Finance Annex

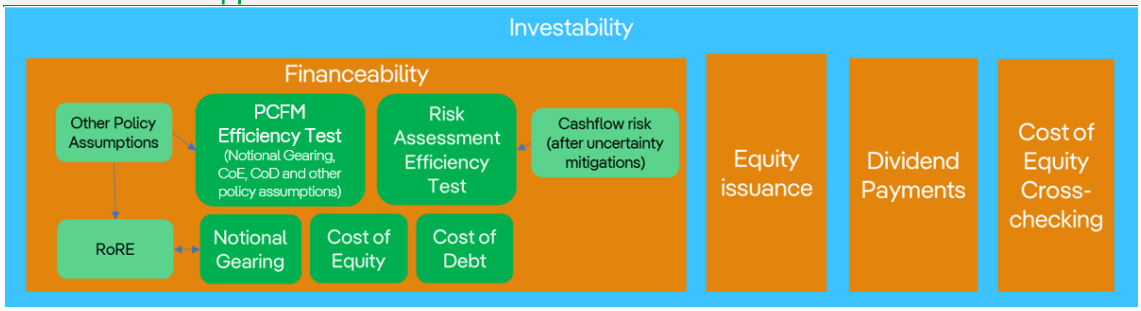
SP Energy Networks
RIIO-T3 Business Plan

SP Energy Networks

Structure & Objectives of this annex

In Section 1:	we signpost to the relevant sections to fulfil Ofgem's requirements
In Section 2:	we set out the executive summary of this annex, including: - Our financing proposals in summary. - How we are responding to customers' interests. - The changing risk landscape and how this informs our proposals.
In Section 3:	we provide detailed justification for the overall financial package used in our business plan. Firstly, we set out our framework for testing investability, which is the overarching concept critical to promoting investor confidence and facilitating the inwards flow of debt and equity financing to deliver the optimal RIIO-T3 outcomes for customers. This section then covers: **Financeability:** • A risk reflective allowed Cost of Equity (CoE) based on economic and financial principles. • A Cost of Debt (CoD) allowance sufficient to make debt repayments. • A 'fair bet' for investors - Setting out the range of risks in ensuring a 'fair bet' in our RoRE analysis. - How we propose these risks can be addressed within the financial and regulatory framework. - Consideration of different gearing levels including cost and benefit trade-offs of different gearing assumptions. • Ensuring an investment grade credit rating, resilient to plausible external shocks. • A financeability assessment on notional and actual company • Static sensitivity testing, prescribed by Ofgem. • A comprehensive probabilistic risk analysis to test our plan against external shocks. **Cross-checks to other available investment opportunities** **Remuneration for the cost of raising investment.** **Reasonable dividend payments**
In Section 4	we set out our financial policies - dividend and equity issuance policies.

Our structured approach can be illustrated as follows:



1. Ofgem Requirements

1.1. Compliance with Ofgem's BP Guidance

Table 1-1 - Business Plan (Annex) Requirements

Ref	Requirement	Description	Section
BPG 7.2 & 7.4	Additional analysis	Include any additional analysis such as financeability or investability, scenarios, or tables of values – as additional files (if there are workings)	The following 3 annexes: Economic Insight (3.3) and our two financeability reports from NERA (3.4.3)
BPG 7.9 & BPFM G 1.21	FBPOutputs tab	To be included in Finance Annex as appendix tables	See appendix
BPG 7.9	Stress tests (optional)	Results of any stress tests that the licensee considers to be appropriate.	3.6 and 3.7
BPG 7.9	SP Energy Networks target ratings	The company's target ratings (including consideration of the trade-offs of different target rating levels) and the key financial ratios and qualitative factors used to assess maintenance of those target ratings.	3.4.3
BPG 7.9	Ofgem prescribed stress tests	The results of any future Ofgem-prescribed set of common stress test scenarios (as described in the SSMD) with results clearly explained.	3.5
BPG 7.9	Capitalisation and regulatory depreciation rates	A clear explanation of the company's proposal and the basis for these proposals and a well-evidenced demonstration that it is in customers' interests	3.4.5
BPG 7.9	Revenue alteration	Any proposed alteration of the profile of revenue and the purpose and level of support for the proposed profile.	N/A
BPG 7.9	Dividend and Equity issuance	Clear explanation of the company's dividend and equity issuance policy and strategy and how these influences assumptions in the BPFM	4
BPG 7.10a	Risk assessment	A clear understanding and assessment of the financial risk in the business plan and evidence of risk management measures.	2.3 and 3.4
BPG 7.10b	CoC	Justification for any proposed company-specific alternative cost of capital estimates, including a well-evidenced demonstration that it is in customers' interests.	3.3.1
BPG 7.11	Board assurance	Business plans should also include licensee Board assurance that the Board is satisfied that the licensee is financeable on both a notional and actual capital structure basis.	Board Assurance Annex
BPG 7.11	Identified financeability challenges	If any financeability challenges are identified, the Business Plan should clearly set out: - details of what these financeability challenges relate to (for example, servicing equity or debt); - what management efforts or mitigating actions could reasonably be made to address them; - what regulatory measures should be taken alongside the management efforts or mitigating actions; - that all other applicable measures to aide financeability have been considered; and - that statements and conclusions are supported by evidence and justification.	3.5.3

2. Executive Summary

2.1. Summary of Finance in RIIO-T3

This section provides an overview of the specific financial assumptions inherent to our business plan, a high-level emphasis on our revenues, and an understanding of how we have developed our business plan with respect to Finance. Much of our Finance Annex draws from complex detailed information from further annexes, often supported by economic consultants, academics, and further third-party authors.

Table 2-1 - Financial Proposals of Ofgem and SP Energy Networks

	Assumptions:		
	Ofgem 60%	**Ofgem 55%** (Implied)	**SP Energy Networks** (at 55% gearing)
RFR	1.18%	1.18%	1.54%
TMR	6.75%	6.75%	7.25%
Beta	0.64-0.89	0.58-0.80	0.91-0.95 [1]
Cost of Equity (real, post-tax)	4.57%-6.35%	4.24%-5.82%	6.57% [2]
Cost of Debt (real, pre-tax)	3.38%	3.38%	4.20%
Notional Gearing	60%	55%	55%
WACC (real, vanilla)	4.20%	4.11%	5.27%
Financeability Adjustment	N/A	N/A	£494m (NPV neutral cash measure)
Capitalisation Rate	Natural rate	Natural rate	Natural rate (92.7%)
Dividend Yield	3%	3%	3%
Credit Rating	Investment grade – no specific rating suggested	Investment grade – no specific rating suggested	BBB+/Baa1

Ofgem's proposals above may be insufficient in both allowing SP Energy Networks (SPEN) to be financeable going forward and to be appropriately investable for our forecast investment in the RIIO-T3 period. This annex provides a detailed account of what Ofgem's proposals are for the electricity transmission sector, and where they need to be developed further to arrive at SPEN's proposed view, considering all of the various risks and opportunities that SPEN faces in RIIO-T3, and incorporating the methodologies which we believe ensure *investability*.

Our overriding objective is to deliver an efficiently financeable and investable plan. This plan will offer an adequate return to investors at the lowest possible cost to consumers, while also enabling optimal levels of required investment in RIIO-T3 to maximise the value our plan brings, outweighing the cost to customers of making the investment.

[1] On 60% gearing basis.
[2] On a flat WACC basis for 55% notional gearing.

2.2. Responding to customers interests

For our plans and finance proposals to be in the best interests of our customers, we must first understand what our customers' priorities are. We then demonstrate how our plans and proposals align with our customers' interests and represent value for money. We undertook customer surveys with Sustainability First and National Grid Electricity Transmission to gauge priorities for investing in transmission infrastructure. Most people favoured front loading investment versus backloading, and more so when informed of the pros and cons, and costs. This tracks with the instinctive support people had for investing in infrastructure and taking bolder and faster approaches to solving UK problems.

Affordability: While TNUoS bills increase as a result of increased investment (estimated at +£6.47 on average over RIIO-T3), independent analysis from the Centre for Energy Policy at the University of Strathclyde suggests customers' real household income would increase by £53.48 p.a. by 2030 as a result of making this investment (versus not making this investment). Further, the NESO Clean Power 2030 report suggests, **as a result of all TO investment, customers could save over £167 per annum in constraint costs by 2030, versus where this investment is not delivered.**

Connecting more renewable generation & energy independence: Our investment will facilitate the connection of 19GW of additional renewable energy and allow this energy to be transmitted and used. More homegrown British energy will leave us less reliant on the volatile global market. Less exposure to global markets means we are more insulated from global price shocks, resulting in more stable bills.

Protecting the environment: The UK government emphasises that the electricity grid is crucial for achieving net zero emissions. The independent NESO have clearly set out the network required to achieve net zero – our plans align with this.

Economic opportunities: Independent analysis from the Centre for Energy Policy at the University of Strathclyde suggests UK Gross Domestic Product (GDP) **would have a sustained benefit of £2bn p.a., and additional jobs of 11,459 over the long term** as a result of our investment, compared to where this investment is not delivered.

The NESO has set out the optimal set of projects to be delivered to support each of these issues. Our plans reflect the scale and pace of delivery to maximise these benefits. Our proposals as set out in this Finance Annex are designed to expedite this delivery by ensuring that SP Energy Networks remains financeable and investable into and beyond RIIO-T3. Our plans and proposals are the optimal solutions in customers' best interests, and also represent significant value for money, maximised where we are enabled to deliver at pace.

2.3. Changing Risk Landscape

A key driver of SPEN's financial proposals is risk. Uncertainty is inherent to all of our operations, however, in this section we highlight how the risk landscape is changing. This relates to the scale and pace of required investment, including new emerging risks, where existing risks are changing and interact – concluding that the financial package must reflect this developing risk landscape. We also suggest developing regulatory mechanisms to be dynamic to changing situations. These are set out in our suite of business plan documents:

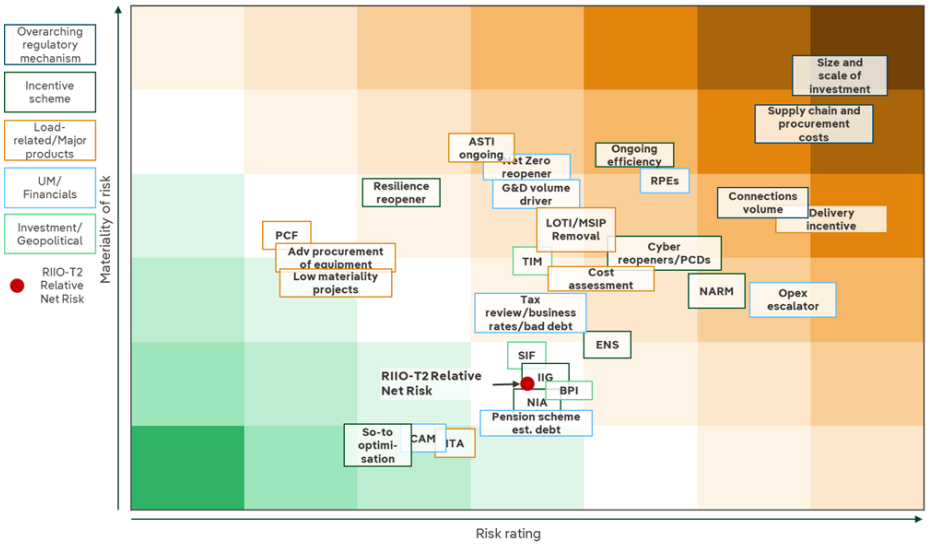
- Workforce and Supply-Chain Resilience Strategy
- Cost Assessment and Benchmarking Approach (including RPEs & OE)
- Innovation Strategy
- Digitalisation Strategy & Action Plan

S&C Electric - RIIO-T3 Relative Risk Assessment

This section utilises a report we commissioned from consultant S&C. S&C reviewed the RIIO-T3 SSMD from Ofgem and identified overall risk categories that required our attention, and more specific risks and how they had changed from their position in RIIO-T2. They worked with us and our independent stakeholder representative group INZAC (Independent Net Zero Advisory Council) when producing the report. In assessing risk levels, S&C provided detailed explanations of the relative risk position against T2 and provided a dial graphic representing the movement/status of each risk. They then provided some interim solutions/next steps for SPEN, for regulation in handling some of these risks, and crucially, where risks must be reflected in the financial framework.

There are overarching risks which are key to SPEN's overall environment. Below is a diagram produced by consultant S&C which shows both the materiality of our risks we face in RIIO-T3, and the "rating" of said risk, relative to RIIO-T2:

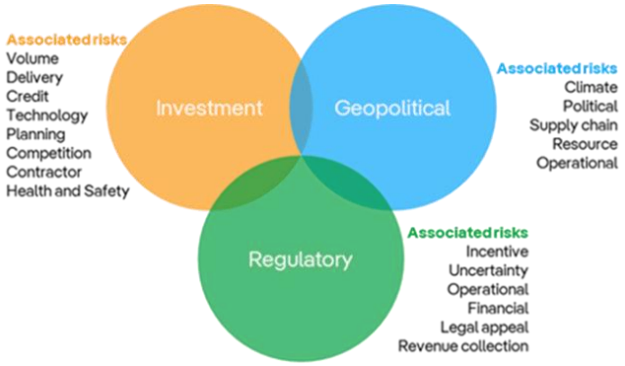
Figure 2-1 – Categories of Risk and Relative Risk Position (T2 to T3) of Key Risks[3]



[3] S&C. (2024). *RIIO-T3 Relative Risk Assessment*. page 14.

While an increase in the materiality or rating of any one risk may not represent a cause for concern, it is the combination of increasing risks that interact and compound that represents the true scale of risk we face in RIIO-T3. These risks are comprehensively set out in S&C's report, which broadly fall into 3 main categories:

Figure 2-2 - Broad Risk Categories



As part of our business plan, we set out a number of areas where we add value in our operations by managing and mitigating this risk. However, crucially, S&C concludes that these methods to manage risk are limited given the simultaneous and compounding increase to systematic risk categories in RIIO-T3. For example, having larger, more complex construction at a time where we have less certain supply lines to materials, and more complex planning procedures, means that these risks compound and cannot be diversified. Such compounding risks need to be reflected in the return to attract investors - crucial to ensuring optimal investment levels are delivered.

Complete removal of risk from the market is impossible, however, it is vital the industry is provided with resilience towards these developing risks. Getting the financial package correct to deliver our services, notwithstanding these risks, is critical.

2.4. Conclusion

Our plans strongly align with customer preferences and priorities, government policy, independent modelling of optimal solutions, and robust financial and economic theory. Our financial proposals are robust to the level of risk in the industry, competitive against other investment opportunities and resilient to plausible external shocks.

We have identified that the benefits of our plans are significantly greater than the costs to ensure financeability and investability. This needs to be considered through the lens of the increasing and uncertain risk landscape electricity transmission companies face, along with Ofgem's new duties for Net Zero[4] and Economic Growth[5]. As such, we urge Ofgem, in setting a fair return, to balance the cost and benefits to customers and society, such that the overall financial package conclusively ensures investability and therefore the delivery of our plans. We agree with our customers that we must take bold steps to UK infrastructure investment which will in turn, maximise the sustainable long-term benefits available.

[4] Electricity Act 1989 s3A(1A)(a) (as amended).
[5] Deregulation Act 2015 s108 and Economic Growth (Regulatory Functions) Order 2017 (as amended).

3. Our financial package

3.1. Framework for testing investability

As previously mentioned, there are a number of risks within the RIIO-T3 period which may raise concerns for the overall investability of the sector. Considering this, any financial package proposed by Ofgem should therefore reflect these factors and ensure that we can be resilient to these risks and still offer a return which is sufficient to justify the risk borne by equity investors. Some of these risks we will assess in more detail later in this section.

Within this is financeability, which, alongside an assessment of debt (which is set out in Section 3.5) should assess our weighted average cost of capital (WACC) proposals, which, if not at a sufficient level, means that the remainder of our proposals are not aligned with our risk levels. Getting our WACC (as detailed below) at an appropriate level is a prerequisite for our business plan being investable.

Oxera - RIIO-3 Risks & Investability Topics

This section refers to a paper commissioned by the Energy Networks Association (ENA) written by economic consultant Oxera – "RIIO-3 Risks & Investability Topics". Oxera investigated issues related to investability - a focus of Ofgem in the SSMC. Ofgem proposed an investability assessment 'may also require new tools to be developed' and invited 'views and evidence (...) on how investability should be used and assessed with the above objective'.

