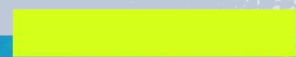


SSMC Response

Finance Annex

6 March 2024



Scottish & Southern
Electricity Networks

TRANSMISSION

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1. COST OF EQUITY

1.1. Setting the Right Cost of Equity

The Cost of Equity (CoE) is a core component of the Weighted Average Cost of Capital (WACC) and the allowed CoE must be set to ensure an adequate level of return is provided to equity investors. The level of CoE is therefore determined by the level of risk taken by equity investors with reference to systematic risks and asset risks. When considering the CoE it is therefore important to determine it based upon observable market evidence and superior cross checks, including the consideration of both backward and forward looking factors. This section sets out the key considerations and evidence required by Ofgem when setting the allowed CoE as follows:

- Context and Importance of Investability
- Calculating the CoE using the CAPM
- Cross Checks and Market Evidence
- Change in Risk Profile and Beta
- New Equity Issuance Costs

This evidence forms the basis of our view that setting the allowed CoE for RIIO-3 must be increased to reflect the context, market evidence, and change in risk profile. If Ofgem were to rely solely upon a roll forward of the RIIO-2 methodology without correcting for these changes, estimation errors, and new evidence, the CoE would be set materially too low. We encourage Ofgem to avoid overly relying on a RIIO-2 roll-forward or depend upon a narrow and specific interpretation of the UKRN Guidance when setting the allowed CoE.

1.2. Market Context and the Importance of Investability

There are several factors which distinguish RIIO-3 from previous price controls and underpin the importance of adopting an evidence based and risk reflective approach when setting the allowed CoE.

The scale of required investment in RIIO-3 represents an unprecedented step change in the drive to achieving Net Zero. The need for a financial framework which can attract and inspire investor confidence has never been more crucial and is reflected in the new statutory duty for GEMA to deliver on the government's net zero policy.

The notional company will need to attract a substantial amount of new equity beyond a level seen before to fund this scale of investment. This will be contingent on the relationship between allowed returns and forward-looking risk exposure, which will naturally increase in line with the delivery risks associated with the significant uplift in capital intensity. Equity investors will need to be adequately compensated for the level of risk while reflecting the competitiveness of other investments globally.

There has been a material shift in macroeconomic conditions which is reflected by a marked increase in inflation, commodity price volatility, significant increases in interest rates, and geopolitical circumstances. Globally there has been a step change in the scale of investment

in electricity systems where it is well documented that large proportions of Europe and in North America invest heavily in their electricity infrastructure. It would therefore be inappropriate for Ofgem to rely upon CoE regulatory methodologies and guidance developed during periods of sustained extremely low global and UK interest rates, inflation, and relatively stable market conditions. The CoE must reflect the current market environment such that interest rates now are at a level more in line with *normal* economic conditions i.e. pre-financial crisis. Care must also be taken not to misinterpret data around the Covid-19 period and the geopolitical crisis. As a result, we have sought to consider evidence based on observable market conditions while considering data over this period of volatility. Ofgem's RIIO-2 Cost of Equity methodology significantly underestimates the required return on equity when considering this material shift in the macro-economic environment.

Lastly, we believe that there is superior market evidence through observable cross checks which Ofgem should consider as part of setting the right allowed CoE. These include the comparison of risk premium attached to debt instruments compared to equity instruments (termed ARP vs DRP) and hybrid debt instruments. We also review cross checks Ofgem relied upon in RIIO-2 such as investment manager returns, and infrastructure funds returns which also illustrate a significant increase in the required return on equity.

These cross checks alongside forward-looking evidence and a comprehensive assessment of systematic and asset risk further support transitioning away from a roll-forward of the RIIO-2 methodologies. We see Ofgem's introduction of investability is a way to reflect that material shift, covering all the factors outlined above. In particular, we believe that Ofgem must ensure investability is not compromised for debt or equity investors given the scale of investment and financing required over the period. Ofgem has a duty towards the delivery of Net Zero and all the evidence supports a material change in the CoE.

