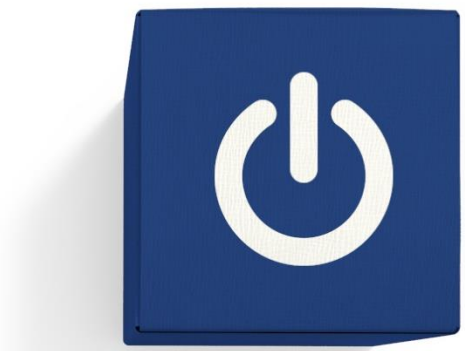
Review of the financial regulatory framework of the TSO for PR6

CRU

23 June 2025



FINAL REPORT

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EXECUTIVE SUMMARY

Context and objectives

The Commission for Regulation of Utilities (CRU) has commissioned CEPA to review the current financial regulatory framework for the Transmission System Operator (TSO), to assess whether it remains fit for purpose for PR6 and, if not, to recommend any appropriate changes.

In order to regulate the TSO, the CRU needs to have in place a financial regulatory framework that is appropriate given the characteristics of the system operator business. A utility company carrying out a system operator function on a stand-alone basis is relatively physically asset light, with most investment being in items such as IT systems which have relatively short asset lives. Therefore, the more common approach taken for regulating a utility company where most of the remuneration is driven from the application of the Weighted Average Cost of Capital (WACC) on a Regulated Asset Base (RAB), alongside regulatory depreciation, plus a cost-based operational allowance, is rarely sufficient (except, for instance, where there are major systems upgrades).

In the case of EirGrid, to address this issue, the CRU has, over several price controls, added additional "margins" outside of the WACC on the RAB to allow the TSO some return (or remuneration) on a wider set of activities.

These wider activities include the TSO's role in network planning and development and its associated "Stage 1" spend; the TSO's role as a revenue collection agent on behalf of the electricity industry and the associated management of cashflows on behalf of the industry. In PR6, EirGrid has a much enhanced role as offshore system operator and asset owner; however, this offshore asset owner role will be remunerated under a separate price control, although the assumption is that it will be financed on a single entity basis.

In preparation for PR6, CEPA focused on understanding the activities and costs within the TSO's control, the nature and extent of the risks that the TSO actually faces (within and outside of its control), and what, from a first principles perspective would be an appropriate way to calculate a revenue allowance including a return for EirGrid's TSO. We have also reviewed how well the PR5 framework does this, and we have provided our assessment of its limitations. Following this we have provided a number of alternative approaches that should be considered for PR6 and in the future. Throughout this review we have considered what level of overall profit/return would be appropriate for the TSO in the round.

PR5 review

We do not believe that the existing approach provides an appropriate financial regulatory framework for EirGrid for PR6. During PR5 it has been producing average returns, whether measured by EBITDA (averaging over 40% in the first three years) or EBIT (averaging over 20% in the first three years), that are far in excess of what might be expected from a price-controlled entity with limited risk.

Under the framework, rather than EirGrid making most of its return from the value-add that it delivers through its core activities – system planning, etc – it generates a significant amount of overall EBIT through a series of margins on the uncontrollable external costs and revenues which flow through it. This has amounted to roughly 46% in PR5 to date, relative to over 50% in PR4.

The management of these considerable external and highly variable costs, over which EirGrid has limited control, comprise the TSO's revenue collection agent role. However, their level and the risks associated with them - such as non-payment, are ultimately passed through to customers. Because of the structure of the current allowance provided to EirGrid in respect of this role, being set fixed percentages on a variable cost (which is likely to increase), the likelihood is that it will continue to drive very high levels of returns through PR6 if the framework is simply rolled over, as we have seen in the current price control (PR5).

Additionally, we find the derivation of the margins has no clear financial logic underpinning. For example, the calibration of some of the margins have been determined without an intuitive underpinning, such as the derivation of the 24% factor applied to the WACC margin on external opex.

The margins in their current form do not reflect the core revenue generating activity within the TSO's control (internal opex), whilst the logic underpinning their derivation does not seem to reflect the degree of risk that the TSO actually faces. In our view, EirGrid bears extremely limited, if any, P&L or liquidity risk through undertaking its revenue collection agent role:

- Whilst considerable financial flows are associated with these different external activities, EirGrid's P&L bears extremely limited risk as, as far as can be seen, all costs are ultimately recovered through the k-factor (even though full recovery can take several years).
- Moreover, in the absence of any hard evidence to the contrary, any financing requirements associated with managing timing differences (not risks) are covered through the large working capital facilities (WCFs) that EirGrid has in place (irrespective of whether EirGrid's cash balances have also been drawn on).

We have found that the reasoning of "timing risks' used to justify several margins in the PR5 framework are not consistent with the risks that the TSO actually faces.

While cashflow issues could be managed by the TSO with reliance on its own capital employed, the TSO has access to several large WCFs to manage timing differences between the payment of costs to the industry and the collection of revenues from consumers, which is arguably the most appropriate way to finance the required liquidity. As, however, WCFs do not comprise part of a company's working capital, their existence and use leave the balance sheet unaffected. Additionally, all fees associated with the WCF are passed on to consumers as a pass-through, meaning the TSO does not face any costs of using a WCF instead of its own capital.

We also find instances where the same "risks" have been remunerated multiple times within the existing PR5 framework. The concern over managing timing differences between payment of costs and recovery of revenue from consumers has associated with it both a margin on the external (pass-through) costs and a margin applied to the revenue collection on total TSO revenues – of which this forms part. This is additional to pass-through compensation for fees incurred for the operation of the WCF. We have referred to this concept as "double-remuneration" in our report. We agree in principle that the TSO should be provided with remuneration for these activities, and the costs associated with managing them, but in a way that is reflective of actual risks faced.

In the round, we find the PR5 framework has not attributed the overall revenue recovery to activities and risks appropriately, and that the overall level of remuneration is higher than would be expected for a business facing the same risks.

Preferred PR6 option

We considered three high level options for PR6. The first of these was essentially a roll-forward of much of what was in the PR5 framework. However, even after adjusting for double-counting we think that overall it produces too high a level of return, much of this driven by the generous treatment of EirGrid's collection agent activities. Whilst we think that there is a strong case to consider a return on capital-based approach in PR7, in PR6 our preferred option is one which focuses on reducing the contribution to profit from collection agent activities and increases the return from EirGrid's core activities, which we believe creates a better alignment with its value-add. We would have increased this element further if it was not for the contribution of RAB-based returns to the total return in PR6, driven by high levels of capital investment.

Our preferred option (Option 2) comprises a return on the RAB, supplemented by a single small margin (0.25%) applied to external costs, imperfections charges, FASS, PSO levy and any Celtic and East-West Interconnector revenues the TSO will collect. This small margin is not directly addressing any timing mismatches, for which the TSO are made whole through the k-factor and WCF fee pass through. The addition therefore is an internal opex margin applied of a greater magnitude (1%). This produces an overall EBIT margin on controllable revenues of approximately 7.8% (slightly lower than the 8.8% in EirGrid's own PR6 model). We consider that an EBIT margin ranging from 3% to 10% may be appropriate, depending on the mix of activities being undertaken. The margin on internal opex could therefore be adjusted in future price controls should the overall EBIT margin not fall within this range.

Our suggested approach incentivises EirGrid to manage its controllable internal costs to maximise profits rather than relying on higher than anticipated outturn external costs and revenues. The regulatory reward / penalty framework could translate into a return materially in excess of this.

1. INTRODUCTION

EirGrid is the electricity Transmission System Operator (TSO) in Ireland ("EirGrid"). The key aim of its financial regulatory framework is to ensure that it remains financially viable and is provided with an appropriate level of return for an efficient company. CEPA has been commissioned to review the current financial regulatory framework for the TSO, to assess whether it remains fit for purpose for PR6 and, if not, to recommend any appropriate changes.

1.1. CONTEXT

EirGrid is a critical organisation in Ireland's energy sector, helping to manage electricity networks and the operation of electricity markets on the island of Ireland. The CRU has, over a series of price review cycles, regulated EirGrid as the licensed electricity TSO in Ireland. As well as its core TSO activities, it is also responsible for the collection and financing of payment processes related to transmission system use of system (TUoS) charges, system services and constraint management payments in Ireland.

EirGrid is unusual for a regulated company in that it is relatively physically asset light. Usually, in the case of a utility company with a significant Regulated Asset Base (RAB), remuneration combines a return on the RAB at the WACC alongside regulatory depreciation, plus a cost-based allowance (usually an opex allowance), which can be outperformed on by the regulatory entity. In the case of EirGrid, however, the RAB revenue stream is typically limited due to its asset-light nature, which when combined with a relatively limited opportunity to outperform on its internal cost allowance, provides an overall return that is below or in the lower part of a target returns range. As a result, several additional revenue streams have been introduced to the framework, essentially margins applied to an assumed level of working capital involved in financing the "external" activities that EirGrid undertakes on the part of the industry. Over time, this has resulted in the CRU creating a bespoke regulatory framework for EirGrid which has aimed to reflect its asset light financing characteristics and specific return requirements of the licensed business.

The CRU has now had in place its regulatory framework for the asset light TSO for several price control cycles (evolving over PR3 to PR5). During this time, there have also been developments in the precedent of price regulation of asset light TSOs in other jurisdictions which may provide learnings for CRU in setting the regulatory framework for EirGrid TSO in PR6. For example, Ofgem in 2020 put in place a new financial framework for the National Electricity System Operator (NESO) in Great Britain (GB) as part of its RIIO-2 price controls.

For PR6, the next period of electricity network price controls in Ireland, EirGrid will also be the offshore system operator and Offshore Asset Owner (OAO). The OAO role will be fulfilled by EirGrid as part of its TSO licensed role with its new offshore functions expected to result in significant growth in the licensee's RAB with potentially more than €5bn (2024 prices) of investment required by 2030.

While the CRU has, for PR6, treated the onshore TSO and OAO functions as separable price control activities, and made a separate decision on EirGrid's offshore revenue model, there are expected to be interactions between the price control frameworks of each function. For example, any credit rating of the TSO licensee can be expected to be impacted by the regulatory framework that applies to both activities with the financeability of the business dependent upon how these regulatory frameworks operate together.

Within this context, the CRU asked CEPA to undertake a review of the financial regulatory framework that currently applies to EirGrid's traditionally 'asset light' TSO activities; in particular:

- whether this framework remains fit for purpose for PR6, particularly in the light of EirGrid's new offshore asset ownership roles and responsibilities; or
- if targeted, or potentially comprehensive, changes are needed at PR6 to reflect the changing regulatory landscape and scope of EirGrid's TSO activities; as well as in seeking to increase operational discipline and accountability; for instance, by seeking to make EirGrid work within its agreed controllable costs, whilst recognising the need to ensure the financeability of the TSO licensed business.

1.2. THE CHALLENGES IN REGULATING THE TSO

The CRU is required to set a regulatory framework that allows for EirGrid to be financially viable, an aspect of which is the ability to generate an appropriate level of financial return.

As with other regulated businesses, allowances should be targeted at remunerating the assets employed in the day-to-day running of the business. For a capital-intensive business, the assets employed consist mainly of fixed assets (the RAB). In the case of a (fixed) asset-light business such as EirGrid's, working capital (that is, net current assets) that are required for its day-to-day operations, such as managing intra industry revenue flows, also require remuneration. For these reasons, a traditional RAB * WACC approach is less suitable for the economic regulation of the TSO. In order to generate a required level of remuneration, during the current price control period (PR5), additional "margins" were utilised alongside the RAB * WACC to ensure adequate remuneration for these additional TSO activities.

We note, however, that under the existing regime:

- There is no mechanism or mechanisms specifically linked to remunerating the quantum of working capital employed within the business; for instance, assessing a return on the overall capital employed[1] in the business, which would incorporate both fixed assets (i.e. the RAB) and working capital (net current assets). As will be explained, this is different from a working capital facility (WCF).
- The different allowances that have been applied over successive price reviews to drive revenue do not seem to have any strong underpinning in terms of why, how and at what level they have been applied. For instance, historically there does not seem to have been as strong a distinction between controllable and non-controllable costs that a regulatory framework for a for-profit entity should arguably reflect. We understand that typically there has been a high level of pass-through of additional internal costs.
- Moreover, as part of the justification for the level of additional revenues stemming from costs and revenues EirGrid manages on the part of the industry, such as cashflow timing differences, there would appear to be an assumption that EirGrid bears a high degree of this risk of both P&L and liquidity risk.

  In the case of the former, this would indeed be the case if the crystallisation of any of these risks could result in an impairment of EirGrid's P&L/ balance sheet. However, the pass through of cost and other arrangements that result in the impact of any risk materialization being borne elsewhere, does not support this assumption. Any liquidity requirements would appear to be essentially backstopped by the WCFs that are in place. Moreover, these assumed risks associated with collection agent activities appear to be counted multiple times in the way that these activities are remunerated, what we have referred to as "double-remuneration" in this report.

As a result, we consider the following questions and assumptions should be reviewed at PR6:

- Are the assumptions that underlie the CRU's methodology as regards the balance between the use of WCFs and long-term capital employed appropriate? Are those assumptions aligned with what would be expected from an efficiently financed TSO business?
- Does the indication that the volatility in external costs and imperfections mean that the parameters employed to calculate remuneration (for example, the 24% multiplier used at PR5) need to be increased, remain fixed, decrease, or indeed be abandoned altogether at PR6? Again, this may depend on the role of capital employed vs. use of a WCFs[2] in managing the inherent volatility in these cash balances.

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[1] Capital employed here refers to the accounting term to describe the amount of capital investment a business uses to operate and generate profits.

[2] The commitment fees and interest costs (via the k-factor process) which we understand are funded separately (on a pass-through basis) to the allowed margins.

- Recognising that a level of equity, and in future, long-term debt is needed within the business – how would the TSO be expected to employ this capital and what returns would it expect to earn, given the arguably limited risk profile of the onshore business? And what structure and level of return is appropriate for managing external cashflows on the part of the industry, which are largely financed through short-term credit facilities?

EirGrid has also raised the question of whether it is appropriate that the real (rather than nominal) WACC should be applied within its margin calculations on external costs and revenues given that, unlike the RAB, these cashflows and balances are not indexed to inflation[3].

1.3. Approach

To address these challenges, we have revisited the framework that has applied during PR5. This has involved taking a step back to review what are the activities undertaken, and risks borne by EirGrid TSO, and how are these reflected in its finances, including in terms of its overall Earnings before Interest and Taxation (EBIT) margin and return on capital employed? We have then turned to what forward looking options there might be, starting from an option based on an evolution of the framework from PR5, to one that takes a different, more simplified approach to non-RAB revenues and finally, a more radical option based on a notional company comprising an EBIT margin, that is consistent with its WACC and level of capital employed in the business. It is recognized from the outset that PR6 price control period will be extremely challenging, with a need to ensure the financeability necessary to the rolling-out of the offshore asset owner business; however, our approach is based on a regulatory financial framework that supports EirGrid's onshore business on a standalone basis.

1.4. Report structure

The rest of the paper consists of the following sections:

- Section 2 summarises the role and financial characteristics of EirGrid TSO;
- Section 3 summarises and reviews the PR5 regulatory framework that is in place for EirGrid TSO until 2026;
- Section 4 assesses the suitability of the existing financial framework for PR6;
- Section 5 assesses a revised existing framework against a couple of alternative approaches; and
- Section 6 provides our conclusions and recommendations.

The paper also contains the following appendices:

- Appendix A is a review of asset light TSO regulatory frameworks in other jurisdictions (namely the Utility Regulator (UR)/SONI regime and Ofgem RIIO-2 / NESO regime)
- Appendix B summarises the evidence base previously considered for margins allowed for SONI, the TSO in Northern Ireland.
- Appendix C provides a high-level summary of the profit margins allowances in comparator regimes elsewhere in GB, Northern Ireland and Ireland.

[3] This is relevant if an estimate of the cost of capital is used in calibrating margin allowances.

2. THE ROLE AND THE FINANCIAL CHARACTERISTICS OF EIRGRID

In this section we begin by considering the role of EirGrid as the TSO in terms of the activities that it undertakes, and the different risks it faces in undertaking these activities. We then review how these shape EirGrid's P&L account and balance sheet and the implications for financing and the regulatory framework.

This forms the basis for a discussion in the section that follows of the suitability of the existing regulatory framework for the TSO that has been developed over several price review cycles since PR3.

2.1. EIRGRID'S ROLE AS THE TSO

As the TSO, EirGrid manages the flow of power on the electricity grid, moving high-voltage electricity flow from where it is produced to where it is used, supplying large energy users and the distribution network.

Outside of its pure system operator role, EirGrid TSO performs a number of additional roles. These activities comprise planning for the maintenance of the transmission grid, future system planning of the network, facilitation of electricity markets on the island of Ireland, supporting long-term security of supply and overseeing market design industry governance and charging for transmission services. These additional activities include:

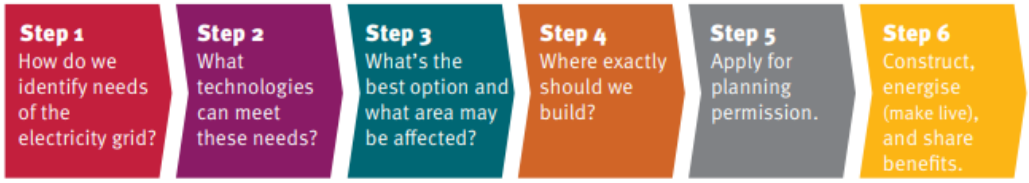
- onshore grid planning and development;
- collection agent role; and
- being the offshore system operator and offshore asset owner (OAO).

Outside of the TSO licence, EirGrid, alongside SONI, is also the Market Operator (MO) of wholesale electricity markets for the all-island Single Electricity Market (SEM).

2.1.1. Onshore grid planning and development

As the TSO, EirGrid is responsible for onshore grid planning and development and liaison with the onshore Transmission Asset Owner (TAO) (ESB Networks) to deliver the infrastructure needed to address the constraints on the current grid and transform it to meet future system requirements. The relationship between the TSO and TAO is governed contractually by the ESB-EirGrid Infrastructure Agreement (IA) put in place in 2006. Under this arrangement, EirGrid incurs a range of preconstruction costs / development expenditure ('devex') associated with the first five steps of the Grid Development EirGrid currently applies in Ireland (illustrated in Figure 2.1 below). As grid development projects progress to Step 6 (Construction and Energisation by the TAO), EirGrid TSO invoice the TAO for the costs that it has incurred in these preliminary works activities. Within EirGrid's current regulatory framework this is referred to as 'Stage 1' project spend (see further discussion below).[4]

Figure 2.1: EirGrid's Framework for Grid Development



Source: EirGrid

[4] Stage 1 spend refers to early works activities; the TSO incurs costs until the project reaches project agreement, where the costs are invoiced to the TAO and added to the TAO RAB. The Stage 1 capital requirement is therefore equivalent to a kind of 'work in progress' early stage spend – also referred to as 'side RAB'. The payment process is set out in the IA.

2.1.2. Collection agent role

Importantly for the financial framework of the TSO, as part of its range of regulated functions, EirGrid holds various responsibilities as a **collection agent** and **purchaser of services** within Ireland's electricity sector:

- In addition to incurring its own **internal operating costs** associated with its core activities, a series of **external costs** associated with undertaking activities on behalf of the industry are also incurred by EirGrid. Unlike the former which are seen as being controllable by EirGrid, the scale of these is uncontrollable and are therefore treated as pass-through under its TSO price control (for example, system services).
- EirGrid is also responsible for invoicing TUoS charges that provide the funding for ESB Network's TAO allowed revenues (that is, EirGrid is a collection agent on behalf of other operators in the value chain such as ESB). In future, EirGrid will also be the collection agent of customer funding for the two new electricity interconnectors Greenlink and Celtic.

As discussed below, these 'collection agent' responsibilities have important implications for the financing characteristics and requirements of the TSO which CRU has sought to address as part of a bespoke financial regulatory framework it has developed for EirGrid.

2.1.3. Offshore

Finally, as noted in the introduction, EirGrid has, as the TSO licensee, taken on a substantial new role as the offshore TSO and asset owner during PR5. While this new role, and its supporting regulatory framework, is not the focus of this paper, it is important, to note that EirGrid:

- is expected to require substantial new debt and equity investment during PR6 (and future price control periods) to finance Phase 1 and Phase 2 investment in the offshore grid; and
- has indicated that to provide the necessary access to debt capital that it requires to finance its future offshore programme, it will need to access the public bond markets. It will, as a result, require an external (investment grade) credit rating for the first time.

The requirement for an investment grade credit rating – particularly at the levels of gearing that it has indicated it may require in its early financial planning – will mean there will going forward, be far greater scrutiny of EirGrid's finances and the CRU's regulatory framework for *both* the offshore and existing onshore functions with the TSO licensee. To give effect to the financeability of the TSO licensee in PR6 will:

- on the one hand, require a stable and predictable funding model to facilitate the rapid construction and financing of an offshore RAB[5]; and
- on the other hand, a regulatory framework for EirGrid's onshore role that does not - particularly from a lender perspective - put at risk the liquidity and debt payment obligations of the EirGrid business.

Therefore, while the expectation is EirGrid's TSO and OAO activities will in future be price regulated under separate CRU revenue controls, the financeability of the TSO licensee will in practice need to be viewed and assessed holistically (i.e. as a whole). Credit rating agencies (CRAs) and lenders to EirGrid can be expected to be as equally interested in how CRU approaches its regulation of EirGrid's existing roles (and the financing requirements this may potentially give rise to) as they will in its new OAO role.

2.1.4. Single Electricity Market Operator (SEMO)

Outside of its TSO role, EirGrid is also the Market Operator (MO) of wholesale electricity markets for the all-island Single Electricity Market (SEM), through the SEMO. This is a contractual joint venture between EirGrid plc in Ireland and SONI Ltd in Northern Ireland and is the SEM Operator responsible for operating the balancing market, balancing

[5] This work is being taken forward under a separate workstream on financeability principles for the OAO.

market settlement, capacity market settlement, administration of the Trading and Settlement Code and is Agent of Last Resort. The operation and funding of SEMO consists of EirGrid (75%) and SONI (25%) and is jointly regulated by the CRU and the Utility Regulator (UR) through a separate price control. This is funded through the imperfections charge, one of the pass-through items that the TSO manage. The SEMO can also make use of the same WCFs that EirGrid TSO use.

2.2. THE FINANCIAL CHARACTERISTICS OF EIRGRID TSO

This section discusses how the activities the TSO carries out impact on the financial characteristics of the business, the risks associated with them and, at high-level, how these are managed and / or mitigated. From the outset, it is important to be clear that a risk is defined as something that, if it crystallises, has an impact on EirGrid's P&L account and therefore its balance sheet.

There are two sets of accounts that can be considered. First, there are the Group Statutory Accounts (GSAs), which cover the full range of EirGrid group activities; and then there are then the Regulated Accounts, focused on EirGrid's regulated activities, the latter also being more detailed than the former, although at a high level the GSAs do break down EirGrid's different activities. It should be possible to see how the two fit together, but we have not seen any reconciliation between the two.[6] In both cases it appears that costs that are recoverable in future years are charged to the P&L in the year that they are incurred. This means that in the case of the Regulated Accounts, all costs incurred in a given year are taken in that year as a "direct cost" or "exceptional charge" to the P&L, even though these costs do not impact profitability in the longer term as associated revenue may not hit the P&L until two years time. This has the impact of making it challenging to see the underlying picture.