This report aims to contribute to the debate around investability by discussing shareholders' expectations regarding how their investment is remunerated. This includs consideration of the profile of cash flows, and what return they earn with reference to the balance of risk and expected return in the price control package. Oxera additionally focused in particular on the importance of dividend payments and whether the regulatory settlement enables networks to meet the remuneration expectations of shareholders. They also discuss the importance of setting an appropriate return on equity allowance, i.e. an allowance that is set at a sufficient level to meet shareholders' expectations, and enables TOs to raise the equity needed to finance our investment programmes

Our assessment of Investability and our Proposals

In RIIO-T3, it is vital that the overall financial package ensures investability, such that investors are sufficiently rewarded for the risks that they take in providing us with capital. Equity investment (alongside debt capital) is vital in ensuring that we maintain our ability to achieve optimal investment levels in the network for the long-term and deliver the net zero transition. To understand the importance of ensuring industry investability, it is prudent to consider the consequences of not fostering investability in the electricity transmission sector.

While we are encouraged by Ofgem's willingness to seek to address the potential issue of investability within the electricity transition sector, we do not yet feel that their investability aim has been matched with a clear vision for what an investability framework may look like. In the next section, we set out what the key tests should be to assess the investability of Ofgem's proposals. We provide our view as to where these tests may not be met, and our proposals that we believe address these issues. This is summarised below:

Table 3-1 - Financeability and Investability Framework

Measure	Key Issue	Our proposal	Issue with Ofgem RIIO-T3 SSMD position
Financeability Assessment	Four key elements to financeability must hold true to support investment in RIIO-T3	Our financeability proposals ensure efficient networks are able to operate and cover their efficient costs	Currently does not leave us financeable for the sustainable future.
- A fair allowed return aligned with the level of risk.	Material changes in profile of systematic risks, consequent to sector-wide delivery scale and environment. Scale of investment to be funded means greater reliance on ability to attract equity investment to avoid upward pressure on gearing.	Our proposed return parameters ensure the allowed level of return reflects the changing risk landscape and acts as an incentive to invest.	Cost of capital proposals lack adequate consideration of forward-looking risk and methodological issues and provide an insufficient financial package.
- Cashflows sufficient to make debt repayment.	Companies must be able to cover their efficiently incurred debt costs. Costs are volatile given scale and macroeconomic conditions.	We propose a calibration of the allowed CoD mechanism to ensure only efficient debt costs are paid by customers.	RIIO-T3 SSMD CoD would not allow a sufficient remuneration for debt costs. Ofgem has not confirmed how they intend to calibrate the CoD mechanism.
- A fair bet for investors - a symmetrical balance of risk.	Significant rebalancing away from funding via baseline revenues, more exposure mechanism-specific penalties and incentives.	Our proposals ensure customers and investors are protected from windfall gains and losses, where companies are guaranteed their efficient CoD.	Calibration of the whole package is unknown at this stage. Current proposals provide too wide a buffer from the CoE, and provide a negative bias in risk.
- Investment grade credit rating, robust to shocks.	A step-change in investment puts pressure on our financial metrics, at a time when financial strength of critical national infrastructure is paramount.	We propose a balance of a fair return with a cost neutral cashflow measures to ensure a strong investment grade credit rating, robust to plausible external shocks.	Current proposals would leave SPT at the bottom end of a Baa2 rating, presenting significant risk to financial robustness.
Cross-checks to other available investment opportunities.	Given more competition for infrastructure investment funding globally its critical that allowed returns are checked against other investment opportunities.	CoE proposed is within, and on the lower side of, a wide range of CoE cross-checks, suggesting external robustness of our estimates against wider market measures.	RIIO-T3 SSMD CoE assumed midpoint is significantly lower than our estimate and that of the bulk of cross-check positions, suggesting a lack of robustness of estimates against verification.
Remuneration for the cost of raising investment.	Scale of required investment means the costs associated in raising equity much be fairly remunerated.	Our proposals include maintaining 5% direct cost of raising investment, in addition to an allowance for indirect costs.	Current proposals do not make additional adjustments to ensure adequate remuneration for equity issuance.
Reasonable dividend payments.	Investors expect reasonable dividends, forming a key check that this is achievable within the financial package.	We propose, in line with market evidence and investor requirements, a reasonable dividend yield of no lower than 3%.	RIIO-T3 SSMD proposals suggest that financeability checks should assess lower dividend yield than is industry expectation.

3.2. Avoid the risks from an "under" invested sector

Here we divide out our justification into two main sections, the risks associated with the lack of investability, and the wider benefits from the investment being in the sector.

Lack of investability

If our industry lacks investability, then in an environment where there is greater need for capital than ever (given our large Totex requirements in RIIO-T3) we will struggle to draw in the equity investment needed for the development of our network, and to support our Net Zero contributions. To make up this gap, we would have to rely more on debt capital, which would raise our risk profile further, as we would be more heavily geared, and therefore creditors would deem SPEN, and the industry moreover, as riskier.

We argue that investability acts in both the interest of the customer and the operator, as long-term benefits for customers are potentially at stake in a circumstance where there is insufficient investability in electricity transmission (e.g. through delays to development). We also recognise that SPEN plays a major role in ensuring electrification of the energy system, and the creation of future economic opportunities, which, if investors have better opportunities, through lack of reward, is at risk.

We do not believe that the current cost of capital that is being proposed by Ofgem is sufficient to avoid under investment in the long-term. The midpoint CoE of 5.00% is not high enough to ensure that the network is resilient to potential cost shocks in the future and can therefore be sustainable. This is unlikely to be in long-term customer interests. Our proposals of a **cost of capital of 5.27%** (including **a flat WACC CoE of 6.57%**) are more appropriate, at providing this long-term assurance, both to the viability of the network and our operations, but also to customer interests in the round.

3.3. Financeability

Economic Insight Ensuring A Reliable Approach To Notional Financeability

This section uses work from a paper produced by Economic Insight[6] assessing notional financeability. SPEN commissioned Economic Insight to take a fresh look at notional financeability and consider: (a) what the appropriate approach should be; and (b) how one might address the challenges arising from applying that approach in practice. The aim of their work was to help encourage further consideration of how regulators, regulated companies, and other stakeholders can ensure notional financeability assessments are robust, so that they provide a reliable guide as to whether related statutory financeability duties are met, under future determinations.

Economic Insight identified two main practical challenges in assessing financeability on a notional basis: accurately identifying the notional firm and ensuring notional financeability over the long-term. Finally, they provide 12 recommendations to achieve an efficient, financeable firm over the long term.

In their report, Economic Insight emphasise the importance of what was formally the "two limbs" of financeability, relating to debt (which still forms a large part of Ofgem's assessment of notional financeability), and equity, which they argue has been deemphasised. Using

[6] Economic Insight. (2024). *Ensuring a Reliable Approach to Notional Financeability*.

Economic Insight's rationale, and considering the risk that we face in achieving investability, we propose the following tests which should form the basis of Ofgem's assessment of overall financeability:

- **Setting an appropriate WACC** – reflecting the risks the sector is exposed to allowing us to be investable, and therefore able to raise the capital we require in T3.
- **Having the cashflows consistent with remaining financeable** – mitigating liquidity issues and have more financial resilience to deal with shocks.
- **Fair bet for investors** – investors providing equity capital judge the regulatory mechanisms such that they have an equal chance of us under/overperforming, meaning they have no negative skew on their likely financeable package, decreasing their risk-relative return on equity.
- **Investment grade credit rating resilient to plausible external shocks** – such that we are able to raise/access debt capital and are seen by creditors as able to remain financeable, potentially allowing us to access better terms.

As can be identified, this proposed set of financeability assessments considers both debt and equity, and more comprehensively assesses the financial package overall. If these factors are considered, in our view, it will be a better overall assessment of whether we remain financeable both during RIIO-T3 and beyond.

3.3.1. A fair allowed return aligned with the level of risk

Initial understanding of the cost of capital

In this section, we set out in detail the financial elements which contribute towards the allowed return embedded in our business plan. We also provide our underlying economic assumptions and test such principles. These tests will be against separate criterion based on industry insight, stakeholder engagements, and evidence from economic consultants, to ensure the theory and evidence within our business plan is robust. Consultant papers are summarised below with *cost of equity (on a real, post-tax basis unless otherwise stated) and CoD (on real, pre-tax basis unless otherwise stated):*

Oxera RIIO-3 Cost of Equity—CAPM Parameters (used for Risk-free rate)

Oxera produced a CAPM parameters paper[7] for the ENA assessing CAPM parameters and derived a required CoE based on these new parameters. Oxera reviewed and provided a view on the methodological choices made by Ofgem as part of the RIIO-T3 SSMD when estimating the CAPM parameters on behalf of the ENA. They also provide updates to their own SSMC report based on, or in response to, further thinking and evidence presented by Ofgem in the RIIO-T3 SSMD. The work was limited to the CAPM parameters that are applicable to all gas and electricity networks, while sector-specific forward-looking risks were outside their scope, whether they affect the CAPM parameters. For RFR, Oxera found that using ILGs but adjusting for convenience premia was the most appropriate way of obtaining an estimate for RFR.

[7] Oxera. (2024). *RIIO-3 cost of equity—CAPM parameters*.

NERA Cost of Equity for RIIO-T3 (Risk free-rate and equity beta)

We commissioned economic consultant NERA to review[8] Ofgem's early view cost of capital set out in the RIIO-T3 SSMD. This report reviews Ofgem's proposed approach and our own estimate of our cost of capital over RIIO-3. In estimating RFR, NERA used nominal gilts (highlighting the flaws, in their view, of using ILGs) and adjusted these directly by CPIH to estimate the risk-free rate proxy. In the same NERA paper that provided the view of RFR, NERA also provided an assessment of asset betas.[9] This involved producing a framework to determine suitable European proxies for asset beta and then estimating a resultant would-be asset beta range. NERA also collated independent literature on additional adjustments that could be potentially made to asset betas for forward-looking risk, highlighting various additional risk factors. Both of these analyses formed the basis of the eventual range that we used in producing our asset beta, which was the basis of our equity beta estimation.

Frontier Economics Updated Cost of Equity Cross-check Evidence (Total market return)

Frontier Economics was commissioned by the ENA[10] to undertake further work on the topic of cross-check evidence for RIIO-3 based on the RIIO-T3 SSMD. The updates set out in this document build on the cross-check evidence we set out in our March 2024 Investability report, submitted to Ofgem by the ENA as part of its response to the Sector Specific Methodology Consultation (SSMC).

Part 1 set out cross-checks, testing adequacy of the allowed CoE. Specifically, these cross-checks test Ofgem's SSMD 'Step 1' CAPM range to understand if Ofgem's range would be investable against hybrid bonds, infrastructure fund IRR, MARs (market to asset ratios) and long-term profitability benchmarking.

Part 2 sets out cross-checks that tested the adequacy of the Total Market Return (TMR). These cross-checks tested the range for the TMR that is used as an input to the Ofgem SSMD 'Step 1' CAPM range. Frontier used TMR proxies: dividend growth model (DGM) estimates of TMR, TMR Glider, long-run TMR, and survey evidence;

NERA Cost of Debt Report

NERA evaluated the proposed CoD range provided by the SSMD as part of work they carried out on behalf of SPT. This involved providing an assessment (low, medium and high) of what, using the iBoxx Utilities Index, the CoD should be, and additionally carrying out independent analysis on various considerations for the additional borrowing costs. The combination of these analyses allowed us to produce an overall CoD, independent from the estimate provided by Ofgem in the SSMD.

In assessing our CoE, we have utilised multiple consultant views in determining the most robust assessment of the CoE. The consultants' views are generally consistent, variations occur due to different scopes of work and focus. The individual parameters have therefore been selected according to the robustness in their own right, and based on the scope of each consulatnt. Assessments made about most issues in the parameters are broadly in line across consultants. The rationale of these choices is summarised below before the more detailed methodology is provided in the individual parameter sections:

[8] NERA. (2024). *Cost of Equity for RIIO-T3*.
[9] Which can be used, as will be highlighted as the basis of estimating equity betas.
[10] Frontier Economics. (2024). *Updated Cost of Equity Cross-Check Evidence*.

- **Risk-free rate (RFR)** – Consultants proposed both a nominal gilt (from NERA) and ILG view with convenience premia (from Oxera). Though we accept the rationale of using nominal gilts, we use ILG and convenience premia for our point estimate as we believe that this is a correction to the established Ofgem methodology, nominal gilts based RFR remains a robust estimate which we use as part of our range. Details of each method are provided in Section 3.3.3

- **Equity Beta –** Both Oxera (using largely Ofgem's European comparators and suggesting a higher end of the range for risk) and NERA (using select European comparators based on a range of tests and specific adjustment factor for forward looking risk), provided a view of asset beta. We used NERA's methodology as this was more robust/repeatable in identifying an appropriate range, although took a more conservative view of forward-looking risk adjustments. Details of NERA's method is provided in Section 3.3.3.

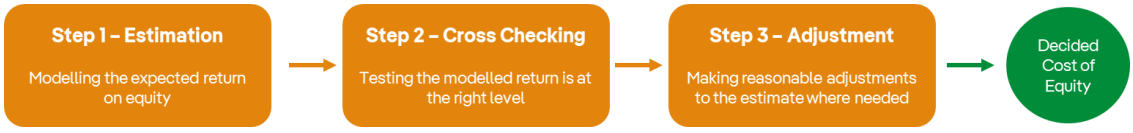
- **Total Market Return (TMR)** – We implicitly used a range suggested both by Frontier Economics and Oxera (opining on this range) in estimating our TMR, broadly based on a range provided through TMR cross-checks. This was chosen as we wished to use a wide range TMR estimates given the inherent uncertainty of estimating TMR. Details of this estimation are provided in Section 3.3.3.

3.3.2. Cost of Equity

CoE, unlike CoD, is not a directly observable variable. Typically, regulators and investors, through different means, will attempt to estimate it via returns models which consider various financial and economic factors to calculate what the "cost of equity" *should be*. From a regulatory perspective, given that this variable is hypothecated rather than directly estimated, it is vital that the calculation criterion is robust. The CoE estimated must synthesise the kinds of returns investors can expect of a market with comparative risk levels and thus justify their investments.

We follow a 3 stage approach to estimating CoE similar to Ofgem. This approach is summarised below, and our objective is to estimate CoE at a point where investors are offered an adequate return at the lowest possible cost to consumers.

Figure 3-1 - Stylised Cost of Equity Estimation Process



Step 1 is considered within this section, where Step 2 and 3 are considered as part of our wider investability framework.

3.3.3. Cost of Equity – Step 1 – Estimation - Introduction

Estimation is the first step in the CoE process. In RIIO-T3, in line with the UKRN's Guidance,[11] this is calculated using the Capital Asset Pricing Model (CAPM) to determine the required rate of return on equity. The CAPM is a regulatory standard for computing the CoE, is easy to

[11] UK Regulators Network. (2023). *UKRN guidance for regulators on the methodology for setting the cost of capital.*

calculate, and has theoretical rationale underpinning it. The CAPM does however suffer from some shortcomings, and other methodologies for calculating an implied CoE exist. As such, it is important that even if CAPM is used for a required rate estimate, such a result should be tested against other methods to assess the robustness of the CAPM rate of return. CAPM determines the CoE through assessing the risk-free rate ((RFR) the rate at which markets can theoretically make a return without risk), the total market return ((TMR) the expected return on the market in general) and an equity "beta" (β), a factor applied to consider a business' specific risk relative to the market. The difference between the total market return and the risk-free rate is known as the "equity risk premium" (ERP).

The CAPM can be formally expressed as the following:

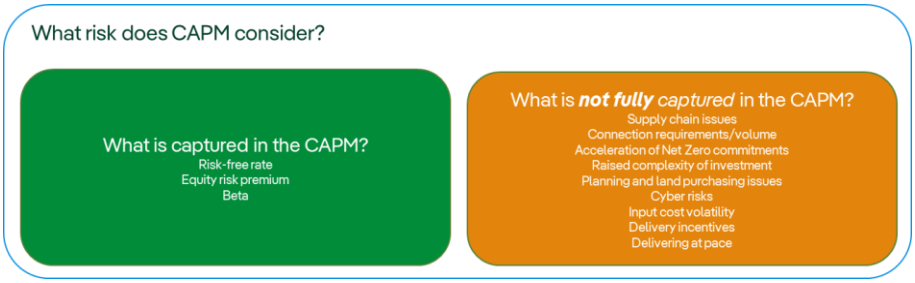
Figure 3-2 - CAPM Formula

$$Cost\ of\ equity = risk\ free\ rate + beta \times (total\ market\ return - risk\ free\ rate)$$

$$Cost\ of\ equity = risk\ free\ rate + beta \times (equity\ risk\ premium)$$

As discussed in section 2.3, a key feature of RIIO-T3 is a step change in type and scale of risk, risks that CAPM captures do not bear resemblance to all risks in previous price reviews. CAPM captures only a subset of the risks we endure, so it follows that a return based on this only captures some of the return investors should expect given their overall risk.