Overall, we support the introduction of investability as a core concept and a key objective for RIIO-3 and believe that this objective is key to ensuring that equity returns are sufficient for both new and existing equity investors. We note Ofgem has not defined what they intend to mean for investability, and we propose it reflects the following factors:

- Strong investment grade credit rating¹ (i.e. Baa1/BBB+)
- Equity returns reflective of market evidence
- Risk adjusted equity returns and Return on Regulatory Equity (RoRE) ranges
- Efficient and fully financed debt costs (including transaction costs)²
- Appropriately funded costs of issuing equity
- Long-term stable and predictable regulatory framework
- Financial framework reflective of macro-economic factors

This will ensure we can raise the necessary financial capital from debt and equity markets at the best possible rates, at the right time, and the right amounts to deliver the major investment required.

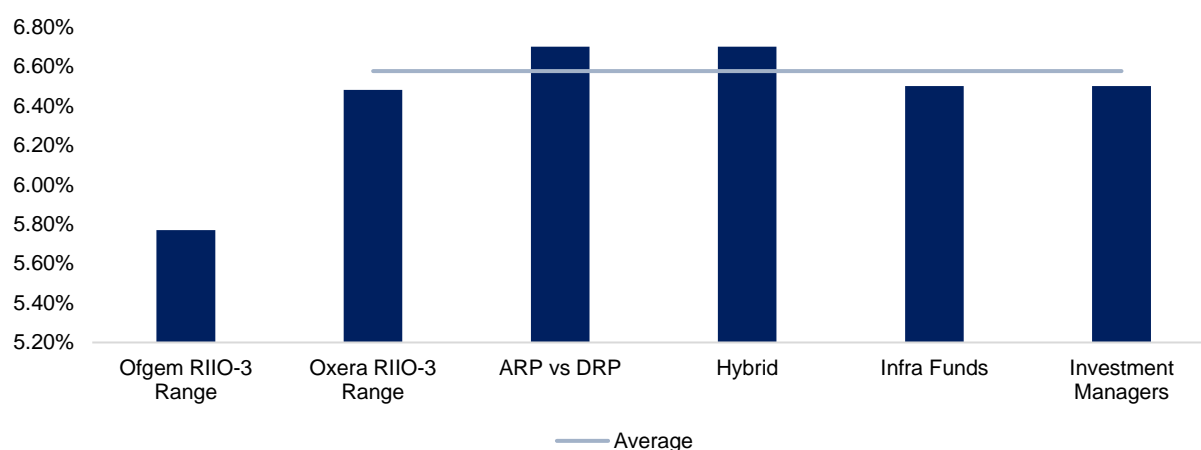
¹ This is covered in the section on Financial Resilience and Financeability.

² This is covered in the section on the Cost of Debt.

Our view on setting the right CoE compared to Ofgem’s proposed CoE approach is supported by evidence and analysis undertaken by Frontier and Oxera which has been conducted on behalf of the Energy Networks Association (ENA). The evidence highlights that a CoE approach which can achieve the policy objectives of the sector is one which offers sufficient consideration to market evidence and can determine the point estimate for RIIO-3. We also have further evidence in relation to the Costs of Issuing New Equity (Oxera (2024)³), Infrastructure Funds and Investment Manager Returns (Oxera (2024)⁴), and our own assessment of risks.

A summary of our evidence is set out in Figure 1 below. This compares the evidence to a potential Ofgem range based on rolling forward the RIIO-2 methodology. This demonstrates that the top of that range is insufficient to compensate equity investors. Separately, we have reviewed the material change in risk profile between RIIO-2 and RIIO-3 which also supports a material change in the allowed return on equity.

Figure 1 – Summary of Cost of Equity Evidence (CPIH real)



Source: Based on analysis of Frontier Economics, Oxera, and internal analysis

The weight and balance of evidence shows Ofgem’s RIIO-3 methodology will be incorrect if it is simply based on a roll forward of the RIIO-2 methodology. The top end of the Ofgem potential range is too low as evidenced by observable cross checks even those used by Ofgem in RIIO-2.

Separately, we have evaluated the change in risk profile from RIIO-2 into RIIO-3 based on extensive analysis of activity, expenditure, regulatory mechanisms and residual risk. This is set out in a separate section (section 1.9) and leads to similar conclusions that there is a break in the level of risk in RIIO-3 and the forward-looking risk and return balance should reflect that material change.

³ Oxera (2024): ‘Estimating the appropriate allowance for new equity issuances for RIIO-3’, Prepared for SSE 1 March 2024.