2.2.1. P&L account

In addition to the general point above, there is a further complication that makes the Regulated Accounts difficult to interpret. At a high level EirGrid undertakes activities for its own account associated with its core activities, such as network planning – and then the collection agent and other roles on behalf of the wider industry. The former are often referred to as "internal costs". As these costs are seen as being controllable, if they exceed EirGrid's revenues, they arguably should create risk of a P&L account loss if EirGrid loses control of them. This is different from the large "external" revenue and cost flows associated with EirGrid's role in undertaking revenue collection and other activities on behalf of the industry. Given this disproportionality, part of the rationale for them flowing through EirGrid is likely to be one of convenience.

However, the GSAs nor the Regulated Accounts distinguish between the treatment of these two activities. These external flows are arguably disproportionate to EirGrid's other costs, distorting EirGrid's P&L and, in particular, making it difficult to see both EirGrid's real underlying turnover (that is, the revenues it earns for itself), as well as its true EBIT margin in a given year.

To obtain a clearer picture of the underlying profitability of the TSO, we have attempted to restate the Regulated Accounts in a way that is more insightful. To do so we make a distinction between "gross" and "net" revenue:

- Gross revenue is a measure of all revenues that EirGrid receives. This includes all revenues it collects on behalf of other entities.
- Net revenue is a measure of revenues or allowances that EirGrid receives for the different services that it provides; that is, for its *own account*. This is the same as the "controllable revenues" set out in the EirGrid financial model. The composition of net revenues is shown in Table 2.1 below.

[6] The impact of the East West Interconnector (EWIC) and increasingly Celtic are major components of the group balance sheet, in way that they are not in the onshore regulated entity's accounts.

Table 2.1: EirGrid net revenues[7] as set out in EirGrid's financial model for PR6

CEPA analysis of EirGrid net revenue - *€m, nominal*	2021	2022	2023	2024	2025
Internal cost allowance (incl. WCF commitment fees)	56.0	66.8	74.7	80.6	90.5
Allowances on external costs	7.2	9.6	16.8	18.5	20.4
RAB	3.5	3.2	2.9	3.6	6.2
Depreciation	20.8	24.0	27.3	25.7	32.8
Side RAB	1.9	2.8	3.6	4.0	3.0
Sub-total	**89.3**	**106.4**	**125.3**	**132.4**	**152.9**
Other income	2.7	4.6	6.9	-	-
Net revenue	**92.1**	**111.1**	**132.2**	**132.4**	**152.9**

Source: EirGrid Financial Model submitted as part of the EirGrid PR6 BP Submission

There are reconciling items between gross revenue and net revenue reflecting the various collection, payment and other activities. But these costs can be seen as being neutral to EirGrid's underlying P&L, as long as two assumptions hold:

- First, the costs associated with these external activities are ultimately recoverable by EirGrid in their entirety, even if this occurs over several years.
- Second, the imbalances arising from these different external flows can be ultimately financed or backstopped through the use of externally provided WCFs – as opposed to relying on EirGrid's own capital - the costs of which are also ultimately recoverable from customers.

P&L risk

Based on these assumptions, in carrying out a collection agent role and handling external costs, EirGrid does not actually face any enduring P&L risk.

It may be that these assumptions are materially incorrect, in which case EirGrid can set out what the true picture is, in terms of demonstrating that there is an ultimate hit to the P&L from such external costs. It can, however, quite rightly point to the fact that some very material costs are not even anticipated at the beginning of the period, often emerging as exceptional costs as EirGrid responds to new policy or regulatory directives. However, our understanding – subject to potential correction by EirGrid - is that these costs are all ultimately recoverable, with a k-factor keeping EirGrid whole, irrespective of the years over which such costs are recovered.

Table 2.2 shows the difference between the two measures of revenues, specifically the scale of the external revenues flowing through the Regulated Accounts.

[7] For clarity, gross revenues is made up of: internal opex, external opex, RAB depreciation, RAB return, return on side RAB, margin on external opex/imperfections charges, other income (connection applications), TAO revenues, any k-factor adjustment, and PSO. It will also include FASS and a margin on FASS into PR6.

Net revenue instead is: internal opex, RAB depreciation, RAB return, return on side RAB, margin on external opex/imperfections charges, other income (connection applications). It does not include working capital facility fee remuneration.

Table 2.2: Gross and net revenues over PR5 (€m)

CEPA analysis of EirGrid net revenue - *€m, nominal*	2021	2022	2023	2024	2025
	Actuals	Actuals	Actuals	Budget	Budget
Gross revenue[8]	981.3	1,060.9	1,440.7	1,093.4	1,667.1
Net revenue	92.1	111.1	132.2	132.4	152.9
Net revenue % share	9%	10%	9%	12%	9%

Source: EirGrid Financial Model submitted as part of the EirGrid PR6 BP Submission

Defining the denominator is important in calculating an EBIT margin: whilst the EBIT numerator is the same, the choice of denominator makes a big difference as net revenues are only a small share of gross. The choice of gross or net has a material impact on the calculation of EBIT percentage margin; the lower the revenue (the denominator) the higher the margin for a given level of profit. The EBIT margin is important as it is one of the main ways of assessing EirGrid's profitability.

Liquidity risk

Our assumption is that the risks associated with the different external financial flows, whilst involving often significant timing delays, are ultimately borne by the wider industry. Moreover, in the short term the external WCFs play a significant role in the financing of the debtor balances, the costs of which are also passed through to customers, with the k-factor ultimately keeping EirGrid TSO's P&L whole.[9] So, whilst EirGrid faces payment timing differences, these do not create liquidity risks, due to the availability of these external WCFs. Whilst EirGrid would also be appearing to use its own cash balances to provide liquidity, we do not know the precise balance over the year, nor do we know how the decision is taken to use one source of liquidity rather than the other. From EirGrid's supplementary question submissions, our understanding is that the WCFs are sized so as to be more than sufficient to meet EirGrid's liquidity requirements, which begs the question of why it is using its own cash balances. Or put another way, EirGrid could likely meet its liquidity requirements with a lower level of own cash balances, at least as regards financing external flows. Further clarification from EirGrid on this issue would be helpful.

EirGrid's P&L and balance sheet are therefore ultimately protected from risks such as non-payment and potential liquidity risks associated with external cost and revenue flows are fully mitigated through the availability of suitably sized WCFs.

The main risks borne by EirGrid, as opposed to the wider industry, that arguably should be allocated to EirGrid, relate to it losing control of its internal costs, resulting in its allowances being insufficient to generate an appropriate margin, or any devex costs being disallowed. It is not clear whether any associated liquidity requirements associated with its core activities are dealt with through its own, or external resources.

More widely, the ex-post regulatory framework does provide EirGrid with a high degree of surety regarding its cost recovery.

2.2.2. Balance sheet

It is also instructive to consider the structure of EirGrid's balance sheet – both in the GSAs and Regulated Accounts – and how this differs from capex intensive utilities with large RABs (although the EirGrid group as a whole will begin to resemble this more as its offshore business grows).

[8] Gross revenue here is: Net revenue plus PSO/Refit revenue, TAO revenue, and other revenue (which is largely connection application revenue).

[9] Whilst convenient for them to flow through EirGrid, the industry could have been structured differently with, say, these costs and reimbursements flowing through a separate fund, which could be managed either by EirGrid, or indeed another separate industry body.

Most price regulated utilities (e.g. water companies, airports, telecom operators, etc.) own large network infrastructure and provide good examples of "asset-heavy" companies, with a relatively large RAB related to the financing of physical tangible fixed assets of network infrastructure. In contrast, balance sheets of asset-light regulated companies, have more limited physical asset bases, with their capital tied up more in the day-to-day operations.

Asset light regulated companies are typically more service-type roles, where the ongoing investment in the business will typically be focused within:

- IT (and related technologies);
- training and R&D; and
- IP and potentially brand-value development.

EirGrid TSO has historically been a typical example of an asset-light regulated company, as are the electricity TSOs SONI and the ESO and NERL (the en-route air traffic control provider), the latter two both being in GB. EirGrid's physical assets have historically been its premises and IT systems, with shorter asset lives and activities more 'opex-like' as opposed to being focused on large physical capital investment programmes[10] (as, for example, is the case with Gas Networks Ireland (GNI), Uisce Éireann and ESB Networks which are also price regulated by the CRU).

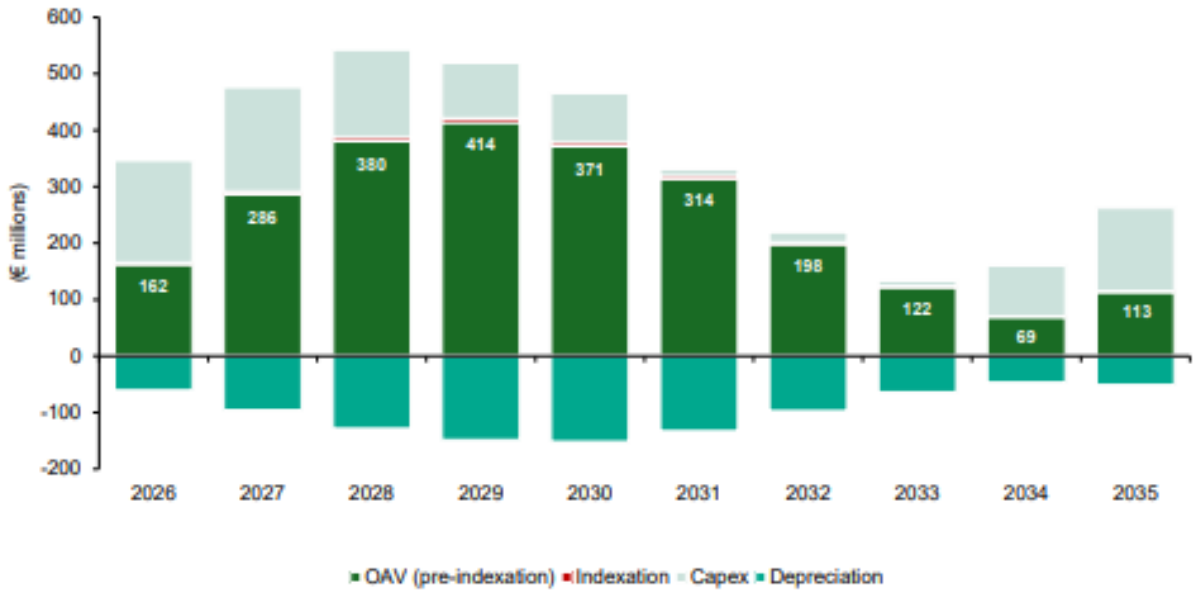
This asset-light characteristic has meant that the TSO has exhibited the following financial characteristics which the CRU has over time sought to reflect in its price regulatory framework:

- The company's RAB – which can be thought of as a proxy for all (or part of) the capital employed by the regulated business – can be volatile. EirGrid has described its onshore RAB as exhibiting a 'saw-tooth' pattern, where periods of high investment result in larger increases in depreciation as the assets are written down over a short asset life (as illustrated for PR6 and PR7 in Figure 2.2 below).[11]
- The rise and fall of the RAB can create **issues for long-term financial planning and financeability** given a key source of returns for the company is the allowed rate of return on the RAB.
- The onshore business requires access to significant liquidity both to finance its own activities and obligations over time but especially the external activities it is responsible for, in which the cashflows associated with this are volatile and uncertain.

[10] Though the formal distinction can be influenced by the treatment of IT investments, e.g. whether cloud computing is treated as opex or capex.

[11] Through PR5 and previously in PR4, EirGrid's RAB has also been volatile. The RAB fluctuates in size due to the lumpiness of capex additions but has remained between €57m-€90m (real 2024) throughout the PR5 period (with the exception of the last year of PR5, where the RAB is forecasted to jump up to €160m). This is low relative to the annual expenditure of the company (annual internal opex of €70-90m, atypical expenditure of €5-520m, direct costs of €650-1,000m, and capex of €8-99m according to recently submitted EirGrid TSO BPQ).

Figure 2.2: Illustration of EirGrid's onshore TSO RAB profile in PR6 and PR7 with a 5-year asset life



Source: EirGrid (PR6 – Forward Looking Submission)

2.2.3. EirGrid's working capital requirements

As discussed, the large quantum of pass-through costs and revenues the TSO handles as purchaser of (e.g., system) services and collection agent for TUoS charges create a need for significant liquidity. As set out above, the levels of charges and recoveries associated with external activities are both non-controllable by EirGrid and large in relation to EirGrid's own internal costs. While EirGrid may bear limited or no underlying risk on these cashflows,[12] liquidity is required to manage large and moving balances arising from when payments are made, and revenues are received. The internal and external costs associated with devex activities that EirGrid undertakes, also need to be financed.[13]

When EirGrid is owed by the different parts of the industry, that is, where its debtor balances are greater than its creditor balances, it is essentially tying up its working capital (which has an opportunity cost, even if it is ultimately not at risk). Although, not fixed assets, these still comprise investments that the business is making. To fund these activities, the TSO has the option of either increasing the level of capital employed in the business – that is equity and long term debt - to provide the required liquidity, or it can instead make varying degrees of use of a shorter term working capital facilities, which are agreements to access debt facilities, which can be drawn down and used by EirGrid to make payments, which are then paid back once revenues have been recovered.

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[12] As we discuss in Section 5, EirGrid and its advisors have tended to describe EirGrid's collection agent activities and the remuneration it receives for these activities as revenue collection 'risk' as opposed to primarily a liquidity challenge that have to be managed by sufficient credit lines to manage the company's (potentially large) swings in liquidity requirements.

For example, KPMG in its PR6 cost of capital report for EirGrid note that as a result of performing TSO's collection agent activities, EirGrid "*bears the following risks: (1) Reputational / fiduciary responsibility risk: The expectation of zero errors may be comprised by operational failures or cyber-attacks, potentially leading to reputational damage and financial loss if legislation is breached. (2) Income variation risk and cost variation risk: The receipts and payments may vary from forecasts in scale and timing. Any shortfalls must be financed by the onshore TSO, with the frequency, scale, and duration of shortfall being unpredictable and uncapped.*" KPMG (2024): 'Cost of Capital estimation for EirGrid's onshore activities at PR6'

The distinction between what is ultimately a working capital requirement (a timing 'risk'), and a true underlying risk of cost recovery is important to the level of remuneration that EirGrid might ultimately expect to receive from these roles.

[13] In many ways these can be seen to be equivalent to a company investing in stock – once these projects are transferred to the TAO, revenues are received.

These facilities do not represent balance sheet assets. Whereas retentions of equity and longer-term debt raise add to a company's capital employed, short term debt facilities do not - at least directly. They can be an indirect impact on the company's capital employed if the company requires greater levels of capital employed (e.g. long-term debt or retained earnings) as covenants required by WCF providers.[14]

As explained in the box below, it is therefore important not to confuse *working capital* – a company's net current assets (i.e. non fixed assets), with a *working capital facility* (i.e., a revolving credit facility), which is working capital (and hence capital employed) neutral.

Box 2.1: Working capital versus working capital facilities

Working capital comprises a business's net current assets – i.e. the amount of current assets (such as stock/work in progress, debtors, prepayments and cash) net of any current liabilities (short-term loans, creditors and accruals). This is the capital that a business uses in its day-to-day trading operations.

Working capital is also a component of capital employed. Capital employed comprises working capital plus non-current (fixed) assets. Alternatively, capital employed can be viewed as equity (including reserves) plus long-term debt, the two having to equal each other. In other words, long-term debt and equity is used to finance fixed assets and working capital, the precise balance between fixed assets and working capital reflecting the nature of the business and its requirements. The greater the amount of working capital retained in a business the greater the amount of capital employed. A business in which debtors take a long time to pay and where creditors need to be paid much more promptly, will require more working capital than one where there is immediate payment.

Balance sheet component	Description
Items on the balance sheet	
1. Current assets	Includes cash, pre-payments.
2. Non-current assets	Includes fixed assets and intangible assets.
3. Current liabilities	Short term loans, interest and tax payable.
4. Long-term liabilities	Long term loans value.
Calculations:	
(1+2) – (3+4)	Net assets / Equity
(1-3)	Net current assets / Working capital
(1+2)-3	Capital employed

Working capital is different from what is sometimes termed a **working capital facility**. This can come in many forms, but it will typically be a short term (less than one year) commitment from the provider of the facility to provide short term credit facilities to the borrower.

What is important to note is that when a working capital facility is drawn on, it is working capital neutral; that is, it does not affect the level of net current assets as any asset created such as cash is matched equally by a short-term liability. An important corollary of this is that such a short-term credit facility also does not affect the level of capital employed in the business.

Source: CEPA

[14] WCF providers can set requirements on the borrowing company that they should retain a certain level of capital employed on their balance sheet for the period over which the WCF agreement lasts. We are not aware of such "covenants" for the EirGrid WCF.

At both the regulated entity and group levels, EirGrid has large retained earnings, reflected in high cash balances. It also has access to large externally provided WCFs. As set out, it is not clear the extent to which EirGrid uses its own cash balances, as opposed to the WCFs, to manage the activities reflected in its Regulated Accounts. Cash balances in the businesses covered by the Regulated Accounts do, however, appear to be higher than those for the group as a whole.

EirGrid plc's annual report notes that as of 30 September 2023, the EirGrid Group had corporate cash balances of €300.3m (€326.3m in the Regulated Accounts), undrawn revolving credit facilities of €200m and €50m available to manage short-term working capital and higher than expected DS3 costs respectively.[15]

At the balance sheet date, EirGrid's GSAs show that it was undrawn on these facilities, largely because its short-term trade and other payables were greater than its trade and other receivables €523m less €831m, creating negative working capital (net current liabilities) of €308m.[16] However, these balances can be volatile throughout the year, creating situations in which EirGrid's own cash balances would be insufficient to fund significant debtor balances. Indeed, at the group level, in addition to short term debtors, EirGrid also had substantial debtor balances falling due after more than one year, tying up a further €447m in working capital, funded by EirGrid's paid long-term debt and retained equity in the business.[17,18] The Regulated Accounts show the activities reported therein being funded by €49.2m of paid in equity and €311.0m of retained earnings, with no long term debt. This level of cash is arguably extremely high relative to the net revenues for the year of only €132m.

Like investment in fixed assets, this investment in working capital, requires remuneration, even if EirGrid is not exposed to the risk of the eventual recovery of external balances. Insufficient remuneration under its price control for this capital employed could represent a primary credit rating consideration for the business.

Whilst it is clear that there is significant capital employed in the business – as of September 30, 2023, the Regulated Accounts show a balance of €663.8m (relative to a RAB of c€56m) - underpinning EirGrid's activities, what is not clear is the extent to which this is required to support the working capital facilities.[19] Whilst such facilities are not counted as capital employed, capital employed reflected as cash on the balance sheet, may be required by lenders providing such facilities. We understand from a number of supplementary questions as part of the PR6 business plan submission process, that EirGrid do not face any such covenants. It is therefore likely that such facilities are provided due to EirGrid's regulatory power of recovering such debts from customers.

Irrespective of the purpose for which capital employed is required, it should be remunerated on a risk reflective basis. However, the quantum of capital employed remunerated should ideally reflect what is required to fund the business, notwithstanding the need for a level of cash balances to provide an appropriate degree of headroom, especially from a financeability perspective.

Intangible

Given that EirGrid TSO has historically been a service, opex-based, company, it is debatable whether its true value is reflected in its balance sheet, given its balance sheet does not reflect any intangible assets, for instance, in its development of any **new technologies and IP, including software**. Companies in non-regulated sectors would expect to earn profits over time to reflect this intrinsic value and 'intangible' assets, such as through recognising a software intangible as a fixed asset.

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[15] EirGrid (2024) Annual Report 2023, p. 179. Available online

[16] This contrasts with positive working capital of €527.6m in the Regulated Accounts. It is not clear why these balances are so different.

[17] EirGrid (2024) Annual Report 2023, pp. 214 to 215.

[18] There are no such debtors falling after one year in the Regulated Accounts.

[19] As we discuss in Section 4.5, this was a key issue raised by Moody's as part of its initial rating of the ESO in GB.

In principle, this could be captured by the CRU providing a "correction" to the TSO RAB value to represent the value of EirGrid's 'intangible' assets to capture its true enterprise value of the company (an option that has been considered at previous CRU price reviews[20]).

However, estimating the value of these intangibles will be challenging (as is determining an appropriate WACC value) and unlike companies in other sectors of the economy, EirGrid benefit from surety of cost recovery of its investment in R&D and intangibles which are often funded as operating costs under the regulatory regime as opposed to investment that would be expected to be reflected in the capital employed. However, in GB the NESO's balance sheet recognises the value of its software development.

For these reasons it may not be appropriate – or too challenging – to capture this financial characteristic through a RAB based system of regulation.

An alternative approach is to introduce a degree of 'asymmetry' into the financial performance regime that in effect, provides a level of return for EirGrid – provided it delivers on the outcomes that are associated with the investment in human capital and intangibles that the company makes and is ultimately funded by Irish consumers. In theory this would provide a rationale for why the performance incentive framework for EirGrid TSO should be upside weighted, as has been the case in the CRU's two most recent price review decisions for the company (PR4 and PR5).[21]

2.2.4. Other risks faced by EirGrid TSO

Risks associated with high operational gearing

EirGrid has been referred to as having relatively **high 'operational gearing'** compared to most regulated network companies. As discussed in the box below, this is considered to drive additional risk which requires remuneration through the allowed returns of the TSO price control. Whether this view is accepted, however, in part depends upon whether staff costs are seen as being fixed or variable. Moreover, there is a further consideration as to whether any identified risks associated with such gearing are actually likely to materialise in practice.

Box 2.2: Operational gearing and its impact on required returns

Operational gearing is often referred to as a factor that is relevant to the cost of capital of regulated companies. For example, the UK Regulators Network notes that services in sectors that have greater operating leverage (gearing) may – all else equal – be more exposed to systematic risk.

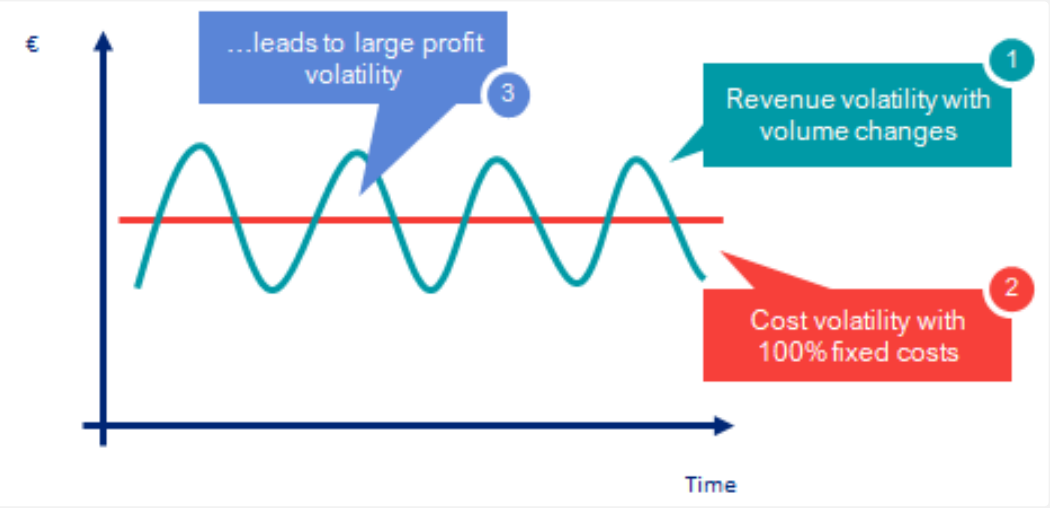
High operational gearing technically occurs when a company's fixed costs are large relative to variable costs. This can generate significant volatility in profits when volume fluctuates, as illustrated in

Figure 2.3 below. **This classic definition of operational gearing is, however, less relevant to EirGrid TSO given it is not exposed to volume risk under its price control as this takes the form of a revenue cap.**

[20] See "Europe Economics (2015) EirGrid: The RAB-WACC Approach and Alternatives" which discusses this approach.

