49.2
Celtic Operational Readiness	32.0	28.9	28.9
Physical Control Centres	23.4	23.4	23.4
Cyber Security	13.3	10.4	10.4
TSO/DSO Coordination	11.1	8.7	8.7
Workplace/Facilities Capex	5.3	5.3	5.3
Capability Catchup	4.1	2.2	4.1
FASS	18.2	18.2	18.2
SMP	89.3	89.3	89.3
Market System Release Capital	19.6	19.6	19.6
Non-Network Capex Total	**590.3**	**436.0**	**575.0**
TSO Total	**853.0**	**659.7**	**837.6**
TAO Capex (€m 2024 prices)[32]	**Request (€m)**	**DD Baseline (€m)**	**DD High (€m)**
Group 1 - Priority Projects	2,942.5	2,942.5	2,942.5
Group 2 – Remaining Category 1 projects	428.1	428.1	428.1
Group 3 – Category 2, 4 and Remaining Category 5 Projects	1,571.0	392.7	1,571.0
Group 4 – Remaining Category 3 projects	133.6	133.6	133.6
Group 5 – Category 6, 7 and 8 projects	600.2	120.1	600.2
Network Capex Total	**5,675.5**	**4,017.0**	**5,675.5**
Distribution Asset Management (Support & Planning)	15.3	0.0	0.0
Enterprise Applications	13.3	0.0	0.0
Non-Network Capex Total	**28.6**	**0.0**	**0.0**
Customer Contributions	-340.0	-140.0	-198.0
Interest During Construction	-	-	-
TAO Total	**5,364.1**	**3,877.0**	**5,477.5**
Transmission Total	**6,217.1**	**4,536.7**	**6,315.1**

[32] TAO network capex exclusive of TSO network capex invoiced to the TAO

4.2. Forecast Operational Expenditure

This section provides the CRU's position on the TSO and TAO's forecast operational expenditure items over the PR6 period (2026-2030) as shown in Table 23 below. For opex, the forecast expenditure is assessed looking at the baseline, trends, steps and outputs.

Table 23: Summary of Forecast Opex (2026 - 2030) Review

	Request (€m)	DD Baseline (€m)	DD High (€m)
TSO Opex[33]	950.3	744.2	824.2
TAO Opex[34]	426.6	407.8	407.8

As noted previously, there is potential for change in expenditure between Draft Determination and Final Determination. Information submitted by network companies will be considered during and after the consultation period.

A more detailed assessment and breakdown of each network company's proposals is set out in the PR5 and PR6 TSO Opex Cost Assessment (CRU202599a) and PR5 and PR6 TAO Opex Cost Assessment (CRU202599b). The annual breakdown on allowances is also set out in Appendix 4. Please note that all costs set out in the review of forecast operational expenditure are in 2024 prices.

4.2.1. Review of TSO Forecast Operational Expenditure

The TSO has requested a total of €950.3m in controllable operational expenditure (excluding real price effects (RPEs) and ongoing productivity) for PR6, €5,446.9m in non-controllable operational expenditure and €745.4m in exceptional items. Table 24 below presents the overview of the PR5 outturn, the TSO's request and the CRU's Draft Determination for PR6.

[33] Excluding Frontier Shift Request
[34] Excluding Frontier Shift Request

Table 24: TSO PR5 Outturn, PR6 Request and Draft Determination

TSO Opex (€m 2024 prices)	PR5 Outturn	PR6 DD Request	DD Baseline Allowance (€m)	DD High Allowance (€m)
Staff costs	200.5[35]	430.6	330.6	407.8
Staff related costs		22.0	18.6	21.4
Contractors	40.4	120.7	83.6	83.6
Telecommunications	27.5	39.9	38.9	38.9
Premises	32.4	46.0	38.9	38.9
IT Costs	43.9	138.0	117.7	117.7
Insurance	4.5	4.8	4.5	4.5
Public Engagement	11.3	11.3	11.3	11.3
Professional Services	42.1	130.5	100.3	100.3
Grid Maintenance & Client Engineering	5.0	6.7	5.5	5.5
Rates	3.1	2.9	2.9	2.9
Promotion of Research	2.5	12.6	7.3	7.3
Intercompany Recharges	-27.5	-15.9	-15.9	-15.9
Total Controllable Opex	**385.7**	**950.3**	**744.2**	**824.1**
Non-controllable Costs				
Inter TSO Compensation	26.0	18.5	18.5	18.5
TAO Payment	1,510.4	2,262.4	2,262.4	2,262.4
CORESO subscription	4.9	6.5	6.5	6.5
Interconnector services	8.0	5.0	5.0	5.0
CRU Levy	10.5	15.0	15.0	15.0
DUoS costs	28.1	34.5	34.5	34.5
Ancillary Services	1,134.3	286.7	286.7	286.7
PSO Levy	1,690.4	1,250.0	1,250.0	1,250.0
Future Arrangements for System Services	-	1,568.3	1,568.3	1,568.3
Total Non-Controllable Opex	**4,412.5**	**5,446.9**	**5,446.9**	**5,446.9**
Exceptional Items				
Unrecovered Stage 1 project costs	2.5	-	-	-
Dublin Security of Supply	3.0	-	-	-
Interim Intraday Market Costs	0.1	-	-	-
Offshore	56.6	-	-	-
Security of Supply	1,314.0	600.1	600.1	600.1
Celtic Debt Service Costs	42.4	29.7	29.7	29.7

[35] Staff costs and staff related costs were grouped as one cost in PR5 (Staff and related costs)

SONI Governance[36]	6.1	-	-	-
National Resource Adequacy Assessment	1.4	-	-	-
Cloud IT	7.0	-	-	-
Innovation and Hydrogen	0.4	-	-	-
Cyber	1.9	-	-	-
OTP & TAO TSO Data Exchange	1.1	-	-	-
Long Duration Energy Storage	1.2	-	-	-
Corporate Sustainability Reporting Directive	1.0	-	-	-
Hybrids	1.3	-	-	-
FASS funding costs	-	5.6	5.6	5.6
Clean Energy Package	128.7	110.0	110.0	110.0
Total Exceptional Items	**1,568.8**	**745.4**	**745.4**	**745.4**
PR6 (Excl. Frontier Shift)	**6,367.0**	**7,142.6**	**6,936.5**	**7,016.5**
PR6 (Incl. Frontier Shift)	**6,367.0**	**7,142.6**	**6,963.7**	**7,043.7**

4.2.1.1. TSO Opex Baseline and Trend

Based on the evidence submitted, the CRU has used 2023 and 2024 figures to set the baseline. This is for three reasons:

- To avoid yearly volatility, which refers to fluctuations in prices that may occur in a given year due to unforeseen factors;
- To use up-to-date values, to maximise the proximity of the outturn values we use to the start of the PR6 period; and
- To use actual, realised costs that have already been incurred as opposed to the use of forecast costs[37].

On a case-by-case basis, the default approach to setting the baseline may be adjusted where there is evidence to suggest that the approach set out above could represent an inappropriate baseline for PR6. This has been informed by the CRU's *ex-post* review of the TSO's opex over PR5.

[36] During the CRU's quality assurance process prior to publication, it was identified that an allowance of €6.1m for SONI Governance was included in error. The CRU is proposing not to allow this as part of Final Determination. The CRU will engage with the TSO on this topic during the Draft Determination consultation period.
[37] Business plans were submitted in October 2024, meaning the majority of 2024 data used in this Draft Determination is actual. Final outturn data may be used once available, which may result in adjustments to the baseline.

The following summarises some of the key points related to the assessment and recommendations on the TSO's PR6 baseline costs:

Staff and Staff Related Costs

This cost category includes base salary, pension, performance related pay and PRSI. A base of €253m is requested under this category. The TSO assumes a baseline FTE figure of 408 for 2024, 447 for 2025 and 524 for 2026. The TSO also clarified that in January 2025, they hired an additional 30 FTEs. Taking into account the FTE estimate for 2024 and the additional recruitment, the 2025 FTE figure of 447 is chosen as the baseline value.

The 2025 FTE value of €98,238 which takes into account a newly negotiated pay deal is also used. This results in a proposed base of €232m. Additional information is required from the TSO in order to support their request.

No trend has been identified for these cost categories as FTE growth is linked to structural changes or specific programmes.

Contractors

Contractors are typically used to either support existing staff in their operations or to assist in resourcing challenges. The TSO has requested a base of €76m under this cost category.

Contractor costs increased significantly between the PR5 allowance and outturn, which was driven by unforeseen events such as the Security of Supply Programme, the need to deliver a higher number of outputs and recruitment/retention challenges. Therefore, the outturn average from 2023 and 2024 of €9.2m is an inappropriate baseline as we do not account for unforeseen events in PR6 and internal FTEs are expected to grow significantly.

To calculate an appropriate baseline, we estimated the average annual difference between PR5 allowance and outturn of €6.1m. We then subtract this from the outturn average from 2023 and 2024 of €9.2m which leads to an adjusted annual baseline of €3.0m and a total PR6 baseline of €15.2m. This represents a €60.8m difference from the TSO request, which we are treating as a requested step as the baseline should only reflect BAU activities. This is discussed further in Section 4.2.1.2 below.

Additionally, the TSO submitted a trend cost for this category which we treat as a step as there are no cost drivers.

Professional Services

Similarly to Contractors, Professional Services are typically used to either support existing staff in their operations or to assist in resourcing challenges. The TSO has requested a base of €40m under this cost category.

This cost category grew by €17.1m from PR5 allowance to outturn for the same reasons outlined in relation to the Contractors cost category. Therefore, using the same rationale in setting an appropriate baseline, a baseline of €5.2m is proposed. This is arrived at by estimating the outturn average for 2023 and 2024 of €8.6m and subtracting the average annual difference between PR5 allowance and outturn of €3.4m. This represents a €13.9m difference from the TSO request, which similarly to the Contractor cost category is treated as a requested step and is discussed further in Section 4.2.1.2 below.

Additionally, the TSO submitted a trend cost for this category which we treat as a step as there are no cost drivers.

Premises

This cost category includes the rent that the TSO pays for use of its premises. The TSO requested a base of €40.5m under this cost category.

The 2023 and 2024 outturn is not deemed an effective baseline as it includes an underspend driven by factors that are not anticipated in PR6. This results in a proposed base of €35.1m. Additional information is required from the TSO in order to support their request.

IT Costs

This category includes, but is not limited to, software costs, costs for increasing cyber security resilience and cloud-based data storage. IT Costs are related to non-network capex activities the TSO has proposed in its business plan submission; therefore we have considered the request for these costs, which typically fall under the programmes the TSO proposes to put in place during PR6, alongside non-network capex.

The need for the IT Costs trend is not justified as no cost driver has been identified. It is therefore reinterpreted as a step, and additional information is required from the TSO in order to support the full request.

Grid Maintenance and Client Engineering

Grid maintenance includes routine inspections, preventive maintenance, emergency repairs, and vegetation management. Client engineering includes technical support, system studies, regulatory compliance, and customer infrastructure maintenance.

The TSO requested a base of €6.5m under this cost category. Taking the outturn average from 2023 and 2024 results in a proposed base of €5.4m. Additional information is required from the TSO in order to support their request.

Promotion of Research

The Promotion of Research cost category is influenced by various external factors, such as the availability of partners, the specification of research topics, and funding requirements driven by the scope of the research, among others. The TSO requested €4m under this category. Using the outturn average for 2023 and 2024, this results in a proposed base of €2.5m. Additional information is required from the TSO in order to support their request.

Insurance

As noted in Section 3.2.1, insurance costs have increased throughout PR5 driven by a general increase in insurance costs and tightening of the market post-COVID, and there is no evidence to suggest that decreases are expected.

The TSO requested a base of €5m under this cost category. Taking the outturn average from 2023 and 2024 results in a proposed base of €4.6m. Additional information is required from the TSO in order to support their request.

The TSO requested a baseline PR6 controllable opex allowance of €502.8m[38], which compares to the proposed baseline opex of €398.8m. Additional information is required from the TSO in order to support their request.

4.2.1.2. TSO Opex Step Change

The following summarises some of the key points related to the assessment and recommendations on the TSO's PR6 step costs:

[38] Excluding RPEs.

Staff and Staff Related Costs

The TSO requested a step of €220.7m under this cost category.

The TSO has requested a total of 872 FTEs by 2030, which represents a 95% increase from the baseline of 447 FTEs for 2025. In the TSO's view, this significant step change in FTEs is required to grow its organisational capacity sufficiently to close the perceived capacity and capability gap which emerged in PR5 and to build out capacity and capability to meet emerging and future obligations.

The final FTE numbers were obtained by building a bottom-up assessment of FTEs allocated per programme. The TSO's request proposed a baseline of 524 FTEs, while the projected figure for 2025 is 447 FTEs, a difference of 77 FTEs attributed to vacancies. However, since the forecasted 447 FTEs is already used as the baseline, these additional 77 FTEs are interpreted as a step-change. Additional information is needed to justify the need, additionality and efficiency for this increase.