⁴ Oxera (2024), ‘Infrastructure fund and investment manager rates of return’, prepared for SSE, 1 March 2024

1.3. Calculating the CoE using the CAPM

We are supportive of Ofgem’s application of the Capital Asset Pricing Model (CAPM) in setting the cost of equity. The CAPM model is in accordance with UKRN Recommendation 2⁵ – acknowledging that this is an imperfect yet appropriate model. We have also looked at Multi-Factor Models (MFMs) for their explanatory power compared to the CAPM. The use of the above cross checks is also important when setting the right CoE for RIIO-3.

We believe several of the financial parameters within the CAPM require uplift from those determined at RIIO-2. Oxera has provided analysis which suggests a higher CoE range of **5.08% - 6.48%**⁶ in comparison to an Ofgem RIIO-2 roll forward range of **4.75% - 5.77%**. The evidence illustrates that a RIIO-2 calibrated roll forward which subject to an indexed Risk-Free Rate (RFR) would not sufficiently address investment requirements. We have summarised the COE range as calculated by Oxera and supported by Frontier in our discussion of each element of the CAPM below.

We have also summarised market based cross check data as analysed by Frontier and Oxera and detail why this meets the high evidential bar for moving away from any central point estimate of the allowed COE range. The cross-check analysis evidences that the COE estimate for RIIO-3 lies at the upper bound of the Oxera estimated range at 60% gearing⁷.

Table 1 – Oxera estimate of Ofgem’s CoE range and mid-point based on rolling forward RIIO-2 methodology compared to Oxera’s estimate of the CoE range based on their view of the evidence

	Formula	Ofgem approach		Oxera approach	
		low-high	mid-point	low-high	mid-point
RFR	[A]	1.32%	1.32%	1.85%	1.85%
TMR	[B]	6.25%-6.75%	6.50%	6.50%-7.50%	7.00%
Re-levered equity beta at 60% gearing	[C]	0.70–0.82	0.76	0.70–0.82	0.76
CAPM CoE	$[K_e]=[A]+[C]*([B]-[A])$	4.75–5.77%	5.26%	5.08–6.48%	5.78%

Source: Extract from Oxera (2024)⁸

⁵ UKRN (2022), ‘UKRN guidance for regulators on the methodology for setting the cost of capital’, pp. 10 - 11, https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance_22.03.23.pdf (last accessed on 7 February 2024).

⁶ The cut-off date the analysis is 20 December 2023

⁷ Ofgem has proposed that SSEN- Transmission has a notional gearing of 55%. We have assumed Ofgem would follow a similar re-gearing approach to calculate the Cost of Equity at that gearing level but have not commented on that methodology at this stage.

⁸ Oxera (2024), ‘RIIO-3 cost of equity’, prepared for the Energy Network Associated, 23 February 2024

1.4. Risk Free Rate

The SSMC does not propose an appropriate proxy for the Risk-Free Rate (RFR) in the calculation of the CoE using the CAPM.

We agree that index linked gilts (ILG) should be used in the calculation of the RFR per UKRN recommendation 3⁹, however we disagree with Ofgem's proposal to rely solely on ILGs to determine the RFR. We believe that Ofgem's proposal to rely on ILG alone risks underestimating the RFR. We also believe that there is a need to review nominal gilts rather than completely dismissing their use due to the issues with breakeven inflation and associated different inflationary measures (i.e. RPI, CPI, and CPIH).

Oxera previously submitted a report¹⁰ in 2022 on behalf of the ENA investigating whether sovereign yields are a good proxy for the rate of return on a zero-beta asset. Oxera's methodology on the RFR has since been updated for UK Water at PR24 as outlined in Oxera (2022)¹¹ and is further supported by additional academic evidence and regulatory precedent as part of the submission on behalf of the ENA¹² for RIIO-3.

The evidence sets out that using ILGs alone does not satisfy the CAPM definition of the RFR as the return on a zero-beta asset. Oxera find that using spot yields on government bonds underestimates the practical value of the RFR for use in the CAPM as gilts include a price premium which pushes the yields on government bonds below the required return for a risk-free asset. The impact of this underestimation inadvertently violates the Modigliani Miller (MM)¹³ proposition that the WACC should be invariant with respect to the level of gearing. Oxera proposes adding a premium adjustment to the calculation in the form of applying AAA-rated corporate bonds. They found including both ILG and 20-year AAA-rated corporate bond yields as an input to the calculation allows the MM theorem to hold while lowering variability in the WACC for a change in gearing.