[21] This principle is well recognised and discussed in economic theory. For example, J.J. Laffont & J. Tirole (2000) Competition in Telecommunications discuss in the context of the telecoms sector, the potential need for utilities to earn positive quasi-rents in current/near future periods to the extent that it will enhance future improvements.

Figure 2.3: Impact of high operational gearing (fixed costs) and volume risk on profit volatility



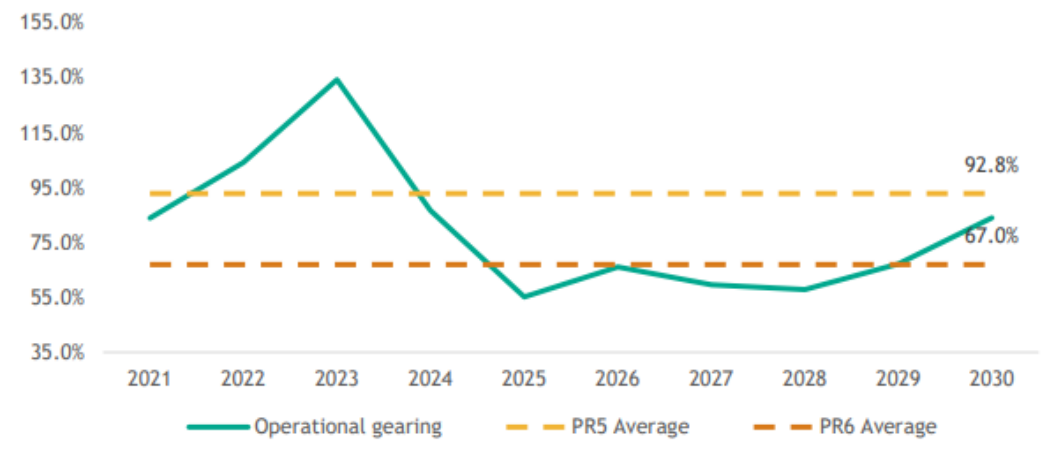
Source: CEPA

However, EirGrid's **returns historically have been low as a percentage of the RAB and, in particular, relative to its internal opex base**. As a result, were the company to experience a shock to its opex this would, all else equal, potentially have a larger *proportional* impact on its profits compared to a company with a larger RAB were its revenue to remain fixed. In effect, shareholders in the asset light company are likely to suffer proportionally more when downside shocks occur (and gain more when upside shocks occur) in comparison to the firm with a larger RAB.

While it is debatable whether EirGrid, in practice, is likely to be subject to large opex shocks it cannot ultimately recover from customers – given the CRU's extant regulatory framework – the impact can be conceptually similar to the figure above, whereby for a company with a fixed allowed revenue control but variable costs, will have a proportionally larger impact on underlying volatility of profits for an asset light company (as EirGrid has been historically).

In its recent PR6 business plan submission, EirGrid use a measure of operating costs to RAB as a measure of operational gearing which it states will remain high during the period of PR6, although lower than in PR5. As a point of comparison, EirGrid reports National Grid's equivalent operational gearing as 28%.[22]

Figure 2.4: EirGrid analysis of the evolution of its operational gearing from PR5 to PR6



Source: EirGrid BP submission

[22] KPMG (2024) Financeability Report for EirGrid (part of the EirGrid BP Submission), page 9.

Fiduciary and reputational risks

The range of activities that EirGrid undertakes, and the relatively constrained level of remuneration that it receives from its current 'onshore' TSO activities, may also mean it is exposed to **residual risks** that could, in principle, justify additional remuneration under its price controls. For example, while the CRU has previously rejected any requirement for this under previous price review decisions, if EirGrid were considered to be exposed to considerable asymmetric (downside) risks that were not considered remunerated through the allowed return on the RAB, then this might justify further additional returns under its price control.[23] It is unclear whether there are any cases of these additional risks that are expected to apply to EirGrid in PR6 and would justify such additional remuneration.

It is also the case that EirGrid faces a number of reputational and fiduciary type risks. As a monopoly provider, it is unclear that the potential should these crystallise, there would be a major impact on EirGrid's P&L. However, if failure in any of its obligations were to result in a fine, this would have potential P&L consequences. We would argue, however, that these should be seen as residual risks, with relatively low probabilities of materialising and low impact.

2.3. SUMMARY

This section has set out roles and financial characteristics of EirGrid as TSO and its historically 'asset light' nature compared to most typical price regulated utility companies.

In summary, we have explained how EirGrid can require a level of capital employed for three principal reasons:

- To finance capital expenditure ('capex') it requires to spend today, but with return of that investment recovered over its economic life, through the RAB. Historically the assets on EirGrid's RAB have primarily been IT (although this is expected to change with its expanding offshore role and will be under a separate price control).
- To support the working capital that is tied up in EirGrid's ongoing balances of Stage 1 project expenditure.
- To contribute to the funding of the timing differences related to EirGrid's ongoing payment and settlement / cash collection agent roles within Ireland's electricity sector, although this is ultimately backstopped by the WCFs that it has access to, as opposed to having to rely on its own cash balances.

In each case, the quantum of debt and equity capital required, and the costs associated with obtaining this, are important questions for the CRU's regulatory framework.

[23] Relating this back to the capital employed by business, should EirGrid consider it is exposed to material downside asymmetric risks then this might justify it maintaining additional capital for the management of those risks. Where that capital is required to bear those risks, it would justify an allowed return at its appropriate opportunity cost.

3. THE EXISTING TSO REGULATORY FRAMEWORK

As set-out above, putting in place allowances that generate an appropriate level of remuneration for asset light companies, over and above what they obtain on their relatively small RABs, can be challenging. In this section we provide a brief summary of the existing regulatory framework for the TSO that the CRU has developed over a series of price review cycles since PR3 to meet that challenge. The aim is to describe the different elements of the framework, rather than to fully critique it, something which we turn to in Section 4. We do, however, raise issues where it is not clear how the framework is operating, such as any inconsistencies in its operation.

We begin by outlining and discussing the different components of the framework.

3.1. THE PR5 REGULATORY FINANCIAL FRAMEWORK

As with ESB Networks (as DSO and TAO), the CRU has historically regulated EirGrid TSO using a revenue cap methodology. This involves determining the required revenues, including allowed returns, of the TSO licensee for the price control period using a series of building blocks to generate the required returns. The different building blocks are set out in Figure 3.1.

Figure 3.1: Composition of allowed revenue for the TSO in PR5

Fast money revenue	Recover internal opex costs associated with TSO activities
	Recover external opex costs (pass through costs) associated with system service, interconnector activities and ancillary services
RAB depreciation	Straight line depreciation of the RAB
Return on the RAB	WACC * RAB to recover capital costs
Return on side RAB	WACC * side RAB : recover financing costs of "Stage 1" project spend[1]
TSO margins	0.25% on transmission revenue for operational gearing
	0.25% on transmission revenues for working capital requirements to manage collection agent role
	Real WACC on 24% of 'relevant revenues'[2] : for working capital requirements for managing cash timing risks
PR6 requested margin	Real WACC on 24% of FASS
WCF fee pass-through	Compensation is provided on a pass-through basis for both WCFs fees (incl. SEMO element)
Differences in allowed revenues and costs compensated at EURIBOR t+2 adjustment (compensating for EUR vs IRE HICP)	

Source: CEPA summary of regulatory determination

The first of these main building blocks is the return on the RAB, which is based on the CRU's allowed WACC, which for PR5, was the same WACC as set for ESB Networks (TAO and DSO) and EirGrid (TSO).[24] Recognising that the TSO is an asset light company with a small RAB, a typical RAB * WACC approach could be insufficient to generate a level of remuneration that would enable EirGrid to make a reasonable overall level of return on the TSO activities that it undertakes, and more importantly does not reflect the key drivers of profit in the business (coming from operational activities). Consequently, since PR3 the CRU has moved away from a simple RAB * WACC allowed returns approach to what can be described as a "hybrid RAB and margin-based" approach. Under this approach a series of additional allowances have been provided to EirGrid.

We have grouped these additional allowances into:

- recovery of internal opex as fast money;

[24] As has been the CRU's regulatory precedent to date. In practice, it would be expected that the opportunity cost of capital would differ for EirGrid and ESB Networks.

- recovery of network devex costs in the side RAB;
- additional TSO margins; and
- WCF fee pass through and other remuneration mechanisms.

3.1.1. Internal cost allowance

The treatment of operational costs incurred by the TSO is different according to whether they are internal or external costs. As regards the former, the existing framework permits the TSO to recover all of its internal opex allowance from customers in the same year that it has been incurred. As such, if EirGrid's outturn opex is lower than budgeted, it is able to retain the difference (subject to an ex-post opex efficiency review).

Under the existing framework, the TSO does not have any allowed margin specifically tied to its internal operational expenditure.

3.1.2. Devex

The existing PR5 framework seeks to reward EirGrid for early-stage network development costs that it incurs, before the project is transferred to ESB Networks.

Stage 1 spend refers to early works activities; in which the TSO incurs costs until the project reaches project agreement, when the costs are invoiced to the TAO and added to the TAO RAB. The Stage 1 capital requirement is therefore equivalent to a type of 'work in progress' early stage spend – also referred to as 'side RAB'.

The calculation for the **return on the Stage 1 side RAB** is equal to the closing side RAB value multiplied by the allowed TSO WACC, where the closing side RAB = opening side RAB balance + Stage 1 spend – amount invoiced to TAO.

At PR5, as with previous price reviews, the rate of return on the side RAB was the allowed price control WACC.

3.1.3. Additional margins

The additional margin components of EirGrid's financial framework consist of two allowances that aim to remunerate EirGrid for additional financing costs and assumed risks associated with its collection agent roles and a third margin that provides additional remuneration for EirGrid's high operational gearing.

At PR5, these were calculated as:

- 24%[25] x (external costs[26] + 75% x imperfections charges[27]) x price control WACC
- 0.5% x transmission revenue[28]

Margin on external costs and imperfection charges

The aim of the margin on external costs and imperfection charges is to cover the costs incurred by EirGrid in managing volatile external costs and imperfections charges, in particular those associated with system services and dispatch balancing.

The intent of the **external cost** allowance is to remunerate EirGrid for having to provide the liquidity to finance timing differences between external costs being incurred and revenues received, at which time any losses can be recovered.

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[25] This was increased from 20% at PR4.

[26] External costs include expenditure incurred in relation to additional responsibilities the SO has outside of its internal opex. This includes ancillary services, EWIC support fees, and DUoS charges.

[27] 75% is EirGrid's share of the revenue collected from Irish consumers in revenue to fund the SEMO.

[28] Expressed as total TAO revenues plus total TSO revenues, minus the return on what is stated as being working capital.

In addition, the stated aim is to remunerate EirGrid for the potential risk of failure by suppliers to pay their TUoS charges, resulting in a shortfall between receipts and payments.[29]

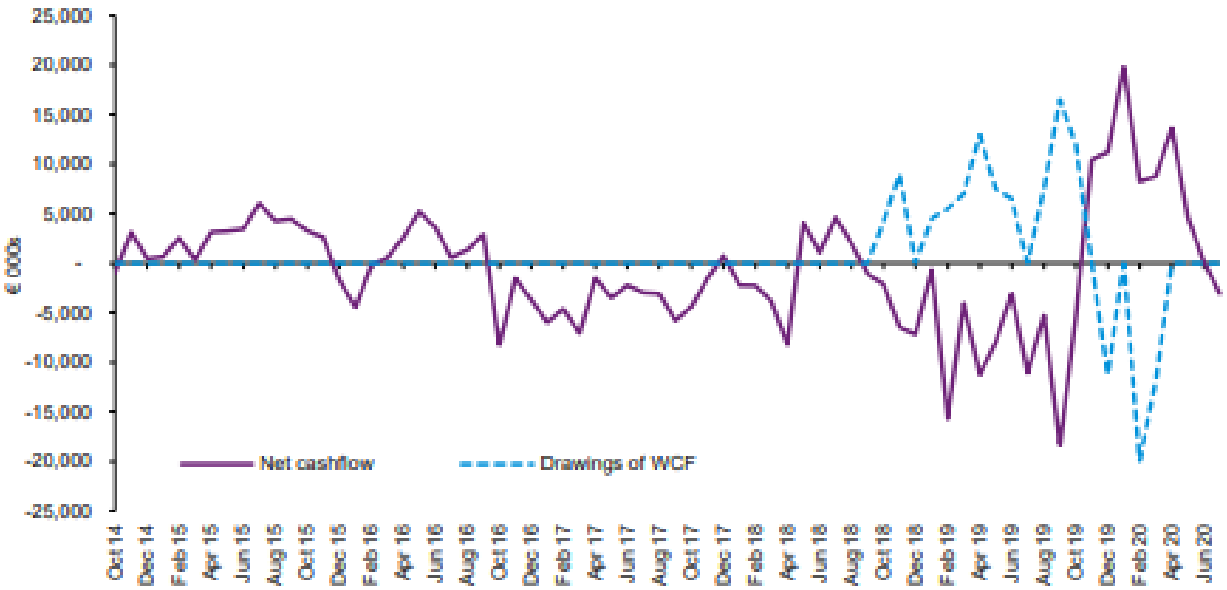
The **imperfections charge** relates to costs associated with constraints on the network that are levied on electricity suppliers. Dispatch balancing costs are the largest component of the imperfections charge. This is simply an amount to be recovered from suppliers to address constraint costs. It is an all island charge – with 75% of the SEMO JV charge levied on EirGrid and 25% on SONI; hence the margin calculation being 75% of the total imperfections charge.

EirGrid's remuneration for the imperfections charge and external costs is calculated by taking a portion of the respective costs and multiplying this by the WACC. Prior to PR5, the percentage of cost applied by CRU was 20%. This was based on an assumption by the CRU that EirGrid would require an "additional level of capital employed" to fund its external costs if they were 20% higher than allowed for in any given year, and that this balance should earn a real WACC return.

EirGrid's submission to the CRU's draft determinations for PR5 argued that the level of working capital it required to maintain to manage this risk had increased substantially since the remuneration arrangements for external opex (e.g. imperfections costs) variation was introduced. EirGrid stated that the WCF it used to manage such variations stood at 7.5x higher than ten years before and 3x that of three years before. EirGrid proposed that the multiplier used to calculate the margin on external opex should, therefore, be increased from 0.2 to 0.25.

The CRU ultimately increased the external cost multiplier to 24% at Final Determinations in part in response to information provided by submissions that EirGrid stated demonstrated the 'relative risks' of managing imperfections and external costs were increasing in PR5, linked to the introduction of I-SEM (see Figure 3.1). But the CRU noted that it expected to review this multiplier assumption again at the next price review (PR6).

Figure 3.2: EirGrid analysis of monthly Imperfections/DBC net cashflow and drawings of its WCF over



Source: EirGrid (PR5 – Draft Determination submissions)[30]

The assumption (adopted in PR3) here, that EirGrid's external costs should earn a rate of return equal to the real price control WACC, appears to reflect an assumption that any increased drawing on the WCFs to manage the timing difference between outturn and forecast external costs, and until such time as the CRU permits EirGrid to raise its

[29] We note, however, in the absence to the contrary, that EirGrid is ultimately able to recover any such shortfall via a true-up to its tariffs in a future regulatory period; as such, it does not reflect true credit risk. However, this was stated as part of the intent of the CRU's allowed margin as part of the CMA's review of PR4 approach in the SONI appeal process (see Appendix B).

[30] EirGrid (2020) EirGrid response to the PR5 Draft Determination, Annex 13

tariffs and recover its shortfall, requires an increase in its own capital employed. This amount is allowed to earn a rate of return consistent with the TSO's allowed WACC.

For the reasons set out earlier, this draw on a WCF does not directly alter the level of capital employed within the business, as an increase in cash is counter-balanced with an equal increase in short term liabilities. In other words, the use of credit facilities appears to be being confused with the actual capital employed within the business. Indeed, Figure 3.2 above shows drawings on a WCF, and not measures of cash or other assets that EirGrid has had to retain within the business in order to be able to secure a WCF.

We understand that this is EirGrid's preferred method to manage liquidity risk and this is different to a context where EirGrid may seek to manage this through increasing its long-term debt and / or equity.

We are unclear as to what the 20% or 24% is being specifically applied to. It would appear that this assumes that the WCFs are permanently drawn at this level, which would appear to run counter to what Figure 3.2 shows, which would seem to indicate that a mix of internal and external sources of liquidity are in play across the year, but the precise mix is unclear. Further supporting this assumption, is that fact that EirGrid's submissions at PR5, indicated that it at least partially manages recovery of imperfections and external costs via a committed WCF in addition to the capital employed by the EirGrid business.

We discuss the assumptions that the CRU's margin formula makes as regards EirGrid's capital employed further in Section 5.

EirGrid's margin on transmission revenues

The margin on transmission revenues is assumed to remunerate the TSO for its:

- management of working capital balances related to TUoS collection and payment; and
- high operational gearing *relative* to the TAO (with the adjustment for operational gearing provided as an additional margin, as CRU has then historically set the same allowed WACC for ESB Networks and EirGrid).

The overall margin of 0.5% for PR5 consists of:

- a base transmission revenue margin of 0.25%; and
- an adjustment for operational leverage of a further 0.25%.[31]

Again, it would appear that the first 0.25% is likely to refer to a mix of draws on a WCF and possibly its own cash balances in the financing of timing differences. However, no specific links to either forms part of the remuneration approach.

The second 0.25% is remuneration for an assumed operational gearing risk.

3.1.4. WCF fee recovery and other remuneration mechanisms

In addition to the above margins, the TSO also recovers some of its costs through alternative mechanisms.

The WCFs that EirGrid has access to can be used for both TSO purposes and SEMO purposes. The WCF incurs both arrangement and commitment fees, as well as interest costs when drawn down. Under the existing PR5 framework, commitment and arrangement fees on undrawn balances that EirGrid incur are passed on directly to customers. For interest on drawn-down amounts, we understand from EirGrid that these are also passed-through to customers.[32] For PR6, we recommend CRU reaffirm this approach, that all interest fees for the WCF fees are passed on to customers as a pass-through at cost, and therefore EirGrid does not have to absorb any of these costs or bear any risk.

[31] Both were consistent with the assumptions used by the CRU to set an equivalent allowance at PR4.

[32] EirGrid (2025) EirGrid feedback on CEPA PR6 Onshore WACC proposal

The final mechanism to be aware of is the k-factor adjustment. Differences between the revenues collected by the TSO and an ex-post efficient level of allowed revenue are recovered by the TSO in future revenues in the following two years. If the outturn collected TSO revenues is greater than or less than the allowed revenue, the TSO is compensated for the difference by recovering the difference uplifted by two years of EURIBOR.

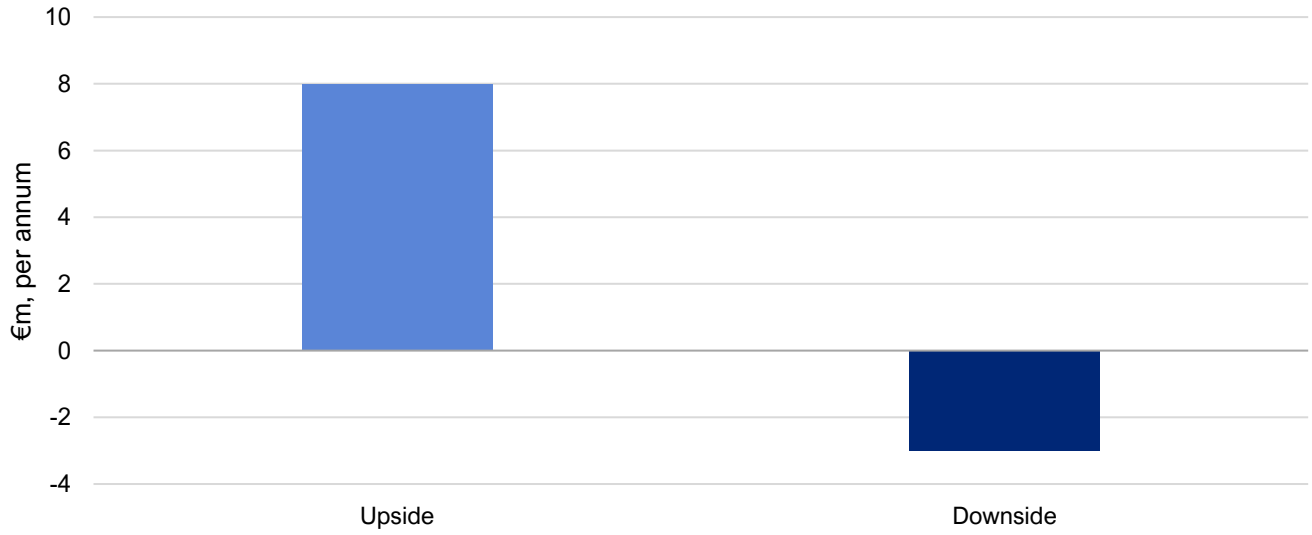
3.1.5. EirGrid's performance incentive framework

Given the TSO is an operationally heavy entity (as opposed to capex-based), it might be argued not all of its value is captured in its balance sheet as a large proportion of its value is intrinsic, consisting of human capital.

As discussed earlier, one approach to address this might involve providing a "correction" to the RAB value (or fixed assets in a capital employed calculation) to represent the value of intangible assets to capture the full enterprise value of the company – this was an option that was considered (although ultimately rejected) as part of the PR4 process. However, for a business like EirGrid it may be not easy to estimate the value the intangible asset base and as previously noted, investment in the company's human capital – e.g., training, R&D and IP development – is funded directly under EirGrid's price control arrangement.[33]

The performance incentive framework can provide an alternative method for remunerating EirGrid for its human capital. During PR5, the CRU has applied a range of performance incentives for EirGrid on aspects ranging from RES-E penetration, SNSP, renewable dispatch down, connections, investment planning and delivery and joint working with the TAO and DSO. The final determination on EirGrid's regulatory and reporting framework for PR5 had a greater upside than downside in terms of capped penalties and rewards (as illustrated in Figure 3.3).

Figure 3.3: Annual TSO performance incentives – upside and downside



Source: CEPA analysis of CRU PR5 decision

Provided that the TSO was expected to beat some of the performance incentive targets, and potentially underperform others, setting the incentive framework in this way might be argued to provide a means, in expectation, for EirGrid to earn a level of return for the human / intangible capital reflected in its business.

[33] In contrast, for example, with service-based companies that are not subject to price control regulation and do not have surety of recovery of their costs from competition in the markets they serve.