The TSO requested a total of 105 FTEs under seven of its non-network capex programmes (Digital Transformation, Technology Resilience and Modernisation, Cyber Security, Power System Capability Enhancement, TSO/DSO Coordination, Celtic Operational Readiness Programme and Control Centre Infrastructure). The additional information that is required for those requests may influence the Final Determination for this request. This is detailed in Section 4.1.2.1. Additional information is required from the TSO in order to support their request.

The TSO requested a total of 155 FTEs under its TSO Transformation and Capability Catchup programmes. The TSO clearly demonstrated the need for these programmes, which are necessary both in order to comply with local and EU decarbonisation policies, and to tackle a recruitment and retention challenge necessary to deliver said goals. No alternatives for expenditure were explained and no metrics were used to show that the costs incurred are reasonable. This results in an additional decrease in requested allowance.

To avoid limiting the TSO's ability to achieve key objectives, the CRU proposes a framework to allow access to additional allowances for extra FTEs if certain conditions are met. Firstly, the TSO must demonstrate that they have hired at least 60% of the allowed FTEs. For example, if at the beginning of PR6 10 additional FTEs are allowed for 2027, the TSO must have recruited at least 6 FTEs (60% of 10) before requesting additional allowances for labour. Secondly, the TSO must provide a clear link between the requested FTEs and specific programmes and outputs.

This results in a proposed step adjustment of €117.5m. Additional information is required from the TSO in order to support their request.

Contractors

The TSO requested a step of €60.8m for PR6. As discussed in Section 4.2.1.1, activities identified as non-BAU and the requested trend are treated as a step, resulting in a total step request of €105.9m.

While the need is clearly demonstrated, the proposed additional quantities are not clearly linked to the BPQ submission, suggesting an incomplete understanding of additionality. Regarding cost efficiency, no benchmarking exercise was conducted, there was no clear explanation of how these additional expenses deliver value to consumers and there is no clarity on how these costs were estimated. A step adjustment of €23.8m is proposed. Additional information is required from the TSO in order to support their request.

Professional Services

As discussed in Section 4.2.1.1, activities identified as non-BAU and the requested trend are treated as a step, resulting in a total step request of €106.4m.

Like the Contractors request, while the need is clearly demonstrated, the proposed additional quantities are not clearly linked to the BPQ submission, suggesting an incomplete understanding of additionality. Regarding cost efficiency, no benchmarking exercise was conducted, there was no clear explanation of how these additional expenses deliver value to consumers and there is no clarity on how these costs were estimated. A step adjustment of €74.1m is proposed. Additional information is required from the TSO in order to support their request.

Telecoms

This cost category includes telecommunications infrastructure maintenance and management costs, including network maintenance, energy consumption, regulatory compliance, and service fees. Telecom costs are related to non-network capex activities the TSO has proposed in its business plan submission; therefore we have considered the request for these costs, which typically fall under the programmes the TSO proposes to put in place during PR6, alongside non-network capex.

The TSO requested a step of €10.4m under this cost category. The Technology Resilience and Modernisation non-network capex programme served as justification for the requested step increase. Therefore, the additional information that is required for that request may influence the Final Determination for this request. This is detailed in Section 4.1.2.1. A step adjustment of €9.4m is proposed.

Premises

Premises costs are related to non-network capex activities the TSO has proposed in its business plan submission; therefore, we have considered the request for these costs, which typically fall under the programmes the TSO proposes to put in place during PR6, alongside non-network capex.

The TSO requested a step of €3.9m under this cost category. The Physical Control Centres non-network capex programme serves as justification for the requested step increase. Therefore, the additional information that is required for that request may influence the Final Determination for this request. This is detailed in Section 4.1.2.1. A step adjustment of €3.7m is proposed[39]. Additional information is required from the TSO in order to support their request.

IT Costs

The TSO requested a step of €73.5m under this cost category. The Cyber Security, Digital Transformation, Technology Resilience and Modernisation, TSO/DSO Coordination, Power System Capability Enhancement and Physical Control Centres non-network capex programmes serve as justification for the requested step increase. Therefore, the additional information that is required for that request may influence the Final Determination for this request. These are detailed in Section 4.1.2.1. A step adjustment of €67.7m is proposed[40]. Additional information is required from the TSO in order to support their request.

Promotion of Research

The TSO requested a step of €8.6m under this cost category. The TSO provided information on the need for further costs on innovation and research and therefore passes the need gateway. However, no further information on additionality nor cost efficiency was provided. This results in a proposed step adjustment of €4.8m. Additional information is required from the TSO in order to support their request.

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[39] During the CRU's quality assurance process prior to publication, it was identified that the proposed step for Premises of €3.7m was included in error. The TSO's request is proposed to be allowed in full. The CRU is proposing to allow this as part of Final Determination and will reflect this in future annual k-factors.

[40] During the CRU's quality assurance process prior to publication, it was identified that the proposed step for IT Costs of €67.7m was included in error. The TSO's request is proposed adjusted upwards for costs related to the Physical Control Centres non-network capex programme, on the same basis as discussed in footnote 39. The CRU is proposing to allow this as part of Final Determination and will reflect this in future annual k-factors.

4.2.2. Review of TAO Forecast Operational Expenditure

The TAO requested a total of €211.6m in controllable opex and €215m in non-controllable opex for PR6. The total proposed TAO opex of €409.8m is €16.8m (3.9%) below the TAO's requested allowance of €426.6m. A different view to the TAO's request has been formed where it has not demonstrated the need, additionality and cost efficiency of the proposed step-changes.

Table 25 below presents the overview of the PR5 outturn, the TAO's request and the CRU's Draft Determination.

Table 25: TAO PR5 Outturn, PR6 Request and Draft Determination

TAO Opex (€m 2024 prices)	PR5 Outturn (€m)	PR6 Request (€m)	Draft Determination (€m)
Transmission Operations	17.3	21.8	13.0
Planned Maintenance	109.4	99.6	112.6
Fault Maintenance	12.7	28.6	11.8
Transmission Retirements	-0.04	-	-
Asset Management[41]	4.2	5.8	4.8
Company Wide Costs	2.4	2.1	2.1
Corporate Charges	22.2	20.6	17.8
Insurance	4.4	1.5	1.5
Legal	-	0.8	-
Pension	2.1	0.9	0.8
IT Opex	-	3.3	3.3
Miscellaneous	9.1	-	-
Professional Fees	13.7	15.0	14.0
Telecom Fees	9.2	11.7	11.0
Total Controllable Opex	**206.7**	**211.6**	**192.8**
Network Rates	165.1	198.3	198.3
CRU Levy	12.3	16.7	16.7
Total Non-controllable	**177.3**	**215.0**	**215.0**
Total (Excl. Frontier Shift)	**384.0**	**426.6**	**407.8**
Total (Incl. Frontier Shift)	**384.0**	**426.6**	**408.3**

[41] This cost category was referred to as 'Wayleaves' during PR5.

4.2.2.1. TAO Opex Baseline and Trend

Based on the evidence submitted, the CRU has used 2023 and 2024 figures to set the baseline. The basis for selecting these years is the same as the TSO, and is set out in Section 4.2.1.1, with the caveat that the baseline may be adjusted where there is evidence to suggest that this approach could represent an inappropriate baseline. The following summarises the key points related to the assessment on the TAO's PR6 baseline costs:

Transmission Operations

The TAO requested a base of €18.4m under this cost category. The average of 2023 and 2024 was €3.6m, slightly below the TAO submission of €3.7m per year. The proposed baseline has been adjusted downward by €5.6m or €1.1m per year which reflects that the current levels of outturn, while justified for PR5 due to external unforeseen events, does not reflect a BAU cost of the activity. Further information would be required from the TAO to substantiate why there should be an increase in unit costs. This results in a proposed base of €12.5m.

Using the length of the network, a trend of €0.4m is estimated over PR6, €3.0m lower than the TAO's request of €3.4m. This is described in more detail in the PR5 and PR6 TAO Opex Cost Assessment (CRU202599b).

Planned Maintenance

This cost category consists of ongoing costs required to maintain and ensure the reliability of transmission infrastructure. The TAO requested a base of €120.8m under this category. The average of 2023 and 2024 was €23.6m. This results in a proposed baseline allowance of €117.9m for PR6. Additional information is required from the TAO in order to support their request.

Fault Maintenance

This cost category consists of costs associated with responding to and repairing issues with transmission infrastructure. The TAO requested a trend of €1.3m. Using the length of the network, as fault maintenance costs are primarily influenced by this, a trend of €0.5m is proposed. Additional information is required from the TAO in order to support their request.

Asset Management

The TAO requested a base of €0.5m under this cost category. The 2024 outturn of €1.2m is solely used as the baseline estimate as 2023 (€0.1m) is an outlier compared to all other years in PR5. The TAO submitted a baseline request of €0.1m per annum which appears too low to sustain a basic, pre-existing level of operations. An annual baseline of €0.9m for PR6 is

recommended, which is calculated by using the 2024 outturn and subtracting a downward adjustment due to a €1.3m overspend in PR5 for which further information is required from the TAO, distributed equally across each year. This results in a proposed base of €4.6m.

The TAO requested a trend of €5.3m. The TAO's proposed increase in Asset Management costs is intended to account for higher investment in Mast Interference Payments over the period. However, the basis for this estimate was not submitted and therefore further information is required. A trend of €0.2m is recommended. Additional information is required from the TAO in order to support their request.

4.2.2.2. TAO Opex Step Change

The following summarises some of the key points related to the assessment and recommendations on the TAO's PR6 step costs. Please note, the following points only focus on a number of key cost categories, further analysis is presented in the PR5 and PR6 TAO Opex Cost Assessment (CRU202599b).

Corporate Charges

This cost category includes regulatory compliance fees, corporate taxes and administrative overheads such as legal services. The TAO requested a trend of €6.0m, which has been reinterpreted as step because no suitable cost driver has been identified. For additionality, the TAO noted that legal costs will be included in this category. However, in PR5, these costs only amounted to €1.3m compared to the requested step increase of €4.6m. For cost efficiency, it was not clearly demonstrated how costs were estimated, how they provide value for customers or whether they were benchmarked. A step of €3.4m is proposed. Additional information is required from the TAO in order to support their request.

IT Opex

The goal of this team is to work on initiatives such as performance improvement, reporting, joint incentives and digital collaboration with the TSO. The main aim of the team, overall, is to produce an efficient mechanism for sharing data and critical information.

The TAO requested a step of €3.3m under this cost category. The TAO has not explained how the step was estimated or whether the associated costs were benchmarked or demonstrate that they are reasonable. Therefore, a step of €2.5m is proposed. Additional information is required from the TAO in order to support their request.

Professional Fees

The TAO requested a step of €3.4m under this cost category. Regarding additionality, although it is reasonable to expect that increased operations and new initiatives would lead to higher costs relative to the baseline, it is unclear why the requested value was chosen. Regarding cost efficiency, the TAO has not demonstrated whether the proposed costs were benchmarked, whether they deliver clear value to the Irish consumer or whether the approach reflects reasonable use of resources. This results in a proposed step of €2.3m. Additional information is required from the TAO in order to support their request.

Telecom Fees

The TAO requested a step of €2.8m under this cost category. The TAO has not provided sufficient detail on how these costs were estimated—specifically, whether they were benchmarked, demonstrated to be reasonable, or shown to deliver clear value to consumers. This results in a proposed step of €2.1m.

4.2.3. Frontier Shift

The CRU proposes to apply an *ex-ante* adjustment to allowances to account for ongoing efficiency and Real Price Effects (RPEs) in PR6, collectively referred to as 'Frontier Shift'.

The CRU aims to ensure that customers only pay for the efficient costs of developing, maintaining and operating the electricity transmission system. This is done by setting the network companies challenging but realistic and achievable targets and incentives. The CRU applies an ongoing efficiency / productivity challenge which is to encourage network companies to implement new technologies and management practices, replicating the forces of competition to drive out cost efficiencies.

More detail can be found in the Price Review Six Inflation Trends and Ongoing Efficiency Information Paper (CRU202593).

Both EirGrid and ESBN state that macroeconomic trends in the Irish economy and the degree of dynamic change taking place within the electricity sector during PR6 limit the scope for achieving ongoing efficiencies. ESBN in particular cite low Total Factor Productivity (TFP) in the Irish economy as an important headwind.

The assessment undertaken by the CRU's advisors CEPA has however noted that there is evidence to support positive productivity growth over the PR6 period. A number of sources to estimate ongoing productivity were used. The analysis in CRU202593 shows a wide range of productivity estimates:

- EirGrid (TSO):
    - 0.4% for the lower end; and,
    - 0.6% for the higher end.
- ESBN (TAO):
    - 0.5% for the lower end; and,
    - 1.0% for the higher end.

RPEs on the other hand are adjustments that reflect changes in the price of inputs net of HICP inflation adjustments that are already applied under the regulatory framework.

In recent price reviews, the CRU has tended to rely on an *ex-post* review of network companies' costs as the tool to manage real unit cost uncertainty and to facilitate that companies recover their efficiently incurred input costs over the price control period. If companies face substantial changes in their efficient costs due to input price pressures within the period, these will be reflected in allowed revenues as a true-up to cost allowances *ex-post*.

However, given the considerable scale of investment and risk of substantial cost forecast changes due to input cost volatility and supply chain constraints in PR6, there is a risk that delivery of the critical investment and transformation programmes required in PR6 could be hampered if *ex-ante* allowances do not include some upfront provision for RPEs and dedicated mechanisms are not in place to manage the risk of input costs increasing.