This is further supported by recent academic evidence and regulatory precedence as outlined in Oxera (2024)¹⁴ including literature from Diamond and Van Tassel (2023)¹⁵ who found an average convenience premium of 38bps for two-year UK ILGs. The paper also found a 1% increase in nominal interest rates equated to a 15bps increase in the convenience yield¹⁵.

The SSMC references the CMA's decision that Ofgem were 'not wrong' to exclude AAA rated corporate bonds at the time of the RIIO 2 appeal, however we consider that the regulatory objective should be to set the right cost of equity based on a balanced assessment of the

⁹ UKRN (2022), 'UKRN guidance for regulators on the methodology for setting the cost of capital', pp. 12 - 15, https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance_22.03.23.pdf (last accessed on 7 February 2024).

¹⁰ Oxera (2020), 'Are sovereign yields the risk-free rate for the CAPM?', prepared for the Energy Networks Association, 20 May 2020.

¹¹ Oxera (2022), 'RFR methodology for PR24', prepared for Water UK, 2 September.

¹² Oxera (2024), 'RIIO-3 cost of equity', prepared for the Energy Network Associated, 23 February 2024

¹³ Oxera (2020), 'Are sovereign yields the risk-free rate for the CAPM?', prepared for the Energy Networks Association, 20 May, <https://www.oxera.com/wp-content/uploads/2020/08/2020.05.20-RFR-and-gearing-1.pdf> (last accessed on 23 January 2024). ² Ibid., p. 6.

¹⁴ Oxera (2024), 'RIIO-3 cost of equity', prepared for the Energy Network Associated, 23 February 2024

¹⁵ Diamond, W. and Van Tassel, P. (2023), 'Risk-Free Rates and Convenience Yields Around the World', Jacobs Levy Equity Management Center for Quantitative Financial Research Paper, 3 February, p. 3

evidence, rather than to set returns that are ‘not wrong’. The recent regulatory precedence suggests that the exclusion of a convenience premium would be in contradiction to the UKRN’s premise for regulatory consistency. Recent regulatory precedents whereby AAA Corporate Bonds have been included in the calculation of the RFR include the UK CMA PR19 redetermination, CAA Heathrow, and numerous other European GD final determinations.

Oxera¹⁶ do note the time variant volatility inherent within the convenience premium and have therefore proposed a five-year average (to coincide with the price control period) convenience premium of 11bps which is included within the Oxera RFR range in the figures above¹⁷. We propose that the convenience premium is incorporated within the Ofgem calculation subject to an updated average at the time of the final determinations for RIIO-3.

The proposed methodology for estimating the inflation wedge underestimates the true RPI-CPIH wedge by omitting the widening CPI-CPIH wedge.

An adjustment is required to account for the CPI-CPIH wedge to ensure that the RPI-CPIH and RFR are not understated. In the absence of CPIH forecasts, Ofgem note that they consider CPI to be a close proxy for CPIH having found CPI to be on average 14bps higher than CPIH between June 2013 and June 2023. However, Oxera’s analysis has identified greater differences in favour of CPI in recent years including 52bps in the last three years and 33bps in the last five years.

Despite the absence of available CPIH forecasts, it is appropriate to increase the RPI-CPIH wedge and the CPIH-real RFR to account for the spread between CPI and CPIH, as excluding any consideration of CPIH would be in contradiction to recent market data. Oxera propose a five-year average CPI–CPIH wedge of 33bps as an appropriate input in the calculation of the RFR estimate.

Additionally, Oxera presents a more robust alternative estimate of the wedge based on RPI swap rates, CPI swap rates, and the historical CPI-CPIH wedge. We support Oxera’s methodology to consider an inflation swaps approach in addition to Ofgem’s proposed 20 years ahead OBR forecast average (where a 20-year geometric average forecast wedge is calculated by combining five years of OBR forecasts with assumptions for the following 15 years). The UKRN guidance supports the use of inflation swap market data¹⁸ and as such we see no clear reason to exclude swap data from the wedge calculation.

As noted above, the nominal gilts should be reviewed as they indicate a much higher real RFR compared to relying on ILGs. That evidence should not be dismissed and as such it indicates that the RFR should be materially higher than the ILGs currently being used by Ofgem in RIIO-2.