4. ASSESSMENT OF THE TSO REGULATORY FRAMEWORK FOR PR6

In this section we turn to our assessment of the existing TSO financial regulatory framework; and, in particular, to whether the approach that the CRU has taken in its prior price controls remains fit for purpose for PR6, for EirGrid's onshore business on a stand-alone basis. Throughout this section we are concerned with the magnitude of the overall returns from the package as a whole, the level of returns from each component in the building block, including the rationale behind each.

In order to put this in context, we begin by considering the margins and returns that EirGrid has been realising during PR5 to date, utilising both EBIT and EBITDA margins and return on capital employed approach, that takes into account EirGrid's WACC.

4.1. WHAT OVERALL EBIT MARGIN AND RETURN ON CAPITAL EMPLOYED HAS BEEN ACHIEVED UNDER PR5?

There are two main ways of looking at returns and profitability, which can be used to assess any company, irrespective of whether it is regulated or not. The first is an EBIT or EBITDA margin approach, in terms of considering an overall level of EBIT/EBITDA or EBIT/EBITDA margin on revenues. The second is a percentage return on capital employed, by taking the overall € level of EBIT and dividing it through by the capital employed within the business in order to calculate a percentage return.

It is possible to analyse the EBIT, the EBIT margin and ROCE that EirGrid has been achieving during PR5. The EBIT percentage margin should align with a pre-tax, nominal WACC. The EBITDA margin is useful in controlling for the impact of depreciation; as it adjusts for a large charge not involving the movement of cash, it also has a degree of use as a credit metric.

4.2. EBIT MARGIN

The value of €EBIT can be found in both the GSAs and Regulated Accounts. Whereas absolute €EBIT is required to calculate ROCE, EBIT margin is used to be able to benchmark against other similar businesses. The challenge is in comparing like with like. As argued, the most appropriate measure of EirGrid's turnover is "net revenue", which is the value once external costs have been subtracted from total revenues (as set out above this is the same as "controllable revenues"). Using this approach, the most appropriate way to check if the overall EBIT margin is appropriate for a company such as EirGrid is to benchmark it against companies with similar characteristics, including similar risk profiles. The CMA undertook this analysis when it was trying to establish the returns that SONI in Northern Ireland should be making albeit from a credit metrics perspective. However, from a benchmarking perspective, it considered EBITDA benchmarks to be a more reliable measure, as they have been used by the main CRAs such as Moody's.

CEPA analysis at PR5 noted that analysis from a 2011 study (also undertaken by CEPA) indicated that firms with high operating costs relative to fixed assets (such as post, logistics and outsourcing) have EBIT margins in the range 3-10%, which could be used as an indicative range for the TSO.[34] For the PR5 Final Determination, we noted that:

> *"For the TSO, the EBIT margin looking only at internal revenue is at the top of the range CEPA identified in our work in 2011 (as quoted by the CRU's advisors for PR4) under the base case but at the bottom end of the range under the combined stress test."* [35]

Source: CEPA

[34] CEPA (2011) Financeability of the universal service – report for Ofcom

[35] CEPA (2020): 'Financial issues for the PR5 Final Determination', p. 26.

The outturn for PR5 looks to be exceeding this range by quite a considerable amount. Table 4.1 below provides EirGrid's regulated business's EBIT margin when this approach is applied for the whole PR5 period, including budgeted years. This extends the analysis provided earlier by subtracting EirGrid's non-recoverable internal costs from its net revenue to calculate EBIT margin percentages that grow from c16% to c38% over the period.

Table 4.1: EirGrid net revenue and EBIT Margin calculation using EirGrid Regulatory Accounts for PR5

EirGrid net revenue and EBIT calculation	2021	2022	2023	2024	2025
	PR5	PR5	PR5	PR5	PR5
€m, nominal	*Actuals*	*Actuals*	*Actuals*	*Budget*	*Budget*
Internal cost allowance	56.0	66.8	74.7	80.6	90.5
Allowances on external costs	7.2	9.6	16.8	18.5	20.4
Return on RAB	3.5	3.2	2.9	3.6	6.2
Regulatory Depreciation	20.8	24.0	27.3	25.7	32.8
Return on Side RAB	1.9	2.8	3.6	4.0	3.0
Sub-total	**89.3**	**106.4**	**125.3**	**132.4**	**152.9**
Other income	2.7	4.6	6.9		
Total revenues	**92.1**	**111.1**	**132.2**	**132.4**	**152.9**
Internal costs (incl. depreciation)	77.4	87.4	98.0	86.5	95.3
EBIT (Total revenues[36] – non recoverable internal costs)	**14.7**	**23.7**	**34.3**	**45.9**	**57.6**
Margin	16.0%	21.3%	25.9%	34.6%	37.7%
Accounting depreciation	21.4	20.5	23.2	5.9	4.8
EBITDA	**36.1**	**44.2**	**57.5**	**51.7**	**62.4**
Margin	39.4%	39.9%	43.6%	39.2%	41.2%

Source: CEPA analysis of EirGrid Regulatory Accounts, EirGrid financial model, CRU annual allowed revenue determinations.

Whilst it may be possible that this excludes some non-recoverable costs, as shown, this appears to be a very healthy EBIT margin, well above the 10% margin that EirGrid has stated that it requires. Even if costs were 20% higher in 2023, EirGrid would still have realised an EBIT margin of over 11%. At over 40% in some years, the associated outturn and forecast EBITDA margin is also very healthy.

We note that in its own financial model, EirGrid has calculated an average EBIT margin of 8.8% for PR6.

4.3. ROCE

As set out, capital employed is a measure of current and non-current assets (i.e. fixed assets as well as cash in the business), net of current liabilities. It therefore acts as a value of the assets used in the business for it to operate, which includes equipment needed to run the business, but also some headroom to act as contingency against risks that are

[36] Total revenues including PSO and including Imperfections charges.

inherent to the business's operations. This often takes the form of cash, or other short-term assets, on the balance sheet.

It is also possible to benchmark percentage ROCE with other entities in the same way as EBIT margin. In addition, it is possible to test whether the capital employed in a business is consistent with what the company's nominal pre-tax WACC would infer, given the level of EBIT (we do not need the EBIT margin to undertake the calculation, per se). This is achieved by dividing through the level of EBIT with the WACC in order to calculate an implied value for capital employed. Assuming that the WACC is accurate, if for instance, actual and implied capital employed are similar, this would suggest that the level of EBIT was consistent with the level of capital employed. If, however, actual capital employed were to be lower than what was implied, this could suggest that absolute EBIT was too generous (or the company was particularly capital efficient). On the contrary, if actual capital employed were to be greater than actual, this might suggest that either its EBIT was too low, or that its capital employed too high (for instance, if it were accumulating cash rather than distributing to its shareholders). The reasonableness of the level of €EBIT can, of course, be established by seeing whether the overall EBIT margin is either too high or too low.

This exercise can be undertaken using either the GSAs and / or the Regulated Accounts.

4.3.1. GSA ROCE

We have first calculated this at the Group level for 2021-2023, as shown in Table 4.2, below. At this level, the implied and actual capital employed are very similar – implied capital averaging 80% of the actual capital employed, suggesting that the level of EBIT is not inconsistent with what might be expected given the capital employed and WACC. The average nominal ROCE over the period was 8.6% against an average nominal pre-tax WACC of 10.1%. Another way of interpreting this, however, is that more capital is being retained within the business than might be required, a slightly lower amount of capital employed would bring the ROCE % in line with the WACC. Although not required for the calculation, the EBIT margin averages just below 10%, suggesting that the TSO margins are offsetting lower margins earned elsewhere in the business.

Table 4.2: Comparison of capital employed implied by PR5 regime against capital employed on the balance sheet – TSO group accounts

	2021	2022	2023	Average
€m, nominal	*GSA Actuals*	*GSA Actuals*	*GSA Actuals*	
Revenue	737.3	861.6	1140.5	913.1
EBIT	57.2	127.7	86.4	90.4
Operating Margin	7.76%	14.82%	7.58%	9.9%
Pre-tax WACC: real	3.8%	3.8%	3.8%	3.8%
Pre-tax WACC: nominal *(uplifted by CPIH)*	9.5%	12.3%	8.6%	10.1%
Implied capital employed	**600.2**	**1035.5**	**1006.4**	**880.7**
Actual capital employed	756.6	879.1	1534.9	1,056.9
ROCE %	7.6%	14.5%	5.6%	8.6%
Implied / actual capital employed	**0.8**	**1.2**	**0.7**	**0.8**

Source: CEPA analysis of EirGrid Group Statutory Accounts

4.3.2. Regulated Accounts ROCE

In Table 4.3 below, we have undertaken the same analysis for the Regulated Accounts, using net revenue as turnover. As can be seen, although not part of the calculation, the EBIT margin in the Regulated Accounts, is over double that for the group as a whole. The other differences are that the implied capital employed averages half the actual capital employed and the ROCE% is four percentage points lower. This would be consistent with more capital being retained in the regulated business than strictly required; or, conversely, the level of EBIT being too low.

Table 4.3: Comparison of capital employed implied by PR5 regime against capital employed on the balance sheet – TSO regulatory accounts

	2021	2022	2023	Average	2021	2022	2023	Average
€m, nominal	*GSA Actuals*	*GSA Actuals*	*GSA Actuals*		*RA Actuals*	*RA Actuals*	*RA Actuals*	
Revenue	737.3	861.6	1140.5	913.1	92.1	111.1	132.2	111.8
EBIT	57.2	127.7	86.4	90.4	14.7	23.7	34.3	24.2
EBIT Margin	7.76%	14.82%	7.58%	9.9%	16.0%	21.3%	25.9%	21.7%
Pre-tax WACC: real	3.80%	3.80%	3.80%	3.8%	3.80%	3.80%	3.80%	3.80%
Pre-tax WACC: nominal *(uplifted by CPIH)*	9.50%	12.30%	8.60%	10.10%	9.50%	12.30%	8.60%	10.10%
Implied capital employed	**600.2**	**1035.5**	**1006.4**	**880.7**	**154.7**	**192.7**	**398.8**	**239.6**
Actual capital employed	756.6	879.1	1534.9	1,056.9	344.2	580.3	663.8	529.4
ROCE %	7.6%	14.5%	5.6%	8.6%	4.3%	4.1%	5.2%	4.5%
Implied / actual capital employed	**0.8**	**1.2**	**0.7**	**0.8**	**0.4**	**0.3**	**0.6**	**0.5**

Source: CEPA analysis of EirGrid Regulated Accounts (RAs)

Given the high EBIT and EBITDA margins, this analysis would tend to suggest that the low ROCE is driven more by the high level of capital employed, than a too low level of EBIT.[37]

4.4. Does CRU's hybrid RAB/margin-based framework remain appropriate for PR6?

During PR5 the capital and reserves of the regulated entity are forecast to grow by close to 50%, even before longer term recoverable costs (from the k-factor adjustment) are taken into account (which would raise it further). EirGrid's financial model projections also show a further 32% increase over the PR6 period.

This is clearly high in absolute terms, but whether it is too high is not straightforward to answer, largely because the Regulated Accounts are not altogether clear in the treatment of costs. If, for instance, the level of unrecoverable costs was greater than stated – in the event of some direct costs or exceptional items not being recoverable, this would lower the EBIT margin %. However, our assumption is that the k-factor assumes that these are all ultimately recoverable.

Setting this to one side, for the moment, if we assume that the level of profitability during PR5 is acceptable then there is a case for maintaining the overall approach. There are, however, counter arguments as to why more profound changes may be appropriate. For instance, if something does not have a strong logic, there is a case to reform it, as it is possible that a result has occurred as a result of chance. This creates risks of over-remuneration in future.

The are also arguments around strengthening the alignment between revenues and cost drivers, particularly taking into account whether or not costs are controllable.

At a more profound level, because of the challenges of employing a RAB in this context, it may be worth considering alternative approaches built on target EBIT margins and ROCE.

[37] Indeed, it is possible to argue that both EBIT margin and capital employed are too high. By way of illustration, if the mechanics are followed through, if we assume a 10% EBIT margin for the period, this would produce an EBIT of €11.2m, with a 10.1% WACC / ROCE, being consistent with capital employed of €110m, well below what is currently tied up in the business.

We consider these points in more detail below.

4.4.1. Adjusting the existing framework

The framework can be adjusted both in terms of its (i) level and / or (ii) structure. If, for instance, the framework was seen as being appropriate but needing to be less generous, the different levels of remuneration could be reduced (or increased if it was deemed that the level of remuneration was too low).

As shown in the analysis, the problem with the existing framework is that, apart from the treatment of RAB and Side-RAB, the logic behind the margins appears somewhat weak:

- It appears to treat draw downs on WCFs as if they were demands on EirGrid's own working capital, which from an accounting perspective is incorrect: there is no accounting justification for applying a WACC to an external WCF. Whilst EirGrid's own working capital is playing a role it is not possible to disentangle this from that of the WCF, at least with the information we have had access to.
- The percentage of revenue and cost flows to which the WACC is applied is somewhat random, without being anchored in any form or recognisable logic; moreover, it appears to be assumed that such "capital" was deployed at the same level for the whole year, which is not the case.

A significant proportion of EirGrid's EBIT is accounted for by these revenues which it has no control over, some 50% in PR4 and 46% in PR5 to date. Moreover, under the existing framework there are instances of double remuneration with the compensation for so-called "timing risk" being rewarded in several places. By this we mean that multiple margins were being applied to the same activity in several places. Some of these include:

- The TSO in PR5 was compensated for risks in managing external opex costs and imperfections charge through a margin of 24% * WACC. However, it was also compensated for these risks through a margin on the revenues associated with these costs. Here the same risks (timing mismatches between collection of the revenues and payment of the costs) are compensated twice.
- Part of the TSO revenues come from the application of a WACC on the RAB. The TSO the received an overall 0.25% margin on its revenues which included the already compensated RAB component. It also applied on top of the depreciation component part of TSO revenues which we do not think is appropriate.

There are clear risks of over-remuneration if the approach is continued in PR6, especially with EirGrid's proposed FASS additions. Its level of generosity could, however, be calibrated to produce a desired level of return. It would be prudent, should the existing approach continue, to subject the overall allowed revenues to caps, formulated as an overall EBIT margin on all revenues, and / or a return on capital as a protection to customers.

4.4.2. Regulatory precedent

Despite these observations, the current approach can be argued to align with the approach that UK regulators have recently taken to asset light TSO regulation. In part because Ofgem, UR and the CMA (following SONI's appeal) gave considerable reference and weight to the regulatory framework that the CRU itself put in place for EirGrid TSO at PR4 – in other words, there is a degree of circulatory in the arguments that are in play. While there are elements of the CRU's current regime that do not align with precedent in other jurisdictions, the underlying principles of the CRU's approach are generally aligned.

The status quo also has the additional advantage for the purposes of PR6 – putting to one side incremental changes that the CRU may or may not wish to put in place when setting its TSO price controls for PR6 – of ensuring regulatory stability and predictability of approach. Within PR6's complex investment environment – and EirGrid's expanding offshore role – this has advantages, particularly in terms of the CRU being able to say to external investors and CRAs that it expects to continue, and build upon, an approach that it has now adopted over three price review cycles.

4.4.3. Linking allowances to cost drivers

Ideally, allowances should be linked to activities and associated costs that are controllable by EirGrid; that is, such revenues are sufficient given costs and the risks around those costs, inherent to undertaking those activities.

Where these costs and associated risks are not controllable by EirGrid, it is more efficient for the risk to be passed through to customers, rather than EirGrid bearing them and seeking a return for doing so. From a financing perspective, this is entirely consistent with risks being allocated by those best positioned to manage and / or absorb them. EirGrid's balance sheet should not be supporting disproportionate risk; ideally, relatively thinly capitalised entities should be limited to performance type risks that are within their control. It should still, however, be earning a small allowance for undertaking these activities which, in the absence of this, it would not undertake. As such we are fully supportive of full pass-through of external costs to customers and that EirGrid has access to external liquidity to insulate its own balance sheet.

EirGrid undertakes core internal activities which incur operational costs such as employment costs (internal capital costs being treated through the RAB). The allowance for the internal operational costs does not have a margin applied; rather it is treated as traditional cost-based opex allowance, with EirGrid benefiting if it does not utilise the whole allowance (retains any efficient underspend). This approach is understandable when the allowance sits alongside a sizeable RAB-based allowance. It seems somewhat counter intuitive that, under a framework in which revenues earned from a small RAB are combined with generous margin allowances attached to costs which are underwritten by customers, that EirGrid's most value-added activities are essentially rewarded at pretty much cost. There are strong arguments to rebalance the framework to align EirGrid's potential to make profit with those activities where it generates most value. This would involve providing EirGrid with a meaningful margin on its internal costs and reducing it elsewhere.

4.4.4. Logic of approach

As can be inferred from the observations above, there are reasons why PR6 might be an opportune moment for the CRU to consider a move from its current approach.

To begin with, it is unclear that the risks EirGrid states it faces are in fact real in terms of potential long-term impacts in the event of their crystallisation on EirGrid's P&L / balance sheet, notwithstanding the considerable short-term impacts, and residual remote risks associated with fiduciary failure and fines. For example, it has been explained by EirGrid through the Business Plan supplementary question process, that part of the rationale for the allowed margin on TUoS is to compensate for the potential risk of a failure by suppliers to pay their TUoS charges. Is this risk a timing mismatch consideration (i.e., an underpayment which EirGrid can ultimately recover from customers at a future tariff period) or an underlying payment risk borne by EirGrid? The difference is quite significant, and whilst our assumption is it is the former case, it would be preferable if truly liquidity risks were defined as such. This seems particularly important in the context of EirGrid's expanding role offshore which is expected to result in increased scrutiny of EirGrid's finances and regulatory framework (see below).

It is, however, the treatment of allowances linked to external costs and revenues that the logic is potentially most difficult to follow. It is not clear whether the 20% or 24% measure of EirGrid's different external costs, to which a WACC is applied truly reflects a required – for instance, by the WCF providers - increase in EirGrid's capital employed, or whether it relates to an increased required scale WCF. There would be some logic to apply EirGrid's WACC to the former, but not the latter.

Similarly, the same issue applies to transmission revenues. It is, however, recognised that EirGrid needs to be remunerated for these important activities that it undertakes. In consequence, there is a case for considering other ways of remunerating EirGrid TSO, as well as rolling forward the existing approach (with or without amendments).

By not relating allowances back to an underlying capital base, and an efficient capital structure (particularly in light of submissions EirGrid itself made during PR5 – see section 3), the CRU's approach creates a *risk* that the CRU's allowed level of remuneration is too high or even too low, given the capital that would be expected to be employed under an efficient financing structure is not defined.

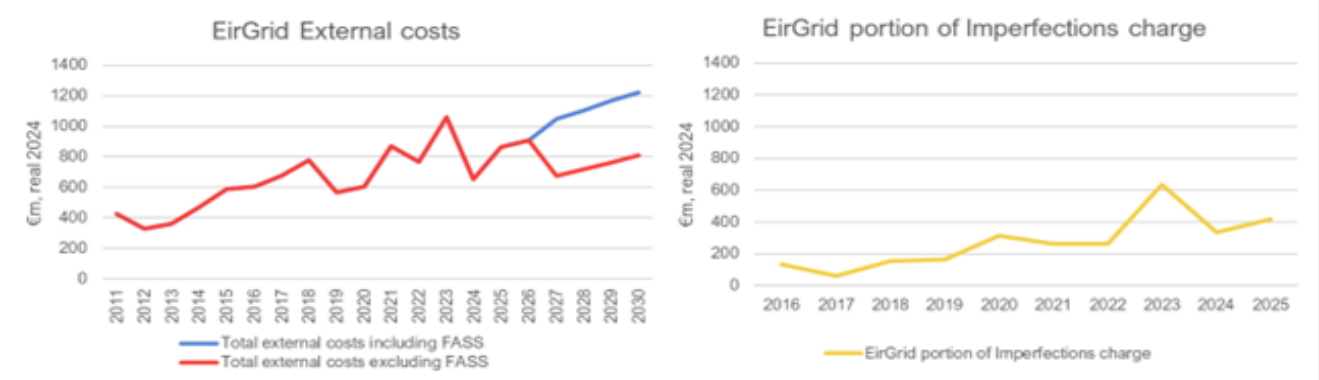
There is also a resulting risk that the approach could double count elements of remuneration that are provided elsewhere in CRU's regulatory framework.[38]

4.4.5. Robustness to future developments

Whilst the approach may have worked historically, the increasing scale and scope of the TSO's activities may create challenges in continuing to employ it. The external revenue and cost flows and volatility EirGrid has to manage appears to be growing linked to RES deployment and increased volatility in the Ireland's electricity system and I-SEM (see box below). This leads to the overall €m revenues being recovered by the TSO to increase with these costs, which in turn increases the overall €m margin on top of these revenues (potential for windfall gains to the TSO).

Box 4.1: External costs in PR5 and forecasts for PR6

For external costs, EirGrid's business plan submission (BPQ) for PR6 includes external costs information both forward and backward looking, back to FYE2011. The figures below show increasing volatility over the PR5 period, and an increase in the overall level into PR6 partly driven by the introduction of the FASS mechanism.



Source: External costs data is from EirGrid Business Plan submission – BPQ; Imperfections charge data sourced from SEM Imperfections Charges Decisions and UREGNI Regulated Entitlement Values publications.[39]

The new FASS mechanism requires EirGrid to pay System Service providers for which the revenue will come in the form of a standalone all-island charge levied on suppliers. EirGrid has argued this places additional cash volatility risk on its business (timing mismatch between expenditure and recovery) and that there will be within year cashflow issues including seasonal divergence between payment and revenue receipt.

EirGrid argues that the implementation of the FASS arrangements will require additional debt and equity requirements to manage cash that will flow through this separate tariff mechanism to TUoS charges and requires an explicit additional margin at PR6. EirGrid has proposed in its business plan that the FASS mechanism should be remunerated in the same way as the imperfections charge. EirGrid has indicated that a facility would need to be sized to around €300m (current all island estimates), for which 75% would need to be arranged by EirGrid (€225m). This would push EirGrid's I-SEM facility requirements to c.€337m which is in excess of the current requirement of €150m.

The magnitude of the imperfections charge in PR6 has not been included in EirGrid's business plan submission forward or backward looking, and are not forecasted more than a year ahead by the SEM. However, based on data that is publicly available, we can observe this has been volatile over the PR5 period. A large part of the imperfections charge is constraint costs including Dispatch Balancing Costs. The drop from FYE2023 to FYE2024 is driven predominantly by "*a significant reduction in the forward prices of key commodities that contribute to electricity prices, i.e. the price of coal and gas*."[40]

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[38] For example, if the CRU's approach to setting the external margin assumes the liquidity risk associated with EirGrid's management of external costs is financed by capital employed – which should attract a rate of return equal to the TSO's WACC – it is unclear how to reconcile this with EirGrid's submissions at PR5 which indicate it uses its WCF for managing external cost volatility and also recovers the commitment fees for this WCF and interest via the k-factor process.

[39] External costs include: Inter TSO Compensation, CORESO subscription, Interconnector services, CER Levy, Ongoing Service charge, DUoS costs, Ancillary services, ENTSO-E feed, TAO payments, Public Service Order, and FASS.

[40] UREGNI (2023) Regulated Entitlement Values for 2023-24. Available online.

4.4.6. The role of the RAB

An uncontroversial starting point for considering structurally different approaches to applying a framework, is the need to set allowances that enable revenues that provide appropriate returns for EirGrid for the activities it undertakes and their associated risks. Although, as demonstrated, ROCE can be used as part of a cross check on framework outturns, there is a case for incorporating it more fully as it better captures both EirGrid's fixed asset and working capital investments in undertaking the TSO role. This could go as far as removing the RAB altogether from the calculation.