Therefore, the CRU are proposing to set cost allowances for opex for EirGrid's TSO and ESBN's TAO activities which include an explicit *ex-ante* allowance for RPEs. The RPE allowance would not reopen until the *ex-post* review, and therefore EirGrid would be expected to manage within this allowance within the price control period prior to the *ex-post* review. The CRU is not proposing to set *ex-ante* RPE allowances for capex, given the challenges in identifying appropriate indices in which to base the *ex-ante* allowance. Instead, the CRU is proposing to manage RPEs for capex solely through the PR6 *ex-post* assessment process, similar to how this was managed through PR5.

EirGrid proposed an annual labour cost RPE of 3.5 - 4.2% and an annual non-labour cost RPE of 3.17% for PR6 for its TSO business. The CRU require a more substantive justification from EirGrid that the sectors chosen are the most applicable to the TSO.

ESBN presented information as part of their business plan that suggested positive expected labour RPEs in the range of 1% to 1.8%, and materials RPEs in the range of 1% to 2.7% based

on historic evidence of wholesale price pressures. The result of this analysis is a weighted opex RPE of 1% to 2% for the PR6 period. While the assessment undertaken by CEPA estimated a weighted average RPE allowance on total opex of 1.3% - 1.5% per annum for the TSO and 0.8 - 1.3% per annum for the TAO. More details of this assessment can be found in the Price Review Six Inflation Trends and Ongoing Efficiency Information Paper (CRU202593).

Overall, the CRU is proposing to apply a Frontier Shift adjustment to the EirGrid's TSO opex of 0.9% per annum and to ESBN's TAO opex of 0.1% per annum, which reflects the mid-point of the net ongoing efficiency and RPE range. The CRU considers that this includes an ongoing efficiency challenge which is stretching but achievable, satisfying one of the key PR6 objectives to increase efficiency and protect customers. By setting the ongoing productivity factor at (and not above) our advisor's estimate, the CRU notes that the challenge is reasonable. The CRU also considers that this provides reasonable *ex-ante* provision for RPEs, which will enable the TSO to manage the risk of input costs increasing. Noting that the ex-post assessment process will be retained and used to review whether network companies efficiently managed input price pressures within the period.

This approach is in-line with regulatory precedent and is informed by CEPA's review of evidence of TFP and partial factor productivity growth rates in Ireland.

Table 26 below summarises the CRU's PR6 proposal for Frontier Shift.

Table 26: Frontier Shift Draft Determination

Network Company	PR6 Factor
EirGrid (TSO) Frontier Shift (per annum)	0.9%
ESB Networks (TAO) Frontier Shift (per annum)	0.1%

As the overall Frontier Shift adjustment is positive (i.e. an increase in allowed opex), this implies that for both network companies RPEs in opex may be greater than the scope for both network companies' productivity improvements during PR6.

4.3. Conclusions

The CRU proposes to allow the TSO and TAO access to €837.8m and €5,675.5m (excluding customer contributions) of capital expenditure, respectively (of which €659.7m and €4,017.0m, respectively, are proposed to be included in the Baseline allowances). These allowances are proposed to cover the capital expenditure for the 2026 to 2030 period. For the TAO, the total is

€4,491.3m (379%) higher than the PR5 outturn and €2,533.8m (81%) higher than the baseline request. For the TSO, this is €490.0m (141%) higher than the PR5 outturn.

The CRU is proposing an allowance of €6,936.5m and €407.8m for operational expenditures for the TSO and TAO, respectively. For the TSO, this is €569.5m (9%) higher than the PR5 outturn. For the TAO, this is €23.8m (7%) higher than the PR5 outturn.

The CRU notes the following.

- The CRU requires additional information from the TSO and TAO on varying elements of their forecast capital and operational expenditure, However, if the TSO and TAO are able to provide sufficient justification for their requests, these costs may be included, in full, in part, or in an uncertainty mechanism in the allowances set as part of the PR6 Final Determination.
- If the TSO and TAO do not provide sufficient justification for their requests, the costs will not be included in the Final Determination.
- The CRU is proposing to ringfence a proportion of the TSO and TAO's allowances for use in uncertainty mechanisms, DOs, volume drivers and re-openers.

Table 27 summarises PR6 forecast capital and opex for the TSO and TAO. The CRU has proposed a total of €1.86bn (including customer contributions) that the TSO and TAO can request through the AIMF which will help release more funds to manage uncertainties.

Table 27: Summary of PR6 Capital and Operational Expenditure for the TSO and TAO

Categories	PR6 Request (€m)	PR6 DD Baseline (€m)	PR6 DD High (€m)
TSO Opex (excl. frontier shift)	7,142.6	6,936.5	7,016.5
TAO Opex (excl. frontier shift)	426.6	407.8	407.8
TSO Capex	853.0	659.7	837.8
TAO Capex	5,704.1	4,017.0	5,675.5
Customer Contributions	-340.0	-140.0	-198.0
Total	**13,786.3**	**11,880.9**	**13,739.5**

Question(s):

4. What are your views on the TSO and TAO's PR6 Operating Expenditure request and the CRU's Draft Determination allowance?
5. What are your views on the TSO and TAO's PR6 Capital Expenditure request and the CRU Draft Determination allowance?
6. What are your views on the requests where the CRU are seeking additional information from the TSO and TAO?
7. Do you have any comments or views on any of the proposals set out in this Section?

5. The Regulated Asset Base

This section sets out the details related to the TSO's and TAO's Regulated Asset Base (RAB) for the PR6 period. Specifically, this section provides information on:

- the type of assets within the TSO's and TAO's RAB;
- the methodology used to value the assets within the RAB;
- the length of asset lives applied to the assets within the RAB;
- the depreciation methodology applied to the RAB;
- the regulatory practice when an asset is physically replaced prior to being fully depreciated; and
- the regulatory treatment of (1) additions to the RAB and (2) claw back of revenue earned on assets that were not put in place.

5.1. Introduction

The revenue that is recovered from the TUoS customer during each review period can be divided into three separate categories:

1. Revenue to recover the TSO's and TAO's opex costs during the period;
2. A return on capital invested in the TSO's and TAO's assets; and
3. Revenue to cover depreciation on the TSO's and TAO's assets.

The RAB plays a key role in the determination of the amount of depreciation that the TSO and TAO receives (item 3 above), and is the base to which the rate-of-return is applied when determining the return on capital for the TSO and TAO (item 2 above). This section provides information on a number of interrelated issues that determine the TSO and TAO RAB, respectively. Specifically, this section sets out information on:

- The type of assets within the TSO's and TAO's RAB;
- The methodology used to value the assets within the TSO's and TAO's RAB;
- The length of asset lives applied to the assets within the TSO's and TAO's RAB;
- The depreciation methodology applied to the TSO's and TAO's RAB;

- The regulatory practice when an asset is physically replaces prior to being fully depreciated; and
- The regulatory treatment of (1) additions to the TSO's and TAO's RAB and (2) the clawback of revenue earned on assets that were not put in place (i.e. the PR4 capex underspends).

5.2. Value and Composition

The approach to valuing the assets within the RAB is also an important decision within the price review process.

The CRU intends to continue its current approach for valuation of the RAB through into the next review period. This decision is based on regulatory certainty and maintaining regulatory precedent regarding the valuation of the RAB. This was the established practice during the last four Price Review periods.

This approach allows the CRU to focus on reviewing other aspects of the TSO's and TAO's performance to ensure that the electricity network businesses are operated and developed in a cost effective and efficient manner. For further details on this approach and other approaches please see Appendix 5.

Please see the CRU's revenue models published alongside this Determination for detailed composition of the TSO's and TAO's RABs. Information on the value of the assets is provided within the asset base itself.

Table 28: TSO RAB 2026 - 2030

2024 €m	2026	2027	2028	2029	2030
OAV	160.9	240.4	289.5	293.2	244.5
Capex	131.1	121.9	94.0	48.7	39.1
Depreciation	-51.6	-72.8	-90.3	-97.3	-90.7
CAV	**240.4**	**289.5**	**293.2**	**244.5**	**192.9**

Table 29: TAO RAB 2026 - 2030

2024 €bn	2026	2027	2028	2029	2030
OAV	3.71	4.01	4.50	5.19	6.00
Capex	0.42	0.62	0.84	0.97	1.02
Depreciation	-0.11	-0.12	-0.14	-0.15	-0.17
Secondary Asset Adjustment	-0.01	-0.01	-0.01	-0.01	-0.01
CAV	**4.01**	**4.50**	**5.19**	**6.00**	**6.84**

5.3. Asset Lives Applied to the RAB

The proposed decision on asset lives that apply to assets within the RAB feeds through to the level of depreciation that the TSO and TAO receive separately on those assets within each price review (or indeed year).

In line with established practice, the CRU proposes to continue using average assets lives as determined in PR5. PR5 reviewed the appropriateness of the asset lives, taking account of the economic and technical lives of the assets on the TSO and TAO RABs. These asset lives are set out in Table 30 below (separate asset lives tables for the TSO and TAO in Appendix 5).

Table 30: Proposed Asset Lives for PR6 - Transmission

Asset	PR6 (yrs.)
Network Assets	50
Telecoms	50
Office Equipment	10
SCADA Telecoms	15
Premises	50
Grants	50
IT	5
Customer Contributions	50
Secondary Assets	10

5.3.1. ESB Networks' Proposal on Technical Asset Lives

ESBN commissioned consultants, WSP, to carry out an assessment of asset lives for electricity network assets for distribution and transmission. WSP's technical report was provided to the CRU as part of the TAO's Business Plan submission (the full version received in early May 2025).

WSP's report describes the methodology used to estimate new asset lifetimes primarily for distribution assets, but also with reference to transmission assets. The estimations are based on the change in asset profile data between PR5 and PR6 for each installation year, which in turn is used to determine the volume of assets removed and the average age of assets when removed from service. This data is summarised to determine the retirement age which is compared against the rated technical life of the asset.

Examples for various assets, such as transmission cables, are presented in the document along with average age profile information for distribution and transmission. WSP's assessment concludes that *"In general, the calculated average asset age at retirement for each asset category tends to be lower than the rated technical lifetime, which supports a reduction in the economic life."* WSP adds that depending on asset type this can be between 9% and 46% lower than the assets rated life for distribution, and that a similar reduction on asset lives would be expected for transmission assets.

5.3.2. Review of ESB Networks' Proposal on Technical Asset Lives

In setting the asset life assumption for the purpose of the depreciation calculation, it is important to consider evidence on whether the technical asset life has materially changed or is expected to materially change.

ESBN, through WSP, have provided a report that focuses primarily on 'retirement age' as opposed to 'asset life.' In several places the document provides examples illustrating where assets have been removed from the network for reasons other than non-load related replacement. The primary examples given are replacement due to overloading of 110 kV and 38 kV transformers and changes in engineering standards for pole mounted transformers. Other examples of retiring assets before they have reached their asset lifetime include diversions, undergrounding or changes to network configuration.

The CRU notes though that the report only provides a high-level overview of specific assets that have been retired before their asset lifetime and thus detailed analysis of the materiality of these asset retirements on the overall asset base is difficult to establish.

While it is recognised that some assets may need to be retired ahead of their asset lifetime due to reasons other than non-load related intervention, the CRU does not consider it appropriate to adjust the asset lifetime for these instances. The asset lifetime estimations should be based on the technical performance of an entire asset group, informed by data related to non-load related replacements. In this instance, ESBN should be applying the expected asset lifetime for each particular asset group regardless of whether it may or may not be identified for replacement ahead of its asset lifetime. For example, it is anticipated that over the course of PR6 and PR7 a

large volume of load related interventions will be required. Adjusting the asset lifetime in accordance with the methodology outlined in the WSP's report would therefore result in a significant decrease in asset lifetime. However, the new assets installed as part of the load related interventions would be expected to have an asset lifetime in line with industry standards and not a shortened lifetime, skewed because of load related inventions previously made.

WSP's report also refers to changes in engineering standards with respect to pole mounted transformers, with the minimum standard rating increasing from 15 kVA to 33 kVA. The findings in WSP's report implies that due to this change in standard, significant volumes of transformers will need to be replaced. However, changes in engineering standards should not result in programmes to retrospectively replace existing assets. Instead, asset replacements should be driven either by load related or non-related reasons as opposed to changes to engineering standards to increase capacity of assets.

While WSP's report provides a useful overview of the interventions that ESBN are carrying out across the network due to system reinforcement, specific manufacturer issues and other non-load related issues, the CRU does not consider that it has fully addressed why the asset lifetime of a particular asset group should be adjusted downwards for PR6.

The CRU recognises that assets may need to be replaced ahead of their asset lifetime, however, changing the anticipated asset lifetime would need to be based on substantive evidence to demonstrate that particular asset groups were experiencing failures or accelerated deterioration, resulting in the need to reduce the asset lifetime. The CRU also notes that evidence should be considered on the impact that advanced monitoring technology, enhanced maintenance routines and better asset knowledge for example, is having on asset lives. However, this has not been evidenced yet by ESBN, or its advisors, and would likely require several years of data to understand the impact.