¹⁶ Oxera have considered the five-year period from 2018 to 2023 for the purposes of calculating the five-year average convenience premium

¹⁷ Oxera (2024), ‘RIIO-3 cost of equity’, prepared for the Energy Network Associated, 23 February 2024

¹⁸ UKRN (2022), ‘UKRN guidance for regulators on the methodology for setting the cost of capital’, p.15, https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance_22.03.23.pdf (last accessed on 7 February 2024).

1.5. Total Market Returns (TMR)

The current macroeconomic conditions indicate a RIIO-3 TMR range of between 6.5%-7.5%.

RIIO-3 will require a higher TMR range than in RIIO-2 in respect of the marked increase in interest rates. Ofgem highlight the importance of maintaining a stable TMR estimate through the cycle. The UKRN guidance supports this assertion however does not assume that the TMR will remain constant through regulatory price controls. Oxera have observed that the TMR allowance reduced in RPI real terms in the period from 2012 to 2020 in response to a fall in gilt yields in the period. They evidence a more recent rise in long term gilt yields to levels last observed between 2005-2011 when the RPI real TMR range was between 7.00% - 7.25%. Oxera equate a CPIH - real TMR range equivalent of between 7.94% - 8.19% in respect of currently observed gilt yields.

This supports the case for Oxera's higher proposed TMR range of 6.5%-7.5%¹⁹ which only represents a small uplift in the range from RIIO-2 in comparison to the significant increase in gilt yields since RIIO-2 final determinations. We believe that an increase reflective of a return to normal interest rate levels would accommodate the principle of a stable TMR through the cycle.

The TMR estimate should be derived primarily from an ex post arithmetic averaging approach. We support Ofgem's proposal to calculate the Equity Risk Premium (ERP) as Total Market Return (TMR) less Risk Free Rate (RFR) in accordance with UKRN recommendation 4²⁰. Ofgem propose to place weight on both the historical ex post and historical ex ante approaches. We believe that the TMR estimate should materially adopt an **ex post** approach with only very limited weight applied to the ex-ante approach due to the sensitivity and subjectivity of input assumptions associated with averaging for adjusted historical returns. An ex post only approach would also comply with UKRN recommendation 4 which allows for regulatory judgement.

On applying the ex post methodology, we support Oxera's assertion that it is most appropriate to deflate nominal historical returns by use of the CED series from 1900-49, the new backcast series data for the CPIH for the period 1950-88 and ONS estimations from 1988-2022. Oxera note that the new CPIH backcast series is most appropriate as it corrects for inherent errors within the CPI backcast series which Ofgem applied to the RIIO-2 calculation of the TMR.

Ofgem should adopt the **arithmetic averaging approach** for estimating ex post and depart from the geometric averaging approach applied historically and most recently in RIIO-2. Oxera's evidence implies that the arithmetic average is the relevant and appropriate primary basis for estimating the ex post TMR for RIIO-3. If returns are serially uncorrelated, then the arithmetic average represents the correct measure of long run forecast of expected returns. The empirical analysis detailed within Oxera's report indicates that there is no statistically

¹⁹ Oxera (2024), 'RIIO-3 cost of equity', prepared for the Energy Network Associated, 23 February 2024

²⁰ UKRN (2022), 'UKRN guidance for regulators on the methodology for setting the cost of capital', pp.16-21, https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance_22.03.23.pdf (last accessed on 7 February 2024).

significant evidence of serial correlation and hence there is no rationale for departing from the arithmetic average in the estimation of the TMR. The arithmetic approach is in line with evidence and regulatory precedent as per the CMA's decision on PR19²¹. This approach also avoids the need of a subjective uplift to align a geometric average approach to the arithmetic average.

An arithmetic approach over a **one year holding period** represents the most robust estimation methodology. Oxera²² have previously submitted a report in response to the UKRN's consultation on the cost of capital of regulated companies which found no statistically serial correlation in the returns over one, five, ten and twenty year non overlapping annual holding periods. We therefore agree with Oxera's assertion that on the basis longer holding periods significantly reduce available data points, a one year non overlapping return is most robust in the absence of serial correlation.

We support Oxera's assertion that an arithmetic one year holding period average is more appropriate than the range of alternative ex post TMR estimator approaches outlined by Ofgem in section 3.55 of the RIIO-3 Finance Annex. This includes the Blume, Cooper, JKM and MSE estimation approaches of which three were rejected by the CMA on decision of the RIIO-T2 appeal (being the Blume, Cooper and JKM approaches)²³.