At less than 10% of group equity or net assets of c€630m and less than 5% of its capital employed of €1.4bn, EirGrid's onshore RAB is currently proportionately very small, although this is forecast to ramp up to over €400m during PR6, before falling back again. The level of capital employed within the business, at greater than annual turnover of €1.1bn, is relatively substantive. In summary, any business requires a return on capital employed. EirGrid's WACC applied to its RAB and depreciation represents only a small proportion of what it needs to earn.

A more radical approach would consider EirGrid's ROCE on all its activities, taking into account its WACC. Allowances would be set to achieve a target EBIT which delivered this return, given an appropriate level of capital employed within the business. In turn, these revenues would reflect differences between controllable internal and non-controllable external costs. Whilst this can be undertaken alongside a retained RAB and side-RAB there is the option of focusing purely on capital employed, rather than taking into account the RAB.

4.5. INTERFACE WITH OFFSHORE ACTIVITIES

The emergence of the offshore asset owner function within EirGrid (especially as offshore is not a separate licensed activity)[41] also raises additional questions around the regulatory framework of the EirGrid TSO.

During the PR6 period, EirGrid will need to raise considerable sums of new debt and equity. In order to do this, we understand that EirGrid will be seeking an external credit rating that enables it to secure debt at an efficient rate and provides assurance to stakeholders during a significant expansion period for its business. The regime that CRU applies to the TSO can be expected to form part of the credit rating of the EirGrid Group. Therefore, beyond the theoretical discussions of the optimal remuneration mechanism for working capital as well as the fixed assets of the licensee, there are actual/practical considerations to be made.

CRAs can be expected to look positively on a regulatory regime for the TSO that:

- provides a transparent and predicable framework for EirGrid's cash collection agent role, as well as the expanding offshore ownership role; and
- minimises the risks that the swings in EirGrid's intrinsic working capital requirement increase credit risk for new (long-term) debt that EirGrid needs to raise for its offshore programme.

[41] While the Offshore Asset Owner function of EirGrid will not be a separate legal entity, the CRU proposes to set a separate price control for EirGrid's offshore ownership activities.

While this might favour retention of the status quo approach, the experience of the NESO in GB during its initial rating exercise with Moody's (c. 2019)[42] also suggests that the existing TSO regime, and the assumptions it makes in the remuneration of EirGrid's financing will need to be demonstratively robust and sufficient to manage:

- new FASS arrangements, early evidence of increased volatility in balancing costs, larger internal operational programmes within EirGrid to support the net zero transition; and
- additional debt financeability challenges from the ramp up in the scale of the offshore programme from a body that is also new to this role.

In light of these issues, it would seem at least prudent to consider if there are alternatives to the current approach that the CRU might consider at PR6.

4.6. Conclusions

The appropriateness of the existing financial regulatory framework PR6 can be determined on one hand, in terms of the financial results it enables; and on the other, whether it amounts to a logical, predictable and transparent approach.

In terms of the former, analysis is complicated by the considerable distortionary effects of external costs and revenue flows.

Another approach to assessing underlying profitability is to strip out direct costs and exceptional items on the assumption that these are ultimately all recoverable. This produces a very robust projected EBIT% for PR5 of over 28%, well in excess of the 10% that EirGrid has argued that it requires. If this EBIT is divided through by capital employed in the business, it produces ROCEs of quite a few percentage points below EirGrid's WACC. This could be seen as either the level of EBIT being too low, or alternatively, too high a level of capital employed within the business. The average level of cash on the balance sheet of €250m during PR5, however, suggests that the latter is more likely to be true. By way of comparison, average cash balances can be compared to underlying net revenue for the period, which average less than half average annual net revenue.

Leaving aside the overall result that the approach produces, the logic of how external revenue allowances are arrived at appears at best, to be very convoluted. Irrespective of the overall result, there is a strong case for recalibrating the approach to remunerating the management of external flows in favour of a larger margin on controllable internal costs, to create better transparency, logic in terms of aligning the potential to make profit with value-added and a reflection of the actual limited long-term risks in managing external costs.

The option of retaining the existing approach still remains, however, purely as a means of generating additional revenue streams to support those linked to the RAB. It would appear prudent to consider what options in addition to a roll-over of the status quo might be considered and what criteria might be applied in evaluating the different options. It is to these that we now turn, alongside a consideration of EirGrid's now offshore role and how CRU should undertake its feasibility assessment under the price control.

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[42] The working capital balance swings of the ESO and the relative immaturity of Ofgem's regulatory framework of the ESO at the time, was a key factor in Moody's original rating for the ESO.

Moody's 2023 credit opinion on the ESO in GB highlighted that timing risk exposure continues to be a key contributor to the credit rating given, it said: "*Credit quality is constrained by NG ESO's exposure to timing differences that are sizeable in the context of its asset-light business. The removal of NG ESO's exposure to network charges for the current price control has significantly reduced NG ESO's exposure to fresh timing differences, but this benefit has been increasingly offset by regulatory decisions that have permitted larger timing differences on balancing costs.*"

Moody's (2023) Credit Opinion for National Grid Electricity System Operator - Update to credit analysis. Whilst the regime is slightly different to that in Ireland, we are unsure as to whether this is actually what drove the decision – given the ESOs access to liquidity, or whether it was just the fact that Moody's did not want to give it a higher credit rating than its parent.

5. AVAILABLE OPTIONS AND THEIR ASSESSMENT

The previous section sets out some of the issues with the current regulatory framework governing EirGrid's activities. Whilst there are some reasons for retaining the overarching approach, save perhaps for making some smaller changes, there is also a case for considering alternative options. While a large number of alternative approaches could be considered, we have selected two to look at in more detail. The first of these might be seen as seeking to rebalance the approach; in particular, tying a greater proportion of remuneration to controllable internal costs and away from non-controllable external costs, as well as addressing some of the errors of logic. In addition, for completeness, we set out a more radical option to regulating an asset light business, which is more in line with retail regulation, moving away from a RAB-based approach towards a ROCE-based one, driven by a WACC.

The extent to which any of these approaches would arrive at a different level of remuneration depends upon the extent to which a higher level of remuneration can be justified for PR6.

We begin by summarising these three approaches. We then provide some criteria for assessing them prior to doing so on at a more detailed level.

5.1. POSSIBLE ALTERNATIVE HIGH-LEVEL APPROACHES

We have identified three high-level approaches for PR6. These are:

- **Status quo**. This would comprise a hybrid RAB /side-RAB and margin-based approach to remuneration framework of the TSO. The focus of PR6 would instead be on whether there is a case for updating the parameters used within this existing framework, for instance, to remove any double remuneration. Arguably, this bottom-up approach should have a test of reasonableness applied to it, in terms of a top-down EBIT margin and ROCE acting as a cap or caps on returns.

- **Simplified approach**. This would also maintain a hybrid RAB / side RAB and margin approach, with a review of what additional margins should be permitted, and where external allowances account for a smaller proportion of revenues relative to internal costs, than they do at present. Adding a margin on controllable internal costs would reflect the need to reward the shareholders of EirGrid for undertaking the strategically important role that its core activities comprise.

  The external allowance structure would be much more straightforward, with a single margin on managing external flows on the part of the industry. The rationale for this is that these costs are all pass-throughs, including the costs of operating a WCF, with timing mismatches being accounted for through the k-factor. Such allowances would, however, include a few basis points to reflect residual risks. Because these cost items are pass throughs with limited if any risk residing with EirGrid, and the use of a WCF - secured by the ability of providers to see through to customers – reducing the use of its own capital, returns to EirGrid should be lower than on its core activities. However, it does require remuneration over it just being made whole through the k-factor, otherwise, as a profit seeking entity, it would not undertake the activities.[43] The undertaking of these activities might be characterised as a low to zero risk, revenue collection and management activity.

  Under this simplified approach, there would likely be less risk of major over or under-remuneration through double remuneration, but top-down checks could be applied, as above.

- **ROCE-based**. A third, more radical approach would be to build up a notional company, comprising a P&L and balance sheet, containing different cost and profit allowances, driven by a ROCE that reflects EirGrid's WACC. In other words, rather than using ROCE as a cross check, a notional ROCE would actually be used to drive the required margins. This would take into account EirGrid's fixed and working capital requirements, given its

[43] Some international market operators do undertake these activities on a cost recovery basis, but they are not for profit entities.

ability to utilise WCFs. This approach would therefore explicitly factor in an appropriate balance between access to WCFs to deal with external activities and own working capital to support core EirGrid activities. Although the calculation of the WACC would remain a core component of the framework, the approach would move away from the use of a RAB. The challenge here would be to ascertain what constitutes an appropriate level of capital employed. Ofgem has recently experienced the challenges in such approaches in recent updates to the EBIT margin for its energy retail default tariff cap where it has sought to define a capital base and structure.[44]

5.2. ASSESSMENT CRITERIA

We consider three criteria to be useful in considering the different options:

- **Simplicity**: which approach is easiest to apply, including requiring the least change, noting that whilst consistency with what has gone before is preferable, especially from a regulatory precedence perspective, this should not be for the sake of it, where there are issues with the approach, such as logical inconsistencies.
- **Logic / rationale**: as a result, the logic of rationale for the approach needs to be taken into account. For instance, how aligned allowances are with underlying costs, their drivers and any associated risks. If there is a desire to reduce the degree of cost pass-through in the price control, this should also be taken into account in the logic of the option assessment.
- **Transparency**: including ease of monitoring is also important particularly in terms of avoiding problems such as minimising risks of double remuneration. As a result, this is likely to minimise the risks of over and under-remuneration as well as differentiating the TSO's different roles, particularly in the context of its new offshore responsibilities.

Clearly, there can be trade-offs between the different options.

5.3. APPLYING THE CRITERIA

5.3.1. Option 1: amended status quo

By status quo we mean what is currently included within PR5, and rolling it forward to PR6, either retaining its existing value or increasing different components, but with some adjustments. The adjustments are set out below. At its core, this would comprise:

1. RAB * PR6 real TSO WACC (only change for this margin compared to PR5 is that the beta includes operational gearing adjustment, removing the need for a separate operational gearing margin).
2. Side RAB * PR6 real TSO WACC (also includes operational gearing adjustment).
3. 0.25% * TSO internal opex and TAO transmission revenues for timing mismatches (which might alternatively be seen as upside for undertaking its core activities).
    - The margin is not applied to TSO external revenues as this is remunerated under point 4 below)
    - The margin is applied to TSO internal opex here instead of TSO internal revenues, as this removes the impact of double counting of remuneration on some activities (previously there would have been a return on the depreciation and 0.25% applied on top of the return on the RAB).

The problem is then what to do with the external revenue margin based around the part financing of external revenues through the WCF, with EirGrid currently proposing the following:

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[44] See for example Ofgem (2023): 'Price Cap - Decision on amending the methodology for setting the Earnings Before Interest and Tax (EBIT) allowance'

4. 24% * Nominal WACC * (External opex + 75% Imperfections charge + FASS costs).

As stated, we do not believe that there is strong logic to this calculation, but if it were maintained there is the option of changing the percentage to achieve either a greater of lower allowance. For instance, if it were deemed to be too generous, this could revert back to 20%, its level in PR4. We have modelled 24% here.

The main change in this approach from PR5 is that the 0.25% remuneration for operational gearing has been removed and replaced with an uplift to the beta in the WACC.

Evaluation of Option 1

The main criticism that can be made of the existing approach is its limited logic, which creates additional issues of a lack of transparency. Even if it were to produce an acceptable result in the round, something that does not have a strong logical underpinning would be further embedded within the approach.

One of the justifications that is made for these revenues is that EirGrid faces 'timing' risks in the management of external cashflows. It is important, however, to assess the potential impact of these to assess the magnitude of what EirGrid's P&L and balance sheet are actually bearing. Indeed, if EirGrid's costs in their totality are considered, they can be broken down into three broad types:

- **Internal** – that is, focusing on the operational expenditures associated with its day-to-day expenditures that should be controllable (putting aside capital expenditure for now as under this approach this is still remunerated under the RAB).
- **External** sizeable and uncontrollable costs which might be broken down intuitively into those that are:
    - *"known-unknowns"* – that is, those which EirGrid is aware of, but where outturns can be highly volatile; and
    - *"unknown-unknowns"* that can arise essentially from nowhere and whose values are also unknown ex-ante.

If we take the first category – internal – we can see that should these exceed EirGrid's revenue allowances, EirGrid will incur a loss on its P&L, which will not be recoverable (subjected to an ex-post opex efficiency review). Likewise, devex, is not necessarily recoverable – more usually, however, it is allowed and capitalised, thereby forming part of the side-RAB to which a WACC is applied before the assets are transferred to the TAO.

The other two categories are different, however. They create the need for liquidity, but the intent is for them to be ultimately recoverable. It is true that due to their scale, they can have temporal impacts on EirGrid's P&L, but this should be corrected over time through the k-factor. As a result, it can be argued that the costs themselves are P&L neutral (on the P&L where we see the TSO incurs unexpected costs, we will also see this added to the revenue, either at the same time, or in future years).

As set out, the demand for liquidity can be dealt with in two ways: EirGrid could either raise long-term debt and equity (or draw on retaining earnings); or it could procure short-term credit facilities. The banks providing WCFs seem reasonably assured that customers can be relied on for repayment of the facility, as can be seen by the very thin spreads over Euribor that they are charging EirGrid for the facility. As set out, the costs of these facilities are passed on to customers by way of a pass-though and are not absorbed by EirGrid.

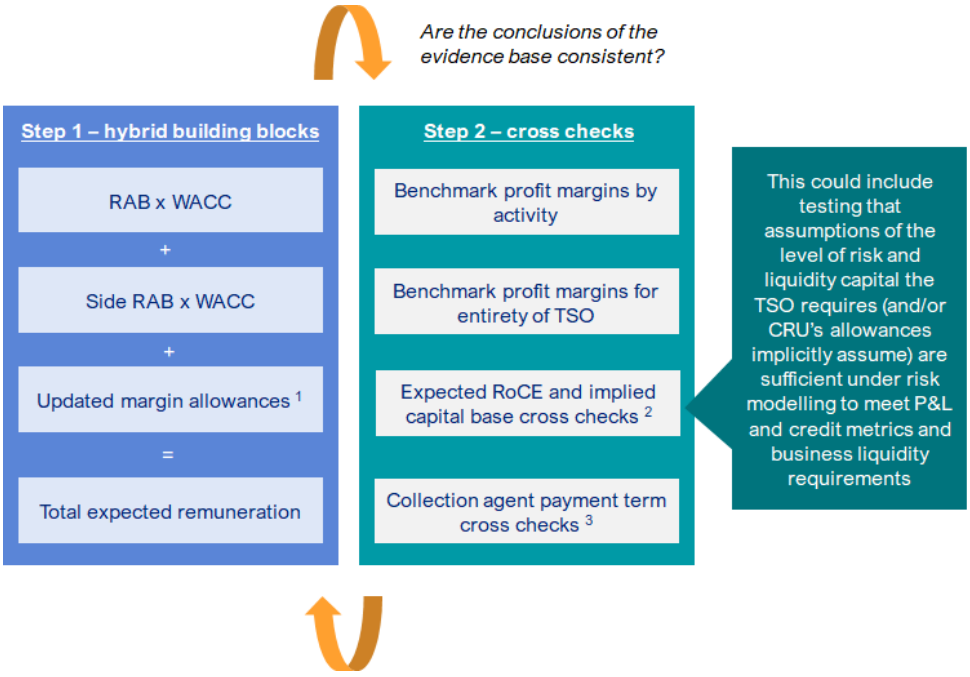
So, what are the risks that EirGrid is bearing in providing this liquidity? Where EirGrid is using its own working capital to address the liquidity issue– essentially positive net current assets, even if this is not at risk (due to ultimate recoveries), this creates an opportunity cost that should be remunerated.

The question then arises as to whether or not it faces any other risks. It is arguable that it faces the remote risk of its working capital facilities not being sufficient to cover its need for liquidity or the aforementioned risks of fines. There could potentially be a knock-on risk for its wider financeability (especially regarding its offshore business in the event that funding is not ringfenced). However, this is best managed through an ability to secure larger facilities – guaranteed, if necessary, by government – rather than, it deploying its own capital.

Which brings a further key point into the discussion. From a system design perspective, it is not logical to allocate disproportionate risk to an entity that is in no position to bear it. In many countries, where the TSO is a not-for-profit entity, expenses incurred are recovered at cost, with the industry bearing all risks associated with their delivery.

Nevertheless, if the existing approach is to be maintained, the risks inherent in potentially retaining the existing approach can be partly ameliorated through cross checks and ultimately ex-post caps on what can be earned.

Figure 5.1: Two step process for cross checking the conclusions of the CRU's hybrid RAB-margin decisions



1: This should give consideration to the allowances that the CRU also provides for the commitment fees and interest fees of EirGrid's WCF and the interest that is received on the k-factor process. 2: This could take the form of building up an estimate of capital employed and RoRE at a benchmark rate of return. Alternatively, a cross check could be derived of the capital employed that CRU's current margins imply and whether this appears justified and sufficient to meet business requirements (e.g., based on risk modelling). 3: EirGrid proposes this as a cross check in its PR6 business plan submission.[45]

5.3.2. Option 2: Simplified option focusing more on controllable costs

A simplified option would comprise the following:

- Retention of the WACC remuneration on the RAB, side-RAB plus regulatory depreciation.
- Focusing most on an allowance on operational controllable costs (internal opex).
- Recognising the additional costs incurred in managing external cost and revenue flows, by applying a small margin to them.

The rationale for this approach would be to link more of EirGrid TSO's allowance to its controllable internal costs, but then recognising a degree of variable cost associated with having to deal with the external flows, some of which are known ex-ante and others which arise during the life of the price control period. This might be seen as a form of management fee associated with managing seen and unforeseen costs which should be remunerated over and above just a cost recovery (which the k-factor provides). A simple margin could be applied to any of these costs, none of which would appear to have a risk profile that is distinct from any of the others. Management of these flows is clearly

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[45] Alongside evidence of invoice factoring rates quoted by UK brokers, EirGrid – informed by a report by KPMG – propose a cross check on the collection agent remuneration as follows: *required margin on collection agent services = [(1 + nominal WACC) (standard payment terms (e.g. 60 days) / 365)] - 1.*

important from an industry perspective, but arguably involves less value-add than EirGrid's other activities, as collectively the tasks are relatively mechanical in nature.

Payment for these collection agent and cashflow management roles remains within this option, on the assumption that any timing mismatch risks / additional liquidity requirement costs are borne by the wider industry rather than EirGrid.

As with the first option, they should be subject to an overall EBIT margin and ROCE cross-check.

From the perspective of simplicity, the main complexity involved in this approach is changing from the existing approach. From a logic and alignment perspective, it is stronger, particularly if there is a desire to make the control "bite" more on the costs which are within EirGrid's control.

The challenge is that if the aim is to target a constant level of remuneration, the mix of allowances / revenues / margins will inevitably be different between different price controls. So, for instance, in a price control with significant capex investment, there will be a smaller gap between the revenues generated and what is required to provide a given return, than in a price control where RAB-based returns are lower. In practice, the two options to deal with this are to either flex the margin on internal costs or else to move to a straight EBIT margin on all internal activities.

5.3.3. Option 3: EBIT / ROCE notional company framework

In this notional company approach, a level of capital employed would be determined which would be sufficient to allow EirGrid to meet its different obligations, with a degree of headroom from a financeability perspective. EirGrid's WACC would then be applied to this to calculate an overall level of EBIT (that is, WACC x capital employed). As such, the EBIT margin percentage would be a derived number (EBIT / net (controllable) revenue). Rather than having the various RAB-based returns, this would be covered by an internal cost allowance, including for depreciation costs. However, the separate margins on external costs could be maintained as many of these costs are not known ex-ante. So, the derived EBIT margin would be anchored to a capital base, which reflected both its required capex and working capital requirements. The external industry commitment would be handled as far as possible through the WCFs, which are working capital neutral.

This option would involve the most change and it might therefore be argued that it is least simple. From a logic perspective, however, it recognises the challenges of anchoring a price control to a RAB in the case of an asset-light company. Risk is captured in the calculation of the WACC which is then applied across the whole of the capital employed, avoiding convoluted approaches employed in the current construct to generate a meaningful level of revenues over and above those that are RAB-based, especially in year where capital investment is low.

The precedent for this is not in regulating TSOs/Market Operators, but rather in regulating energy retail companies.

5.4. SIZING THE REMUNERATION

At the end of the day, it is not just how remuneration is calculated, but overall profitability. Whilst is possible to benchmark EBITDA and EBIT margins to varying degrees, it is difficult to do this with absolute levels of profit.

In this section we have compared our three options and the resulting EBIT margins produced under each. For purposes of comparison with the existing framework, we have also modelled a "base case" which takes the margins requested by EirGrid and applies them to the PR6 draft determination cost values assuming EirGrid's proposed real WACC for comparative purposes in this "base case" returns calculation.[46] We have undertaken a number of calculations for each option using the average PR6 year.

[46] For each of our three PR6 options, we apply our recommended PR6 TSO WACC value.

We have taken the draft determination allowed internal opex, RAB and side RAB values,[47] as well as external opex as assumed in the PR6 draft determination, imperfections charge forecasts, and EirGrid's submitted forecast of FASS. We have also used the draft determination TAO revenues. The base case uses a nominal WACC within the calculation of the external opex, imperfections charge, and FASS margin, instead of a real WACC, as was the case in the PR5 determination. We agree with KPMG / EirGrid's arguments that from a theoretical perspective if a WACC is to be used here, that it should be nominal as it is being applied to cashflow items.

Table 5.1: Size of allowed return in the base case - provided by the margin requests from the TSO applied to the draft determination cost allowances – analysis of an average PR6 year.

Remuneration components	Calculation for average PR6 year	Size of remuneration (€m, nominal)
Return on main RAB	EirGrid proposed PR6 real WACC x mean of the average RAB over PR6 4.86% x €267.98m	13.02
Return on side RAB	EirGrid proposed PR6 real WACC x average side RAB 4.86% x €27.99m	1.36
WCF pass-through[48]	Fee % * size of WCF Assumed 0.14% x €400m	0.56
Margin on TSO and TAO revenues for timing risk. Can be broken down in to:	0.25% x mean revenue for internal opex 0.25% x €166.24m	0.42
	0.25% x mean revenue for external opex 0.25% x €233.84m	0.58
	0.25% x mean other revenues[49] 0.25% x €101.5m	0.25
	0.25% x mean TAO revenue 0.25% x €449.12m	1.12
Operational gearing margin:	0.25% x mean TSO[50] and TAO revenue 0.25% x (€770.65m+ €449.12m)	3.05
External opex margin:	24% x EirGrid proposed PR6 **nominal** WACC x external opex 24% x 6.96%[51] x €233.84m	3.90

[47] The side RAB value changes year on year, with additions from stage 1 capital spend, and runs down each year from invoices to the TAO when an asset is commissioned. The PR6 Business Plan Questionnaire requested both the stage 1 capital spend and also the TAO invoice amount from EirGrid. The draft determination cost assessment determined the amount to be invoiced to the TAO (the running down of the side RAB), and we have modelled stage 1 capital spend in line with the approach taken by EirGrid. For example, if the draft determination "Invoiced to TAO" allowances is 10% lower than the EirGrid ask, the "Stage 1 capital spend" has also been modelled as 10% lower than the EirGrid ask.