The CRU intends to retain the current approach and continue using average assets lives of 50 years for the TAO's network assets. However, the CRU would welcome further input and evidence from ESBN on this matter, and propose to continue engagement on this ahead of Final Determination.

5.4. Depreciation Methodology

The CRU has used a straight-line depreciation methodology for the previous price review periods, and proposes to use this approach for PR6.

5.4.1. Context

Economic depreciation profiles the original capital cost of a project over its useful life. There are a number of possible methods through which the asset bases may be depreciated, some relevant examples are straight-line, sum-of-years-digits and declining balance depreciation.

When setting the first revenue control, covering the period 2001 to 2005, the CRU chose the straight-line method. The following benefits were noted:

- Straight-line fully depreciates the assets over a period of time (the asset life which is designed to reflect the technical economic life of the asset, e.g., the period of time before it reaches a salvage value of zero). The straight line method continues to depreciate the portion of the declining value of an asset until it reaches a value of zero.
- Due to the nature of the design life of network assets and the load profile of the use of network assets, the straight-line method was a reasonable representation of economic depreciation for network assets.

The straight-line approach to depreciation was then continued when setting the second, third, fourth and fifth Price Reviews.

5.4.2. PR6 Proposals

For the review period covering 2026 to 2030, the CRU intends to continue applying the straight-line method of depreciation used during previous price review periods. This methodology ensures continuity in the regulatory treatment of depreciation, helping garner predictability of the regulatory regime, as well as the full depreciation of assets over their defined asset life. Maintaining regulatory certainty by continuing this methodology was a factor in this proposal. However, regulatory certainty aside, the rationale that led to this approach being chosen in the first instance are still applicable for the forthcoming period.

5.4.3. Replaced Assets

Given the significant investment in replacing TAO assets, the CRU is aware that this could possibly lead to a situation where an asset and its subsequent replacement would be included in the RAB at the same time. That is, the asset has been physically replaced before its value in the RAB has been fully depreciated. In previous price reviews, the CRU affirmed its position that

assets on the RAB that are replaced should be removed from the RAB at the time of their replacement. This policy prevents a situation arising where there is “double counting” of assets or double payment by the consumer.

The CRU will maintain this policy during the PR6 period, covering 2026 to 2030, where material values of assets are replaced before being fully depreciated. However, it is noted that the change in assets lives for secondary assets may result in a significant amount of accelerated depreciation being realised as assets with asset lives currently set equal to the primary assets are replaced at end of life over the PR6 period. To manage the impact on consumers and with regard to issues of equity between consumers in the PR6 period and consumers in subsequent periods the CRU considers that the recovery of the accelerated depreciation resulting from the replacement of secondary assets should be profiled out over a period of 10 years, or three price review periods.

The CRU may request the TAO audit the replacement process, particularly in relation to secondary assets to ensure that the revenues associated with accelerated depreciation can be clearly linked to assets that have been physically replaced. However, the CRU will also take into consideration that using the average life for a class of assets may extend a subset of assets beyond their economic life.

5.4.4. Additions to the RAB

The regulatory treatment of additions to the TSO and TAO RABs is an important issued in a price review.

This section explains the proposed regulatory approach to the treatment of additions to the TSO and TAO RABs for:

- Interest During Construction (IDC);
- Capital Contributions and Grants; and
- Variations between Allowed and Actual Expenditure during PR5 (once approved).

5.4.4.1. Interest During Construction

The CRU maintains the view that IDC should not be added to the respective RABs. This is due to the TSO and TAO receiving a return on the assets from the middle of the year in which the costs were incurred, rather than when the asset was commissioned. Depreciation is also provided as expenditure on assets incurred. This means that that the expenditure on assets still under construction during any given year will be included in the calculation of that year’s annual depreciation. The CRU proposes to maintain this policy during the PR6 period, covering 2026 to 2030.

The CRU also propose to maintain the policy that assets which have been added to the RAB, but have not been energised within five years (except in the case where the programme of work was scheduled to be longer than five years or where the TAO can satisfactorily show that the delay is beyond its control) would be temporarily removed from the RAB (with all return and depreciation paused) until the point at which the asset can be energised and utilised. At this point, this does not result in any current reductions or removals from the TAO RAB.

5.4.4.2. Capital Contributions and Grants

In the last five price reviews, capital contributions and grants were subtracted from capital expenditure in the relevant year. The CRU proposes to continue applying this policy during the PR6 period, covering 2026 to 2030.

5.4.4.3. Variations between Allowed and Actual PR5 Capex

The information provided jointly by the TSO and TAO has indicated that there will be an underspend on capex during PR5 period relative to the amount allowed at the time of the CRU's PR5 decision. The rationale for the underspend is included in Section 3.1 and are detailed fully in the accompanying Review of TSO and TAO Capex PR5 and PR6 (CRU202599d).

5.5. Conclusions

The CRU is not proposing to change the RAB methodology relative to that employed during the 2021 to 2025 period.

Valuation Methodology

The CRU proposes to continue using the methodology employed during previous control periods. This is a variation of replacement cost approach, which uses the initial cost, indexed upwards to allow for inflation, as a proxy for replacement cost.

Asset Lives

The CRU proposes to continue using the methodology employed during the previous control period which covered 2021 to 2025. Under this approach an average life of 50 years is applied to network assets. The lifetimes applied to other assets are detailed in Appendix 5 of this paper.

Depreciation Methodology

The CRU proposes to continue using the straight-line depreciation methodology employed during previous control periods.

Replaced Assets

Assets on the RAB that are replaced must be removed from the RAB at the time of their replacement. This is to avoid double counting of assets or a double payment by the consumer.

Additions to the RAB

In a continuation of policy from previous Price Reviews, IDC will not be added to the RAB and customer contributions will be subtracted from capital expenditure in the relevant year.

Question(s):

8. Do you have any comments or views on the any of the proposals set out in Section 5?

6. Cost of Capital

The CRU, with the assistance of expert financial advisors, sets the fair rate of return that the regulated network companies can earn on the efficiently incurred capital investments in their RABs. This return is known as the Weighted Average Cost of Capital (WACC).

6.1. Introduction

The WACC is a weighted average of the **cost of debt** and the **cost of equity**[42]. It is the CRU's role to set a WACC that gives a fair deal to customers and the companies. If the CRU sets a rate of return that is too high, customers end up paying too much. If the CRU sets it too low, utilities cannot raise the finance to deliver the necessary level of network investment, which can result in a reduced quality of service for customers. Setting a fair rate of return helps the utilities manage their challenges, such as financing their investment programme.

Consistent with many other regulators in similar environments[43], when setting the appropriate cost of capital, the CRU has used a WACC methodology, estimating the cost of equity using the Capital Asset Pricing Model (CAPM) and the cost of debt using the data from capital markets. The CRU has used this methodology to set the cost of capital for the utilities it regulates including gas, water and electricity.

The CRU published an Information Paper in February 2020[44] setting out the principles for estimating the cost of capital across electricity, gas and water in Ireland. This paper noted that the CRU continues to review its methodology with the aim of ensuring it provides the best outcomes for customers.

The CRU has historically set the same cost of capital estimate for both the TSO and TAO, with a separate margin that reflects the TSO's asset-light characteristics (including high operational gearing). EirGrid's TSO function has a small RAB and setting the same WACC estimate thus had limited financial impact[45]. However, for the PR6 period, covering 2026-2030, there are grounds to

[42] For a notional company, not the true cost of debt and equity experienced by the companies
[43] This methodology is widely used by other Irish and European regulators in the electricity, gas, telecom and aviation industries.
[44] CRU20029 Cost of Capital CRU Approach
[45] WACC is multiplied by the RAB to estimate the allowed return to the network company. However, for EirGrid, a typical 'RAB x WACC' approach is not considered to provide sufficient remuneration due to its small RAB.

set separate WACCs for EirGrid (TSO) and ESBN (TAO/DSO), and thus consider the characteristics of the TSO directly in the cost of capital, in particular:

- EirGrid TSO's debt portfolio is different to that of the TAO – given the shorter asset lives of the TSO's asset base, the TSO uses a shorter-term debt than the TAO, with rates tied to (floating) EURIBOR, which impacts the benchmarks used.
- EirGrid TSO is relatively physically 'asset light' in nature, and the systematic risks faced by the TSO may thereby differ from those faced by the TAO.

The CRU thus considers it appropriate for the EirGrid TSO WACC to reflect these characteristics rather than simply being assumed to be consistent with ESBN.

This Draft Determination Paper presents the results of the work that was completed when deriving the proposed costs of capital for the TSO and TAO. A report provided by CEPA – Review of the Financial Regulatory Framework of the TSO for PR6 (CRU202598) has been published alongside this paper and interested parties should refer to that document for further detailed information on these issues.

6.2. Methodology for Setting the Cost of Capital

The cost of capital value set out in this paper has been derived using an established CRU WACC methodology and approach, including using the CAPM for estimating the cost of equity, and as such this paper is restating the CRU's intention to continue using these methodologies to calculate the appropriate costs of capital for both the TSO and TAO for the 2026 to 2030 period.

Several key factors considered when estimating the cost of capital are set out below.

6.2.1. Key Considerations in Setting the WACC

The CRU considers a number of factors when setting the cost of capital. These have been reflected below, along with the rationale for PR6 cost of capital considerations.

Notional or Actual Capital Structure

The standard approach that the CRU has taken in previous price reviews (and in line with economic regulation in Ireland, UK and other European countries) is to set the allowed WACC with reference to a notional rather than actual capital structure for the regulated entities.

A notional capital structure ensures that the consumers only pay for efficient cost of capital. This means that any risks of financing decisions by the regulated companies, such as the level of gearing, timing of debt issuance, and choice of debt instrument, are ultimately borne by the

shareholder and not the final customer. The consumer prices are thus set to ensure that a notionally efficient business would be financeable under the price control[46]. At the same time, a notional capital structure incentivises the utility business to seek efficient low-cost financing.

The CRU has thus assumed a notional capital structure for the utility businesses for determining the cost of capital and carrying out financeability assessment[47] for PR6.

Tax treatment

Since the network entities are state-owned, it is assumed that the companies follow the headline corporation tax rate (12.5% in Ireland), rather than having a bespoke tax rate. The CRU has thus historically adjusted the post-tax WACC for headline corporation tax levels to derive the pre-tax WACC. Ireland signed up to the OECD pillar Two agreement in October 2021, including the agreement of a global minimum effective tax rate of 15% for firms that meet certain conditions. The Finance (No. 2) Act 2023 implemented the Pillar Two minimum effective tax rate in Ireland[48]. For PR6, the CRU thus proposes to adopt a tax range of 12.5% - 15%.

Real or Nominal WACC

A nominal rate of return includes inflation, whereas a real return excludes inflation. The RABs of ESBN and EirGrid are indexed to inflation, providing a return to the investors which compensates for inflation. The CRU thus sets a real WACC to ensure that the investors are compensated for inflation only once. The CRU purposes to continue with this approach for PR6.

Data used to estimate WACC

For PR5, CEPA used Eurozone data rather than Irish-specific data. For PR6, CEPA have continued with this approach, the rationale being that:

- the investors are more likely to view Irish regulated companies as part of an asset class that includes European utilities;
- the European dataset is richer than the more limited Ireland-only data and is more likely to produce statistically robust estimates; and
- in a monetary union such as the Eurozone, individual countries would be expected to converge to a long-term equilibrium.

[46] As noted by the CRU in its Offshore Revenue Model decision paper - CRU202499.
[47] See Section 7 on Financeability.
[48] See Guidance on Pillar Two available here.

Aiming up

There are risks associated with setting a WACC which is too low or too high. Since WACC is the rate of return that can be earned on the RAB, setting a low WACC would lead to a reduction in investment levels and consequently a reduction in the service standards, thus resulting in long-term disadvantages to the customers, even though they might benefit from lower bills in the short run. On the other hand, over-funding can lead to investors receiving increased returns at the expense of customers. Setting too high a WACC, however, is considered to be less harmful as the increased return can create incentives to innovate and invest, which would ultimately benefit the customers in the long run.

The CRU and other regulators have historically adopted the view that the long-term consequences of under-estimation are worse and have thus set a WACC in excess of the level implied by the WACC formula. This increase is known as 'aiming up.' In PR4, PR5 and PC5, the CRU has aimed up to the 67th percentile. The CRU, however, does not mandate the use of the 67th percentile.

The CRU Cost of Capital Approach Information Paper (CRU20029)[49] states that:

"The CRU may also consider the context of the sector and any unique characteristics associated with the utility when coming to a decision on aiming-up. For example, the nature of the capital programme, the utility's funding model, and levels of uncertainty may be amongst the factors that the CRU takes into account when setting the aiming-up level for the WACC, if any."

For PR6, the 67th percentile of the range is proposed, which is consistent with PR4, PR5 and PC5.