Figure 3-3 - CAPM Elements and Limitations



Using CAPM methodology, Ofgem estimated a wide range of 4.57%-6.35% (real, CPIH)[12] for a notional gearing of 60% for the T3 SSMD CoE. This implies a midpoint of 5.43% if calculated[12] in the bottom-up approach cited in the T3 SSMD.

Table 3-2 - Ofgem Cost of Capital Proposals (at 60% Gearing) [12]

Component	Calculation (*taken directly from SSMD)	Low	Implied Midpoint	High
Notional Gearing	NG*		60%	
Debt beta	DB*		0.075	
Asset beta	AB*	0.3	0.35	0.4
Equity beta	EB = (AB-(DB × NG))/(1-NG)	0.64	0.76	0.89
RFR	RFR*		1.18%	
TMR	TMR*	6.50%	6.75%	7.00%
CoE	CoE = RFR+EB × (TMR-RFR)	4.57%	5.43%	6.35%
CoD	CoD*		3.38%[13]	
WACC	WACC = (CoD × NG)+(CoE × (1-NG))	3.86%	4.20%	4.57%

[12] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex*. p99.
[13] This considers implicitly the allowable additional borrowing (0.25pp) on the existing cost of debt (3.13%) meaning a combined CoD of 3.38%.

Ofgem's implied midpoint in their SSMD CoE range does not embed all of the risks within the electricity transmission sector. Therefore, this position would not provide us with a sufficient return rate to maintain investor attraction towards SPT, potentially harming our ability to invest at optimal levels in the network and having a negative impact on long-term customer welfare. We believe this does not sufficiently consider several factors which have already been set out in the overall risk section (Section 2.3) and therefore leads to a CoE which is insufficient to efficiently foster an investable sector.

As such, in this section, we set out our proposals, which arrive at a more appropriate estimated cost of capital, which will attract investors to our firm, and deliver against customers interests, whilst enabling value from investment to be maximised. Supported by the assessment within our consultants' reports, the available range of evidence supports an allowed CoE within the range of around 6.11-7.06% (real, CPIH, 55% notional gearing), post-tax on a flat WACC basis.

We agree with the Energy Networks Association's (ENA) view that simply rolling forward the approach to CoE into RIIO-3 would leave the allowance too low for a CoE that was investable[14]. In their SSMD publication, Ofgem described a methodology for estimating the forward-looking real CoE for the RIIO-T3 price controls, which produced a range of 4.57%-6.35% (real, CPIH) for a notional gearing of 60% set under market conditions at that time. This would produce a midpoint of around 5.43% for RIIO-T3[15]. Ofgem have considered stakeholder views on using a form of outperformance wedge on the CoE (see Section 3.8.6). Though emphasising that they did not currently identify an asymmetric return, Ofgem suggested it could add in a "skew" in the financial package if they deemed it to be in the customer interest. We do not believe this to be a worthwhile realignment as it would lack supportive evidence and could lead to suboptimal outcomes for long-term customer interests. This is also consistent with our position from RIIO-T2 with respect to asymmetrical risk, and in applying an outperformance wedge, Ofgem took a position which was later ruled to be based on errors of fact and law[16].

3.3.4. Flat WACC method compared to the bottom-up method

In RIIO-T2, the CoE was adjusted for the gearing rates between industries, such that (60%[17] or 55%[18]), the 55% geared companies had the same WACC as the original estimate, based on 60% gearing. This, practically, meant that the CoE for SPT was adjusted on an ex-post basis to 4.25%. In RIIO-T3, Ofgem implicitly signalled that they will move away from this approach without justification, whilst also stating that their approach to the WACC will be broadly in line with RIIO-2[19]. Oxera highlight in their investability paper, that this would be in keeping with regulatory precedence and maintaining flat WACC would support firms being

[14] ENA. (2024). *ENA Response to Ofgem RIIO-3 SSMC - Finance Annex*. p6.
[15] Taking the midpoint of the cost of equity range provided, using a bottom up approach.
[16] *RIIO-2 Energy Licence Modification Appeals - Final Determination Volume 2B*, para 6.182
[17] Utilised for "GT, SGN South & Cadent SGN Scot, NGN & WWU" – Table 13, RIIO-2 Final Determination Finance Annex.
[18] Utilised for "SHET, NGET and SP Energy Networks" – Table 13, RIIO-2 Final Determination Finance Annex.
[19] Ofgem (2024), 'RIIO-3 Gas Distribution & Gas and Electricity Transmission - Sector Specific Methodology Decision - Investor Call', 18 July, p. 14.

investable.[20] Resultantly, the CoE is lower in RIIO-T3 than it would be if the RIIO-T2 methodology had been rolled forward into RIIO-T3. This result is set out below:

Table 3-3 – Flat WACC Equivalent Ofgem Cost of Capital Proposals

Component	Calculation	Low	Implied Midpoint	High
Ofgem SSMD CoE (55%)	CoE = RFR+β × (TMR-RFR)	4.24%	5.00%	5.82%
Flat WACC CoE	CoE = (WACC@60% - (Cost of Debt × Notional Gearing))/(1-Notional Gearing)	4.44%	5.20%	6.02%
Difference	Diff = Flat WACC CoE - CoE	0.20%	0.20%	0.20%

This is a material difference in the context of the overall risk-return balance of the price control. We believe that from a regulatory consistency and investability perspective, the electricity transmission sector's WACC should continue on a flat WACC basis. From a regulatory stability perspective, this would be inkeeping with the precedent grounded in the CMA's precedent as well as in Ofgem's own RIIO-T2 precedent, therefore providing confidence to investors that regulation, though dynamic, is not too inconsistent to provide large step-changes in CoE. This would ensure that the lower geared companies are not penalised by having a lower cost of capital, with a lower scope to raise debt as part of their capital structure, especially given in RIIO-T3 there is potentially greater, not less, risk from other factors. Further, from an investability perspective, Oxera in their report concludes[21]:

"...when reduced levels of notional gearing are associated with (the risk of) substantial investment programmes in RIIO-3, it would be perverse to reduce the level of allowed return as a mechanical result of retaining a relatively low sector-specific gearing assumption. Specifically, as this would amount to a reduction in the allowed return on equity precisely when TOs are expected to raise new equity in significant amounts over the next price control, we view the proposed discontinuation of the flat WACC approach as damaging to the investability of the regulatory settlement.."

3.3.5. Developed estimates of the CAPM inputs

In the section below, we directly challenge Ofgem's proposed CAPM variables, from both a methodological and a data perspective via the sample used as the basis of these estimates.

Risk-free rate (RFR)

The risk-free rate (RFR) is a rate of return that can be expected from an investor on a theoretically riskless asset. In order to obtain this return, government bonds, highly rated corporate bonds, overnight borrowing rates etc. are typically used in order to proxy the return on a riskless asset. This RFR is utilised within CAPM as the baseline return, above which investors can only expect to make a return if they take risk.

[20] Oxera. (2024). *RIIO-3 Risks and Investability Topics*. page 75.
[21] Oxera. (2024). *RIIO-3 Risks and Investability Topics*. page 77.

In RIIO-T2, Ofgem calculated a real risk-free rate as -1.58% for their Final Determination[22] on the basis of a 20-year tenor for ILGs (forward curve)[23]. In RIIO-T3, Ofgem suggested the use of a 1-month average of a 20-year tenor ILG (RPI indexed). Ofgem also suggested the annual update (starting on October 2025) of the RFR to reflect one-month averages[24].

This ILG approach estimated a risk-free rate of 1.07%, however, owing to this being RPI-linked, this had to be adjusted to incorporate a wedge between RPI and CPI, which, as will be set out below, Ofgem estimated to be 0.11 percentage points[25], thus calculating a real risk-free rate in RIIO-T3 of 1.18% after adjustment[26]. In order to calculate the RPI-CPI wedge, Ofgem estimated a forward wedge in each year of the price control. They adjusted the RPI weighting on the basis of the RPI becoming legacy. When accounting for this, and taking an average of RIIO-T3, Ofgem calculated a forward-looking wedge of 0.11%. We assess our risk-free rate on the basis two separate analyses:

- Oxera's analysis[27], amends the Ofgem methodology to include a convenience premium.
- NERA's analysis[28], deduces the risk-free rate through nominal gilts discounting for CPIH

We see rationale within both methodologies, so have used the lower bound (from Oxera's analysis of the RFR and convenience premium) as the point estimate but believe that the RFR could be as high as the nominal gilts based value.

Table 3-4 - Oxera Determination of Convenience Premia for Risk-Free Rates[29]

	Formula	Oxera estimates
Five-year average of AAA indices, nominal[30]	A	2.61%
Five-year average of 9.5 and 14.0-year gilts, nominal	B	2.07%
Average of AAA indices and gilts	C = avg (A,B)	2.34%
Convenience premium estimate (5Y)	D = C – B	0.27%

(Oxera analysis of AAA and UK Gilts for convenience premium estimation, 2024)

When the Oxera analysis recreates the ILG analysis that Ofgem utilised in the SSMD[31], they get to a higher updated ILG pre-convenience adjustment, ILG estimate of a CPIH real RFR.

Table 3-5 - Oxera Estimation of Risk-Free Rate

	Formula	Ofgem (method updated)	Oxera estimates
20Y ILG yields, RPI-real[32]	A	1.16%	1.16%
Convenience premium	B	-	0.27%
Benchmark RFR estimate, RPI real	C = A + B	1.16%	1.43%
RPI–CPIH wedge	D	0.11%	0.11%
RFR, CPIH-real	G = (1+C) × (1+D) – 1	1.27%	1.54%

[22] Ofgem. (2021). *RIIO-2 Final Determinations – Finance Annex (REVISED)*. page 24.
[23] This, formulaically meant that the ERP would be higher than the TMR in CPIH adjusted terms.
[24] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex*. page 59.
[25] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex*. page 59.
[26] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex*. page 62.
[27] Oxera. (2024). *RIIO-3 cost of equity—CAPM parameters*
[28] NERA. (2024). *Cost of Equity for RIIO-T3*.
[29] Oxera. (2024). *RIIO-3 Cost of Equity—CAPM Parameters*. page 23.
[30] Oxera's estimated average of the average yield for iBoxx AAA 10-15 and iBoxx AAA 10+ bonds.
[31] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex*. page 64.
[32] Oxera's analysis updated the cut-off date to be the 1st of July 2024 – hence why the Ofgem figure is higher than the 1.07% figure quoted in the T3 SSMD.

NERA argue against the use of ILGs as the basis for the risk-free rate, for the following broad reasons:

- **There are issues associated with breakeven inflation –** the breakeven inflation between long-term index-linked bonds and nominal bonds is too high when compared with macroeconomic forecasts to justify the use of ILGs (using breakeven inflation – often around 3.5% [33]) to incorporate CPIH (demonstrated in graph) which NERA highlight via different inflation measures are often only just over 2% [34]

- **ILGs yields are systematically suppressed** - ILGs are so heavily invested in by pension funds in order to hedge inflationary exposure. This leads to fundamental mispricing, which the Bank of England in a paper acknowledged[35] finding a mismatch of ~135 basis points against equivalent nominal gilts compared with synthetic counterparts using ILGs

- **Gilts include a convenience premium –** elements in gilts, such as specific safety and liquidity characteristics, mean gilts lack the required prerequisites for a proxy for a risk-free rate. Often, ILGs fall below a genuine rate for a zero-beta asset owing to bonds embedding other perceived protections/positive attributes, a genuine RFR would lack

As such, NERA suggest that gilts are treated more specifically with actual forecasts of inflation. This not only avoids the need for ILGs, but, also allows us to estimate RFR without having to apply a CPIH-RPI wedge. This estimation[36] is as follows[37]:

Table 3-6 - NERA Estimation of Risk-Free Rates on Nominal Gilts Bases (Converted Through CPIH)

Component	Value
Nominal gilt yields (Sep 2024)	4.45%
Minus Long-term CPIH forecast	1.96%
Nominal gilt yields (adjusted for CPIH)	2.44%

We recognise the rationale of utilising nominal gilts, as it removes the direct need to use adjustments for different inflation rates for instance, and avoids some issues associated with ILGs, as provided above. However, given that one main criticism of ILGs is in their non-accounting for convenience premia, and Oxera's analysis directly considers ILGs and estimated convenience premia, we consider that reasonable adjustments have been made to ILGs such that these rates are good proxies for the risk-free rate. As such, we use Oxera's estimate above of 1.54% as both our lower bound estimate of our RFR, and our point estimate, and the 2.44% from nominal gilts as an upper bound.

Equity Beta

The equity beta is the covariance of the market to a selected stock/share, capturing how much a stock moves with respect to market movement (i.e. if an equity beta was 1.5, we would expect the stock to be more volatile than the market as a whole). In the CAPM, equity beta is a scalar applied to measure how much excess return on the risk-free rate an investor should

[33] NERA. (2024). *Cost of Equity for RIIO-T3.* page 8.
[34] NERA. (2024). *Cost of Equity for RIIO-T3.* page 15.
[35] Bank of England. (2023). Mispricing in inflation markets. *Staff Working Paper No. 1,034.* August 2023
[36] Note: NERA deflate for long term CPIH forecasts using the Fisher equation. All calculations are based on financial market data as of 10 September 2024. Source: NERA analysis.
[37] NERA. (2024). *Cost of Equity for RIIO-T3.* page 21.

expect to make, the higher the beta, the greater the return in excess of the RFR to justify the investment. In RIIO-T2, the equity beta was calculated on the basis of an asset, unlevered and debt beta which are then geared in order to garner an equity which calculates a final equity beta which is used on the basis of the CAPM calculation.

Debt beta

The debt beta, like the equity beta, is a measure of the equity market related risk of debt. The higher the debt beta[38], the greater the extent of the movement of the debt in question relative to market movement.

In RIIO-T2, Ofgem selected a debt beta of 0.075 based on a midpoint of the CMA's provisional range[39] of between 0 and 0.15 [40]. The debt beta in RIIO-T3 was also set, in accordance with the RIIO-T2 estimate at 0.075. This was also utilised by our consultants in their estimations of the asset beta.

Unlevered beta

The unlevered beta is the equity beta before the consideration of all gearing (which consequently gets to the asset beta, which can then be levered to obtain a utilisable equity beta). To that end, unlevered betas are equity betas as defined above before any consideration of debt factors.

In RIIO-T2, the unlevered betas were estimated on the basis of a weighted average[41] of the equity betas of the operators to provide a range (0.285-0.335 [42]). These datapoints were based on OLS regression and included a mixture of network (both water and energy) operators[43].The midpoint of this range was used as the basis of the unlevered beta for the equity beta calculation. In RIIO-T3, as suggested above, unlevered betas were not a part of the "early view" final table, but had been analysed and formed the basis of Ofgem's calculations of the asset betas.

Asset beta

In RIIO-2, asset beta was calculated on the basis of the following calculation[44] based on the variables[45] set out above and an observed gearing of 50%:

$$\beta_D OG + \beta_U$$

$$(0.075 \times 50\%) + 0.311 = 0.349$$

[38] In absolute terms.
[39] Note that Ofwat's PR19 Final Determination had been a debt beta of 0.125.
[40] CMA. (2021). *Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations Final Report*. page 879.
[41] Ofgem stressed that more emphasis was placed on the longer time horizons, and separated from much of their analysis evidence which included SSE betas as they believed that they historically "...had a higher beta because of its retail supply operations and its generation activities – both of which have higher systematic risk" (page 42).
[42] Ofgem. (2021). RIIO-2 Final Determinations – Finance Annex (REVISED). page 40.
[43] SSE (although there was analysis which explicitly excluded them), National Grid, Pennon, Severn Trent and United Utilities.
[44] Where β_D is the debt beta, OG is observed gearing and β_U is the unlevered beta. Given how low debt betas tend to be, the unlevered beta typically makes up the majority of the asset beta.
[45] Ofgem. (2021). *RIIO-2 Final Determinations – Finance Annex (REVISED)*. page 40.

In RIIO-T3 SSMD, the same methodology was used, but this was implicit within the "early view" table. As such, for the purposes of any sensitivities we have made in this work, we have taken a point within these estimates rather than calculating separate asset betas based on the unlevered betas which are not expressly provided within the final early view tables.

We commissioned NERA to assess various attributes of the CAPM calculation, including asset beta. They estimate, subset of comparators, with a specific adjustment for increased risk of 0.40-0.45. Betas were based on both UK, and mainland European transmission and distribution operators[46]. Estimates were taken from three different horizons; 2, 5 and 10 years.