Ofgem have welcomed evidence on both the DMS decompositional approach and the Fama and French dividend growth model with regards to employing a methodology for the ex-ante TMR estimate. We support the analysis Oxera has concluded on within their report and are of the view that little weight, if any should be apportioned to ex ante methodologies given the degree of subjectivity and uncontested data availability applied to the calculation. We believe that a calculation based on the historical average of actual returns will always generate a more robust estimate.

There is academic and empirical evidence documenting that there is a positive relationship between TMR and the RFR i.e. that when the RFR increases the TMR will also increase. The TMR is often cited as being relatively stable but not fixed. The Equity Risk Premium (ERP) which is the difference between the TMR and RFR is often discussed as being relatively stable also. That would imply that as the RFR increases, the market would increase its required return due to the returns available on a risk free alternative. Frontier Economics²⁴ reviewed the data around the relationship between the TMR and gilt yields whereby they reviewed the academic evidence, constructed a model specification, and statistically tested the relationship. As a result, they find that the relationship between the TMR and RFR was materially positive to a rate of more than 0.4 i.e. if there is a 1% increase in the RFR then the

²¹ CMA PR19 redetermination (2021), paras 9.326-9.328

²² Oxera (2022), 'A review of the methodology used to estimate the allowed cost of equity for regulated companies', November, p. 19

²³ Competition and Markets Authority (2021), 'Final determination Volume 2A: Joined Grounds: Cost of equity', 28 October, para. 5.266,

²⁴ Frontier Economics, The Relationship Between Total Market Return and Gilt Yields, March 2024

TMR would increase by approximately 0.4%. They term this relationship as the *Gilder* and conclude the following:

*“We have considered what the Glider would imply for current and future regulatory decisions. On the basis of prevailing gilt yields, **all Glider specifications predict a current TMR above 7.5%, in the range of 7.55%-7.86% [emphasis added]**. Given that interest rates at prevailing levels have not been seen for decades, and the ‘stable but not fixed’ regulatory construct that has emerged, it is perhaps not surprising that the predicted TMR is considerably higher than observed in the most recent decisions. This further highlights that, if the present interest rate environment or something like it is expected to persist, **then a roll forward of the RIIO-2 TMR decision of 6.5% would be far too low for RIIO T3/GD3 [emphasis added]**. This is entirely consistent with the findings set out in Oxera’s 2024 report on the Cost of Equity for RIIO-3, and with the evidence presented in our Equity Investability Report. A TMR decision of roughly 6.5% CPIH-real, based on a RIIO-2 roll-forward methodology, would be a significant departure from both market evidence and established regulatory precedent. It risks sending a message to investors that ‘stable but not fixed’ applies only when interest rates are falling, but not when they are rising, and we believe would undermine investor confidence.”*

As a result, this new evidence shows that the CoE should be set materially higher than RIIO-2 thereby reflecting the macroeconomic environment.

1.6. Beta

The Beta is an estimate of risk to equity investors, and it is used as an input into the CAPM. This section reviews the data and methodology for accurately calculating the Beta that reflects electricity networks risk. We have a separate section further below (section 1.9) which reviews the forward looking elements of risk based on quantitative analysis and review of RIIO-2 and RIIO-3 activity, expenditure, and regulatory framework. We believe that Beta should be reflective of forward looking risks building upon a review of backward looking data. It is therefore critical that short term volatility around beta be viewed accordingly.

1.6.1. Timeframe

10-year Betas are most appropriate in the estimation of risk for energy network companies.

Ofgem is proposing to continue a focus on daily data for raw beta estimation in addition to using 2-year, 5-year and 10-year estimation periods to reflect a balance between shorter and longer periods.

Ofgem should consider the impact of two significant recent events which have had a material impact on the global and UK economies, as well as on energy company betas, namely the Covid 19 pandemic and the Russia - Ukraine war. Oxera’s analysis observes a wide estimation range in the two, five and ten year windows which they attribute to the material volatility in utility betas during these unprecedented events. Whilst we agree that the length of estimation window inevitably requires a degree of regulatory judgement, we would advise caution on applying any weight to shorter periods, particularly 2-year daily data given the pronounced volatility.

If Ofgem were to adopt its proposals to roll forward the estimation frequencies from RIIO-2, we advise Ofgem to consider a longer 10-year beta window as providing more useful information relative to shorter 2 and 5 year betas. A 10-year estimation window would avoid any large fluctuations in the beta estimate, while also preventing a significant drop in the beta from RIIO-2 to RIIO-3. A material drop in the beta estimate would not fall in tandem with the increased risk faced by the electricity network companies in RIIO-3.