6.2.2. Building Blocks of WACC

The CRU sets the allowed rate of return as a WACC, weighting together debt and equity costs, using the following formula:

$$WACC = \left(\frac{E}{D+E}\right) * CoE + \left(\frac{D}{D+E}\right) * CoD$$

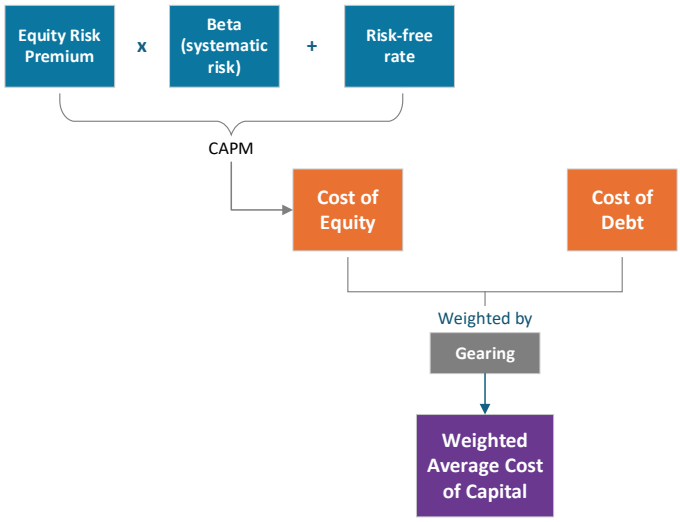
- 'CoE' is the cost of equity;
- 'CoD' is the cost of debt;
- 'E' and 'D' are the total values of equity and debt respectively; and

[49] CRU/20/029 – Cost of Capital – CRU Approach – Information Paper

- (D/(D+E)) represents notional gearing which is the proportion of debt that a regulated entity would hold.

Figure 7 below shows the different components that make up the cost of capital.

Figure 7: Building Blocks of Cost of Capital



The approach taken by the CRU along with the estimated value for each component of the rate of return is set out in the following sections.

6.3. Estimating the PR6 Cost of Capital

The CRU's advisors have assessed EirGrid and ESBN's methodologies used in estimating the different components of the cost of capital. Table 31 provides a RAG status against each component, highlighting the degree of difference in the approaches taken by the utility businesses and CEPA[50]. Full details of the methodology and estimates can be found in accompanying CEPA Price Review Six Onshore Cost of Capital report (CRU202594).

[50] The RAG status only indicates the differences in methodologies and is not an indication of the differences (or similarities) in the estimates.

Table 31: Difference in CEPA vs Utility Businesses' Proposed Approach to PR6 WACC Estimation

WACC component		CEPA vs EirGrid (TSO)	CEPA vs ESBN (TAO)
Cost of Equity	Risk-free Rate	Minor	Minor
	Total Market Return	Minor	Minor
	Asset Beta	Major	Minor
	Debt Beta	Minor	Uniform
	Equity Beta	Uniform	Uniform
	Tax Rate	Major	Major
Cost of Debt	Benchmark Cost of Debt	Minor	Major
	Adjustments	Minor	Uniform
	Inflation adjustment	Uniform	Minor
Gearing	Notional Gearing	Uniform	Uniform

The PR6 approach taken by CEPA to estimate these WACC components is set out in the below subsections.

6.3.1. Cost of Equity

The CRU has historically used the CAPM to estimate the cost of equity. This approach is continued for PR6.

Risk-free Rate

In previous price controls, long-term German government bonds have been considered as a proxy for risk-free rate. CEPA propose to continue with this established approach for PR6 for both the **TSO and the TAO**. German bonds are regarded as a good proxy for the risk-free rate of return on the Eurozone investments, as they are widely considered to have negligible default risk. CEPA have not adopted the forward curve adjustment suggested by ESBN. CEPA have not made the same convenience yield adjustment, or included higher yielding German 30yr bonds that EirGrid included.

Total Market Return (TMR)

For both the **TSO and the TAO**, CEPA focus on the historical *ex-post* and *ex-ante* evidence when estimating the TMR, utilising the Dimson, Marsh and Staunton (DMS) data series estimates (2024).

Asset Beta

As noted in Section 6.1, the CRU has previously used separate margins to reflect the asset-light characters of the **TSO**[51], including additional remuneration due to the risk associated with EirGrid's high operational gearing. However, with the separation of the WACCs for the TSO and the TAO for PR6, the CRU considers it appropriate to remunerate this through the WACC rather than through a separate margin, as it is the allowed WACC that compensates the shareholders for systematic risk. CEPA have thus included an uplift to the asset beta to account for the TSO's high operational gearing though the WACC.

For the **TAO**, CEPA estimate the asset beta using a wider comparator set and a 'pure-play'[52] comparator set, placing more weight on the latter. 'Pure-play' energy comparators have greater similarity to the notional entity in terms of risk profile and thus are likely to provide a better evidence base for beta. This is in line with the PC5 determination.

Debt and Equity Betas

CEPA propose to assume zero debt beta for both the **TSO and the TAO**, consistent with the CRU regulatory precedent. The asset beta is then combined with the notional gearing to arrive at the equity beta.

Tax Rate

EirGrid have used a tax rate different from the headline corporation tax rate of 12.5%, noting that their business falls under Pillar Two of the OECD agreement on tax from 2024 onwards. However, CEPA have used a range of 12.5% to 15% (in case of uncertainty around the headline number) as the corporation tax range for PR6 for the **TSO and the TAO.**

Cost of Debt

At prior price reviews, the CRU has calculated notional debt rather than using the utility companies' actual cost of debt to ensure that the consumers only pay for efficient debt costs. The same allowed cost of debt was allowed at prior price reviews for both the network companies, estimated using observed historical rates. However, for PR6, CEPA has proposed to use

[51] These margins target specific forms of return for the additional capital requirements of the TSO business, which relate to pre-construction (preliminary work in progress) activities, TUoS payments and collection, external payments and collection. See CEPA report on the Financial Regulatory Framework for the TSO (CRU202598) for further details.
[52] Pure play comparators are companies with a substantial part of their business energy network related.

separate costs of debt for ESBN and EirGrid, since the efficient notional company for a network asset owner would be materially different than that for an asset light company.

For the **TAO**, the CRU focused on the use of an "all-in" cost of debt in PR5, using a 10-year trailing average of historical rates observed, not making a distinction between debt taken out before and after the price control period for the network owner. The TAO will enter PR6 with existing debt which has existed since prior to the start of the PR6 period (embedded debt), a share of which will need to be replaced with / refinanced over the course of PR6. It will also need to raise new debt to finance some of its significant scale up in capital expenditure. For PR6, the CRU has thus looked at estimating the cost of debt by taking a weighted average of the embedded debt and new debt.

For the **TSO**, the cost of debt estimation for PR6 involves bond debt approach. Both the TSO and CEPA put a greater focus on short-term debt (5-7 years). This is because the system operator has shorter asset lives which results in a greater proportion of shorter tenor debt reflecting in its debt profile. CEPA do not find sufficient robust evidence for including a small company premium. CEPA have also for the TSO estimated the cost of debt by taking a weighted average of the embedded debt and new debt.

6.3.2. Gearing

The CRU assumes a notional gearing level for the regulated companies, independent of their actual gearing. The CRU has consistently used a standard gearing level of 55%, in line with the levels assumed by other regulators in the UK and Europe.

For PR6, both the licensees assessed the gearing levels in other comparator companies and proposed to retain the 55% notional gearing level[53]. Consistent with the companies' proposals, and in line with the regulatory precedent, CEPA agree with the proposed notional gearing assumption of 55% for both the **TSO and the TAO**. CEPA's financeability assessment shows that this level is appropriate within the context of PR6.

6.4. Conclusions

This section lists the cost of capital recommendations provided by CEPA to the CRU for the period 2026-2030 which reflects updated market data. It also lists the values of the factors that underpin this estimate. Both the TSO and TAO proposals are summarised in the CEPA report

[53] EirGrid proposed 55% gearing level for its onshore activities.

(CRU202594). These figures are also included in Table 32 and Table 33 below, along with the TSO's and TAO's proposed figures for comparison purposes.

6.4.1. TSO WACC Estimate

Table 32: Cost of Capital Estimates and Proposals - TSO

Parameter	CEPA PR6		TSO PR6	
	Lower	Upper	Lower	Upper
Benchmark cost of debt	1.24%	1.43%	1.91%	
Small company premium	N/A		0.30%	
Premium on Irish Utilities	N/A		0.21%	
Issuance costs	0.10%	0.20%	0.30%	
Cost of debt	**1.34%**	**1.63%**	**2.73%**	
Risk-free rate	0.50%	0.60%	0.80%	1.20%
Total market return	6.40%	6.80%	6.68%	6.72%
EMRP	5.90%	6.20%	5.53%	5.93%
Asset beta	0.50	0.55	0.35	0.40
Equity beta	1.11	1.22	0.69	0.80
Cost of equity (post-tax)	7.06%	8.18%	4.57%	5.93%
Tax	12.5%	15%	15%	
Cost of equity (pre-tax)	**8.06%**	**9.62%**	**5.38%**	**6.97%**
Notional gearing	55%			
WACC (real, pre-tax)	**4.37%**	**5.23%**	**3.92%**	**4.64%**
Adjustment for inflation expectation	**0.10%**	**0.40%**	**0.3%**	
WACC (real, pre-tax) after adjustment for inflation expectations	**4.47%**	**5.63%**	**4.22%**	**4.92%**
Cost of Capital	**P67 = 5.23%**		**4.86**	

The following should be noted in conjunction with Table 32:

- CEPA's proposed PR6 WACC estimate for TSO (onshore) is 5.23%, which is significantly higher than the PR5 estimate and EirGrid's PR6 estimate, primarily due to bringing in the margin element for high operating cost into the WACC estimation (through asset beta).
- Both EirGrid and CEPA have proposed a materially higher cost of debt than ESBN, reflecting shorter tenor debt, which is more reflective of their debt profile.
- EirGrid requested uplifts and premia to their allowance, however CEPA's new approach to focus on bank debt removes the need to apply such premia.
- CEPA have used lower economy-wide parameters than EirGrid, suggesting that lower estimates are more justified on the risk-free rate.
- CEPA's estimate of asset beta incorporates the remuneration for high operating costs into WACC estimation, using a 0.50–0.55 asset beta which is predominantly based on regulatory precedent from other jurisdictions.

- EirGrid's initial calculated range for cost of equity is 5.38% - 6.97%, however, EirGrid have proposed an aiming up within the CoE parameter, narrowing their CoE range down to 6.7% - 6.9% citing reasons of, *inter alia*, incentivising investment for significant capital investment, remaining competitive, and reducing the equity risk premium. However, CEPA do not propose aiming up or down at the parameter level.
- CEPA have adopted a corporate tax range of 12.5% - 15%, as opposed to EirGrid's proposed 15%.

The CRU follows a 'hybrid RAB and margin-based' approach rather than a simple 'RAB x WACC' approach for the TSO. Figure 8 shows current TSO financial framework and the proposed framework for PR6 for estimating the onshore TSO returns.

Figure 8: Current vs Proposed PR6 TSO Financial Framework

As noted previously, the risk associated with the TSO's high operational gearing will be remunerated through the WACC rather than a separate margin. CEPA also propose to add an additional remuneration component for internal operations cost risk to support margins earned in relation to internal activities.

The proposed PR6 Draft Determination margin on external costs is 0.25%, which applies to all external revenue and cost flows as set out in Figure 8 above, and the margin applied on internal opex is 1%.

6.4.2. TAO WACC Estimate

Table 33: Cost of Capital Estimates and Proposals - TAO

Parameter	CEPA PR6		TAO PR6	
	Lower	Upper	Lower	Upper
Benchmark cost of debt	1.18%	1.50%	1.15%	1.49%
Small company premium	N/A		N/A	
Premium on Irish utilities	N/A		N/A	
Issuance costs	0.10%	0.20%	0.10%	0.20%
Cost of debt	**1.28%**	**1.70%**	**1.25%**	**1.69%**
Risk-free rate	0.50%	0.60%	0.36%	0.65%
Total market return	6.40%	6.80%	6.45%	6.80%
EMRP	5.90%	6.20%	6.09%	6.15%
Asset beta	0.31	0.35	0.31	0.35
Equity beta	0.69	0.78	0.68	0.77
Cost of equity (post-tax)	4.56%	5.42%	4.52%	5.41%
Tax	12.5%	15.0%	12.5%	
Cost of equity (pre-tax)	**5.22%**	**6.38%**	**5.17%**	**6.18%**
Notional gearing	55%			
WACC (real, pre-tax)	**3.05%**	**3.81%**	**3.01%**	**3.71%**
Adjustment for inflation expectation	**0.10%**	**0.40%**	**0.59%**	**0.83%**
WACC (real, pre-tax) after adjustment for inflation expectations	**3.15%**	**4.21%**	**3.60%**	**4.54%**
Cost of Capital	**P67 = 3.85%**		**P67=4.23%**	

The following should be noted in conjunction with Table 33:

- CEPA's point estimate of ESBN's WACC is 3.85%, which is lower than the ESBN's proposed WACC estimate, primarily due to a difference in the inflation adjustment estimates. The PR6 estimate is slightly higher than the PR5 estimate.
- ESBN's assessment found German inflation to be consistently above Irish inflation during the past 10 years (2014 – 2024) and stable between 2014 and 2020. Their assessment did not focus on the decreasing size of this gap between 2020 – 2024. CEPA's assessment noted that while the historical data might imply that a larger adjustment is required, this data may have been influenced by macroeconomic events that may not apply in future (e.g., impact of Brexit on Irish inflation), and so CEPA apply caution in placing much weight on this data.
  CEPA thus consider a small uplift to account for the wedge between Irish and German inflation as compared to ESBN's uplift of 0.6 – 0.8%, resulting in a lower inflation adjustment range than ESBN.
- The CEPA estimate of cost of debt involves a narrower range due to higher new debt costs mitigated by lower embedded debt costs.