In the SSMD, Ofgem suggested the use of the following European proxy firms[47]:

Table 3-7 - Ofgem Example Proxy Firms for Asset Betas

Firm	Sector	Country/Region
National Grid	ET	GB
United Utilities	Water	GB
Severn Trent	Water	GB
Enagas	GT	Spain
Red Elec	ET	Spain
Terna	ET	Italy
Snam	GT	Italy
Italgas	GD	Italy

In estimating our own asset betas (used as the basis for the bottom-up CAPM estimation for deriving equity beta). NERA highlighted some of their perceived issues with the list that Ofgem presented. In doing so, NERA also provided a check list that they applied to various firms (including some not in this list) across a number of European jurisdictions. They find the following issues[48] with Ofgem's existing subset:

- National Grid should not be included owing to only a minority of their operations being regulated activity
- The water sector should not be used as a proxy for ET as the risks the sector faces are different
- There are additional risks which should be captured such as capex risk, which beta is currently insufficient to incorporate

NERA apply the following ruleset in order to obtain their own European comparators[49], if all are true, NERA include in their European comparator list:

- Is a majority of revenue and operating profit from regulatory activity?
- Is the bid-ask spread less than 1%

[46] 3 UK operators (National Grid in electricity transmission and United Utilities and Severn Trent in water), 2 Spanish operators (Red Elec in electricity transmission and Enagas in gas transmission) and 3 Italian operators (Terna in electricity transmission, Snam in gas transmission and Italgas in gas distribution).
[47] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex*. page 97.
[48] NERA. (2024). *Cost of Equity for RIIO-T3*. page 32.
[49] NERA. (2024). *Cost of Equity for RIIO-T3*. page 38.

- Is it widely traded?

As a result, NERA deduce a list of companies that comply with these three rules, this therefore includes the non-GB firms from above, and an additional firm (Italian energy firm Hera). With greater emphasis on the 5/10 year time horizons, NERA estimate an asset beta range of around 0.38-0.44 pre-adjustment. Given the additional risks associated with RIIO-T3, which are better – but not fully – reflected by more representative beta comparators, an additional adjustment is required to reflect that more representative comparators are still backward looking and unable to fully account for forward risk. NERA demonstrate in their analysis of past reviews/rating agency publications leads to an additional beta of at least 0.02 [50], resulting the asset beta that should be used for RIIO-T3 should be around 0.40-0.45. Given that it could be argued that the asset beta adjustment is merely an estimate, to be conservative, we have taken a rounded average of both views[51] – one with the estimate, to estimate the lower and upper bounds of our estimate (0.410 and 0.425) and therefore estimated a rounded midpoint of 0.418.

Equity beta estimated for RIIO-3

Calculating the equity beta based on the asset beta, gearing (of 60%) and debt beta, we estimate the following equity beta.

Table 3-8 - Estimation of Equity Beta

Component	Calculation	Low	Implied Midpoint	High
Notional Gearing	NG		60%	
Debt beta	DB		0.075	
Asset Beta (original lower)	AB1	0.38		0.4
Asset Beta (original upper)	AB2	0.44		0.45
Asset beta	AB = ROUND(AVERAGE(AB1,AB2)	0.410	0.418	0.425
Equity beta	EB = (AB-(DB × NG))/(1-NG)	0.91	0.93	0.95

As can be identified, NERA's estimates based on an up-to-date view of the asset beta results in a significantly higher and more robust range than in Ofgem's SSMD – leading to a midpoint of around 0.93, which we use as the basis of our view of the CAPM estimate of CoE.

Total Market Return (TMR)

In RIIO-T2, Ofgem based their approach to returns on the TMR-basis, that is, that TMR was calculated as one of the bases of CAPM rather than an equity risk premium being directly calculated, or the CoE being estimated in another separate way. TMR estimates for RIIO-T2 were based on long-run historic averages. This method calculated a range of 6.25%-6.75%[52]. In RIIO-T3, Ofgem proposed using both an ex-post, and an ex-ante basis for the TMR range, in line with recommendations in the UKRN's cost of capital guidance[53]. As such, the upper and lower bounds of their estimate were garnered via separate processes, an ex-ante

[50] NERA in their Cost of Equity for RIIO-T3 analysis find that this difference can include adjustments between 0.02 and 0.2. As such, by applying a 0.02 uplift, we are utilising a conservative estimate of this adjustment.
[51] To nearest 3 decimal places.
[52] Ofgem. (2021). *RIIO-2 Final Determinations – Finance Annex (REVISED)*. page 49.
[53] UKRN. (2023). UKRN guidance for regulators on the methodology for setting the cost of capital. page 21.

approach for the lower, and an ex-post approach (more in line with the RIIO-T3 methodology) for the upper.

- Ex-ante approach - Ofgem used a version DMS (Dimson-Marsh-Staunton) decomposition approach, which takes a geometric average estimate of dividend yields (over the long term), the expected growth rates of real dividends, adjusts for geometric to arithmetic averages54, and adjusts for non-standard inflationary measures[55] to get to an ex-ante estimate of the TMR.

This approach calculated a 6.5% estimate for the TMR[56]

- Ex-post approach – Ofgem used an arithmetic average from the DMS dataset in order to produce a TMR estimate (using a nominal data return dataset and ONS inflation information). This was based on a one-year arithmetic return.

This approach calculated a 7%[57] estimate for the TMR[58]

The resulting range produced for the TMR was 6.5% to 7%, which was used as the basis for the CAPM calculation. However, for our TMR proposal we consider a cross-check on our total market return by Frontier Economics, in analysis that they compiled for the ENA. In analysing the total market return, they use three main methodologies to inform alternative views of the total market return, and add survey evidence, all that can be used as the basis for our TMR range. More details of the following methodologies can be found in section 3.8.5. These methods are as follows:

- TMR Glider – this estimates a 12 month range of around 7.83%
- DGM - this estimates a 12 month range of around 7.79%
- Long-term (124 years) TMR – this is based on a historic average TMR – this estimates a TMR of around 6.97%
- Survey evidence – Frontier Economics updated previous TMR forecasts from various financial institutions and supplemented this with the study by Fernandez et al[59] asking various academics, analysts and managers of companies about RFR and MRP to determine TMR. This, in the round estimates a TMR of around 7.33%

Based on this analysis, Frontier Economics suggested that on this basis, factoring in these methods, and considering the prevailing market conditions of the time, that a range of 7.0%-7.5% for the T3 TMR was reasonable. The rationale of having a CoE above 7% and potentially 7.5% (or even higher) was largely agreed by Oxera in their CAPM report as well, given the

[54] An uplift given that geometric averages are lower than arithmetic averages.
[55] In the DMS data, an inflationary proxy called "Cost of Living Index" (COLI) is used, the adjustment is to convert these data deflated by COLI to the preferred (and utilised between 1870 and 1947 for Bank of England purposes "implied deflator for consumers' expenditure" (Bank of England. (2004). Consumer Price Inflation since 1750. page 39.)
[56] Ofgem. (2024). RIIO-3 Sector Specific Methodology Decision – Finance Annex. page 77.
[57] It was actually 6.97% purely from the calculation provided.
[58] Ofgem. (2024). RIIO-3 Sector Specific Methodology Decision – Finance Annex. page 73.
[59] Fernandex, P., García de la Garza, D., and Fernández Acín, J., (2023). *Survey: Market Risk Premium and Risk-Free Rate used for 96 countries in 2024.*

"changes in market conditions"[60]. As such, the 7.0%-7.5% estimate is the range we use in this report

3.3.6. Developed CAPM Position

We propose that the estimates of the CAPM coefficients that we have set out in this chapter allow us to be investable and therefore acquire the large equity capital needed for our investment requirements for RIIO-T3. Using the CAPM formula that has already been set out above, and reference to figures in the work by Oxera, NERA and Frontier Economics coefficients of the risk-free rate, the equity beta, and the total market return, we have estimated the CoE as follows:

$$CoE = RFR + \beta(TMR - RFR)$$

$$CoE = 1.54\% + 0.93 \times (7.25\% - 1.54\%)$$

$$CoE \ @ \ 60\% \ gearing = 6.86\%$$

Table 3-9 - Estimation of Flat WACC Cost of Equity

Component	Calculation	Low	Implied Midpoint	High
CoD (real, pre-tax)	CoD (See Section 3.3.7)	2.82%	4.20%	5.58%
CoE (real, post-tax @60% gearing)	CoE = RFR+EB ×(TMR-RFR)	6.52%	6.86%	7.25%
WACC (real, vanilla)	WACC = CoD×Gearing + CoE×(1-Gearing)	4.30%	5.27%	6.24%
Flat WACC CoE (real, 55% gearing)	CoE = (WACC@60% - (CoD ×NG))/(1-NG)	6.11%	6.57%	7.06%

As suggested above, there are vast discrepancies outlined above, between the evidence and calculations that have been provided by Ofgem and those employed by SPT. As a result, the CoE estimated by Ofgem is 5.00%[61] or 5.20% on a flat WACC basis compared to our estimate of 6.57%, a difference of around 137 basis points[62]. We are confident that our estimation of the CoE is robust in line with financial and economic theory and better reflects the uncertain and developing risk landscape in RIIO-T3, and as will be explained further in cross-checks, this estimate is robust against various cross-checking mechanisms to alternative investment opportunities. Therefore, we believe that our estimate is more appropriate, considering the evidence that we have utilised, the methodology employed, and our expanded capital needs and risks as we enter RIIO-T3. Our proposals are aligned with the delivery of our optimal investment, the value this brings, and therefore the fulfilment of the interests of customers.

3.3.7. Cashflows sufficient to make debt repayments

[60] Oxera. (2024). *RIIO-3 cost of equity—CAPM parameters*. page 4.
[61] Based on a midpoint for asset beta values.
[62] Comparing to flat WACC to be on a like-for-like basis.

Cost of Debt (CoD)

In line with the rationale of ensuring that the CoD is both efficient, and allows us to service our debt, it is important that the CoD is estimated reasonably, such that we can raise sufficient debt capital to ensure we can fund our increased investments.

Unlike equity, debt has the advantage that returns can be, at least somewhat, directly observable, which makes the exercise of calculating an efficient CoD a process with fewer stages than that of equity.

The estimation of the CoD is critical in RIIO-T3, given the scale of optimal investment required necessitating a parallel scale of new debt requirements, which is subject to more current borrowing rates, there are therefore three key checks when establishing a robust allowed CoD:

1. The calibration of the CoD mechanism must ensure companies efficiently incurred CoD in the period if remunerated.
2. The calibration and indexation of the CoD mechanism must be dynamic and robust to changing debt requirements and interest rates.
3. The additional costs that companies incur when taking out new debt must be fully remunerated for.

Estimation of cost of debt

In RIIO-T2, Ofgem estimated both a CoD and additional borrowing allowance, to be used by the TOs in setting their notional WACC. Though Ofgem highlighted their previous use of the 10-14 year extending trailing average of the iBoxx GBP utilities 10 year+ index, less the expectation of CPIH inflation, for RIIO-T2[63], it is not clear that this is the basis of the 3.13% forecasted average[64] they estimate in Table 3-10. However, we do use this 3.13% as the basis of our working assumption as to what the notional WACC would be under Ofgem proposals and provide our own estimation of CoD in addition.

Ofgem, have proposed a RAV-weighted CoD mechanism for RIIO-T3, which, unlike RIIO-T2 where CoD was unweighted, means that as the RAV increases by a certain amount in a year, that year's individual importance to the rate of return utilised for debt increases (and vice versa). We agree this mechanism is required in RIIO-T3 given the need for the mechanism to reflect the step change in required investment and therefore debt.

On the basis of a 5-year average[65] (below), Ofgem calculated a 3.38% CoD for RIIO-T3, which included an allowance for additional borrowing of 25 basis points.

Table 3-10 - Ofgem Proposed SSMD Cost of Debt (Baseline and Additional Borrowing Costs)

	2026/27	2027/28	2028/29	2029/30	2030/31	Average
Baseline Cost of Debt (A)	2.33%	2.90%	3.28%	3.51%	3.63%	3.13%
Additional Borrowing Allowance (B)	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Total Cost of Debt (A+B)	2.58%	3.15%	3.53%	3.76%	3.88%	3.38%

[63] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex. page 27.*
[64] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex.* page 44.
[65] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex.* page 44.

3.3.8. Developed Cost of Debt Position

We commissioned NERA to assess the estimated actual CoD for the ET sector and SP Transmission specifically, including the base CoD, and additional borrowing costs.

NERA modelled a T3 CoD (excluding additional borrowing costs) to understand the optimal calibration of the RAV weighted CoD mechanism to best reflect the forecast sector average debt costs. Their analysis suggested the following calibration:

- An 18-year trailing average of the iBoxx Utilities index 10-year+, where the re-financing period of the mechanism should align to this 18-year period.
- Beginning the RAV-weighting at the start of T2 would be the most appropriate from a calibration perspective, ensuring that
    - First, the allowance suitably aligned with genuine borrowing costs of the sector[66].
    - Second, the mechanism would be sufficiently dynamic to changing debt costs during the period, such as alternative investment profiles or interest rates.

This results in a CoD allowance of 3.60% on average over the RIIO-3 period.

Table 3-11 - NERA Estimation of Cost of Debt (Baseline)

iBoxx Utilities Scenario	2026/27	2027/28	2028/29	2029/30	2030/31	Average - T3
Low	2.66%	2.30%	2.14%	2.08%	2.06%	2.25%
Central	**3.17%**	**3.44%**	**3.64%**	**3.81%**	**3.95%**	**3.60%**
High	3.69%	4.58%	5.13%	5.54%	5.84%	4.96%

In RIIO-T3, we also argue that the electricity transmission sector's risks are specifically considered within a CoD determination, we therefore propose that there is an ET-only CoD and additional borrowing cost, given that the ET sector has a separate risk and RAV profile than that of the gas networks. As such, the estimates that we are proposing here will relate to ET sector risks/remuneration of debt only. In determining an appropriate level of additional borrowing costs, we commissioned NERA to estimate and set out the rationale for additional borrowing costs considering various premia[67]. More details of the assumptions made are provided in the NERA's additional borrowing cost annex – values are set out below.[68]

Table 3-12 - Basis of Additional Borrowing Costs

Premium	Additional Costs in bps (midpoint used)
Transaction Costs	6
Liquidity/RCF Costs	13
Cost of Carry	11
CPIH Premium	18-23 (21)
New Issue Premium (NIP)	8.5
Additional Cost of Borrowing	**57-62 (60)**

Using NERA's full range of both baseline CoD and additional borrowing costs would imply an overall CoD of around 2.82%-5.58%, with a **midpoint of CoD of 4.20%.**

[66] Beginning the weighting in T1 would delivery underperformance against the CoD among the TOs and T3 would have worse underperformance.
[67] Some of these premia were not utilised in the assessment of additional borrowing costs, others had different value estimates from NERA.
[68] NERA. (2024). *SPT Additional Cost of Borrowing for the RIIO-3 Price Control. page 3.*

3.4. A fair bet for investors - a balance of risk

3.4.1. Fair bet for investors

A critical element of financeability, and therefore investability is once a risk reflective WACC is set, companies can expect to earn that WACC, where there is an equal chance to out or underperform. In this section we undertake an assessment of risk facing our business, what actions or mechanisms can be utilised to manage or mitigate this risk, and how the various financial parameters and allowance mechanisms can be calibrated such that we face a symmetrical balance of risk around our expected return.

It is important that the investability framework ensures that the way that our financial package is related to other incentive/uncertainty structures is well understood. It is important, as Oxera highlight in their report "RIIO-3 Risks and Investability Topics" for the ENA that a company should be investable to ensure the principle of a 'fair bet' for investors. If our output delivery incentives (ODIs) are calibrated in such a way that they are disproportionately penalising, then the way that this impinges on our overall financial package (such as our CoE) should be directly part of the investability framework, rather than being treated as isolated elements of our strategy.

The same rationale can be applied for suboptimal incentives, such as "pace over perfection".[69] Investors should be adequately remunerated the risk they bear, especially where suboptimal project prioritisation may lead to weaker or riskier long-term investments. This highlights why calibrating incentives is vital for both investability and long-term operations. This interconnectedness was also highlighted by Oxera in their "Investability at PR24"[70] paper for Water UK. Oxera suggested, as an example relevant to the electricity transmission sector, that much of the PR24 Draft Determination uplift of the CoE was required in order to counteract the underperformance expected within the ODI/Totex.

Asymmetry of risks in current proposals

In the SSMD, Ofgem proposed that it will: "assess the financeability of energy networks on the basis of an efficient licensee adopting the notional capital structure"[71]. The theory behind this, is that if Ofgem sets an efficient notional company, that therefore sets a benchmark for companies, and customers are not left to pay for inefficiency in the transmission operators. This however does put a great deal of importance on getting the notional firm correct. We believe, as we go on to explain, that risks around the SSMD return proposals are too wide, asymmetric, and not always known.