[48] For future years, we have proxied WCF fees at 0.14% multiplied by the size of the facility. This reflects the commitment fees. We have not included an assumed interest cost and therefore have not included an assumption on how much the WCF is used. We understand that interest costs incurred on drawdowns of the WCF are also passed through at cost to consumers.

[49] This is the part of the margin that applies to total TSO revenues less internal opex and external opex. Therefore, "Other revenues" here consist of depreciation, return on main RAB, return on side RAB.

[50] As consistent with EirGrid financial model, this includes the following items: Internal opex, External opex, Return on side RAB, Return on RAB, WCF fees, RAB depreciation, PSO/refit, but not FASS or Imperfections charge.

[51] Nominal WACC calculated using EirGrid proposed real WACC, and applying the Fisher equation: ((1+4.86%)*(1+1.7% Irish HICP + 0.3% Inflation adjustment))-1

Remuneration components	Calculation for average PR6 year	Size of remuneration (€m, nominal)
Imperfections charge margin: 24% x WACC	24% x EirGrid proposed PR6 **nominal** WACC x 75% of Imperfections charge 24% x 6.96% x 75% x €511.22m	6.40
FASS margin: 24% x WACC	24% x EirGrid proposed PR6 **nominal** WACC x FASS 24% x 6.96% x €340.93m	5.69
Total remuneration components		**36.35**
EBIT[52]		**35.80**
Net revenue		**289.73**
EBIT as a percentage of net revenues		**12.4%**

Source: CEPA analysis

In this analysis the net revenue comprises all of the above revenue streams, plus the opex allowance. As can be seen this produces a relatively high EBIT margin, in which the revenues associated with external activities account for 60% of total EBIT.

It is then possible to compare our Options 1, 2 and 3 against this base case.

5.4.1. Option 1

Option 1 is a revised version of the PR5 framework as set out above, but with the removal of double remuneration on certain cost / revenue items. We have also applied the PR6 draft determination TSO WACC to Option 1, whereas the EirGrid proposed WACC was applied in the base case. We have also removed the operational gearing margin, as we have compensated for this through the WACC instead.

Table 5.2: Size of allowed return under Option 1 - adapted PR5 framework rolled forward on PR6 cost items, using CEPA proposed PR6 DD WACC

Remuneration components	Calculation for average PR6 year	Size of remuneration (€m, nominal)
Return on main RAB	PR6 real WACC x mean of the average RAB over PR6 5.23% x €267.98m	14.02
Return on side RAB	PR6 real WACC x mean side RAB 5.23% x €27.99m	1.46
WCF pass-through	Fee % * size of WCF Assumed 0.14% x €400m	0.56
Margin on TSO and TAO revenues for timing risk. Can be broken down in to:	0.25% x mean revenue for internal opex 0.25% x €166.24m	0.42
	0.25% x mean revenue for external opex **Not used**	-
	0.25% x mean other revenues[53]	-

[52] Total remuneration includes an assumption for revenue collected for WCF fees. EBIT takes total remuneration and deducts the WCF fee cost (same as revenue). Therefore EBIT = Total remuneration – WCF fees.

[53] This is the part of the margin that applies to total TSO revenues less internal opex and external opex. Therefore, Other revenues here consist of depreciation, return on main RAB, return on side RAB.

Remuneration components	Calculation for average PR6 year	Size of remuneration (€m, nominal)
	Not used	
	0.25% x mean TAO revenue 0.25% x €449.12m	1.12
Operational gearing margin:	0.25% x mean TSO and TAO revenue **Not used**	-
External opex margin:	24% x PR6 **nominal** WACC x external opex 24% x 7.33%[54] x €233.84m	4.12
Imperfections charge margin: 24% x WACC	24% x PR6 **nominal** WACC x 75% of Imperfections charge 24% x 7.33%[55] x 75% x €511.22m	6.75
FASS margin: 24% x WACC	24% x PR6 **nominal** WACC x FASS 24% x 7.33% x €340.93m	6.00
Total remuneration components		**34.44**
EBIT		**33.88**
Net revenue		**287.81**
EBIT as a percentage of net revenues (EBIT margin)		**11.8%**

Source: CEPA analysis

Despite Option 1 having a higher WACC than the base case (which impacts five of the components above), the removal of double remuneration results in a lower overall total remuneration from the margins (which is essentially the forecast EBIT) than the base case, albeit by a relatively small amount. Even with removal of such double-counting, the external margins still account for over 50% of the total EBIT amount.

On a ROCE basis, this implies the following implied capital employed of close to €500m.

Table 5.3: An estimate of RoCE based under Option 1.

	Average PR6 year (€m, nominal)
Net revenue	282.83
EBIT	33.88
EBIT as a percentage of net revenues (EBIT margin)	11.8%
Pre-tax WACC: real	5.23%
Pre-tax WACC: nominal *(uplifted by HICP)*	7.33%
Implied capital employed	**488.96**

Source: CEPA analysis

5.4.2. Option 2

Option 2 is a simplified approach, keeping the RAB-based elements, but with a simple 0.25% margin applied to pass through cost items. The cost and revenue items that the margin applies to in PR6 is broader than in PR5 as it includes

[54] 1.7% reflects the HICP forecast from 2025 from the Central Bank Bulletin.

[55] Nominal WACC calculated using draft determination proposed real WACC, and applying the Fisher equation: ((1+5.23%)*(1+1.7% Irish HICP + 0.3% Inflation adjustment))-1

the PSO levy. The margin would also apply to pass through revenues such as Celtic and the East-West Interconnector revenues that the TSO collects. At this point in time, however, we do not know the scale of these revenues and therefore they have been excluded from our modelling in Options 2 and 3.

We have proposed a 0.25% margin largely because of the precedent and familiarity withing the existing PR5 framework. In PR5, a 0.25% margin applied to all of the revenue items the TSO collected to manage risks (net of the 0.25% for operational gearing). This is within the range that the CMA concluded was appropriate to apply to the imperfections charge for SONI in 2015-2020.[56]

We have also introduced a margin on internal opex designed to remunerate the TSO for its core activities which are predominantly operational based. The margin on internal opex has been set at 1%[57]. As we are placing weight on the overall EBIT margin (as a percentage of net revenues) that the TSO earns, the internal opex margin would be adjusted ex-ante to provide an appropriate overall level of EBIT.

Table 5.4: Size of allowed return under Option 2 - adapted PR5 framework rolled forward on PR6 cost items, using CEPA proposed PR6 DD WACC

Remuneration components	Calculation for average PR6 year	Size of remuneration (€m, nominal)
Return on main RAB	PR6 real WACC x mean of the average RAB over PR6 5.23% x €267.98m	14.02
Return on side RAB	PR6 real WACC x mean side RAB 5.23% x €27.99m	1.46
WCF pass-through	Fee % * size of WCF Assumed 0.14% x €400m	0.56
Margin on TSO and TAO revenues (broken down in to):	0.25% x mean revenue for internal opex **Not used**	-
	0.25% x mean revenue for external opex **Not used**	-
	0.25% x mean other revenues[58] **Not used**	-
	0.25% x mean TAO revenue 0.25% x €449.12m	1.12
Operational gearing margin:	0.25% x mean TSO and TAO revenue **Not used – remunerated through the WACC**	-
External opex margin	0.25% x external opex 0.25% x €233.84m	0.58
Imperfections charge margin	0.25% x 75% of Imperfections charge 0.25% x 75% x €511.22m	0.96
FASS margin	0.25% x FASS	0.85

[56] SONI Ltd vs Northern Ireland Authority for Utility Regulation – Final Determination (2017), available here.

[57] We note that this is a rounded estimate. More detailed and sophisticated modelling of EirGrid's business, facilitated by better quality information on the capital employed in the business, would allow a more precise estimate that then would feed into an overall EBIT margin.

[58] This is the part of the margin that applies to total TSO revenues less internal opex and external opex. Therefore, other revenues here consists of depreciation, return on main RAB, return on side RAB.

Remuneration components	Calculation for average PR6 year	Size of remuneration (€m, nominal)
	0.25% x €340.93m	
PSO margin	0.25% x PSO 0.25% x €269.06m	0.67
Operating cost margin (on internal opex)	1% x internal opex 1% x €166.24m	1.66
Total remuneration components		**21.88**
EBIT		**21.33**
Net revenue		**275.25**
Total remuneration as a percentage of net revenues		**7.8%**

Source: CEPA analysis

Inclusion of only a 1% internal opex margin achieves a total remuneration that we consider provides a sufficient return as a percentage of net revenue. This was already at a reasonable level, due to the relatively higher level of RAB-based remuneration in PR6. In many respects, PR6 has a relatively high share of RAB-based returns in which a high level of capex investment is combined with relatively short asset lives. The problem is in future controls when such revenue streams will have already been received, leaving a gap. This contrasts with longer dated capital investment in which revenues are received over several price controls, smoothing the stream. As a result, the composition of revenues will need to be assessed at the time of future price controls, especially where capital investment drops off significantly. In the first instance, this can be compensated for by increasing the margin on internal opex. Or as set out in the third option, we move away from RAB-based returns altogether and adopt a different approach.

On a ROCE basis, this implies the following:

Table 5.5: An estimate of RoCE based under Option 2.

	Average PR6 year (€m, nominal)
Net revenue	275.25
EBIT	21.33
EBIT as a percentage of net revenues (EBIT margin)	7.8%
Pre-tax WACC: real	5.23%
Pre-tax WACC: nominal *(uplifted by HICP)*	7.33%
Implied capital employed	**307.83**

Source: CEPA analysis

As can be seen this approach produces a lower EBIT margin of 7.8%. We consider this to be an acceptable base EBIT margin which is not too far off the 8.8% EBIT margin contained in the EirGrid model. This can be improved on in contexts in which EirGrid outperforms. There will also be potentially greater revenues as remuneration in the event that the scale of EirGrid's external management activities turn out to be greater than anticipated.

Benchmarking an EBIT margin is always challenging. CEPA has previously expressed a view of 3-10% as being an appropriate benchmark for these activities.[59] Oxera has suggested 8-12%.[60] However, a more appropriate approach is

[59] CEPA (2011) Financeability of the universal service – report for Ofcom

[60] Oxera (2019) NGESO financial price control parameters for RIIO-2 – Prepared for National Grid Electricity System Operator, p. 33. Available online.

to generate a level of EBIT and to derive an EBIT percentage margin by applying a WACC to an efficient level of capital employed within a business, which forms the rationale for out third option.

5.4.3. Option 3

As set out above, the third option, involved a move away from RAB-based returns. Instead, the TSO would be provided with an internal cost allowance which reflects both the internal opex costs and covers the capex that hits the P&L (reflecting the accounting depreciation). Then the TSO would be provided with: (i) a cost allowance for the operation of the external and revenue passthrough activities (estimated here at 0.25% of pass-through costs or revenues); and (ii) an overall level of EBIT that, in this example is aligned with that in Option 2. If this approach were implemented, however, EBIT would be the ROCE (WACC x capital employed).

The overall EBIT margin (as a percentage of net revenues) that the TSO earns, the internal opex margin has also been set to provide a margin consistent with under Option 2.

As with Option 2, the margin on pass-through costs would also apply to Celtic and the East-West Interconnector revenues. This has not been included in our analysis below as we do not yet know the scale of these items.

Table 5.6: Size of allowed return under Option 3 - No return on the RAB but using an internal opex margin and margin on pass-through activities

Remuneration components	Calculation for average PR6 year	Size of remuneration (€m, nominal)
WCF pass-through	Fee % * size of WCF Assumed 0.14% x €400m	0.56
Margin on TAO revenues	0.25% x TAO revenues 0.25% x €449.12m	1.12
External opex margin:	0.25% x external opex 0.25% x €233.84m	0.58
Imperfections charge margin	0.25% x 75% of Imperfections charge 0.25% x 75% x €511.22m	0.96
FASS margin	0.25% x FASS 0.25% x €340.93m	0.85
PSO margin	0.25% x PSO 0.25% x €269.06m	0.67
Operating cost margin (on internal opex)	11.5% x internal opex 11.5% x €166.24m	19.12
Total remuneration components		**23.87**
EBIT		**23.31**
Net revenue		**277.23**
EBIT as a percentage of net revenues		**8.4%**

Source: CEPA analysis

The implied ROCE at the pre-tax WACC under this approach is set out below.

Table 5.7: An estimate of RoCE based under Option 3.

	Average PR6 year (€m, nominal)
Net revenue	277.23
EBIT	23.31

	Average PR6 year (€m, nominal)
EBIT a percentage of net revenues (EBIT margin)	8.4%
Pre-tax WACC: real	5.23%
Pre-tax WACC: nominal *(uplifted by HICP)*	7.33%
Implied capital employed	**336.35**

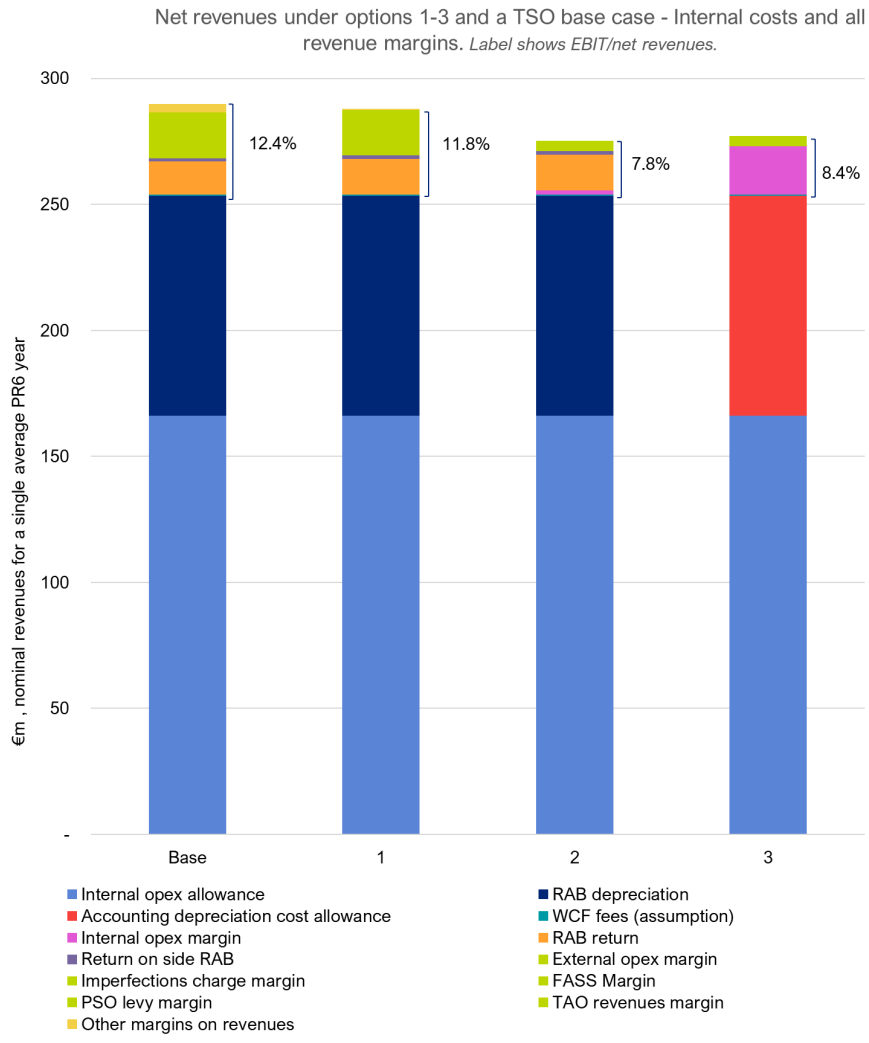
Source: CEPA analysis

5.4.4. Comparison of Options 1 to 3

Both the level of controllable revenues, as well as EBIT as a portion of net revenues, varies under each of our three proposed options as shown in section 5.4.1 to 5.4.3. We have summarised this in Figure 5.2.

Under all of the options, a large proportion of the TSO's controllable revenues come from the internal allowances which are the internal opex allowance and the depreciation of the RAB, and a small working capital facility fee estimate (passed-through). The remainder of the TSO's internal revenues come from the application of the margins, which varies under each option. The overall level of remuneration from the application of these margins is equivalent to the level of EBIT for each option.

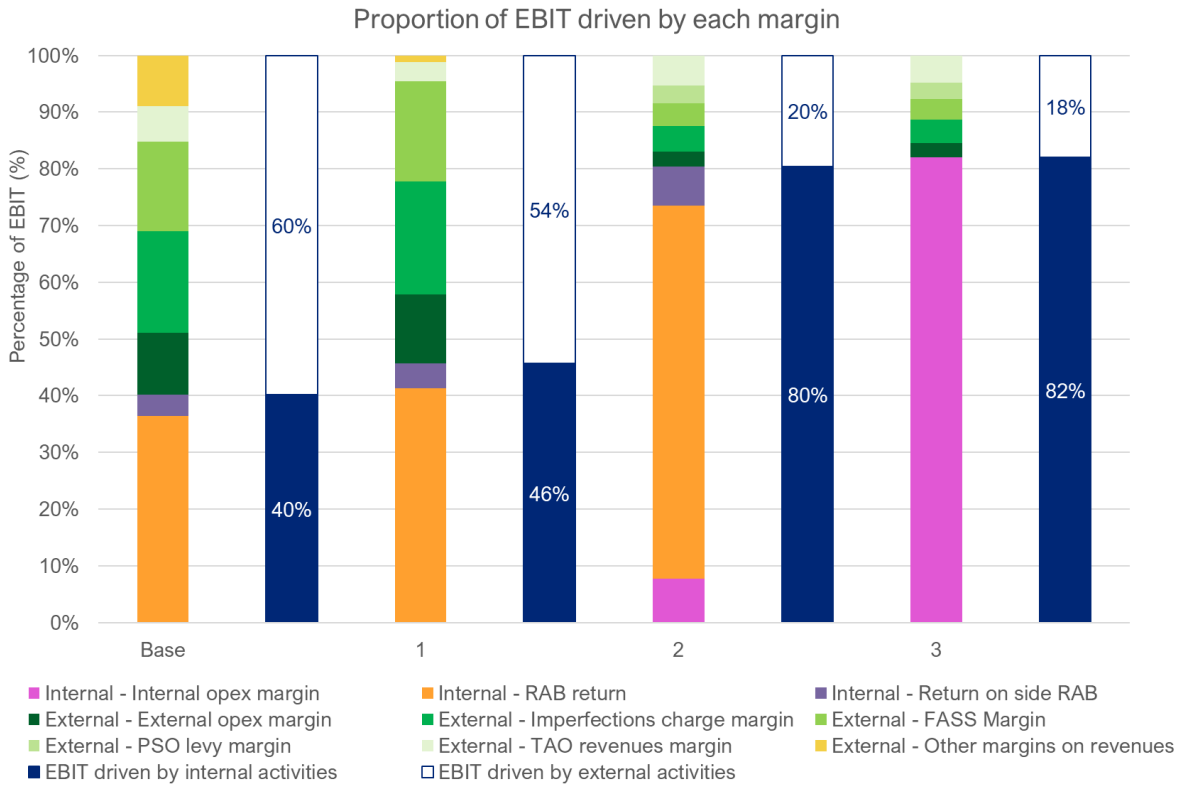
Figure 5.2: Net revenues and EBIT under proposed Options 1 to 3



Source: CEPA analysis of EirGrid business plan and CRU PR6 draft determination cost allowances.

Within the overall EBIT, we have also analysed the proportion of EBIT that is driven by different sources, RAB-based, internal and external margins under each of the three options and the base case.

Figure 5.3: Portion of EBIT driven by the different margins under each proposed option.



Source: CEPA analysis

Our preferred option, Option 2, drives a larger portion of the EBIT from the TSO's internal activities at 80% (an internal opex margin, return on the RAB) relative to the portion of EBIT driven by external activities. This is higher than the portion of EBIT driven by the internal activities under Option 1 and under the TSO's requested approach.

5.5. A COMPLETE ALTERNATIVE FOR EXTERNAL REVENUES?

There is, however, a wider question of whether the current approach, of having such large costs and revenues flowing through an asset-light company, remains optimal, even if all costs are ultimately recoverable.

Ofgem sought to shift transmission revenue risk away from the NESO when it was privately owned.[61] The UR also indicated that it is its intention to remove the TUoS collection agent risk from SONI. As was done for the NESO in GB, this would mean that the TSO remains the collection agent, but it passes on to the TAO only the revenue that is has actually collected as opposed to the projected revenues. This would then mean the TAO instead bears the management of the timing difference between forecast and actual revenue. This is different from the TSO ultimately receiving payment back from the industry by way of a k-factor.

In forthcoming price review periods where the financial, specifically liquidity, pressures on the EirGrid licensee business are expected to be significant, this may ultimately provide a more optimal allocation of risk and is a question that we believe the CRU should, at a minimum, consult on as part of the PR6 framework. This approach could be worked into any of the options.

[61] See https://www.ofgem.gov.uk/sites/default/files/docs/2020/07/tnuos_decision_letter_final_0.pdf

6. CONCLUSIONS AND RECOMMENDATIONS

In this report we have reviewed the financial characteristics of Ireland's electricity TSO, the regulatory framework the CRU has applied to the TSO in its two most recent electricity price reviews (PR4 and PR5) and have provided our views on whether this framework remains fit for purpose for PR6. This overall financial regulatory framework should provide allowances that reflect EirGrid's activities and the risks that it faces, such that an efficiently run entity would produce an appropriate and not excessive level of profit, enabling it to secure the finances that it requires.

In its statements and responses to questions, EirGrid purports to face a materially higher level of risk than we believe to be the case, because of the numerous pass-throughs that have been built into the CRU's approach, although we recognise that timing mismatches need to be financed. Bearing this in mind, we turn now to our conclusions and recommendations as regards the framework to be applied for PR6, the WACC and how CRU should approach EirGrid's financeability.

6.1. FRAMEWORK OPTION

Our recommendation is that of the three approaches outlined for PR6, Option 2 is the most appropriate.

Our conclusion is that the existing approach does not provide an appropriate financial regulatory framework for EirGrid for PR6. During PR5 it has been producing average returns, whether measured by EBITDA (averaging over 40% in the first three years) or EBIT (averaging over 20% in the first three years) (see table below), that are in excess of what might be expected from a price-controlled entity with limited risk. In the absence of larger dividend payments, this has helped drive the accumulation of large cash balances on EirGrid's balance sheet.[62] Their accumulation is also likely to have depressed overall ROCE below the WACC in some of the periods shown.

A significant driver of this, is the return that is earned on external costs – averaging 52% of EBIT p.a. in PR4 and 46% of EBIT p.a. in PR5 to date - that are ultimately passed through to customers, and over which EirGrid has minimal control. Although RAB-based revenues are projected to play a greater role in PR6, this revenue stream will continue to grow, with the level of remuneration effectively ratcheted-up, through the formulas applied to generate it.

This approach is very different to our proposed option. In this much more of the return would be from the value-add that EirGrid delivers through its core activities - network planning, etc; although the specific context of PR6 means that RAB-related returns are much greater than in PR5, or potentially PR7.