- The TMR range was relatively wide at PR5, however, during PC5[54] the lower bound of the range increased in line with the new GB regulatory precedent / regulatory guidance. CEPA note that the PR6 range is much closer to the PC5 determination range.
- ESBN proposed a reduction in asset beta which is in line with the direction applied in PC5[55] and is considered to be appropriate by CEPA.
- CEPA have adopted a corporate tax range of 12.5% - 15%, as opposed to ESBN's proposed 12.5%.

6.4.3. Celtic Interconnector

In 2019 the National Regulatory Authorities, CRU in Ireland and CRE in France, published their coordinated Cross-Border Cost Allocation (CBCA) Decision supporting the Celtic Interconnector project[56]. In 2022, the CRU published the Celtic CBCA decision paper[57] which provides detail on the CRU's cost recovery model for EirGrid. The CRU indicated its intention to set a separate allowed WACC for the Celtic Interconnector in this paper. The CRU has approved a fully regulated model for EirGrid's Celtic Interconnector (i.e. no merchant risk), structured into:

- **Phase 1 (pre-operational – development and construction):** EirGrid will only be allowed to recover eligible debt costs, and the efficiently incurred costs will be added to the RAB, determining its initial value for Phase 2. EirGrid will not earn any return on equity in this phase.
- **Phase 2 (operational):** the project will follow a RAB x WACC model, where Celtic will have a different RAB from EirGrid's other transmission activities. The CRU concluded that it would apply a nominal WACC specifically for the Celtic Interconnector, i.e., no RAB indexation, with the WACC set periodically alongside the price control decisions.

The CRU proposes to set a fully notional Celtic WACC of 5.92% for the Celtic Interconnector. The CRU's advisors considered the below when determining the Celtic WACC. See the accompanying Price Review Six Onshore Cost of Capital report (CRU202594) for more detail on Celtic Interconnector WACC.

[54] See CRU2023139.
[55] PC5 applied an asset beta range of 0.33 – 0.37.
[56] Revised Celtic CBCA Decision (CRU19125)
[57] Celtic Electricity Interconnector "EirGrid - Regulatory Framework Request" (CRU202213)

Cost of Equity

Since Celtic Interconnector will not be asset light, an operational gearing uplift is not included in the CoE estimation. CEPA note in their analysis that the risk profile of the interconnector is closest to the onshore electricity network, and thus the parameters of cost of equity – risk free rate, TMR, and asset beta should be consistent with that for the onshore TAO. The cost of equity for Celtic Interconnector during PR6 is thus aligned with the allowed CoE for TAO.

Cost of Debt

EirGrid has a term loan of €600m in place, split from EIB and Danske, which will expire in September 2052. As debt has been issued, using a notional approach does not place any incentive on efficient debt issuance. However, an actual cost of debt would be challenging to implement effectively as it is currently being drawn and would be inconsistent with the CRU's practice for RAB-based regulatory model which is also being adopted for the interconnector. Thus, CEPA propose using an adapted notional approach for setting the CoD.

Gearing

A notional gearing level of 55% is proposed, consistent with onshore gearing.

6.4.3.1. Celtic WACC Estimate

Table 34 below provides the estimate cost of capital for Celtic Interconnector, assuming the 67th percentile of the onshore cost of equity is used.

Table 34: Cost of Capital Estimate - Celtic Interconnector

Parameter	CEPA Estimate
Benchmark cost of debt	3.97%
Issuance costs	0.17%
Nominal Cost of debt	**4.14%**
Real risk-free rate	0.57%
Real Total Market Return	6.67%
EMRP	6.10%
Asset beta	0.34
Equity beta	0.75
Real cost of equity (post-tax)	5.13%
Tax	14.18%
Real cost of equity (pre-tax)	**5.98%**
Assumed inflation	**2.0%**
Nominal cost of equity (pre-tax)	**8.10%**
Notional Gearing	55%
Nominal pre-tax WACC	**5.92%**

Question(s):

9. What are your views on the proposed methodology for estimating the TSO and TAO costs of capital?
10. Do you have any comments or views on the proposed estimates for the TSO and TAO WACC parameters?
11. What are your views on the proposed methodology for estimating the Celtic Interconnector cost of capital?

7. Financeability

The CRU is required to have regard to the ability of network companies to finance their operations[58]. The CRU has consistently interpreted this as to ensure that an efficient licence holder, in this case the TSO and TAO, can finance their activities. The CRU has made some assumptions in this respect, which it considers are reasonable, which are noted below.

The TSO and TAO does not exceed the allowance for operating costs.

- The allowed operating costs are set at the level an efficient utility can achieve.

The financeability assessment is based on the notional capital structure assumed by the CRU.

- It is not the function of the CRU to specify the capital structure of the TSO or the TAO, to the extent the actual differs from the notional any costs should be borne by the shareholder and not the final customer.
- If financeability assessment is based on an actual gearing level, achieving a certain credit rating might lead the utility business to raise its debt (gearing) levels, resulting in the regulator having to increase the cashflows (allowed return and depreciation) to ensure that the business can meet its debt obligations while remaining financeable.

The effects of any unfinanced pension deficit are a matter for the network companies.

- The treatment of any pension deficits within both utilities will not be dealt with as part of the PR6 process.

7.1. Summary and Conclusions

The financeability test is based on the TSO and TAO achieving an investment grade credit rating. Rating agencies take a number of factors into consideration when determining the rating of a company, such as quantitative metrics (like interest coverage ratios), as well as qualitative factors such as the stability and predictability of the regulatory regime and company financial policy.

ESBN conducted financeability assessment based on their baseline and AIMF adjusted allowance proposals[59], noting that significant investments through the AIMF could potentially

[58] Electricity Regulation Act 1999, Section 9(4)(c). Available here.
[59] ESBN proposed a baseline + AIMF-adjusted allowance of €13.4 billion.

undermine the financeability of the business, which in turn would require ESBN to defer their AIMF investments. To manage this risk, ESBN proposes the following:

- the CRU should ensure that the business is financeable at the minimum level of defined *ex-ante* AIMF spend (€13.4 billion); and
- the PR6 framework includes a reassessment of financeability if the AIMF investment needs reach a level which is judged no longer financeable. The reassessment will thus be triggered if the AIMF levels reach or exceed the pre-determined non-financeable outcomes (e.g. exceed the minimum *ex-ante* AIMF level of €13.4 billion over PR6).
    - ESBN will provide evidence showing that the resulting financial metrics indicate a financeability challenge, thus requiring a reassessment to adjust for the revenue gap to the minimum threshold.
    - The revenue gap will be addressed through an appropriate defined intervention (such as increased revenues or higher WACC) that ensures financeability of the business.

The CRU have noted ESBN's proposal for financeability reassessment and **do not consider that a financeability reopener should be included in PR6 framework proposals.** CEPA have tested the proposed package on a high case scenario and find the price control proposals to be financeable with sufficient headroom in the underlying cash flow and interest cover ratios.

ESBN currently finance their network investments through ESB Group and as such any rating of ESBN as the TAO is notional. Moody's August 2024 credit rating for ESB is A3 (Positive)[60]; which has been revised from a stable to positive outlook[61].

EirGrid currently do not have a rating. However, over the PR6 period, EirGrid will seek a credit rating to support the significant funding that it would need to raise for its offshore activities. EirGrid anticipate that a credit rating might affect its financing approach for the onshore activities.

In carrying out financeability assessments for the regulated companies (in this case the TSO and TAO businesses and not the Groups they are part of), the CRU does not consider it appropriate, nor is it in any case possible, to replicate all the factors that the credit rating agencies take into

[60] ESB Credit Ratings – Moody's; Moody's A3 rating for ESB is maintained in its 2025 outlook on Regulated Electric & Gas Networks Europe (published on 10 April 2025) , while the overall outlook for the sector has changed from stable to negative.
[61] The positive outlook reflects the positive outlook for the Government of Ireland, in light of the strong probability of major government support to ESB. Moody's ratings: here.

consideration when developing a credit rating. However, the rating agencies do publish their methodologies for rating regulated utilities, and this gives guidance on what factors are taken into consideration, and the financial metrics associated with the different credit ratings. The financial ratios consistent with Moody's Investment Grade Credit Rating are set out in Table 35 below. See the Price Review Six Financeability Assessment (CRU202596) for more detail.

Table 35: Financial Ratios Consistent with an Investment Grade Credit Rating

Moody's[62]		
Metric	**A**	**Baa**
(FFO[63] + Interest)/Interest	4.0x – 5.5x	2.8x – 4.0x
FFO/Net Debt	18% - 26%	11% - 18%
AICR[64]	2.0x – 3.5x	1.4x – 2.0x
RCF[65]/Net Debt	14% - 21%	7% - 14%

The CRU considers that the regulatory regime in Ireland is consistent with international best practice and provides a stable and transparent framework within which both the TSO and TAO operate. In terms of the financial profile, the CRU has assessed the TSO and TAO with regard to the financial ratios set out above and consider that the allowed revenues provide for sufficient headroom for the key credit metrics to be considered financeable under plausible downside stress tests, with a simulated credit rating higher than the minimum Investment Grade Credit Rating of Baa3[66]. The TAO's relatively weaker financeability reflects the large capex programme relative to the existing TAO RAB and the related pressure on the TAO cashflows.

The CRU, having engaged with its advisors, is of the view that the TSO WACC of 5.23% and TAO WACC of 3.85% are consistent with both network companies being adequately financeable.

To deliver this investment programme, both ESBN and EirGrid will need to access significant amounts of new debt and equity capital. Illustrative CRU modelling for ESBN suggests an equity requirement may be required in the baseline (assuming 55% notional gearing and current ESB dividend policy) which would increase under the high case.

Question(s):

12. Do you have any views on the assessment of financeability?

[62] Moody's ratings, Regulated Electricity and Gas Networks, 2022, Exhibit 2 – available here.
[63] Funds From Operations
[64] Accrual-based Interest Coverage Ratio
[65] Retained Cash Flow
[66] The simulated outcome following Moody's 2025 Moody's Regulated Electric & Gas Utilities Rating Methodology paper (dated August 2024).

8. Allowed Revenues

The subsections below set out the allowed revenues for the TSO and TAO, as determined within the CRU's revenue model.

8.1. Revenue and Profiling

The PR6 price profile is defined as the profile of revenues the CRU sets at its Final Determination, which will be influenced by choices on how the CRU chooses to sculpt and smooth (or not smooth) its allowed revenues at PR6. As detailed in this Draft Determination, a significant increase in allowed revenues is forecasted for the network companies for the PR6 period, which has implications for the PR6 price profile.

The CRU must balance a number of criteria when assessing and defining the price profile for PR6. These are summarised below:

- **Legitimacy:** The price profile achieves an appropriate balance of distributional and intergenerational equity between consumer groups. The proposals are proportionate.
- **Financeability:** The price profile enables the price control to be financeable, for example, in potentially facilitating the notional efficient company achieving key credit metrics.
- **Cost reflectivity:** Overlapping with legitimacy, the price profile ensures that users of the network are making a proportionate contribution to its costs given the objectives for PR6.
- **Practicality and simplicity:** As far as possible, the approach to determining the price profile should be targeted and as transparent and simple as possible.
- **Predictability and volatility**: The price profile for PR6 should deliver stable and predictable tariffs as far as possible, and avoid undue volatility of bills.

Taking the above into account, the CRU's proposed approach for PR6 is to set a baseline revenue allowance that reflects CRU's view of core efficient opex and capital maintenance and an initial *ex-ante* allowance for enhancement related expenditure, with the network companies having the ability to access significant additional revenues through the AIMF where clear milestones or triggers are met. The proposed level of agile revenues seeks to balance the predictability of the price profile with legitimacy, while enabling a financeable price control.

The proposed allowed revenues for the TSO and TAO are set out in Table 36 and Table 37 below, respectively.