3.4.2. Notional Gearing and RoRE

In RIIO-T3, as previously, Ofgem has based assessment of network companies on a notional basis, theorising an efficient company, and basing certain regulatory economic elements (such as the cost of capital) on this. This allows companies to target an efficient structure in

[69] Ofgem. (2024). *Jonathan Brearley's speech to Infrastructure Investor Network Investor Forum*. Available at https://www.ofgem.gov.uk/publications/jonathan-brearleys-speech-infrastructure-investor-network-investor-forum.
[70] Oxera. (2024). *Investability at PR24*. page 75.
[71] Ofgem. (2024). *RIIO-3 Sector Specific Methodology Decision – Finance Annex*. p132.

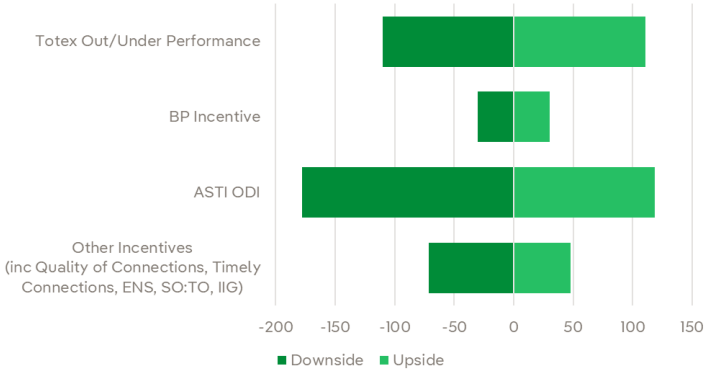
lieu of competitive elements. For example, on a notional company basis, the proposal for efficient gearing level for the transmission network is 55% in RIIO-T3, whereas SPT's gearing level based on Ofgem assumptions in RIIO-T3 resulted in an average of 62%. Our proposals would suggest that our credit rating target would align with notional gearing where 55% is 'A' (and therefore above our target). While this may seem inefficient, we recognise the customer benefit of 55% for financeability, however Ofgem should ensure TO's are not penalised through a lower WACC as a result of a 55% notional gearing – adopting the flat WACC approach. This may however still be efficient in the T3 context, as it will allow us to maintain financial resilience in a context, as will be shown in more detail in the later section on credit risk, subject to potential shocks.

Among the classes of the financial ratios Ofgem decided to place emphasis on the leverage ratios on the basis of a theoretically efficient "notional firm", to reflect the risks within company capital structure choices.

For notional company regulation to be commercially sensible however, it must incorporate market elements which make the notional assumptions viable, otherwise it does not create a useful target for companies. In our opinion, based upon an assessment made by economic consultant Economic Insight, the notional company should allow for the industry and market-wide characteristics to be consistent with the notional approach, otherwise the notional company may present results with better credit terms than the actual company could reasonably access. It must also be understanding of the various complex relationships which exist within industry, such that the notional company would not be punitive on companies, for example between productivity and equity returns, investment and productivity etc. If such relationships are not well understood, the notional gearing exercise can become a blunt and arguably arbitrary regulatory instrument, in neither the long-term interest of companies nor customers.

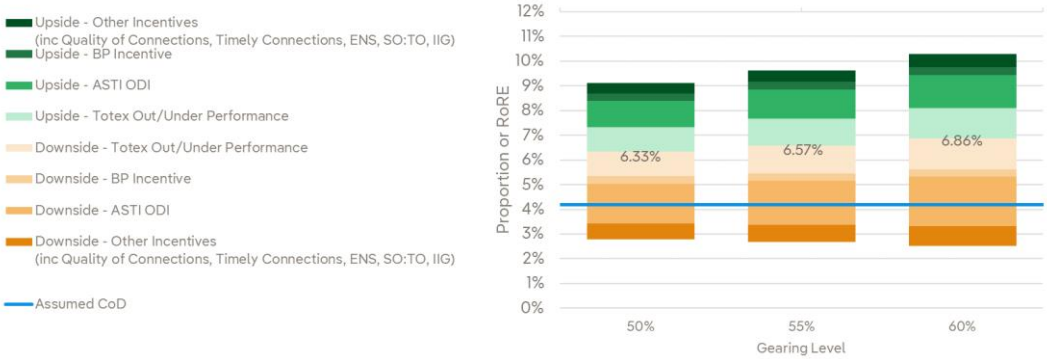
Our incentive mechanisms should be derived in such a way that they can ensure that investors are offered a "fair bet" in that we have an equal opportunity to over/under perform. Where this is not the case, as we discuss in both the "investability" section, this has a biasing impact on effective return, and in cases where this is overly penalising can make the sector less investable. As a way of ensuring that we remain investable, we propose that the penalty mechanisms should be capped in such a way where our theoretical CoE (after considering the worst case, as illustrated in Figure 3-5), should be a minimum of the CoD of 4.20% - this would allow our investors to have the confidence that their investment will not be negatively biased owing to regulatory mechanisms. To highlight the current issue with the regulatory mechanisms, even accounting for SPEN proposals, the graphs below highlight the asymmetry between rewards and penalties leading to minimum CoE (accounting for worst case scenario of these risks) lower than our CoD.

Figure 3-4 - Risk Mechanisms as Proportion of Regulated Equity



As a way of assessing this in the round, the following graph assesses the symmetry of such incentive mechanisms[72].

Figure 3-5 - Risk Mechanisms as Proportion of Regulated Equity (Various Gearing Levels)



There is the risk in RIIO-T3, that with the large ASTI projects, that potential penalties could reduce our effective overall financial package, and this will have a direct impact on our investability. Our ASTI projects, have a potential penalty associated with them during RIIO-T3 of £67.4m in 2023/24 prices. If the same rationale was applied to our CSNP-F (Centralised Strategic Network Plan Funding)-based projects or our load related reopener projects, for example, then the potential vulnerability, again, is that the penalties that we may face for late deliver of such work may impact our overall financial package, in an environment where the magnitude of our delivery is higher than ever. In our TIM (Totex Incentive Mechanism) we also note that, in line with the work carried out by S&C, associated risk in this mechanism is greater in T3. We propose in our business plan, a more stepped approach to the TIM mechanism, such that beyond a threshold, there is more protection for under and overperformance in this uncertainty mechanism. These above graphs reflect this stepped approach, where without it the risk ranges would be much broader.

In aggregate, at present, where project-specific milestones are missed due to the increase risks associated with these projects, there is also the financial risk overall of us breaching our

[72] Note, this is not the most negative view of the regulatory mechanisms, as it does not take into account licence breaches, which, as explained elsewhere in this report have the potential impact of 10% of base revenue of a given year.

licence, therefore subjecting us to further financial impacts through penalties. If, we had a breach we could be subject to a potential penalty of up to £146m[73] (2023/24 prices). As such, any consideration of our investability should consider this potential risk, and how this impacts our ability to prioritise decision-making.

As our business is 55% geared, we must maintain access to capital markets to fund our investments. It is therefore important to allow us a suitable credit rating so. As we detail in our section 3.4.2, we propose notional gearing should be aimed, primarily, at closing gearing, to avoid strains in cashflow from operations. In order to maintain an appropriate return to remain investable, as we detailed in section 3.3.4, we also propose we align with previous regulatory precedent of utilising the flat-WACC approach in determining our CoE.

The CoC proposed by Ofgem does not consider the financial package in the round against other regulatory mechanisms/interventions - not in line with maintaining investability. Our financial proposals treat the financial package as a more all-encompassing mechanism, therefore is more appropriate at delivering investability, even in light of the other mechanisms that exist.

3.4.3. Investment grade credit rating, robust to shocks

NERA Financeability Analysis for SP Transmission over RIIO-T3 – Deterministic

We commissioned NERA to undertake financeability analysis on a notional and actual basis using the BPFM model and Ofgem's 16 financeability scenarios for TOs. They also set out specific issues with the Ofgem modelling approach impacting financeability results. They present results of two additional SPT scenarios:

- "SPT corrected Ofgem case" - correcting the BPFM modelling issues maintaining BPFM Ofgem's regulatory assumptions
- "SPT BP submission case" - making adjustments to regulatory parameters in line with our Business Plan submission

NERA Financeability Analysis for SP Transmission over RIIO-T3 – Stochastic

We also commissioned NERA to undertake financeability analysis on a notional basis for our business plan using stochastic risk modelling. They presented notional financeability results of our stochastic risk modelling using a modified version of the BPFM. The modified BPFM allowed NERA to test whether a given package of regulatory parameters enables us to remain financeable, defined by having a sufficiently high probability of meeting minimum levels of credit metrics required for an investment-grade credit rating - this also corrects several modelling issues in the BPFM

The remainder of this report sets out: their risk modelling framework, the distributional assumptions we used for our modelled risk factors, their stochastic risk modelling results, focusing on Moody's credit ratios/resulting credit rating, and the corrections NERA made to Ofgem's original BPFM that affect risk modelling results

Ofgem carries out "financeability" evaluations in fulfilment of their statutory obligations to consider the necessity of ensuring that businesses can afford to finance the operations that

[73] This is based on a breach in the 2030/31 period, where our forecasted revenues are £1,459m under our proposals (10%).

are covered by, or subject to, requirements under section 3A(2)(b) of the Electricity Act 1989 and section 4AA(2)(b) of the Gas Act 1986.104.

The final key test of financeability is ensuring companies are able to achieve a strong investment grade credit rating, resilient to plausible shocks. For RIIO-T3 the importance of this is more pronounced versus previous price controls, given the significant increase in the reliance on new debt and equity. We must be able to have good access to debt in T3 in order to ensure that we have the ability to raise debt capital to fund our investments. Access to debt, via debt markets, relies on credit ratings, which signal to lenders the level of riskiness attached to the business, and therefore the premium lenders will require for us to borrow. It is therefore in customers best interests for companies to receive as high a credit rating as possible, however this must be balanced against the additional cashflows required to achieve higher ratios. Our proposals prudently balance customers interests to ensure the optimal solution with a strong investment grade rating is the minimum.

In this section we cover:

- How credit ratings are assessed, and implications for RIIO-T3
- Financeability assessment based on Ofgem's prescribed parameters.
- Our proposals for financeability and the resultant financeability assessment.
- Ofgem's prescribed deterministic sensitivity analysis.
- Our probabilistic risk assessment/stochastic analysis

But first we summarise our financeability, both using Ofgem's prescribed SSMD financial parameters, and our own proposed parameters. Our key conclusion however is that Ofgem's prescribed SSMD parameters may leave us not financeable or investable in RIIO-T3, risking our ability to invest at the required level. Where our board assurance statement sets out: "However, it is SPT's view that, on the basis of Ofgem's RIIO-T3 working assumptions SPT may not be efficiently financeable and may fail financeability tests using key financial credit metrics."

Financeability Summary

Below we set out the key financial modelling inputs and assumptions for both Ofgem's prescribed modelling parameters, and our own proposed parameters:

Table 3-13 - Financial Parameters for Analysis

Inputs	Ofgem's Assumptions	SPT Assumptions
Cost of equity	5.05%	6.57%
Cost of debt	3.08%	4.20%
Gearing	55.00%	55%
Vanilla WACC	3.97%	5.27%
Asset lives	Held at 45	Held at 45
Capitalisation rate	Natural rate (92.7%)	Natural rate (92.7%)
Index-Linked Debt (ILD)	30%	30%
NPV Neutral Financeability Adjustment	N/A	£494m
Equity Issuance Cost	5.00%	5.00%
Dividend % of notional equity	3.00%	3.00%
Gearing Target	55% Opening	55% Closing
TIM	50%	Stepped 75%/85%/100%

3.4.4. Target Credit Rating

We have assessed the credit ratings for SP Transmission on both notional and actual basis against our target overall rating of Baa1/BBB+, before risk. This is consistent with our licence obligation to maintain an investment grade credit rating. In RIIO-T3, Ofgem do not currently consider there to be evidence of a need to target a particular credit metric level across their assessment of networks financeability, instead they decided to take an in-the-round assessment of credit worthiness.[74] We strongly urge Ofgem to maintain an overall target rating of at least Baa1/BBB+, for a number of reasons aligned with customers' interest:

1. There is strong rationale that a Baa1/BBB+ credit rating is critical to ensure access to capital throughout this period of significantly heightened capex.
2. A Baa1/BBB+ credit rating enables access to a lower cost of long-term debt, helping to keep consumer bills down, and avoiding the increased costs associated with a reduction in access to capital.
3. A switch to a lower rating than BBB+(Baa1) goes against the average of the iBoxx £ 10+ Utilities Index, which risks under remunerating appropriate debt costs if credit metrics checks deliver BBB (Baa2) outcomes. Our work with Economic Insight highlights the importance of this relationship between the CoD allowance and the target rating. Analysis by NERA in their 'Financeability Analysis for SP Transmission over RIIO-T3' concludes the iBoxx Utilities Index used to set the CoD allowance aligns with a Baa1 target.
4. Ofgem are rightly focussed on providing an investable outcome for RIIO-ET3, whilst ensuring electricity transmission remains a financially resilient sector, and a weakening of financeability targets could undermine this.

Beyond the preliminary outcome of Moody's assessment factors used by Ofgem, maintaining a certain credit rating with demonstration of "sufficient" operating and financial resources is one of Moody's uplifts for structural considerations as important features that can restrict issuer's ability to take action that could increase credit risk[75]. In our opinion achieving a Baa1 rating target would serve as a beneficial structural consideration for the networks. We assume a Baa1 rating as an indicator for mitigation strategy to the crystallization of credit risk which may negatively impact the network business and our customers.

On this note, SPEN goes further to carry out the company's financeability assessment with metrics which we assumed to be efficient for the notional company to achieve a "Baa1" credit rating target. We also considered the benefits of this target using key financial ratios and quantitative factors to assess and justify the "Baa1" target as a key factor in the focus on investability. Our work with Economic Insight concludes, first that there needs to be an overall prescribed target rating, and second that the target needs to be consistent with the level of notional gearing. This was previously discussed at the beginning of section 3.3.

Supported by Economic Insight's paper on notional financeability, we have considered alternative target credit ratings; however, we have weighed the cost and benefits of this with

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[74] *Ofgem. (2024). RIIO-3 Sector Specific Methodology Decision – Finance Annex. Page 138, S.5.32, para. 2.*
[75] Moody's Investors Services. (2022). *Rating Methodology - Regulated Electric and Gas Networks*. page 15.

the cost to customers of achieving a higher or lower rating. A higher target, while beneficial in driving lower debt costs, will be too costly to maintain according to our analysis. As set out below we have modelled a NPV neutral financeability adjustment required to achieve our target rating, a higher target would result in a significant increase in costs to customers in period, while still lower than the value our plan delivers, we felt it wasn't in customers best interest to advocate for a higher rating. Conversely, a lower target would leave us exposed to plausible external shocks, as covered in our probabilistic risk analysis work with NERA submitted alongside this annex and summarised below. This puts us at risk of escalating borrowing costs at a time when reliance on borrowing to invest is critical. Finally, a Baa1/BBB+ target aligns with regulatory precedent and promotes long-term financeability and investability.

In our opinion the achievement of our target rating reflects the underlying assessment factors and sub-factors hence should be considered important for RIIO-T3 assessment.

Our over-riding objective has always been to deliver an efficient financeable plan that will offer an adequate return to investors at the lowest possible cost to consumers. This results in the following credit rating based on Moody's 2022 rating methodology for regulated electric and gas networks.

Financeability Assessment Summary

Table 3-14 - Credit Rating Results

SPT	Notional	Actual
Credit Rating using SPT assumptions (6.57% CoE, 4.20% CoD)	Baa1 (8.3)	Baa1 (8.3)
Credit Rating using Ofgem's assumptions (5.05% CoE, 3.08% CoD)	Baa2 (9.4)	Baa2 (9.1)

The key ratios forming these results are detailed below in section 3.5.2. We achieve the optimal target credit rating of Baa1/BBB+ via three key adjustments:

First, an investable CoE (see 3.3.6) reflective of forward-looking risk, and robust against other available investment opportunities, set out in section 3.8.2.

Second, adjustments to the modelling within the BPFM, to better reflect how rating agencies assess credit risk. We have set out each of these adjustments in detail in the BPFM commentary. Primarily however, we have updated the approach to target gearing in the BPFM. Currently Ofgem's mechanism to target the notional gearing is by adjusting equity issuance to ensure opening gearing each year aligns with the notional assumptions. However, given the scale of investment the closing gearing each year significantly deviates from the notional assumption (62% on average over the period, versus the notional gearing of 55%). The consequence of this is that notional financeability worsens, given higher gearing is associated with a riskier business, and increased debt reduces key measures of FFO/Net Debt and RCF/Net Debt.