We have set out the change in risk separately for RIIO-3 to provide a forward looking basis of measured risk based on the scale of activity, expenditure, and the residual risk after adjusting for Ofgem's regulatory mechanisms. When taken into account, this shows a material break in the level of risk which is to be expected given the material change in scale and complexity of activity in particular the delivery of mega projects and operation of a complex electricity network.

1.6.2. Comparator Group

We support UKRN recommendation 5 such that regulators should estimate the equity beta using comparable listed companies.

Ofgem has historically relied on water companies to estimate the beta of energy networks and should consider broader international energy networks companies to reflect increased energy networks sector specific risk. Oxera²⁵ proposes five European Energy Networks comparators which offers additional and stronger representations of energy pure play companies besides National Grid. The large proportion of US operations within the National Grid business highlights the importance of considering other electricity network companies.

The scale of the capital programmes for RIIO-3 and beyond is likely to be the primary driver of changes in systematic risk. The scale of the required investment is likely to exacerbate exposure to risk factors including higher complexity of capital activity, higher uncertainty in ex ante cost forecasts, supply chain risk, input price risk, delivery risk and increased risk exposure relative to returns.

Additionally, the proposed design of regulatory mechanisms, in particular the calibration of ASTI targets and penalties and caps and collars will likely represent a key determinant of asymmetric exposure. When analysing that level of asymmetric exposure from RIIO-2 to RIIO-3 in our risk section, you will see that the combination of scale of activity plus the balance of incentives and penalties mean we are exposed to material downside risk of a scale never experienced before.

As a result, beta estimates calculated from historical listed energy and water company data are unlikely to price forward looking risk. Additional comparators are required to derive estimates that reflect changes in systematic risk and asymmetric risk on a forward-looking basis. This is in addition to our detailed quantitative assessment of risk between price controls.

²⁵ Oxera (2024), 'RIIO-3 cost of equity', prepared for the Energy Network Associated, 23 February 2024

1.7. Cross Checks

UKRN guidance recommendation 7²⁶ encourages market based cross-checking to the CAPM derived point estimate and permits departing from the mid-point when market evidence provides compelling evidence that the required Return on Equity differs from the CAPM point estimate. The cross checks we consider to be primary are set out below where we have summarised our evaluation of the weighting that should be placed on each cross check. This is based on the reliability or observability of the evidence, availability of academic and market evidence and whether it is a methodological change or is subject to material judgement. In all respects, each of the cross checks outlined below indicate a higher COE range and further support the higher bound of Oxera's estimated range.

Table 2: Summary of CoE Cross-Check

Cross Check	Weighting and Reliability
ARP vs DRP	This is a superior cross check as it is based on market data. Oxera have addressed the empirical robustness of the ARP-DRP framework within the report prepared on behalf of the ENA. We therefore place more weight on this cross check when comparing to the CAPM estimate of the CoE.
Hybrid Bonds	Hybrid bond yields are derived from observable market data and can serve to calculate a lower bound of the CoE allowance, since the risk premium on a company's most risky debt instrument must still be lower than the risk premium on equity. This cross check is supported by strong market base evidence and therefore merits more weight.
Investment manager forecasts	Investment manager forecasts are survey based therefore this cross check does not carry the weight of observable market evidence. The forecasted TMR drawn from a sample of investment managers is supportive of the higher CoE range proposed by Oxera.
Infrastructure funds cross-check	The asset composition of infrastructure funds does not necessarily reflect the risk exposure of a pure-play energy networks; however the latest fund survey data further supports the COE range proposed by Oxera.

We previously, in RIIO-2, did not advocate for the use of investment manager forecasts or infrastructure funds as a cross check. Ofgem did however use those cross checks to support their estimate and we have therefore presented the updated evidence on that basis.

1.7.1. ARP – DRP

The ARP (asset risk premium) DRP (debt risk premium) framework remains a robust and reliable cross-check with regards to the appropriate calibration of the COE. The cross check is premised on actual market observed debt yields rather than built up from a theoretical

²⁶ UKRN (2022), 'UKRN guidance for regulators on the methodology for setting the cost of capital', pp. 30 - 26, https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance_22.03.23.pdf (last accessed on 7 February 2024).

asset pricing model. Due to the security ranking of debt over equity, the rule must hold that the premium to equity holders is higher than for debt holders²⁷.