At the heart of this issue is the application of a financial regulatory framework that is best suited to capital intensive utility, in which there is a return on RAB, depreciation combined with an opportunity to outperform on opex and capex. Historically, in the case of EirGrid TSO, the opportunity to outperform on its internal cost allowance, has not been sufficient to deliver a high enough overall return. As a result, these additional revenue streams have been introduced to the framework, essentially margins applied to an assumed level of working capital involved in financing the "external" activities that EirGrid undertakes on the part of the industry. Over the years the revenues associated with these have increased as new revenue lines (such as the proposed FASS) have been added, and the parameters used to calculate the revenues, increased.

We would argue that the justification for the level of these revenues is a result of a lack of clarity and understanding of the severity of risks that EirGrid faces should they crystallise and over what constitutes working capital. As stated throughout this report, we would argue that EirGrid bears limited, if any, P&L or liquidity risk through undertaking these activities.

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[62] This level of profitability has been consistent over several price controls, especially at the EBITDA level, where benchmarks for "Business and Consumer Service Industry" (3 October 2016) have been in the range of 25% to 35% for A ratings and 10 to 15% for a B rating.

Table 6.1: EirGrid average annual returns and net revenues by price control period[63]

EirGrid net revenue *(€m, nominal)*	**PR4**	**PR5 to date**	**Residual PR5**	**PR5 total**	**PR6 projected**[64]
Internal cost allowance (incl. WCF fees)	49.0	65.8	85.6	73.7	237.1
Allowances on external costs	4.8	11.2	19.4	14.5	16.7
RAB	2.2	3.2	4.9	3.9	16.4
Depreciation	10.6	24.0	29.2	26.1	116.9
Side RAB	2.2	2.8	3.5	3.1	1.0
Sub-total	**68.8**	**107.0**	**142.6**	**121.3**	**388.2**
Other income	2.2	4.7	0.0	2.8	0.0
Total revenues	**71.0**	**111.8**	**142.6**	**124.1**	**388.2**
Internal costs (incl WCF fees) and depreciation	61.5	87.6	90.9	88.9	354.0
EBIT	**9.5**	**24.2**	**51.7**	**35.2**	**34.2**
Margin	*13.4%*	*21.7%*	*36.3%*	*28.4%*	*8.8%*
EBITDA	**22.0**	**45.9**	**57.1**	**50.4**	**151.1**
Margin	*31.0%*	*41.1%*	*40.0%*	*40.6%*	*38.9%*
Capital employed	**283.2**	**529.4**	**627.2**	**568.5**	**884.0**
ROCE	*3.4%*	*4.6%*	*8.2%*	*6.2%*	*3.9%*

Source: CEPA summary from EirGrid Financial Model as part of the EirGrid PR6 BP Submission

6.1.1. What does our recommendation look like?

In our view, PR6 should be used as an opportunity to review and clarify the logic of a number of the assumptions CRU has historically used to set the TSO's allowed margins, in light of EirGrid's expanding role offshore. As EirGrid has indicated, it requires a credit rating to finance its offshore programme, this is likely to increase the external scrutiny of the CRU's TSO regulatory framework and EirGrid's financing strategy, including how it meets its liquidity requirements.

Leaving aside, at first, the overall level of remuneration, our proposed approach aims to reduce the contribution of external revenues to the overall margin earned by EirGrid. It does this be applying a small charge (0.25%) to all external revenue and cost flows, as a management charge, a transparent approach that reduces the opportunity for double remuneration. The consequent reduction in returns is offset through increasing the allowance on internal opex costs, with retention of depreciation, return on RAB and side RAB.

[63] Whilst the ROCE is lower than EirGrid's nominal pre-tax WACC, given the high EBIT margins we would argue that this reflects too much cash being retained within the business, which has the impact of increasing the denominator in the ROCE calculation.

[64] As requested by EirGrid in their PR6 BPQ submission.

As a "for profit" entity, EirGrid should be managing risks that it is best placed to do so, with any failure in performance having an impact on its profitability. Because of the high level of anticipated investment during PR6, RAB-related returns, especially depreciation, will provide a much greater contribution to net revenue than was the case in PR5 and providing a suitable return, even excluding an internal opex margin. In future years, this will be less likely the case, in which event the internal opex margin may need to be increased to ensure that the TSO business is suitably compensated. Alternatively, it is also worth considering whether in PR7 there is a move away from a RAB-based approach to a straight margin (either including or excluding external revenues), which eliminates the complications that arise from volatile returns from depreciation. This margin would be derived by using a notional company ROCE approach, in which the overall level of EBIT would be calculated using this formula, and from which a percentage margin can then be derived by dividing through by net revenue.

Notwithstanding the arguments made throughout this paper as to why applying a WACC to the RAB may not be the most appropriate framework for the TSO, we do, however, recognise the need for the regulator to provide a framework that is stable over time, therefore placing some importance on preserving at least some elements of the existing approach. Against this, we would still suggest a thorough review of the financial framework is considered in advance of PR7 to reach a framework that reflects what drives the costs and profits of the TSO business. This includes obtaining clear and transparent evidence from the TSO on how it is using capital to manage risks to the business.

6.2. The WACC

We would recommend the following as regards the WACC:

i. At PR6, CRU should set **a separate allowed WACC for the TSO**.

   A central question to this is the benchmark notional entity assumed in the CRU's WACC calculation. In particular, is the allowed WACC defined for the TSO *licensee* as a whole – which would need to take account of EirGrid's expanding offshore role – or as a standalone benchmark entity for EirGrid's existing asset light TSO function only.[65] Over time, different assumptions may be more or less consistent with corporate finance theory and how EirGrid in practice approaches financing of its regulated functions.

   While we will give further consideration to this issue following feedback from companies following draft determinations, we currently propose the CRU set the allowed WACC for the TSO as though it was a separate notional activity / entity from EirGrid's new offshore activities.

ii. We consider that at PR6, CRU should compensate for the TSO's **relatively high operational gearing through the allowed WACC as opposed to a separate margin**, in contrast with the CRU precedent in its two most recent electricity price reviews. This is consistent with the approach that Ofgem and the UR have taken for recent NESO and SONI decisions and will provide a clearer benchmark for how CRU allows for operational gearing in its decisions.

6.3. Financial implications of preferred option

So far in this report we have looked at an average EBIT across all PR6 years, but in this section, we consider what the margins look like for each individual year of PR6. We conclude that the preferred approach shows a return that we consider sufficiently profitable and financeable for each individual year as well as in the round for PR6 as a whole.

We do highlight the following aspects that vary throughout the price control:

First, the profile of the €m size of the remuneration changes over the prices control. Which is largely driven by the return on the RAB component. However, the swings are not material and do not cause an impact on profit margins (as shown in Figure 6.1 and Table 6.2).

[65] With the allowed WACC for the OAO also defined separately.

Figure 6.1: Components of allowed return for each year of PR6

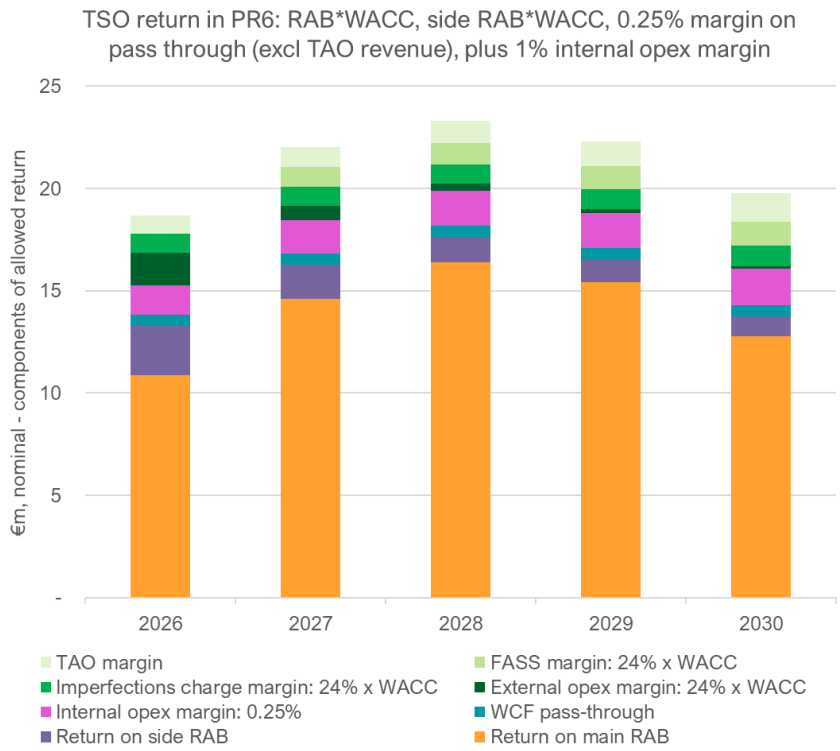


Table 6.2: EBIT and EBITDA margins for each year of PR6 - forecast

€m, nominal	2026 PR6	2027 PR6	2028 PR6	2029 PR6	2030 PR6	Average
	Forecast	*Forecast*	*Forecast*	*Forecast*	*Forecast*	*Average*
Internal cost allowance (excl. WCF fees)	143.6	163.4	169.9	174.4	180.0	166.2
Internal opex margin (1%)	1.4	1.6	1.7	1.7	1.8	1.7
Allowed return on external costs, pass through and TAO revenues (0.25%)	4.1	4.2	4.1	4.2	4.4	4.2
Return on RAB	10.9	14.6	16.4	15.4	12.8	14.0
Depreciation	53.5	76.8	97.1	106.7	101.5	87.12
Return on Side RAB	2.4	1.7	1.3	1.1	0.9	1.5
WCF fees	0.6	0.6	0.6	0.6	0.6	0.6
Net revenues	216.4	262.9	290.9	304.1	302.0	275.3
Internal costs[66]	197.7	240.7	267.5	281.6	282.0	253.9a
EBIT	18.8	22.1	23.4	22.4	19.9	21.3
Margin	8.7%	8.4%	8.0%	7.4%	6.6%	7.8%
EBITDA	72.3	98.9	120.5	129.1	121.4	108.4
Margin	33.4%	37.6%	41.4%	42.5%	40.2%	39.0%

Source: CEPA analysis based on draft determination cost allowances

[66] Internal opex plus accounting depreciation (set equal to RAB depreciation in line with EirGrid's model), and plus WCF fees.

In terms of profit metrics, set out in Table 6.3, we place most weight on the first EBIT margin, which is the EBIT over the net revenue (within EirGrid's control), and similarly place most weight on the EBITDA over net revenues. We place very little weight on the latter metrics which include in the denominator various pass-through costs and revenues.

Table 6.3: Profit measures for EirGrid TSO for the average PR6 year

Profit measure	PR6 values
Average **PR6 EBIT margins** on:	
Net revenues (%)	7.8%
Total revenues – excl. PSO and excl. Imperfections Charge (%)	1.4%
Total revenues – incl. PSO and incl. Imperfections Charge (%)	1.1%
Average **PR6 EBITDA margins** on:	
Net revenues (%)	39.0%
Total revenues – excl. PSO and excl. Imperfections Charge (%)	6.9%
Total revenues – incl. PSO and incl. Imperfections Charge (%)	5.5%

Appendix A REVIEW OF ASSET LIGHT TSO REGULATORY FRAMEWORKS IN OTHER JURISDICTIONS

In this appendix we review the regulatory frameworks that have been put in place by Ofgem and the UR for similar asset light TSOs as EirGrid. The CRU's approach of allowing the TSO additional margins for working capital demands and risks is not unique to EirGrid's TSO regulation. We have focused here on SONI and the ESO in GB, the determinations made by their respective regulators, and the CMA determinations.

Following an appeal of its price determinations in 2017, the CMA concluded there were three areas where SONI's allowed revenue, including the level of allowed return, was not appropriately matched to compensate SONI for the risks it faced in the UR's original price control determinations. Subsequent to the CMA's determination, the UR has proposed a series of further changes to the financial framework for SONI TSO.

In 2020, as part of its RIIO-2 process, Ofgem set its first price control for the NESO as a fully separate entity within the National Grid group where the financial treatment of the TSO assumed it was an asset light entity.

Below we review each of these regulatory precedents, before providing a brief summary of the key implications and learnings that we draw from these decisions.

A.1. CMA REVIEW OF SONI 2015-20 DECISION[67]

Following SONI's appeal of its 2015 – 2020 price controls, the CMA concluded that the UR made three errors in relation to ensuring the financeability of SONI over the 2015-20 period:

> "(a) The UR failed to provide an allowance for the Parent Company Guarantee (PCG) provided by EirGrid, and this was wrong as the amount assumed in the SEMO control, which was relied on by the UR, did not reflect the additional risks taken by EirGrid in providing a guarantee to SONI in addition to SEMO.
>
> (b) The approach to determining the level of return for SONI, in particular the way in which the UR applied a RAB/WACC approach, was wrong, as it did not remunerate SONI for the asymmetric risk it faced, and therefore it was not suitable for ensuring SONI's financeability.
>
> (c) The approach to determining the level of return for SONI, in particular the way in which the UR applied a RAB/WACC approach, was wrong, as it did not reflect the risks faced by SONI in respect of the management of industry revenue, and therefore it was not suitable for ensuring SONI's financeability."

Of particular importance for this report is the CMA's conclusions on the treatment of what it referred to as 'revenue collection risk' in its appeal decision. The CMA found that the UR was wrong in respect of its approach to remunerating SONI for the risks it faced in respect of the revenue collection functions which it performs on behalf of the industry. The UR had awarded an allowance of SONI's facility fee for a £12 million facility with a cross guarantee, and LIBOR plus 2% on any tariff year-end working capital balances. The CMA concluded that this would underestimate the total cost to SONI, concluding that:

> "*There are risks to SONI associated with these operations. The **costs may be higher than expected**, and there may be **consequential effects** on the costs for SONI of raising finance for its other activities. SONI is not remunerated for these risks in the UR's approach, which sought to remunerate SONI's direct costs.*"[68]

CEPA emphasis added.

The CMA also concluded that the adjustment that the UR had originally made for SONI's operational gearing in its allowed WACC did not take into account the other factors that had been identified by SONI in its appeal, i.e., the

[67] SONI Ltd vs Northern Ireland Authority for Utility Regulation – Final Determination (2017), available here.

[68] Ibid., para 12.115, p. 283.

collection agent risk and asymmetric risks SONI considered were associated with its Network Planning function and certain other functions. While the CMA upheld UR's original asset beta assumption of 0.6 (for context, it is generally currently assumed the asset beta for most regulated energy network businesses lies in the range 0.3 – 0.4) the CMA concluded further remuneration was required for these other activities and risks.

As part of the appeal submissions, the UR compared its original approach for SONI to that of the CRU for EirGrid at PR4, which we have summarised in Table A.1 below. However, the CMA concluded that the UR's approach was not sufficient to compensate SONI for the risks and financing costs it faced, and the CMA explicitly referenced the CRU's (then CER) decision to provide additional margins for EirGrid's management of its collection agent functions in defining its proposed remedy to the UR's original decision.

Table A.1: The UR's comparison of its TSO regulatory framework with that of CRU (then CER) - 2017

Framework element	UR's approach	CER's approach (PR4)
Remuneration of TSO activities	RAB x conventional network WACC Uplift to WACC for high operational gearing	RAB x conventional network WACC The UR noted that the CER's approach did not include the uplift to WACC for high operational gearing. The UR also noted that the CER had increased the level of margin on TSO 'collection agent' revenues to obviate the need for an uplift to the WACC in respect of high operating gearing for the 2016-2020 price control.
Remuneration of collection agent functions	Reimbursement of efficient financing costs • *Facilitate cost for bank standby facilities* • *Return for contingent capital i.e. PCG, which underwrites the function* • *Interest on K-factor adjustments (i.e. related t tariff year end timing difference balances) at LIBOR plus 2%* • *The ability of SONI to make a 'Dt'[69] application to remunerate it for interest on intra tariff year timing difference balances* • *Uplift to 'BAU' cost of capital*	EURIBOR interest on K-factor adjustments + margin allowance on relevant revenues – the UR noted that this margin also covered for the fact that the CER's interest on timing differences (K-factor) is at EURIBOR, which was then negative.

Source: CMA, UR and CEPA

The CMA concluded:

- Consistent with the approach CER (CRU) had adopted at PR4, an additional risk premium would be appropriate for the activities which SONI was required to handle, and this should be provided in the form of a margin on revenues, as the level of risk is related to the size of the revenues handled.
- The margin should be applied to each of imperfections charges, TUoS and other system services.
- Consistent with the CRU's approach in Ireland at PR4, the CMA decided to include in the scope of the remedy, SONI's share of the imperfections charges levied by the SEMO JV, which are based on the expected level of DBCs for the period. The CMA noted that the "*economic substance of the obligation on SONI is that it is bearing the risk and cost of managing SONI's share of the Imperfections Charges … through the TSO price*

[69] A licence revenue reopener term under its licence.

control, SONI should [therefore] *be allowed a margin to remunerate it for the risks it bears in handling these revenues and managing the risk.*"[70]

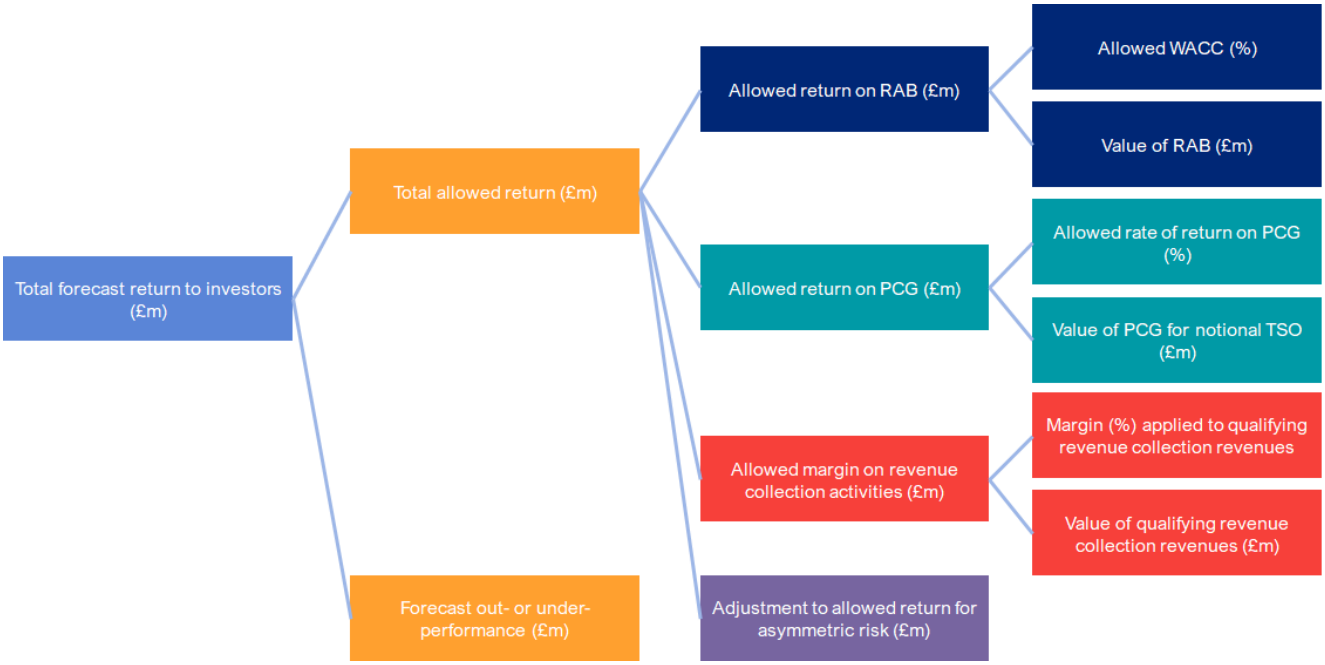
- After considering a range of evidence on the appropriate level of the margin to apply, the CMA concluded on a range of 0.25%–0.5% but noted "*given that we have excluded the lowest-risk cash flows we have erred on the side of caution and set a margin at the top of the range, at 0.5%, to apply to the remainder of the revenues that SONI collects.*"[71]

Ultimately, the CMA in reaching its decision noted that "*SONI faces limited underlying credit risk or financial risk, since the risks relate primarily to timing differences between revenues and costs … [but] these revenues and associated costs are very high relative to SONI's core price-controlled business, posing a significant challenge to its financing*". In particular, the CMA highlighted that SONI faced a series of highly uncertain timing risks and financing cost uncertainties that would not have been adequately remunerated through the UR's original decision.

A.2. SONI 2020-25 POST CMA APPEAL

Following the CMA appeal, the UR permitted four elements of return on capital for SONI in its 2020-2025 price control determination, as illustrated in Figure A.1.

Figure A.1: Components of Allowed return for SONI following CMA appeal for the 2020-25 period



Source: UR (2024) SONI Price Control 2026-31: Final Approach Decision

These four components were:

- allowed return on the RAB;
- allowed return on the PCG;
- allowed margin on revenue collection activities; and
- an adjustment to allowed return for asymmetric risk.

[70] Ibid. p. 292

[71] Ibid. p. 294.

The allowed WACC involved a beta that reflected higher operating leverage for the asset light TSO. The cost of debt was based on a 2019 term loan and specific characteristics of SONI, with no allowance provided for any small company premium or a separate transaction costs allowance. The WACC was equal to 4.03%.[72]

EirGrid, as owner of SONI, were required to provide a £10m Parent Company Guarantee (PCG) under the licence. This is akin to a form of equity finance, for which the UR provide compensation – through a nominal 1.75% multiplier – based on the conclusions of the CMA 2017 appeal.

The margin on revenue collection activities was set at 0.5% against relevant revenues. The UR noted as part of its decision an intent to remove collection risk from SONI after FDs.

The UR also applied a margin of 3% applied to qualifying costs up to a given cap (£4.5m) for cost disallowances. Again, this was also based on the CMA 2017 appeal findings.

A.3. SONI 2026-31 FRAMEWORK[73]

In May 2024, the UR released its Final Approach document for the 2026-31 period for SONI.

The UR set out its expectations that the approach from the CMA appeal would largely be retained, with inclusion of an asymmetric risk allowance, a margin for other allowances (after transfer of the revenue collection role to NIE Networks), compensation of 1.75% for the Parent Company Guarantee and a cost of capital applying to the RAB. However, the UR noted that the percentages and allowance for asymmetric risk and the rate of 1.75% on the PCG will be "re-examined", and that the level of the margin on transmission revenues will also be reviewed (pending possible transference of risk from SONI to NIE).

A.4. OFGEM ESO 2021-2026 DECISION[74]

Ofgem's approach for setting appropriate financial returns for the System Operator – ESO – in the RIIO-T2 determination was centred on a return-on-capital approach.

This was informed by the approach applied in the CMA's 2016 energy market investigation and was perceived to better reflect the underlying costs and risks of finance. The quantum of revenues collected was not seen to scale linearly with the underlying costs and risks in the same way. The cost of capital for the ESO was differentiated to that of the onshore Transmission Owners[75], with a higher asset beta allowed to reflect the ESO's higher operational gearing[76], and a cost of debt that reflected a bank facility borrowing rate; namely SONIA + 180bps[77].

A key contextual point was that, following Ofgem's Draft Determinations, TNUoS revenue collection risk, that was originally expected to be part of the ESO's activities that would require additional remuneration under its price controls consistent with SONI, was passed to the onshore TOs. Ofgem also included a pass-through component to provide funds (for efficient and observable costs) in relation to a WCF.

Ultimately, Ofgem included £4.1m in relation to risks associated with the ESO's revenue collection role and £1.5m in relation to asymmetry and other relevant risk claims as additional remuneration to the allowed return on the RAB:

- For the revenue collection role, it was considered that capital required could be 10% equity and 90% debt.