Therefore, when it comes to assessing financeability Ofgem's notional gearing is only as relevant as the mechanism to target it. Where under a normal price control small deviation from the notional level wouldn't impact financeability, the context of required optimal investment in RIIO-T3 means that rating agencies and therefore lenders will view the sector as riskier than the notional gearing that Ofgem has assigned would suggest. This mismatch

creates a funding problem for companies. We have therefore proposed that Ofgem should target closing gearing to align with notional, as that is how rating agencies will assess companies, ensuring that companies are therefore funded to maintain this level of gearing. Our alignment with a 55% notional gearing is dependent on Ofgem ensuring the dependencies on notional gearing are fully accounted for, where companies are not penalised for having a relatively low notional assumption and where companies are funded to maintain that level of notional gearing. This is the key driver of the different rating between notional and actual assessment using Ofgem's inputs. We have adopted our proposal to target closing gearing for our proposed parameters and assessment.

Finally, even after an investable level of return and adjusting the modelling as set out above (in addition to a nominal allowance for fixed rate debt), it is not enough to provide a financeable outcome and additional cash support will be required. We have set out this financeability gap in the form of an NPV neutral financeability adjustment, a figure required to achieve an investment grade credit rating, in addition to the elements set out above.

This value is estimated at £494m (23/24 prices) across the RIIO-T3 period, equivalent to £99m p.a.. This proposal is consistent with Ofgem's RIIO-T2 Finance Annex, paragraph 11.8 and paragraph 5.33 which highlighted the need to support network financial strength in high totex scenarios linked to net zero investments. We have been prudent in estimating this NPV neutral adjustment, such that we achieve an 8.3 credit rating – on the lower end of the Baa1 range we are targeting (7.5-8.5). Should Ofgem, not adopt an investable return and model adjustments we have set out, the required value to fill the financeability gap would increase to £738m across the RIIO-T3 period, equivalent to £148m p.a.

3.4.5. NPV neutral financeability adjustment

We propose this NPV neutral financeability adjustment is achieved via a combination of cash measures, where there are first principles rationale or regulatory precedent for adopting:

Asset lives: The adoption of an assumption of lower than estimated technical asset lives. Ofgem's recent consultation on the Early Competition Model[76] recommends that asset lives for these projects Transmission assets be 35 years to create an investable vehicle. Given the scale of investment SPEN forecasts the need to reduce asset lives to support financeability is greater than for early competition models.

Index-Linked Debt (ILD): We expect the ILD notional assumption of 30% should be reduced, given the size of the UK corporate ILD market is incapable of maintaining a 30% ILD assumption. The new notional assumption should align with the expected average ILD debt portion for the ET sector over the RIIO-T3 period.

Capitalisation rates: In line with regulatory precedent from the RIIO-T2, "avoid over-capitalisation, as this could result in less fast money than might be reasonable, which could hamper company investment and consumer interests"[77], Ofgem should continue to set capitalisation rates below the natural rate

[76] *Ofgem, Onshore electricity transmission Early Competition: Consultation on the first project to be competitively tendered (Dec 2024), and Consultation on the onshore electricity transmission Early Competition commercial framework (Oct 2024).*
[77] *RIIO-2 Final Determinations – Finance Annex (REVISED), pg. 116, Available at: https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf.*

3.5. Ofgem in-the-round assessment approach

In RIIO-T3 Ofgem decided that they will retain the in-the-round assessment that targets each licensee, adopting the notional capital structure and assuming efficient performance, broadly achieving comfortable investment grade credit quality[78]. They also decided to continue utilising key credit rating agency methodologies and other approach used in determination of credit opinions to assess the financeability of the networks.[79]

Additionally, Ofgem assert that Moody's methodology scorecard used to create implied ratings is the "most transparent" and as such would continue to use Moody's methodology scorecard to create implied ratings for network companies in RIIO-T3.[80]

3.5.1. Overview of Moody's framework

Moody's rating methodology adopted by Ofgem for RIIO-T3 financeability assessment, uses a general framework which uses the scorecard approach with quantitative metrics for rating regulated energy networks in assessing their credit risk, operational performance, and regulatory environment. However, one of Moody's scorecard's drawbacks is that depending on the specifics of each company, importance of a given indicator can differ significantly.[81]

We have adopted Moody's investment grade rating approach which assess networks credit risk under the following framework:

1. Regulatory environment and asset ownership model (40%)
2. Scale and complexity of capital program (10%)
3. Financial policy (10%)
4. Leverage and coverage (40%)

The notional results against this Moody's framework for both Ofgem's (X) and our own (X) financeability assumptions are set out below in summary.

Table 3-15 - RIIO-T3 Rating Result: SPT

Rating Factors	Sub-factors	Aaa	Aa	A	Baa	Ba	B
Regulatory Environment & Asset Ownership Model (40%)	a) Stability and Predictability of Regulatory Regime	xx					
	b) Asset Ownership Model		xx				
	c) Cost and Investment Recovery			xx			
	d) Revenue Risk		xx				
Scale & Complexity (10%)							xx
Financial Policy (10%)	Financial Policy & Behaviours				xx		
Leverage and Coverage (10%)	3-year adjusted interest cover ratio				xx		
	3-year net debt/RAV			x	x		
	3-year FFO/net debt				x	x	
	3-year RCF/net debt				x	x	

[78] *Ofgem. (2024). RIIO-3 Sector Specific Methodology Decision – Finance Annex. Page 139, S.5.31, para. 1,*
[79] *Ofgem. (2024). RIIO-3 Sector Specific Methodology Decision – Finance Annex. Page 139, S.5.36, para. 1*
[80] *Ofgem. (2024). RIIO-3 Sector Specific Methodology Decision – Finance Annex. Page 138, S.5.34c*
[81] Moody's Investors Services. (2022). *Rating Methodology - Regulated Electric and Gas Networks*. page 22.

3.5.2. Ratio analysis and implication for RIIO-T3

In this section we used Ofgem's assumptions for the notional and actual company in RIIO-T3 demonstrating movement in our credit ratios and the overall impact on our business.[82] We have examined each of the four aforementioned factors and the unique sub-factor ratios for SP Energy Networks RIIO-T3 notional result and actual result. We also made a comparative analysis between SP Energy Networks T2 and T3 results.

In few assumptions, we agree with Ofgem that an approach that use strict application on one credit rating agency interpretation may not be consistent with the in-the-round assessment. However, for the purpose of this assessment we have reflected Moody's rating framework as the most transparent and quantitative in order to do this assessment of financeability, noting that a comprehensive assessment is required considering other rating agencies assessments.

a. Adjusted Interest cover ratios (AICR)

In assessing the financeability of the networks, the AICR is used as an indicator of a network operators' ability to service its debts. This ratio is used to measure the number of times SP Energy Networks can meet its interest obligations from its funding from operations (FFO). Using Moody's methodology, Ofgem applies this to networks companies in a manner where our FFO is adjusted by the capital charges which were included within the current allowed revenue at the benefit or expense of foreseeable future revenue. Moody's Investors Service suggest better comparability of interest coverage for networks under one regulatory regime and for networks under several regulatory regimes is achieved by excluding capital charges from FFO.[83]

Having used the parameters set by Ofgem on a base case scenario as provided in the SSMD our AICR 3yrs average in line with Moody's methodology resulted in Baa with the ratio indicator of 1.74 annual average for RIIO-T3 period – weaker when compared to RIIO-T2. The RIIO-T3 ratio weakness is traceable to the higher CoD and increase in our debt profile to finance our required investments.

Table 3-16 - SP Energy Networks AICR Compared with Ofgem Base Case Scenario

Notional Company	26/27	27/28	28/29	29/30	30/31	T3 Average	T2 average
AICR Ofgem's view	1.83	1.74	1.71	1.69	1.72	1.74	2.1
AICR Implied Rating (Ofgem's view)	Baa	Baa	Baa	Baa	Baa	Baa	A
AICR SP Energy Networks' view	1.97	1.92	1.88	1.85	1.83	1.89	2.1
AICR Implied Rating SP Energy Networks' view	Baa	Baa	Baa	Baa	Baa	Baa	A

Ofgem asserts that a short term cashflow shortfall for debt financeability as evidence of inadequate return, is not a consideration for them.[84] However, as a company we understand the implication of a weak AICR result in RIIO-T3, which indicates that SP Energy Networks funding from operations would only be able to cover the interest in 1.74 times on average for

[82] As per Moody's methodology.
[83] *Moody's Investors Service (2022). Rating Methodology – Regulated Electric and Gas Networks. page 12.*
[84] *Ofgem. (2024). RIIO-3 Sector Specific Methodology Decision – Finance Annex.* Page 141.

RIIO-T3. With this indication, we are of the opinion that there is a high probability that the regulatory parameters provided on the SSMD pose a challenge for SP Energy Networks in terms of debt servicing in an inefficient manner and as such we disagree with Ofgem assumed rates.

Table 3-17 - AICR Comparison of SP Energy Networks and Ofgem actual View

Actual Company	26/27	27/28	28/29	29/30	30/31	T3 Average
AICR Ofgem's view	1.42	1.49	1.51	1.54	1.52	1.49
AICR Implied Rating (Ofgem's view)	Baa	Baa	Baa	Baa	Baa	Baa
AICR SP Energy Networks' view	2.09	1.86	1.84	1.86	1.84	1.90
AICR Implied Rating SP Energy Networks' view	A	Baa	Baa	Baa	Baa	Baa

b. FFO over net debt

This ratio is used to measure the ability/capacity of a network company to generate sufficient cashflow from operations to cover its debt obligation. The higher the ratio the better for the network company. Based on Ofgem parameters provided on the SSMD, our result reveals an average of 8% with a rating indicator of "Ba" based on Moody's methodology as shown below.

Table 3-18 - SP Energy Networks FFO/Net-Debt Compared with Ofgem Base Case Scenario

Notional Company	26/27	27/28	28/29	29/30	30/31	T3-Average	T2 Average
FFO/Net-Debt Ofgem's view	7.8%	7.6%	7.5%	7.5%	8.1%	7.7%	14%
FFO/Net-Debt Implied Rating (Ofgem's view)	Ba	Ba	Ba	Ba	Ba	Ba	Baa
FFO/Net-Debt SP Energy Networks' view	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	14%
FFO/Net-Debt Implied Rating SP Energy Networks' view	Baa	Baa	Baa	Baa	Baa	Baa	Baa

In line with the AICR, there is a decline in FFO/Net-debt ratio in RIIO-T3 when compared with T2 result. The T3 result reveals that SP Energy Networks on average have only 8% capacity from funds from operations to cover or repay its net debt obligations, a risk factor to financial resilience. This justifies why Ofgem needs to review the elements of financeability, including overall WACC provided in the SSMD in order to give sufficient coverage to the net debt.

Table 3-19 – FFO/Net Debt Comparison of SP Energy Networks and Ofgem View (Actual Company)

Actual Company	26/27	27/28	28/29	29/30	30/31	T3-Average
FFO/Net-debt Ofgem's view	9.2%	8.5%	7.9%	7.7%	7.4%	8.1%
FFO/Net-debt Implied Rating (Ofgem's view)	Ba	Ba	Ba	Ba	Ba	Ba
FFO/Net-debt SP Energy Networks' view	12.8%	11.9%	11.9%	12.1%	12.0%	12.2%
FFO/Net-debt Implied Rating SP Energy Networks' view	Baa	Baa	Baa	Baa	Baa	Baa

c. RCF over net debt

This ratio is an indicator of the strength of a network's cash flow. The higher the level of retained cash flow relative to a network operators' debt, the more cash it has, to support its capital expenditure program.

Using Ofgem assumptions, on average of 5.6% of SP Energy Networks net debt will be covered by our retained cashflow (before working capital movement and capital expenditures and after dividend payments). This results in a "Ba" Moody's rating.

Table 3-20 - SP Energy Networks RCF/Net-debt compared with Ofgem base case scenario (Notional)

Notional Company	26/27	27/28	28/29	29/30	30/31	T3 Average	T2 Average
RCF/Net-Debt Ofgem's view	5.7%	5.5%	5.4%	5.3%	5.8%	5.5%	11.8%
RCF/Net-Debt Implied Rating (Ofgem's view)	Ba	Ba	Ba	Ba	Ba	Ba	Baa
RCF/Net-Debt SP Energy Networks' view	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	10.7%
RCF/Net-Debt Implied Rating SP Energy Networks' view	Baa	Baa	Baa	Baa	Baa	Baa	Baa

The below table shows the result of SP Energy Networks RCF/Net-debt which further buttress the points earlier made on downward trend of the coverage ratios over the course of RIIO-T3 period when compared with RIIO-T2 result.

Table 3-21 - RCF/Net Debt Comparison of SP Energy Networks and Ofgem View (Actual Company)

Actual Company	26/27	27/28	28/29	29/30	30/31	T3 Average
RCF/Net-debt Debt Ofgem's view	7.0%	6.4%	5.7%	5.4%	5.1%	5.9%
RCF/Net-debt Debt Implied rating (Ofgem's view)	Baa	Ba	Ba	Ba	Ba	Ba
RCF/Net-debt Debt SP Energy Networks' view	10.5%	9.7%	9.7%	9.8%	9.7%	9.9%
RCF/Net-debt Debt Implied Rating SP Energy Networks' view	Baa	Baa	Baa	Baa	Baa	Baa

d. Net Debt to RAV Ratio

This ratio measures the percentage of financial leverage of the network regulated assets on the creditor's funds. It measures the indebtedness of the network and also serves as an indicator of a network susceptibility to financial distress in a business cycle. In RIIO-T3 SP Energy Networks result reveals that 62% of our regulated asset value is being financed using our creditors fund, with Moody's implied credit rating of Baa.

SP Energy Networks gearing ratio is higher than Ofgem "efficient company" gearing target of 55% for transmission networks. This indicates some issues in targeting notional gearing given this measure of capital structure leverage on debt exceeds the Ofgem target of 55%.

Table 3-22 - SP Energy Networks Net-debt/RAV compared with Ofgem base case scenario (Notional)

Notional Company	26/27	27/28	28/29	29/30	30/31	T3 Average	T2 Average
Net-Debt/RAV Ofgem's view	66%	64%	63%	61%	59%	62%	53.5%
Net-Debt/RAV Implied Rating (Ofgem's view)	Baa	Baa	Baa	Baa	Baa	Baa	A
Net-Debt/RAV SP Energy Networks' view	55%	55%	55%	55%	55%	55%	53.5%
Net-Debt/RAV Implied Rating SP Energy Networks' view	A	A	A	A	A	A	A

As discussed in our financeability summary section, Ofgem's targeting of opening gearing to 55% is unsuitable for RIIO-T3 given the increase in investment means closing gearing (the net debt to RAV ratio) is significantly away from notional gearing throughout RIIO-T3.

This indicates the issue whereby SP Transmission is not funded to maintain the notional gearing at "efficient" level, raising our risk profile to lenders. This has a further knock-on impact on other ratios which link to net debt, as this issue effectively increases the level of net debt. For the modelling of our own financeability parameters we have fixed this issue to target notional gearing on a closing basis, ensuring the mechanism and funding are sufficient to maintain notional gearing.

Table 3-23 – Net Debt/RAV Comparison of SP Energy Networks and Ofgem View (Actual Company)

Actual Company	26/27	27/28	28/29	29/30	30/31	T3 Average
Net-Debt/RAV Ofgem's view	55%	55%	55%	55%	55%	55%
Net-Debt/RAV Implied Rating (Ofgem's view)	A	A	A	A	A	A
Net-Debt/RAV SP Energy Networks' view	55%	55%	55%	55%	55%	55%
Net-Debt/RAV Implied Rating SP Energy Networks' view	A	A	A	A	A	A

e. CAPEX/RAV Ratio

The CAPEX/RAV ratio is used to measure the scale and complexity of the capital program of a network company considering:

- The size and scope of the network
- The complexity of the type of assets to be built.
- Management ability to deliver the plan without material cost over-runs; and
- If the capital program will introduce financing challenges.

We have adopted the "natural split" as prescribed by Ofgem for our CAPEX and in RIIO-T3 SP Energy Networks CAPEX/RAV ratio resulted in 27%, with a Moody's implied rating of "B". This could be interpreted that the capital program of SP Energy Networks is very large in size, and highly complex in scope, with an indication of execution risk. Assessing this further shows foreseeable growth in SP Energy Networks is encapsulated in the large scope of investment in long-term value rather than short-term basis, justifying the CAPEX/RAV ratio result.

Table 3-24 - SP Energy Networks Capex/RAV compared with Ofgem base case scenario (Notional)

Notional Company	26/27	27/28	28/29	29/30	30/31	T3-Average	T2 Average
CAPEX/RAV Ofgem's view	39%	31%	26%	22%	15%	27%	15.5%
CAPEX/RAV Implied Rating (Ofgem's view)	B	B	B	B	Ba	B	Ba
CAPEX/RAV SP Energy Networks' view	39%	31%	26%	22%	15%	27%	15.5%
CAPEX/RAV Implied Rating SP Energy Networks' view	B	B	B	B	Ba	B	Ba

Our approach to manage the indicated risk is that we have drawn out a plan to ensure diversification of our CAPEX to comprise significant individual projects, in order to ensure effective execution within the timeframe without material cost over-runs.