Table 36: PR6 Proposed Allowed Revenues for the TSO

2024 prices (€m)	2026	2027	2028	2029	2030
Internal opex	138	155	158	159	161
External opex	620	264	124	64	40
TAO revenues	344	370	405	451	510
FASS	0	371	382	404	413
Depreciation	52	73	90	97	91
Return on Stage 1 Working Capital	2	2	1	1	1
Return on other working capital	5	6	5	5	6
Return on fixed assets in the RAB	11	14	15	14	11
Incentives	0	0	0	0	0
PR5 adjustment	0	0	0	0	0
Working Capital Facility Fees	1	1	1	1	1
Revenue Requirement	**1,172**	**1,254**	**1,181**	**1,195**	**1,232**

Table 37: PR6 Proposed Allowed Revenues for the TAO

2024 prices (€m)	2026	2027	2028	2029	2030
Opex	81	82	80	79	87
Depreciation	121	131	145	163	183
Return	149	164	187	216	247
Incentives	0	0	0	0	0
PR5 adjustments	-7	-7	-7	-7	-7
Revenue Requirement	**344**	**370**	**405**	**451**	**510**

Question(s):

13. Do you have any views on the PR6 price profile?

9. Customer Impact Summary

The impact of the PR6 transmission Draft Determination proposals, in terms of current estimates[67] of network charges and cost drivers are discussed in this section. The charges which would be expected to be relevant for an archetypical domestic electricity customer in the last tariff year entirely in PR6 (2029-30) are considered, along with the movement from the charges in the last tariff year entirely in PR5 (2024-25). Values are presented for two scenarios, both related to the Draft Determination proposals for transmission. The first is the baseline scenario and the second is a high scenario which includes the AIMF. For further details on this topic, including background, definitions, assumptions, other scenarios, non-domestic examples and further figures please refer to the Price Review Six Impact Analysis Note (CRU202591).

Table 38: Domestic Customer Transmission Impact (Nominal values)

Network Company	Scenario	2024-25 (€)	2029-30 (€)	Change (€)	Change (%)
TAO	Baseline	24.3	24.0	-0.3	-1%
	High		27.4	+3.1	+13%
TSO	Baseline	96.4	62.6	-33.8	-35%
	High		65.7	-30.7	-32%
Total	Baseline	120.7	86.6	-34.1	-28%
	High		93.1	-27.6	-23%

In 2029-30 an archetypical domestic customer's electricity supplier is estimated to be charged €87 (baseline scenario) or €93 (high scenario) in charges relating to the transmission network for that customer[68]. This is via DTUoS charges (which collect revenues for the TAO and the TSO) and FASS charges (which provide revenues for the TSO and are included for completeness[69]). This is a reduction of €34 (baseline scenario) or a reduction of €28 (high scenario) from the comparable charge in 2024-25.

[67] The CRU will continue to refine and assess the consumer impact modelling for the Final Determination.
[68] Suppliers determine what level of these charges to either absorb or to pass on to their customers through their billing.
[69] While FASS costs will be recovered separately from DTUoS charges, they have been included here for consistency with the 2024/25 tariff where DS3 system services costs (the precursor to FASS) are recovered via DTUoS charges. Further details are available in the accompanying Information Paper CRU202591.

The main driver of the baseline scenario €34 decrease from 2024-25 to 2029-30 is the reduction in costs associated with security of supply, ancillary services and FASS (-€23 estimated[70]), followed by decreases in incentives and adjustments (€9) and in other operational costs and investments (€8).

Comparing the Draft Determination scenarios against company ask scenarios (baseline and full ask scenarios as relevant), the estimated 2029-30 transmission charges relating to an archetypical domestic customer are €5 lower in the Draft Determination baseline scenario and €4 lower in the high scenario.

[70] Security of Supply and Ancillary Services are -€62.5, counteracted by FASS +€39.7, giving a net of -€23.

10. Conclusion and Next Steps

This paper, together with the supporting documents published alongside, outlines the CRU's proposal for the revenue that the TSO and TAO are allowed to collect from the TUoS customer over the Price Review period.

The CRU currently proposes to allow total expenditure of €11.88bn in baseline allowances and at least an additional €1.86bn through the AIMF for the five-year period. This has the potential to be €14.1bn if the TSO and TAO can provide sufficient justification for their requests.

The proposed regulatory framework for PR6 is discussed in the Regulatory Framework paper which is published alongside this paper.

Interested parties are requested to provide comments on the above proposals as detailed in this paper by 17:00 on 11 September 2025.

We are seeking comments from members of the public, the industry, customers and all interested parties on proposals put forward in this paper. These include the proposed operational expenditure allowance, and capital expenditure allowance over the PR6 period. The CRU is also seeking stakeholders' views where additional information is required of the TSO and TAO's revenues request and the proposed regulatory framework (CRU202590). Responses will assist and inform the CRU in reaching its final decision on the TSO and TAO's revenue allowance for the PR6 period. Consultation questions are listed in Appendix 1 below.

Following consideration of all responses received, the CRU intends to publish a decision on this matter before the beginning of the PR6 period.

Appendix 1 – List f Draft Determination Consultation Questions

Questions:

1. What are your views on the TSO and TAO's PR5 Operating Expenditure allowed revenue and the CRU Draft Determination Outturn allowance?
2. What are your views on the TSO and TAO's PR5 Capital Expenditure allowed revenue and the CRU Draft Determination Outturn allowance?
3. Do you have any comments or views on the any of the proposals set out in Section 3?
4. What are your views on the TSO and TAO's PR6 Operating Expenditure request and the CRU's Draft Determination allowance?
5. What are your views on the TSO and TAO's PR6 Capital Expenditure request and the CRU Draft Determination allowance?
6. What are your views on the requests where the CRU are seeking additional information from the TSO and TAO?
7. Do you have any comments or views on any of the proposals set out in Section 4?
8. Do you have any comments or views on the any of the proposals set out in Section 5?
9. What are your views on the proposed methodology for estimating the TSO and TAO costs of capital?
10. Do you have any comments or views on the proposed estimates for the TSO and TAO WACC parameters?
11. What are your views on the proposed methodology for estimating the Celtic Interconnector cost of capital?
12. Do you have any views on the assessment of financeability?
13. Do you have any views on the PR6 price profile?

Appendix 2 – Summary of Responses to PR6 Strategy Paper

On 24 April 2024, the CRU published a Strategy Paper to inform and seek comments from consumers and relevant stakeholders on the approach proposed for PR6.

The CRU received a total of sixteen responses, all of which were non-confidential. These responses have been published in full on the CRU website and a summary of the key points are set out in the Table 39 below.

Table 39: Summary of PR6 Strategy Paper Responses

Area		Response Overview
1	Policy Developments	• One respondent pointed out the European Commission's recommendation in their assessment of Ireland's NECP to *"significantly raise the ambition of a share of renewable energy sources to at least 43% as a contribution to the Union's binding renewable energy target for 2030"*, which in their view necessitates further support and flexibility for the network companies. • One respondent pointed out that Section 17 of the Climate Action and Low Carbon Development Act (Amendment) 2021 places an onus on CRU to take all reasonably practicable measures necessary to ensure compliance with a range of government targets including CAP[71].
2	Outcomes	• There was broad agreement among respondents on the CRU's proposed outcomes for PR6. • One respondent suggested that outcomes should have specific dates and targets. • On Secure and resilient networks and supplies: ○ One respondent commented that Ireland's energy supply should be sustainable, secure and cost efficient. • On decarbonised electricity: ○ One respondent noted that carbon budgets require Ireland to reach a level of RES-E greater than 80% by 2030 or shortly thereafter. ○ One respondent commented that this should be done both cost effectively and mindful of cost of electricity in competitors' locations. • On Empowered customers: ○ One respondent noted that flexible consumers are excluded from participation in the Irish balancing market because TSO systems cannot issue dispatch instruction to flexible consumers. ○ One respondent commented that achieving these outcomes would require a complete transformation of the electricity system. ○ One respondent said they would welcome greater focus and clarity on the need to ensure the appropriate market frameworks, including interconnector trading between the SEM and the UK, re-integration of SEM into the EU Internal Electricity Market following the energisation of the Celtic Interconnector is given sufficient prominence and focus for both the CRU and network companies.
3	Objectives	• There was broad agreement among respondents on the CRU's proposed objectives for PR6. • One respondent suggested that objectives need to be flexible, with measured real-time outcomes year on year during the price control period.

[71] Climate Action and Low Carbon Development (Amendment) Act 2021 – Section 17

		• Five respondents suggested that the network companies are given adequate resources in order to deliver on the objectives of PR6, particularly in delivering infrastructure at pace.
		• On delivering infrastructure at pace:
		  ○ Four respondents stressed that dispatch down costs must be a focus for PR6 to ensure that grid investment can realise reduction in constraints.
		  ○ One responded sought to understand how the CRU will review and track progress of the business plans.
		  ○ One respondent noted that it will be necessary for the TSO to identify areas of the grid where there is a lack of grid capacity for contracted projects.
		  ○ One respondent stressed that it is vital that network companies have the ability to find new solutions to deliver network infrastructure, such as through partnerships or an extension of the third-party network delivery framework.
		  ○ One respondent sought clarity in the setting of targets and ambitions as to how Ireland will ensure compliance with the revised Renewable Energy Directive for the connection (including permitting) of new energy infrastructure.
		  ○ One respondent sought clarity on how projects are progressed through the TSO's six step grid development process.
		• On the Enhance system efficiency objective:
		  ○ One respondent stated that PR6 must require a comprehensive and holistic delivery roadmap of all of EirGrid's projects underway that will facilitate efficiency and optimisation of renewables, and that, where applicable, there is transparency and certainty in procurement.
		  ○ One respondent urged the CRU to consider within its workplans and strategic planning how and when critical decisions (e.g. shared MEC behind 1 connection point, improved SEM-GB trading) which could impact on the network companies' ability to ensure the optimised and efficient system operation can be developed.
		• On the Ensure compliance with security of supply standards objective:
		  ○ One respondent suggested that PR6 must take steps to consider the conclusions of the McCarthy report.
		  ○ Two respondents suggested that the Transmission System Security Planning Standards (TSSPS) should be reviewed.
		  ○ One respondent commented that timely delivery of all projects is crucial in establishing the security of supply required to ensure value delivery to the consumer who will be asked to meet the capital requirements through their bills.
		  ○ One respondent posed that short-term costs of security of supply could be better utilised in grid infrastructure investment to leave a longer-term benefit to end consumers and increase investor confidence.
		  ○ One respondent suggested a further objective for PR6 on developing the organisational capacity of the network companies in order to deliver on ambitious decarbonisation plans beyond PR6.
		  ○ One respondent suggested a further objective in PR6 to fund EirGrid in particular to develop and design effective technology agnostic long-term contracting systems for the procurement of an efficient mix of technologies to deliver net zero.
		• On the objective to Drive smarter, flexible, more digitally enabled networks and energy system:
		  ○ One respondent commented that reductions in system wide carbon emissions should be the primary focus of any charging regime as part of the delivery of demand flexibility and CAP targets.
		  ○ One respondent said that a range of renewable and complimentary technologies will be essential to Ireland meeting the 2030 RES-E targets and beyond, including both hybrid and storage projects, as well as various renewable technologies.
		  ○ One respondent would like to see explicit recognition in PR6 for the ability of all forms of flexibility to delay or replace the need for new network when optimally sited behind a network constraint.
		  ○ One respondent said that it should be possible to get information on network capacity and grid assets such as substation layouts and spare

		bay availability, along with comments on a grid route at an early stage well in advance of a project applying for planning.
4	Approach to Delivery	• There was broad support from respondents for the proposed approach to delivery. • On Flexibility: ○ One respondent commented that network operators must be enabled to deploy resources flexibly where delays occur, such that delays to one programme of works do not directly impact others. • On anticipatory investment: ○ One respondent sought clarity on proposals for renewable hubs to be delivered onto the Transmission network and how/when the current distribution hub pilot will be assessed and if appropriate, rolled out to further locations. • On the whole-of-system approach: ○ One respondent commented that there needs to be a focus on measuring how decarbonisation can be delivered at least cost as part of the approach. • On Leveraging data and digitalisation: ○ One respondent suggested that all reports issued by network companies include the provision of data in accessible and digital formats. • On Efficiency and justification of costs: ○ One respondent stressed that the potential for commodity price related spikes to occur once again in the future needs to be forefront in the mind of any cost-benefit analysis of delivering new grid infrastructure.
5	Challenges and Opportunities	• One respondent noted that acquiring planning permission in relation to the sizeable pipeline of network infrastructure was not specifically outlined.
6	Regulatory Framework	• Two respondents supported the move beginning in PR5 towards a more output-based Price Review. • One respondent supported a review of the AIF ahead of PR6 to ensure that agility is prioritised. • One respondent suggested that regulatory framework is supportive whether through the appropriate use of uncertainty mechanism or in setting a WACC which will attract the necessary investment into the sector. • One respondent suggested extending the length of price control periods as in their view, a longer regulatory review can better mitigate regulatory risk for the TSO, whilst also providing the strongest chance that TSO delivery of large, long duration projects can in fact be realised within the price control period. • One respondent commented that an effective response to supply chain costs and challenges by the Government, the CRU and the wider sector is required to maintain the pace and reduce the costs of decarbonisation.
7	Incentives and Monitoring	• Four respondents suggested that the network companies are properly incentivised to reduce dispatch down levels, and that any proposals in this space are properly consulted upon. • Two respondents supported incentivizing Key Performance Indicators (KPIs) for delivery of additional grid capacity. • One respondent supported the CRU's intention to build on the regime adopted in PR5 for PR6, to ensure greater transparency and enhanced reporting around delivery of outcomes in terms that customers can meaningfully engage with. • One respondent suggested that CRU considers placing a proportion of PIs earned into a long-term account, payable only on full delivery of critical path projects and successful adherence to timelines. • One respondent recommended an increased focus and potentially changes in PR6 to the incentive/penalty structures if progress is not delivered within the PR5 period. • On the TSO/DSO coordination incentive, one respondent sought to understand how this can be further incentivised in a more equitable fashion to deliver new and upgraded transmission infrastructure. • One respondent supports the continuation of the cost and PI framework of output-based incentives in support of the Price Review objectives. It is their view that an output-based incentive should also be of benefit to consumers. • One respondent suggested an additional transparency incentive/penalty mechanism to motivate clear and transparent delivery plans and procedures.