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[72] UR (2020) SONI Price Control 2020-2025 Final Determination. Available online

[73] UR (2024) SONI Price Control 2026-2031 Final Approach Decision. Available online

[74] Ofgem (2021) RIIO-2 Final Determinations – Electricity System Operator (REVISED). Available online

[75] Equivalent to the TAO in Ireland.

[76] Consistent with the CMA determination for SONI, although Ofgem allowed a lower asset beta than 0.6.

[77] This reflected the 3-year average asset swap margins on iBoxx 5-7yr and 7-10yr Utilities indices, the 3yr trailing average of 6m LIBOR vs SONIA, and 10bps for debt transaction costs.

- The return on debt assumed was equal to expected WCF costs of 0.45%, with the equity included at the level set in the determination.
- The total capital for the revenue collection role was estimated at £165-260m.

- For asymmetric risk, Ofgem assessed there was a maximum disallowance risk of 2.5% of the RAB, i.e. £8m.
  - The approach considered slight positive asymmetry from the incentive regime and used this view in setting a range of zero (low) and £8m (high), with a 20% chance of facing a penalty. These costs were provided directly.

A.5. PRECEDENT OF TSO COST OF CAPITAL

Table A.2: Regulatory precedent in Ireland, Northern Ireland and GB for the System Operators.

		Ireland PR5 (2021-25)	SONI (TSO) (2020-25)[78] Pre CMA	ESO GB[79,80]
WACC allowance		Real, pre-tax WACC.	CPIH-real WACC	Real vanilla WACC
Cost of Equity	RFR	Estimated using 10-year Index-linked German government bond yields (considered to have negligible default risk)	Based on CMA range (Indexed allowance based on forward curves for ILG rate and regulatory precent)	Index-linked bonds, cross checked with nominal gilts and SONIA saps (to reflect outturn ILGs, not fixed like Ofwat)
	CAPM-ERP / CAMP-TMR and Asset beta	CAPM-TMR approach used, TMR based on realised equity market returns (adjusted and un-adjusted for one-off factors unlikely to be repeated), and forward-looking Dividend Growth Models (DGM).	1) historical ex post returns, 2) regulatory precedent	Ofgem judgement using: Draft Determination CEPA range; CMA findings from PR19 appeals; NATS En-route Limited appeal; SONIS's asset beta.
		European comparators, plus "pure play" companies with energy activities. OLS regression on daily returns. 2-year betas. Spot and 2-year trailing average.	GB Water sector, Ofgem ESO, NERL and Openreach	
	Inflation	Deflated to real terms using German inflation (for the cost of debt and the risk-free rate) and eurozone inflation (for the TMR).	TMR estimates calculated using returns under both CED/CPI and CED/RPI inflation series	
Cost of debt	Overall	Benchmark for a notional efficient operator. Assume new debt would be fixed-rate bonds (so focus on EUR fixed-rate bonds). Construct trailing averages match assumed issuance profile (including rolling the trailing averages forward over the PR5 period to incorporate new debt issuance).	Yields on long-term corporate bonds.	Outturn SONIA plus fixed spread element with annual true-up. Fixed element (180bps) is the sum of: • *the average of: the 3-year trailing average asset swap margin on the 5-7yr iBoxx Utilities index; and the 3-*

[78] UREGNI Final Determination for SRP20 – Technical Annex 5 Risk and Return.

[79] Ofgem (2021) RIIO-2 Final Determinations – Finance Annex (Revised)

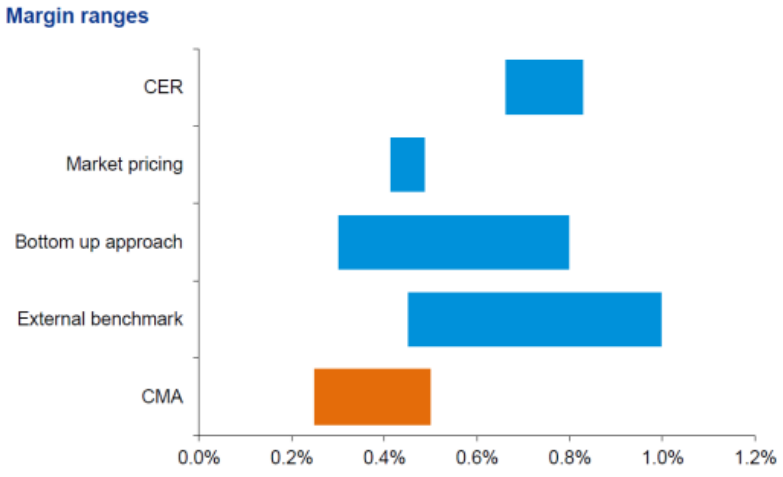
[80] Ofgem (2021) RIIO-2 Final Determinations – Electricity System Operator (Revised)

		Ireland PR5 (2021-25)	SONI (TSO) (2020-25)[78] Pre CMA	ESO GB[79,80]
				year trailing average asset swap margin on the 7-10yr iBoxx Utilities indices, plus • *the 3-year trailing average of the differential between 6m LIBOR and overnight SONIA, plus transaction costs, of 0.10%*
	Issuance costs	Assume a 10-20 basis points allowance for issuance costs as part of the cost of debt	60 basis points requested by SONI, but deemed not necessary by UREGNI	6bps for transaction costs; 4bps for Liquidity/RCF costs; 10bps for cost of carry; 5 bps for CPIH issuance/basis mitigation allowance.
	Small company premium	Considered but not given, no strong evidence that the absence of such an allowance is likely to prevent EirGrid from financing its activities in PR5	Requested by SONI, but deemed not necessary by UREGNI	6bps for less frequent issuance for small companies (SGN Scotland, NGN, WWU)
Gearing		European comparators, plus "pure play" companies with energy activities, spot, and 2-year trailing average gearing rates.	40% notional gearing assumption, based on regulatory precedent, (30% for NERL and BT Openreach), consideration of SONIS actual gearing, based on RORE analyses and assessment of downside risk, size of equity buffer and CMA determination.	55% (as opposed to 60% for other GB network companies)
RAB inflation		Replacement cost approach, with historical costs indexed for inflation, based on the Irish HICP.	RAB indexation based on CPIH.	RAV based on historical cost approach, full indexation to CPIH.
Other margins			Post CMA decision: Allowed return on parent company guarantee (PCG) Margin on revenue collection activities Adjustment to allowed return for asymmetric risk	Pass through on Working Capital Facility (£m amount) separate and in addition to WACC*RAV.

Appendix B CMA EVIDENCE BASE FOR SONI MARGINS

The CMA in its final determination for the SONI appeal referenced a range of evidence, submitted by SONI, relevant to defining a range for the appropriate margin on the revenues and cashflows that SONI manage in its cash collection agent role. This evidence base is summarised in Figure B.1 below.

Figure B.1: SONI's depiction of ranges for the level of margin on revenues collected



Source: SONI

SONI considered that the CMA should consider the following external benchmarks in its decision: invoice financing (often referred to as factoring services); custodian services (services, where banks handle payments and funds on behalf of clients; bottom-up pricing (from SONI's banking advisors of the cost of maintaining a larger revolving credit facility to manage the risks); estimates from relationship banks for a working capital facility (the market pricing benchmark in the figure above); and SONI's overall revenue margin to an external benchmark which it derived from an assessment of the margins of other regulated companies. SONI also provided submissions of the underlying risks associated with the cash flows which the CMA might apply a margin to as illustrated in Figure B.2.

Figure B.2: SONI's depiction of ranges for the level of margin on revenues collected

	TUoS	CAIRt	DBC	Other At
Scale (average expected per annum 2015-20)	£36m	£15m	£37m	£35m
1) Potential for costs to increase	Medium	Low	High	High
2) Transactional and administrative cost (the market would not provide these services for free)	Medium	Medium	High	High
3) Premium for counterparty risk (the government is not the counterparty).	Low	Low	Low	Low
4) Direct cost of funds	Medium	Low	High	Medium
5) Cost of cross-guarantee	Low	Low	Medium	Low
6) Cost of equity buffer	Medium	Low	High	Medium
7) Implications for overall cost of financing for SONI, including impacts on covenants and increases in gearing	High	Low	High	Medium
8) Revenue uncertainty	High	Low	Medium	Medium

Source: SONI

The CMA concluded that it was too difficult to read across margins from different businesses, all of which have greater risk than SONI in terms of volume risk, exposure to competition or credit risk. However, it concluded that as a general principle, invoice discounting (factoring) appeared a good comparator although in SONI's specific context there was a risk of a double remuneration given SONI's allowances include an opex cost for the administration of activities that may be compensated through the factoring benchmarks provided. The CMA noted that SONI's other benchmarks overlapped with the range that it ultimately adopted in its decision.

Appendix C REGULATORY PRECEDENT ON PROFIT MARGINS

Table C.1: Summary table of profit margins used in comparator economic regulatory frameworks

Regulator	Sector	When	Description
Energy			
CMA and UR	Electricity system Operator (SONI)	2020-2025	Allowed margin on revenue collection activities for 2020-25 period is **0.5% of revenues** (as per 2017 CMA determination).[81] Also permitted is an allowed margin on PCG of 1.75% per year on size of guarantee.
Ofgem	Energy Retail	2018-2023	**1.9% allowed EBIT margin.** The 2015 energy retail market review by the CMA referred principally to the EBIT margin, recognising the challenges in measuring elements of the capital base. Following this until 2023, the Ofgem set price cap incorporated a **flat 1.9% EBIT** margin allowance. Ofgem have now (as of 2023) moved to a margin that is partially variable and partially fixed (expanded on the table below).
UR	Electricity Retail (PowerNI)	2014-2024	**2.2% margin on allowed revenue.** A margin as a % of forecast revenue to cover working capital financing costs. The Licence has allowed 30% of the operating cost + margin term to vary with the number of customers. For SPC25, considering allowing 75% of it to be able to vary with customer numbers and market price of energy (expanded on below the table).
UR	Gas Retail (SSE Airtricity and FES)	SPC17 to SPC23	**2% margin on allowed turnover.** Maximum average price per unit of gas is limited by a calculation in the licence. This includes a margin.[82] During SPC17, aim was to identify what an appropriate margin would need to be in order for the two gas companies to be in a position to earn a profit equivalent to the amount of financial capital in a supply business multiplied by the cost of that capital. 2% was agreed as the appropriate target. [83]
Margin regulation in other utilities			
Ofwat	Water Retail (household)	2014 to present	**EBIT margin of 1.0% to 1.5%.** As there is no RCV associated with the retail price controls, the retail margin gives a return to investors based on the total costs of each retail price control. This is through an EBIT Margin, which was set at

[81] UR (2020) SONI price control 2020-2025 Final Determination. Available at: https://www.uregni.gov.uk/files/uregni/media-files/Final%20determination%20main%20body.docx.pdf

[82] NIAUR (2022) Energy Licence Modification Article 14 Decision. Available at: https://www.uregni.gov.uk/files/uregni/documents/2022-10/271022%20firmus%20energy%20Licence%20Modification%20Article%2014%20Decision.pdf Schedule 1, page 3.

[83] UR (2021) Gas Retail Supply Price Controls 2023 (SPC23) – UR Information Note. Available at: https://www.uregni.gov.uk/files/uregni/documents/2021-11/spc23-information-note_v1.0.pdf

Regulator	Sector	When	Description
			1.0% at PR14 and PR19; and 1.5% for PR24 final determination.[84] This margin is intended to cover the cost of financing fixed assets, working capital, and it also provides compensation against systematic risk. The margin increased to 1.5% to reflect the assessment that the sector's working capital needs have increased and the cost of financing this has also gone up. For Business retail, due to competition in the sector, the expected EBIT allowance is higher due to additional risks. PwC recommended to Ofwat a non-household net EBIT margin of 1.0% to 4.0% to be set for PR14, noting actual margins would likely be lower. [85]
Ofgem	Smart Meters (DCC)	2013 to present	**15% Margin on Internal Costs.** Although the % is not specified in the licence and is reviewed annually, 15% was the value at the time of licence award. [86] 15% was used in FY 22/23. Following a margin adjustment process each year, DCC then have to pay back to customers any over recovery.
CRU	Electricity/Gas certificates (SSB)	2023 to present	Bidders bid in a **target EBIT margin** as part of their TRS allowance. The winning bidder bid a target EBIT margin (not necessarily the lowest). Sharing occurs on profits earned outside of this.
What profit margins are focused on elsewhere and why?			
WICS	Water Retail (Business Stream)	2006-2010	**10.2-11.0% retail margin** as a percentage of revenue[87]
Ofcom	BT	2007 to 2015	Ofcom found EBIT margins per voice only telephone line increased to **34-42%** in the period (£8-10) [88]

[84] Ofwat (2024) PR24 Final Determinations – aligning risk and return. Available at: https://www.ofwat.gov.uk/wp-content/uploads/2024/12/PR24-final-determinations-Aligning-risk-and-return-1.pdf

[85] PwC prepared for Ofwat (2014) Water retail net margins. Available at: https://www.ofwat.gov.uk/wp-content/uploads/2014/01/rpt_com20140214pwcnetmargins.pdf

[86] Ofgem (2023) DCC Price Control Consultation. Available at: https://www.ofgem.gov.uk/sites/default/files/2023-11/DCC%20Price%20Control%20consultation_Regulatory%20Year%2022_23.pdf

[87] WICS (2005) Strategic Review of charges 2006-2010: The Final Determination https://wics.scot/system/files/publications/2006-10%20final%20determination.pdf page 369 table 35.34

[88] Ofcom (2022) Statement: 2022 Review of Postal Regulation. Available online

Regulator	Sector	When	Description
Ofcom	Royal Mail	2022	Ofcom's monitoring of the Universal Service Obligation in the post sector used an **EBIT margin** for assessing financeability and profitability.[89] Ofcom considers **an EBIT margin of 5-10%** provides medium to long-term financial sustainability.[90]
FCA	Asset management	2010 to 2015	The Financial Conduct Authority (FCA) reviewed the **EBIT margin** in their Asset Management Market Study, also presenting information on the **ROCE** approach.[91] The FCA compared **operating profits** of a sample of firms and found an average **of 36%,** higher than the FTSE All Share Index (16%).
CMA	Retail Banking Investigation	2012-2014	The CMA's retail banking investigation used secondary evidence on the **return on equity,** as bank's capital is provided by customers not outside investors, therefore including such deposits was felt to be inappropriate.[92] RoE for five largest banks in 2012-2014 ranged from 3% to 19%.
CMA	Investment Consulting	2010 to 2016	The CMA in the Investment Consultants Market Review used the **EBIT margin**, discussing that estimating the capital employed by the businesses would be very resource intensive and not proportionate.[93] The CMA found the **operating profit** of investment consultancy and fiduciary management was **20-30%.** This was lower than margins the FCA found for asset managers but higher than the FTSE All Share Index.
CMA	Private motor insurance investigation	2012	The CMA used **EBIT** to assess different parts of the sector and value chain – for example, the large PMI companies, price comparison websites, core PMI activities versus other activities and PMI in Great Britain versus Northern Ireland. In respect of large PMIs companies, the CMA found that they had **not earned excessive profits.**

[89] Ofcom (2018) Amendments to the Universal Service Provider Access Condition in relation to the margin squeeze control, November 2018. Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0021/125922/Margin-squeeze-2018-statement.pdf

[90] Ofcom (2022) Review of Postal Regulation – Statement (18 July 2022) para 3.33 https://www.ofcom.org.uk/__data/assets/pdf_file/0023/240971/Statement-2022-Review-of-Postal-Regulation-Statement.pdf

[91] Financial Conduct Authority (2016) Asset Management Market Study Interim Report, November 2016. Available at: https://www.fca.org.uk/publication/market-studies/ms15-2-2-interim-report.pdf

[92] CMA (2015) Retail banking market investigation final report, Appendices 1.1 to 6.9. Available at: https://assets.publishing.service.gov.uk/media/57a9c57a40f0b608ab00000c/retail-banking-final-report-appendices-1.1-to-6.9.pdf

[93] CMA (2018) Investment Consultants Market Investigation, Working Paper Financial performance and profitability. Available at: https://assets.publishing.service.gov.uk/media/5ae0a40a40f0b60a9a985c2d/icmi_financial_and_profitability_analysis_working_paper.pdf

Regulator	Sector	When	Description
CMA	Heat networks	2014 to 2016	CMA found levels of profitability for companies it analysed were neither excessively high or low, and that most, but not all, companies had been profitable. The **average EBIT margin generated by these companies was 7%,** although there was a wide range from -20% to +30%[94]

Source: CEPA review of regulatory determinations

[94] CMA (2018) Heat Networks Market Study – Final report, page 57. Available at: https://assets.publishing.service.gov.uk/media/5b55965740f0b6338218d6a4/heat_networks_final_report.pdf

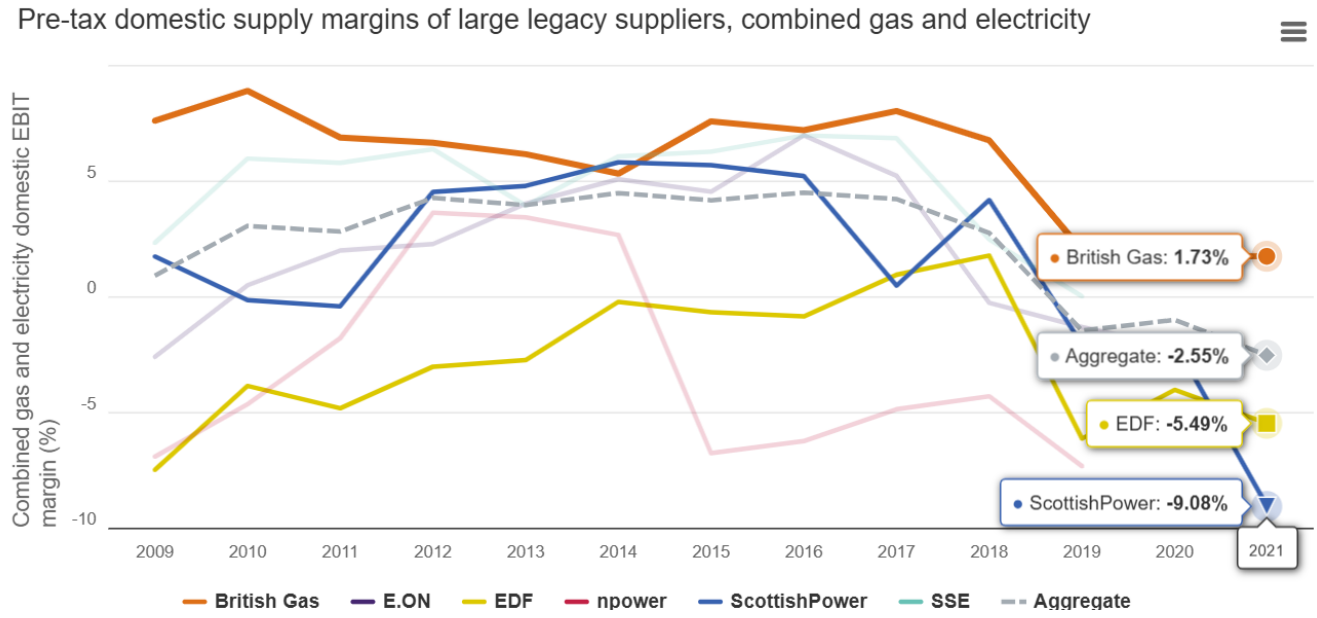
C.1. Energy Sector

Ofgem's retail market price cap margins[95]

Energy retailers are asset-lite utilities that operate in a regulated market. Energy retail companies in GB are subject to a price cap set by Ofgem for customers on a standard variable tariff. The price cap is based on a flat 1.9% EBIT margin (at least between 2018 and 2023).[96] This was based on the CMA's 2016 analysis of what a normal rate of return should be in the retail market. This percentage is applied to the sum of the cap allowances for wholesale costs, network costs, policy costs, operating costs, payment method uplift, and an adjustment allowance. This means that the EBIT allowance scales with overall cap levels (excluding headroom, VAT and the EBIT allowance itself). The EBIT allowance level is updated quarterly when changes to the cap are announced.

As part of the Retail Market Review, Ofgem produced weekly Supply Market Indicators for the retail electricity and gas supply industry in GB. This showed a "Net margin" and a 13-month rolling average of the net margin. This reporting has been paused since 2021 but a summary up to 2021 is provided below.

Figure C.1: EBIT Margins of combined electricity and gas suppliers in GB[97]



Source: Ofgem Retail Market Indicators- Price and Profits section

Ofgem has recently run a consultation on calculation of the EBIT margin. Ofgem's decision was that instead of a flat EBIT margin, it would instead calculate a hybrid allowance such that there is a fixed component, that does not change when the cap is updated, and a variable component that scales with the overall cap level.[98] This came into place in October 2023.

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[95] CMA (2015) Energy market investigation, Final Report. Appendix 9.9: Approach to profitability and financial analysis. Available at: https://assets.publishing.service.gov.uk/media/576bcc14e5274a0da9000080/appendix-9-9-approach-to-profitability-fr.pdf

[96] Ofgem (2023) Price Cap - Statutory Consultation on amending the methodology for setting the Earnings Before Interest and Tax (EBIT) allowance. Available online

[97] Available at: https://www.ofgem.gov.uk/retail-market-indicators . Accessed 06/02/2025.

[98] Ofgem (2023) Amending price cap methodology for Earnings Before Interest and Tax (EBIT) allowance decision. Available at: https://www.ofgem.gov.uk/decision/amending-price-cap-methodology-earnings-interest-and-tax-ebit-allowance-decision

UR and Power NI[99]

Power NI's maximum allowed unit price of electricity (MSt) for domestic customers is made up of a number of components.

$$M_{St} = G_t + U_t + S_t + K_{St} + J_t + E_t - D_t$$

This includes Gt the cost incurred in the purchase of electricity, Ut covering transmission and distribution costs, Kst the k-factor adjustment for under/over recovery from the previous year, Jt covering NIRO (renewables obligation), Et are pass through costs, and Dt is to share costs between licensee and consumers for meeting renewables obligations. The financial focus of the price control will be the determination of the St term of the tariff formula. This St term determines the operating costs and margin which Power NI can recover through its tariffs.

Prior to 2017, the margin was set at 1.7%.[100]

In 2014-2017 it was increased 0.5% to 2.2%. Power NI argued that this level of margin is now insufficient to compensate the business for the increased risk it faces in a competitive market. The margin is being reviewed for SPC25, in its submission, Power NI represented the need for a 4.6% margin.

It is accepted that the size of the margin would vary with the number of customers and the Market Price for Energy (MPE). Therefore, UR are proposing for SPC25 to permit 75% of the St term to vary with customer numbers and MPE, with 25% being fixed.[101]

[99] UR (2024) Power NI Supply Price Control 2025. Available at https://www.uregni.gov.uk/files/uregni/documents/2024-03/Power%20NI%20SPC25%20Final%20Approach%20March%202024.pdf

[100] The margin is commonly referenced as 1.7% and later 2.2% but it actually varies with the total customer numbers (smaller % as customer numbers increase).

[101] UR (2024) Power NI Supply SPC25 Price Control Draft Determination https://www.uregni.gov.uk/files/uregni/documents/2024-12/SPC25%20Power%20NI%20Draft%20determination_0.pdf

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