Table 3-25 - Capex/RAV Comparison of SP Energy Networks and Ofgem View (Actual Company)

Actual Company	26/27	27/28	28/29	29/30	30/31	T3 Average
CAPEX/RAV Ofgem's view	39%	31%	26%	22%	15%	27%
CAPEX/RAV Implied Rating (Ofgem's view)	B	B	B	B	Ba	B
CAPEX/RAV SP Energy Networks' view	39%	31%	26%	22%	15%	27%
CAPEX/RAV Rating SP Energy Networks' view	B	B	B	B	Ba	B

The above table shows that the variation between the capex to RAV ratio in RIIO-T3 and T2 is significantly wide. This result is much expected, based on the significant investment required in RIIO-T3 toward the achievement of net-zero goal. This represents the step change in our business risks we set out in section 2.3. Given the required optimal investment in RIIO-T3, we are unable to influence this measure of risk, where we require the in the round assessment to offset the negative implications of a 'B' rating in this area.

3.5.3. Conclusion

We have clearly set out our rationale for targetting a Baa1 credit rating, driving financeability and investability, allowing us to sufficiently raise new debt at reasonable rates, balanced in the best interests of customers.

We have demonstrated that the financeability assessment based on Ofgems prescribed parameters and modelling arrives at the bottom end of a Baa2 rating (9.4 in the range 8.5-9.5), representing a significant gap from our target rating, of Baa1 (range 7.5-8.5). We have then set out what it will take for us to achieve our target credit rating; an investable WACC, NPV neutral financeability adjustment, and modelling adjustments - calibrated to ensure we can achieve a reasonable Baa1 credit rating (8.3 in the range 7.5-8.5). We now test our financeability further, first using Ofgem's prescribed deterministic analysis on the Ofgem notional position, then testing our proposed paramaters on a notional basis using a probabilistic analysis.

3.6. Deterministic Risk Analysis

We have also undertaken the deterministic analysis of financeability scenarios for the notional and actual company to demonstrate the movement in our credit ratios and the overall credit rating per Moody's methodology set out earlier as prescribed by Ofgem in the SSMD. The 15 prescribed scenarios, subheaded to assess the effect of macro changes, performance changes and other scenarios results are shown below.

Table 3-26 - Ofgem Prescribed Deterministic Modelling Scenarios

Macro	Performance	Other
±2% Interest rate scenarios	±10% Totex performance.	±10% Proportion of inflation linked debt.
±2% CPIH scenarios in each year	±2% RoRE compared to base assumption.	1.5% Assumed dividends as a % of equity.
±0.5% from assumed RPI/CPIH wedge		

Table 3-27 - Table 3 - Deterministic Analysis Results (Ofgem SSMD working assumptions)

		Notional						Actual					
	Key Metrics	Capex / RAV	AICR	Net debt /Closing Rav	FFO / Net-debt	RCF / net debt	Overall rating	Capex / RAV	AICR	Net debt / Closing Rav	FFO / Net-debt	RCF / net debt	Overall rating
Ofgem base case	Static value	27%	1.74	62%	7.7%	5.5%	Baa2	27%	1.49	55%	8.1%	5.9%	Baa2
Macro Scenario	Interest rate +2%	26%	1.64	62%	8.0%	5.8%	Baa2	26%	1.24	60%	6.8%	6.8%	Baa3
	Interest rate -2%	26%	1.92	63%	7.4%	5.8%	Baa2	26%	1.54	60%	7.2%	7.2%	Baa2
	High Inflation	27%	1.74	62%	7.7%	5.5%	Baa2	27%	1.36	60%	7.1%	7.1%	Baa2
	Low Inflation	26%	1.74	63%	7.7%	5.6%	Baa2	26%	1.35	61%	7.0%	7.0%	Baa3
	High CPIH inflation divergence +0.5%	26%	1.74	62%	7.7%	5.5%	Baa2	26%	1.35	60%	7.0%	7.0%	Baa3
	low CPIH inflation divergence -0.5%	27%	1.74	62%	7.7%	5.5%	Baa2	27%	1.35	60%	7.0%	7.0%	Baa2
	High RPI inflation divergence +0.5%	26%	1.74	62%	7.7%	5.5%	Baa2	26%	1.35	60%	7.0%	7.0%	Baa2
	low RPI inflation divergence -0.5%	26%	1.74	62%	7.7%	5.5%	Baa2	26%	1.35	60%	7.0%	7.0%	Baa2
Perfor-mance scenario	Totex 10% Outperformance	24%	1.80	61%	8.2%	6.0%	Baa2	24%	1.40	59%	7.5%	7.5%	Baa2
	Totex 10% underperformance	29%	1.68	64%	7.3%	5.2%	Baa2	29%	1.31	62%	6.6%	6.6%	Baa3
	(+2%) RoRE compared to base assumption	26%	2.09	62%	9.1%	6.9%	Baa2	26%	1.61	60%	8.5%	8.5%	Baa2
	(-2%) RoRE compared to base assumption	26%	1.40	63%	6.3%	4.2%	Baa3	26%	1.10	61%	5.6%	5.6%	Baa3
Other Scenarios	(+10%) inflation linked debt	26%	1.78	62%	7.7%	5.6%	Baa2	26%	1.32	60%	6.9%	6.9%	Baa3
	(-10%) inflation linked debt	27%	1.70	62%	7.7%	5.5%	Baa2	27%	1.38	60%	7.2%	7.2%	Baa2
	1.5% sssumed dividends as a % of equity	26%	1.75	62%	7.8%	6.7%	Baa2	26%	1.34	60%	7.0%	7.0%	Baa3

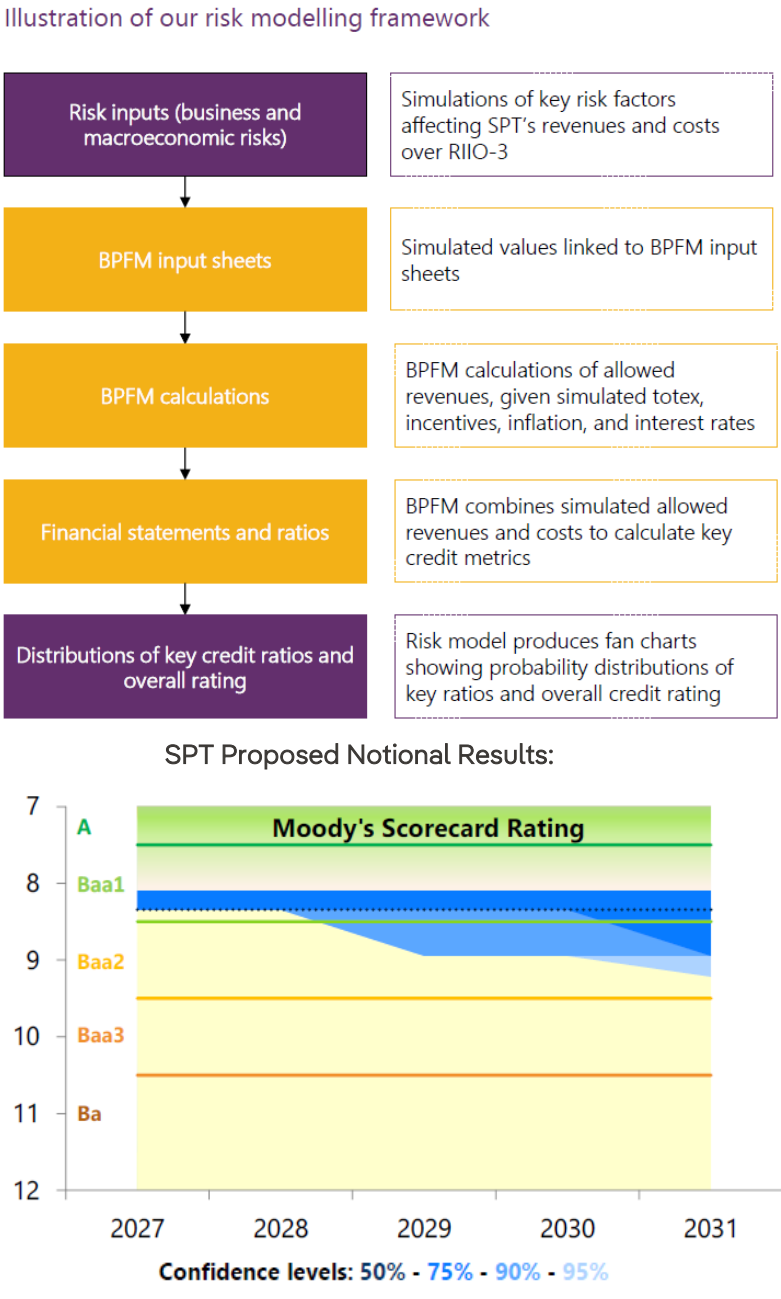
As can be seen, in most instances the overall rating is consistent with the base case – out with the Baa1 target. NERA's 'Financeability Analysis for SP Transmission over RIIO-T3 – Deterministic' contains the details results of this analysis. The report also considers, first, the updated Ofgem base case if reflective inputs were used, and modelling issues are fixed. Second, the SPT proposed parameters base case, demonstrating the achievement of the target Baa1 rating.

3.7. Probabilistic Risk Analysis

As part of our justification for SP Energy Networks financing package, we have carried out a more comprehensive risk assessment of our proposals to ensure that once the parameters are sufficient to achieve our target credit rating, we can retain that rating when considering a robust set of interconnected risks.

NERA's 'Financeability Analysis for SP Transmission over RIIO-T3 – Stochastic' contains the full risk analysis which is summarised here. We have worked with NERA to model a set of risks following their risk modelling framework:

Figure 3-6 - Risk Modelling Framework Summary



SPT Proposed Notional Results:

Table 3-28 - Modelled Business Risk Factors and Distributional Assumptions

Risk Factor	Distributional Assumption
Actual totex	**Triangular distribution** Most likely: SPT base totex (£10,464m real 23/24); P5: 10% underspend relative to most likely, P95: 10% overspend
Incentives – Quality of Connections	**Uniform distribution** Min: -0.50% of EABR, max: +0.30% of EABR
Incentives – Timely connections	**Uniform distribution** Min: -0.05% of EABR, max: +0.00% of EABR
Incentives - ENS	**Uniform distribution** Min: -1.90% of EABR, max: +0.40% of EABR
Incentives – SO:TO	**Uniform distribution** • Min: no reward, max: £10m p.a. reward
ASTI – delay penalty	Custom distribution based on SP Energy Networks view • P50: Half-year delay, P10: 1-month delay, P90: 2-year delay
ASTI – licence breach penalty	Applies when ASTI delay is equal to or greater than 2 years (i.e., in P90+ delay scenario)
CPIH inflation	**Triangular distribution** • P50: 2.1%, P10: -0.7%, P90: 5.5% (average over RIIO-T3)
Risk-free rate - 20Y ILG yields	**Normal distribution** Mean: 1.27% real CPIH (Scenario 1), 1.54% real CPIH (Scenario 2); Standard deviation: 1.54% (average over RIIO-T3)
Cost of debt - iBoxx Utilities yields (FY)	**Normal distribution** Mean: 3.93% real CPIH (Scenario 1), 4.60% real CPIH (Scenario 2), Standard deviation: 1.49% (average over RIIO-T3)

Key Conclusion:

SPEN's proposed adjustments to regulatory parameters significantly reduces the risk a Baa3 rating, with our RIIO-3 forecast Moody's rating remaining at Baa2 at the 95th percentile.

3.8. Cross checking other investment opportunities

3.8.1. Cost of Equity – Step 2 - Cross-checking and Investability

We expect to use cross-checks at a simplistic level as a sense-check of the outputs produced by the CAPM methodology. This should not only be examining the accuracy of CAPM at acting as a proxy for equity returns, but should also be establishing whether or not the estimates produced by CAPM are a financial package which is itself investable. If this is not the case, this may raise the question over whether additional adjustments are needed to ensure that our ability to raise equity capital for our investments is not unjustly constrained from insufficient regulatory mechanisms. There should be consideration within Ofgem as to the extent to which "aiming up" is applied, where investability of the sector dictates, either through directly addressing such issues that harm the regulatory package (as set out below) or where cross-checks show that the CoE does not suffice at providing investability for the sector.

We do not believe that the cross-checks being proposed are wide enough, or robust enough to provide confidence in the investability of the point estimate of the CAPM, and therefore that WACC is high enough.

Our proposals of using CoE cross checks (detailed in Section 3.8.2), mitigates a great deal of this risk. We are confident in this approach, as our proposals test against a multitude of CoE methods, (e.g. debt-based, equity-based, accounting-based etc.), and therefore provide the assurance that our approach drives an estimate that is reasonable and investable.

Rationale of CAPM cross-checks

In RIIO-T3, perhaps more than ever before, it is vital that the method by which we estimate the cost of capital should be scrutinised to ensure that returns are robust. As such, we can use alternative estimating techniques to determine whether the CoE produced by CAPM is not overly influenced by methodological bias. If a CoE estimated by a multitude of models/procedures is similar, then we can be more confident in the estimate produced as being representative of a robust rate of return.

3.8.2. Cross Checks Introduction

We suggest adjustments to the equity return should be carried out by default in order to incorporate forward risks. Additionally, we put forward Frontier Economics' proposed framework which assessed investability around testing if RoE was sufficient considering RoD and if RoE was sufficient given other investment opportunities. Frontier Economics' assessment of Ofgem's cross checks for RIIO-2, determined cross checks contained weaknesses and embeded subjective assessments, critical errors and data not available to update all checks. The resultant rolling forward approach would calculate a CoE range that was too low[85]. The UKRN acknowledge that even where cross checks have inherent subjective judgements within their computation, they are still important to provide a sense check on the point estimate of the CAPM, given it is merely one model[86]. In testing against

[85] Frontier Economics. (2024). *Updated Cost of Equity Cross-check Evidence*. page 3.
[86] UKRN. (2024). *UKRN guidance for regulators on the methodology for setting the cost of capital*. page 26.

the CAPM estimates, there are a number of models that can be employed to produce an alternative estimate.

In terms of the importance of specific cross-checks, a considered approach is required where the level of weight placed on each cross checks is largely dependent on the purpose of the cross-check being undertaken. For example, a cross-check which aims to understand if a CoE estimate is sufficient for investability purposes may emphasise more heavily on one cross-check, more than if it were to assess value for money for customers. The Energy Networks Association (ENA), which SPEN are a member, commissioned Frontier Economics to assess cross-checking methodologies, to assess the robustness of the CoE estimates of CAPM. These are set out in this section, alongside what the conclusions mean for the estimates.

3.8.3. Equity-based cross-checks

MARs

Market Asset Ratios (MARs) are commonly employed by Ofwat and Ofgem, assessing enterprise value of a company compared with the RAV. This is used to calculate whether returns are discounted or at a premium compared to what a rational investor may expect to achieve. Ofgem acknowledge (in line with the CMA's conclusions from RIIO-T2) in their SSMD that MARs cannot pinpoint a CoE proxy necessarily in their own right, but are at least indicative if, MARs premia are too high, CoE may not be justifiable at that level.

Prior to the SSMC, the ENA commissioned an analytical piece of work by Frontier Economics[87] assessing the cross-check methods being employed – MARs being one. MARs in RIIO-T2 assessed CoE to be at or less than 4.2%, lower than the estimated 4.25% CoE actually estimated for SP Energy Networks[88]. Frontier criticised the use of MARs as:

1. The causal relationship inherent to inferring allowed CoEs from market asset ratios.
2. The relative unknown of investor expectations with respect to MARs
3. Final transactional decisions may be based on a number of factors, not all should be considered for return expectations.

Frontier also found empirically that MARs are very volatile in both water and energy sectors, implying volatility of expected return rates from them. These theoretical and empirical shortcomings of MARs should raise scepticism on their usefulness as regulatory cross-checks for the CAPM estimates. Frontier in their assessment of cross checks assessed MARs across both electricity and water sectors in the UK. They found that MARs produced implied CoE estimations that were very broad (with a range of 4.90% - 12.33% - implying a CoE of around 8.61%). This is clearly above the equivalent CAPM estimate of Ofgem of 5.43%, and, alongside the other cross checks that we highlight in this section, demonstrate that Ofgem's estimates are not investable.

Infrastructure Discount Rates

[87] Frontier Economics. (2024). *Equity Investability in RIIO-3. A Report Prepared for the ENA.*
[88] 4.55% being the 60% notional geared CoE.

Infrastructure fund implied discount rates often aim to simulate real investment environment's real level of expected return based on the discount rates funds utilise in decision making. This method has the theoretical advantage over typical CoE models of using "real world" discount rates rather than estimating through a more conceptual framework. As part of analysis that supported some of the energy operators' responses to the SSMC, Frontier Economics[87] pointed out that many stakeholders believed that the risk profiles associated with the discount rates were different from that of the energy companies that they aimed to emulate. Therefore, there is question over the extent to which infrastructure fund-based discount rates are useful as a proxy for the transmission companies and their respective discount rates. Nonetheless, utilising this method, Frontier arrive at a CPIH discounted CoE of around 7.96% prior to the SSMC response.