		• One respondent suggested that the monitoring and reporting regime needs to strike the right balance between transparency of spending and delivery for the CRU and customers, while allowing the transmission utilities the space to focus on transmission system delivery. • One respondent stated that the impact of NEDS on the overall incentives of the network operators must be considered.
8	Miscellaneous	• Several comments were made in relation to expectations of the network companies' business plans: ○ One respondent stressed that there needs to be clear planning, transparency and evidence-based assessments as a standard requirement for each of the plans being submitted. ○ One respondent suggested that network companies should lay out their forecasting assumptions and scenarios that underpin their business plans in respect of the growth in electric heat, domestic and industrial, as well as electric transport with the wider gains being considered. ○ One respondent suggested that business plans address: ▪ Private wires ▪ Connection delivery ▪ Delivery of firm access ▪ TUoS reform for refurbishment ▪ Repowering and retention of existing sites for further development ▪ Transparency of EirGrid market activities ▪ Delivery of fully optimal participation of batteries ▪ Implementation of hybrid connections ▪ Facilitation of data centres • Five respondents want to see reform of the existing TUoS and DUoS tariff structures. ○ One of the respondents suggested that reforms are clear, dependable and give a long-term cost signal. ○ One respondent suggested that tariffs could focus more on SNSP than on day/night trends. They also suggested that they could be reviewed to analyse what mechanism in the structure can be reformed to allow for improved expansion of electrification. ○ One respondent said that the tariffs need to be reformed in order to enable meeting various CAP decarbonisation targets. ○ One respondent pointed out that the PR6 project has the potential to worsen the uncompetitive cost of electricity in Ireland, and that the phase and structure the components of electricity charges other than input costs should be adjusted to combat this. ○ One respondent wants this to include a review of the application of pass-through costs, its price ratio in comparison to fossil fuels and how reform could support meeting CAP targets. • One respondent stressed that costs of operating and maintaining the overall networks do not become excessive and place an undue burden on customers.

Appendix 3 – PR6 Transmission Capex

TSO/TAO Network Capex Draft Determination

Table 40: TSO/TAO PR6 Network Capex Draft Determination - Baseline

TSO	2026	2027	2028	2029	2030	DD Total € m
Network Capital Expenditure	**54.9**	**55.8**	**47.2**	**37.0**	**28.8**	**223.7**
TSO Transformation	16.7	16.5	17.2	7.8	7.7	65.9
Technology Resilience and Modernisation	17.3	28.8	20.3	15.3	12.3	94.0
Power System Capability Enhancement	7.9	11.2	11.0	7.9	7.3	45.3
Digital Transformation	6.3	8.1	5.0	3.1	2.3	24.8
Celtic Operational Readiness	16.8	12.1	0.0	0.0	0.0	28.9
Physical Control Centres	7.9	15.4	0.1	0.0	0.0	23.4
Cyber Security	3.6	2.0	1.4	1.4	2.0	10.4
TSO/DSO Coordination	2.0	2.3	2.3	1.1	1.0	8.7
Workplace/Facilities Capex	0.6	0.6	1.3	1.6	1.2	5.3
Capability Catch Up	0.5	0.5	0.4	0.4	0.4	2.2
FASS	18.1	0.1	0.0	0.0	0.0	18.2
SMP	32.9	20.6	30.6	5.2	-	89.3
Market System Release Capital	0.9	4.4	4.4	4.8	5.1	19.6
Non-Network Capital Expenditure Total	131.5	122.6	94	48.6	39.3	**436.0**
Overall PR6 Total Capital Expenditure	186.4	178.4	141.2	85.6	68.1	**659.7**
TAO	**2026**	**2027**	**2028**	**2029**	**2030**	**DD Total € m**
Group 1 – Priority Projects	341.8	491.9	578.1	742.2	788.5	2,942.5
Group 2 – Remaining Category 1 Projects	28.7	54.6	148.5	108.3	88.0	428.1
Group 3 – Category 2, 4 and remaining Category 5 projects	74.9	69.8	65.1	78.5	104.4	392.7
Group 4 – Remaining Category 3 projects	0.0	36.1	35.9	31.6	30.0	133.6
Group 5 – Category 6, 7 and 8 projects	0.0	0.0	39.7	40.2	40.2	120.1
TAO Network Subtotal	**445.4**	**652.4**	**867.3**	**1,000.8**	**1,051.1**	**4,017.0**
Customer Contributions	-28.0	-28.0	-28.0	-28.0	-28.0	-140.0
Interest During Construction	0.0	0.0	0.0	0.0	0.0	0.0
TAO Net Forecast Expenditure	**417.4**	**624.4**	**839.3**	**972.8**	**1023.1**	**3,877.0**
TSO Stage 1 Invoicing	0.0	0.0	0.0	0.0	0.0	0.0
Overall PR6 Total Capital Expenditure	**603.8**	**802.8**	**980.5**	**1,058.4**	**1,091.2**	**4,536.7**

TSO PR6 Non-Network Capex

Table 41: TSO PR6 Non-Network Capex Request vs. Proposed Allowance

Category	TSO Request (€m)	DD Baseline (€m)	DD High (€m)
TSO Transformation	133.7	65.9	133.7
Technology Resilience and Modernisation	100.9	94.0	94.0
Power System Capability Enhancement	90.2	45.3	90.2
Digital Transformation	49.2	24.8	49.2
Celtic Operational Readiness	32.0	28.9	28.9
Physical Control Centres	23.4	23.4	23.4
Cyber Security	13.3	10.4	10.4
TSO/DSO Coordination	11.1	8.7	8.7
Workplace/Facilities Capex	5.3	5.3	5.3
Capability Catch Up	4.1	2.2	4.1
FASS	18.2	18.2	18.2
SMP	89.3	89.3	89.3
Market System Release Capital	19.6	19.6	19.6
Total for PR6	**590.3**	**436.0**	**575.0**

Appendix 4 – PR6 Transmission Opex

Table 42: TSO/TAO PR6 Network Opex Draft Determination - Baseline

TSO	2026	2027	2028	2029	2030	Total
Staff costs	58.6	65.8	68.2	68.9	69.1	330.6
Staff related costs	3.3	3.7	3.8	3.9	3.9	18.6
Contractors	16.6	17.1	17.0	16.5	16.4	83.6
Telecommunications	7.3	7.8	7.9	7.9	8.0	38.9
Premises	7.5	7.9	7.9	7.8	7.8	38.9
IT Costs	18.5	24.9	25.2	24.4	24.7	117.7
Insurance	0.9	0.9	0.9	0.9	0.9	4.5
Public Engagement	2.3	2.3	2.3	2.3	2.3	11.3
Professional Services	21.1	20.7	19.4	19.5	19.6	100.3
Grid Maintenance & Client Engineering	1.1	1.1	1.1	1.1	1.1	5.5
Rates	0.6	0.6	0.6	0.6	0.6	2.9
Promotion of Research	1.4	1.4	1.5	1.5	1.5	7.3
Intercompany Recharges	-3.2	-3.2	-3.2	-3.2	-3.2	-15.9
Total Controllable (Incl. Frontier Shift)	**138.4**	**155.0**	**158.1**	**158.9**	**161.0**	**771.4**
Total Controllable (Excl. Frontier Shift)	**136.0**	**151.0**	**152.6**	**152.1**	**152.7**	**744.2**
Inter TSO Compensation	3.7	3.7	3.7	3.7	3.7	18.5
TAO Payment	364.1	408.3	452.4	496.7	540.9	2,262.4
CORESO subscription	1.3	1.3	1.3	1.3	1.3	6.5
Interconnector services	1.0	1.0	1.0	1.0	1.0	5.0
CRU Levy	3.0	3.0	3.0	3.0	3.0	15.0
DUoS costs	6.9	6.9	6.9	6.9	6.9	34.5
Ancillary Services	280.7	1.5	1.5	1.5	1.5	286.7
PSO Levy	250.0	250.0	250.0	250.0	250.0	1,250.0
Future Arrangements for System Services	-	370.5	381.8	403.5	412.5	1,568.3
Total Non-Controllable	**910.7**	**1,046.2**	**1,101.6**	**1,167.6**	**1,220.8**	**5,446.9**
Security of Supply	274.0	219.0	83.9	23.2	-	600.1
Celtic Debt Service Costs	25.0	4.7	-	-	-	29.7
FASS funding costs	2.0	0.9	0.9	0.9	0.9	5.6

Clean Energy Package	22.0	22.0	22.0	22.0	22.0	110.0
Total Exceptional Items	**323.0**	**246.6**	**106.8**	**46.1**	**22.9**	**745.4**
Total Opex (Incl. Frontier Shift)	**1,372.1**	**1,447.8**	**1,366.5**	**1,372.6**	**1,404.7**	**6,963.7**
Total Opex (Excl. Frontier Shift)	**1,369.7**	**1,443.8**	**1,361.0**	**1,365.8**	**1,396.4**	**6,936.5**
TAO	**2026**	**2027**	**2028**	**2029**	**2030**	**Total**
Transmission Operations	2.5	2.5	2.6	2.7	2.7	13.0
Planned Maintenance	23.3	22.7	22.1	22.0	22.5	112.6
Fault Maintenance	2.3	2.3	2.4	2.4	2.4	11.8
Transmission Retirements	-	-	-	-	-	-
Asset Management	0.9	0.9	1.0	1.0	1.0	4.8
Company Wide Costs	0.4	0.4	0.4	0.4	0.4	2.1
Corporate Charges	3.6	3.6	3.6	3.5	3.5	17.8
Insurance	0.3	0.3	0.3	0.3	0.3	1.5
Legal	-	-	-	-	-	-
Pension	0.2	0.2	0.2	0.2	0.2	0.8
IT Opex	0.7	0.7	0.7	0.7	0.7	3.3
Miscellaneous	-	-	-	-	-	-
Professional Fees	2.8	2.8	2.8	2.8	2.8	14.0
Telecom Fees	2.2	2.2	2.2	2.2	2.2	11.0
Total Controllable (Incl. Frontier Shift)	**39.2**	**38.6**	**38.4**	**38.3**	**38.8**	**193.3**
Total Controllable (Excl. Frontier Shift)	**39.1**	**38.5**	**38.2**	**38.2**	**38.7**	**192.8**
Network Rates	38.6	39.7	38.2	37.5	44.4	198.3
CRU Levy	3.3	3.3	3.3	3.3	3.3	16.7
Total Non-Controllable	**42.0**	**43.0**	**41.6**	**40.8**	**47.7**	**215.0**
Total Opex (Incl. Frontier Shift)	**81.2**	**81.6**	**79.9**	**79.1**	**86.5**	**408.3**
Total Opex (Excl. Frontier Shift)	**81.1**	**81.5**	**79.7**	**79.0**	**86.4**	**407.8**

Appendix 5 – Valuation of the Regulatory Asset Base

The core issue regarding the valuation of the TSO's and TAO's RAB is whether the RAB should reflect the value of the assets now (replacement value) or when they were built (acquisition cost). A number of variations on these approaches are outlines below. The advantages and disadvantages of each were set out in PR5 and still hold true.

Acquisition Cost

Assets are valued at their original cost for construction/acquisition. The value of the assets is not indexed for inflation nor is the value linked to the cost of replacement.

Replacement Cost

Assets are valued at what it would cost to replace existing assets. There are two approaches to replacement cost: (a) indexing the acquisition cost of the asset to allow for inflation; and (b) revaluing the asset base using a modern equivalent asset value (MEAV) approach.

Replacement cost less stranded assets

This is as per replacement cost above but those assets that are not utilised in the current system would be excluded. Effectively, this would be the cost of building a replacement system.

Deprival value

The assets would be valued at the lower of their replacement cost or economic value (in the event that they could not be replaced).

The CRU is proposing that the TSO and TAO's RABs will continue to be valued using a replacement cost approach for the period 2026-2030. This aligns with the approach taken in the previous price reviews and provides significant regulatory stability.

Asset Lives Applied to the Regulated Asset Base

The proposed decision on asset lives that apply to assets within the RAB feeds through to the level of depreciation that the TSO and TAO receive separately on those assets within each price review (or indeed year).

In line with established practice, the CRU proposes to continue using average assets lives as determined in PR5. PR5 reviewed the appropriateness of the asset lives, taking account of the

economic and technical lives of the assets on the TSO and TAO RABs. These asset lives are set out in Table 43 and Table 44 below.

Table 43: Proposed Asset Lives for PR6 - TAO

Asset	PR6 (yrs.)
Network Assets	50
Telecoms	50
Office Equipment	10
SCADA Telecoms	15
Premises	50
IT	5
Customer Contributions	50
Secondary Assets	17

Table 44: Proposed Asset Lives for PR6 - TSO

Asset	PR6 (yrs.)
IT	5
Overheads	10
Premises	23
Communications	10
Telecoms	10
Enterprise Applications	5
Customer Contributions	15