3.8.4. Debt-Based Cross-checks

Hybrid Bonds

Hybrid bonds are a useful way of providing a sense check CAPM by ensuring that CoE estimates are sufficiently high enough to, as economic reasoning would suggest, be higher than senior debt, as otherwise risk would not be justifiable. In circumstances where there is an insufficient (or even negative) premium on equity against debt, underlying assumptions around TMR should be reevaluated, and therefore, subsequently, CoE be recalculated. This cross check is estimated on the basis of a spread, which is then adjusted for default risk, "equity likeness"[89] and then added to a proxy equity return on the industry (iBoxx £ Utilities 10Y+). This can then deduce an implied CoE.

Frontier, in conducting this analysis for the ENA on hybrid bonds issues by National Grid (given it is a proxy for networks in Great Britain and can be viewed as a conservative estimate of risks in network regulation). To ensure the robustness of these spreads, Frontier also assessed a large sample of peer bonds (long term, similarly rated, of similar maturity and denomination), this garnered a 136bp spread they had noted in their most up-to-date analysis of the NG bond.

Table 3-29 - Hybrid Bond Estimation of Implied Cost of Equity

Component	Sep-2024 update
Spread (adjusted for default risk, at issue)	+136bps
Equity-likeness %	50%
Higher returns on equity	+272bps
iBoxx £ Utilities 10Y+	5.99%
Nominal equity returns	8.7%
Real equity returns (2% inflation)	6.6%

(Frontier Economic hybrid bond analysis - September 2024)

This estimate is at the lower end of the range formed by applying sensitivities onto historical hybrid-iBoxx spread averaging method of iBoxx and the percentage that a hybrid bond is considered "equity like". When factoring in these, Frontier garnered a CPIH real range of 5.8-

[89] Frontier Economics. (2024). *Updated Cost of Equity Cross-Check Evidence*. page 19.

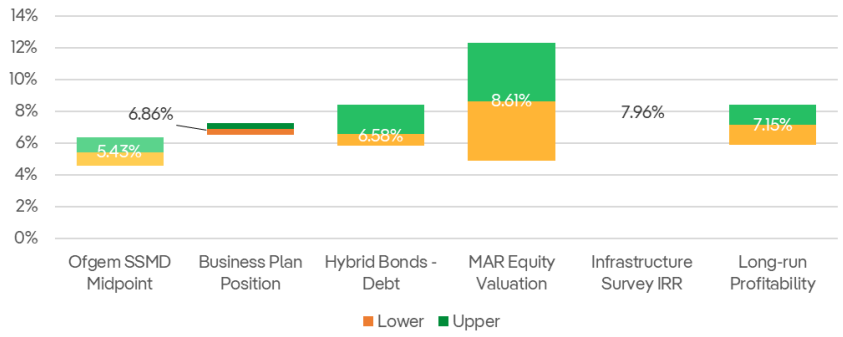
8.4%. Even taking the point estimate of 6.6%, this is still notably higher than the 5.43%[90] SSMD CoE, and higher than our 6.57% estimate of the CAPM CoE.

Fundamental/Accounting Based Cross-checks

Certain cross-checks which can be used, utilising readily available financial accounting information for a specific firm are fundamental/accounting based cross-checks, which use for instance ratios as a sense check of CoE estimates. These have the advantage of being generally accepted financial ratios, and therefore their use is not controversial as measures in themselves. They also contain some features investors will consider when making decisions and should additionally be able to capture long-term trends. The drawbacks of such methods are that they may bear little relationship to the market for stocks themselves, are by nature historic, and are limited by some of the assumptions that go into the underlying metrics. In Frontier Economics' analysis, they estimate a cross-check on overall CoE based upon long-run profitability and estimate a figure of around 7.15% (with a range of 5.9%-8.4%).

Below, we provide a comparison across our cross-checks, against both Ofgem's SSMD position, and our own estimates of CoE (on a 60% basis[91]), forming our view of the CoE. Our estimates lie within cross-check implied CoE values, and are more investable than that of the SSMD estimates, implying greater robustness of our estimates, with the figures highlighted being the point estimates.

Figure 3-7 - Comparison of Various CoE Cross-Checks



3.8.5. TMR-based Cross-Checks

In cross-checking the CoE it can be prudent to cross-check the parameters of CoE. As well as cross-checking approaches that look at the whole CoE, we present here some cross-checks on the level of TMR, to ensure that we have confidence that the TMR estimate is robust and will facilitate investable returns.

Dividend Growth Model (DGM)

One methodology often used to estimate CoE (and here TMR) is the dividend growth model. This method assesses expected returns as being a function of the following[92]:

[90] Implicit, based on the bottom-up midpoint of the 0.35 asset beta.
[91] For comparison purposes.
[92] Frontier Economics. (2024). *Updated Cost of Equity Cross-Check Evidence. page 23.*

"...the current share price must be equal to the present value of future dividends received. Using this relationship, we are able to derive the market TMR"

Given that this relationship assumes a relationship between expected dividends and current share price, it is arguably pertinent for utilities sectors, - typically utilities investors expect stable and sufficient dividend payments (see our Section 3.10). DGM is effectively used twice in this analysis, one is in its own right to determine an implied TMR (which Frontier estimates as around 7.07-8.69% (7.79% midpoint) and the other is as the basis for the TMR glider.

Long-run TMR

In understanding what level the TMR is around generally, and also to allow for a relationship between the DGM and the long-run average to produce the TMR glider, Frontier Economics provided a 124-year arithmetic average of the TMR.

This long-run average was around 6.97% in CPIH real terms.

TMR Glider

One TMR-based cross-check is the TMR Glider. This method explicitly assumes that there is a direct relationship between the TMR and gilt yields, and estimates an implied TMR based on historic gilt yields. In effect, this back calculates the required TMR.

The advantage of this approach, as that there is an economic rationale to its application, in that it can be used to gauge capital market conditions of what bond markets would imply equity markets should return, and therefore justify TMRs. This method can also be argued to be reasonable at estimating the actual rates of long-run TMR, oscillating generally around the long-run TMR average. For this reason, utilising the TMR glider can be recognised as a way of ensuring that the TMR used in the CAPM is at broadly the correct level.

This method involves the following stages in Frontier Economics' analysis for the ENA[93]:

1. Estimation of the TMR using a two-stage dividend growth model
2. Estimation of a linear relationship between estimates from the DGM and gilt yields
3. Test the validity of relationship against actual regulatory decisions
4. Cross-check against interest rate environment post-T2

When estimating on this basis, this implies a range of TMR (far narrower than the DGM method alone) of around 7.77%-7.95%.

Unutilised Cross-checks (CoE)– ARP-DRP

The ARP-DRP cross-check methodology which examines debt, and assets as the basis of what the rate of return on equity should be. This is calculated by assuming that the debt risk premium, if relevered to 100% should be the same as the ARP , such that, theoretically at least, opportunities for risk-free arbitrage between holding debt and equity should be difficult to non-existent. One advantage of this methodology, arguably, is that embedded

[93] Frontier Economics. (2024). *Updated Cost of Equity Cross-Check Evidence*. page 40.

biases existent within CAPM, within the ARP and DRP often offset each other, stripping much/all of the theoretical bias out of the CoE estimation. The UKRN previously argued that this method rests on the assumption that the calibration of the CoD and CoE be on a like-for-like basis, arguing that if CoE is based on long-run averages, and CoND is for new debt (short term here) then the relationship would not be a reasonable proxy for CoE as a cross-check[94].

The calculation of the ARP-DRP process is as follows:

$$ARP = asset\ beta \times\ (TMR - RFR)$$

$$DRP = CoND - expected\ loss - RFR$$

Oxera analysed the ARP-DRP relationship as the basis for a CoE cross-check for the ENA[95], and addressed some of the perceived shortcomings associated with the methodology. Though we do not provide an estimate of ARP-DRP as part of the scope of the cross-checks[96], we do consider the economic theoretical merits of the ARP-DRP methodology, and propose that this is considered as part of the draft and final determinations for RIIO-T3.

3.8.6. Cost of Equity – Step 3 - Adjustments to Estimates

When CoE is estimated, there is the scope for additional adjustments to be made on an ex-post basis. This is to allow for greater consideration for specific factors, not necessarily incorporated into the assumptions used for the traditional CoE models. This may, if utilised to foster investability, be an appropriate use of Ofgem's mechanisms.

In RIIO-T3, given the various risk factors that we have already set out, the resulting CoE from cross-checking mechanisms and the asymmetry of cost to benefits to customers from our plans (aligned with economic, environmental and societal benefits, which we have shown outweigh the cost of delivering out plans) **we believe that an adjustment grounds of investability may be necessary to correct for this asymmetry and risk imbalance, where the CAPM does not do so sufficiently – ensuring investability in the sector.**

3.9. Comprehensively remunerate equity issuance

Ofgem has already acknowledged the importance of raising new equity in order to invest given that residual income would not suffice for investment requirements. We also agree with Ofgem's comments in the SSMD that investors value stability and consistency in this area. Ofgem have suggested that they would maintain the 5% equity issuance allowance level from RIIO-T2 into RIIO-T3 as a business plan assumption. We do not believe that any reduction to the current equity issuance cost allowances would be sufficient to compensate SP Energy Networks for the equity issuance needed in order to raise the large amounts of capital required for T3.

It is important that SPT is able to efficiently raise the equity required for the large-scale investments that are required in the T3 period, and therefore, in order so that the difference is

[94] UKRN. (2023). *Appendix A: Guidance Consultation Issues and Taskforce Response*. page 12.
[95] Oxera. (2024). *Evaluation of the ARP-DRP Framework*.
[96] Neither Frontier Economics nor Oxera provided an estimate of the method in their reports referred to in this annex.

not having to be made up from the funds raised for investment, that the allowance is continually assessed to ensure it is sufficient.

Our proposals of having equity issuance allowances of 5% and ensuring additional indirect cost allowances, do, in our view sufficiently compensate for the required equity issuance costs.

3.10. Allow for regular dividend payments

Investors in sectors, such as ours in electricity transmission, prioritise stable and predictable dividend yields. As such, any framework which aims to deliver investability should ensure Operators have sufficient financeability to make regular dividend payments. Oxera highlight a number of publications in their suggestion that there is the existence of a "clientele effect" within utility company investment, and that investors in utilities are typically "income-seeking"[97].

Evidence exists suggesting that some investors are not indifferent to receiving dividends or capital gains, and often will favour the earlier, more explicit payment through a dividend. As such, in order to entice such equity capital investment, it is important that the industry has the means of making these payments, whilst ensuring that this does not cause excessive bills. Oxera set out empirical data investors expect a stable dividend yield relative to the profile of their investments over time, at an average level that is higher than the 3.0% base assumption in Ofgem's SSMD. Similarly, UK utilities have consistently exhibited higher dividend yields than the market average.

We do not believe that a finance package that does not allow for a dividend yield of above 3% in regular dividends to be paid would suitably entice investors to provide capital.

Our financial proposals for RIIO-T3 provide a revenue, such that regular fair dividends would be manageable to achieve. As suggested above, utilities investors often prefer dividend payments to equivalent capital gains, this proposed financial package should allow favour among such investors, and raise confidence that we are a viable investment, and regulation should ensure that this stability is maintained.

3.11. Opportunities coming from T3 scale of investment

In ensuring that the levels of investment are set at the right level in T3, not only can the industry avoid some of the pitfalls associated with the lack of investment/investability, but it can also reap the benefits associated with the level of investment being proposed for T3. Looking wider than the need for more electricity network infrastructure, there are wider economic and environmental benefits that can be achieved by ensuring that the ambitious investment that we are proposing is met.

[97] Oxera. (2024). *RIIO-3 Risks and Investability Topics*. pp 24-25.

CEP Economic Impact Assessment - Appendix

This section utilises independent academic work by the University of Strathclyde's Centre for Energy Policy (CEP). Their paper summarised findings of a research project that had been funded by SP Energy Networks but is entirely independent, with findings being subjected to peer reviewed scientific journal submission. CEP used a multi-sector economy-wide scenario simulation model, UKENVI, to assess how our RIIO-T3 investment plans are likely to impact the trajectory of UK GDP and employment outcomes across all sectors of the economy. Their scenario design and simulation approach incorporate both the need to recover investment costs through user bills (largely over assumed 45-year lifetime of assets) and presence of persisting supply constraints in the UK economy.

Independent academic work by the University of Strathclyde's Centre for Energy Policy (CEP) has been carried out, modelling the impacts of the proposed T3 investments on wider economic factors such as GDP, employment and inflation. They used a UKENVI, a form of Computable General Equilibrium model, widely used to model whole economy impacts of specific policies or proposals.[98] Using this, they estimated results of the impact of SP Energy Networks' T3 investments on the whole economy and found the following:

Table 3-30 - Modelled Net Economy-Wide Economic Gains Following SPEN Investment[99]

Net economy-wide gains	2030	Long-term
GDP (real impacts in 2023 prices)	1.04bn	2bn
Jobs (full-time equivalents)	7,447	11,459
CPI	0.09%	0.06%
Boost to Real HH Spending (real impacts in 2023 prices)	£46.78 per household	£60.21 per household per year

(CEP, 2024)

This modelling took into account potential adverse effects of our investment (such as displacement of job roles across other industries in the economy) and still highlighted that there were benefits going beyond the sector in our timely and efficient investment in our T3 proposals in multiple economic facets. As can be seen above, even though our proposals have a positive impact on inflation, our investment fosters greater real terms spending from households overall in the UK, given the wider economic benefits it brings to UK consumers.

These benefits, and the proposed investment should also be considered alongside the wider benefits in the transmission system that have been identified in other papers. One notable example of this is the work that was produced by NESO "Clean Power 2030" which highlighted both the transmission needs going forward, but also the benefits for the industry at large of delivering large scale investment to avoid constraints[100], therefore allowing for the fuller utilisation of the network. This work did demonstrate the requirement of early and increased investment into energy networks if such benefits were to be realised, highlighting, for context,

"An investment programme averaging over £40 billion annually can support economic opportunities and new jobs across the UK…"[101]

[98] Scottish Government. (2016). *Computable General Equilibrium modelling: introduction*. Available at: https://www.gov.scot/publications/cge-modelling-introduction/.
[99] Centre for Energy Policy. (2024). *How will SP Energy Networks' RIIO-T3 investment plans impact the wider UK economy?*. page 3.
[100] NESO. (2024). *Clean Power 2030 - Annex 2: Networks, connections and network access analysis.* page 4.
[101] NESO. (2024). *Clean Power 2030*. page 11.

The NESO work also made reference to the environmental requirements of the investment, for example in moving away from fossil fuels and ramping down of gas reliance and towards renewable power.

The efficiency and general performance of the wider network, as well as the improvement of the environment (in part achieved by our commitment to our Net Zero responsibilities) has been highlighted throughout this business plan. This reemphasises the reasons why the scale and pace of investment is necessary and efficient.

These two pieces of independent analysis suggest not only is the scale and pace of investment optimal and crucial, but the benefits customers receive from this investment, versus not doing so, far outweigh the costs. Our proposals will ensure we can attract the debt and equity finance at reasonable rates in order to achieve the scale and pace of investment required, and therefore maximise the benefits to customers and society.

4. Company dividend and equity issuance policy

4.1.1. Dividend policy

The delivery of the strategy of the SPENH Group, of which SP Transmission is a member, requires the SPENH Group to conduct business in a manner benefitting customers through balancing cost and risk while delivering shareholder value and protecting the SPENH Group's performance and reputation by prudently managing risks inherent in the business.

The Company's approved dividend policy is to pay a sustainable dividend to ordinary shareholders taking into consideration the impacts on current and forecast credit rating metrics and forecast profitability over a medium-term horizon. The regulatory target capital structure is also a consideration when proposing dividends.

SPEN will reinvest a significant portion of its profits back into the network to ensure an efficient, reliable and environmentally sustainable network. The Board of SPT ensures that it understands and considers shareholder views in order to preserve positive investor relations. In its capacity of providing oversight for the operational performance of the business, the Board also takes account of the forecast performance against performance targets, other output commitments and future requirements such as Accelerate Strategic Transmission Investment.

In advance of paying a dividend the board of SPT approve a pre-dividend certificate to Ofgem to confirm the proposed dividend will not place the licensee in breach of Standard Licence Condition B7.

4.1.2. Equity injection policy

The financing strategy of SPEN is to inject equity in a timely fashion so the companies gearing returns close to the notional level. This long-term approach is evidenced through equity injections in 2009 of £191m and in 2016 of £185m.