Oxera has previously provided empirical evidence on the ARP-DRP using UK regulatory precedents, bonds issued by UK utilities and regulated entities and bonds issued by US utilities²⁸.

We note that Oxera have further strengthened the robustness of the ARP-DRP test in response to previous concerns raised over the cross check as has been noted at the point of final determinations and subsequent CMA appeals for previous regulatory price controls. In response to the UKRN's concerns on the use of historical regulatory relationships between the asset and debt premia as a cross-check²⁹ (such that the CoE is considered to be based on a longer run regulatory cycle versus the shorter-term cycle of debt); Oxera have developed an approach that does not rely on regulatory precedents. This involves re-levering the DRP to 100% gearing for assessment against the ARP. We also note Oxera have adopted a longer-term five-year median estimate of the DRP to address the concern over the cross checks potential overexposure to spot market volatility³⁰. This is in addition to applying an inflation neutral RFR and TMR in CPIH real terms to address the nominal conversion concerns noted by the CMA in the calculation of the ARP³¹.

The Oxera approach is premised on the relationship between DRP and gearing, such that the DRP increases with gearing to reflect the increased financial risks associated with higher debt levels. Oxera have assessed the ARP-DRP differential against the low and high bounds of the Oxera and Ofgem RIIO-2 roll forward COE estimates and further analysed the ARP-DRP differentials against the principle of linear extrapolation to 100% gearing. The principle must hold that the ARP should be strictly greater than the DRP linearly extrapolated to 100% gearing.

Oxera conclude that the ARP should be 2.33%, which is above the ARP in all of Oxera's tested scenarios, including the Ofgem and Oxera scenarios respectively. **An ARP implied by 100% gearing suggests that the allowed CoE should be set at the top end of the Oxera estimation range.**

We note that the Oxera range is the closest to accommodating the benchmark level of 2.33%. The Ofgem range and the lower bound of the Oxera range are both ruled out by the test, which shows with reference to debt market conditions that the additional premia for equity relative to debt implied by those scenarios is too low. **The Oxera analysis also demonstrates that a RIIO-2 roll forward range would not suffice regardless of the basis adopted for RFR and TMR.**

²⁷ Oxera (2024), 'RIIO-3 cost of equity', prepared for the Energy Network Associated, 23 February 2024.

²⁸ Oxera (2019), 'Review of RIIO-2 finance issues – Asset and debt risk premiums', Prepared for the ENA (March 2019).

²⁹ UKRN (2023), 'Appendix A: Guidance Consultation Issues and Taskforce Response', 22 March. p. 12.

³⁰ Competition and Markets Authority (2023), 'H7 Heathrow Airport licence modification appeals. Final Determination', 17 October, pp. 212–218.

³¹ Ibid.

1.7.2. Hybrid Bonds

Similarly, to the ARP-DRP cross-check, the Hybrid Bond cross check is derived from observable market data which makes this a robust indicator when assessing the appropriate COE range. When considering other robust and reliable cross checks in calculating the cost of equity, Frontier has provided compelling empirical evidence relating to Hybrid Bonds of regulated networks and how the associated data informs the COE estimate.

The test is premised on the theory that hybrid debt holders rank before equity holders given hybrid debt ranks higher than equity but lower than senior debt. Frontier assert that the principle of risk aversion in finance would be violated if the risk premium on hybrid debt were higher than the allowed CoE spread at a given gearing. As such, Frontier have used hybrid bonds to calculate a lower bound of the CoE estimate, on the basis that the risk premium on a company's highest risk debt instrument must still be lower than the risk premium applied to equity.

In providing the analysis, Frontier³² empirically reviewed evidence of Hybrid Bond issues by NGG Finance Plc (NGG), a financing subsidiary of National Grid Plc, and by SSE Plc. The analysis particularly considers a hybrid bond issue for NGG given it serves as the bond with the longest time to the next call date. To calculate the implied cost of equity, Frontier utilise the data from the NGG hybrid bond to test the spread between the projected return on hybrid bonds and conventional senior debt. The spread is set to fall at the midpoint between equity and senior debt costs on the basis of a 50% allocation of securities between debt and equity. Frontier analyse the hybrid bond yield spread against the iBoxx Utilities 10-15 year index, given this index represents Ofgem's regulatory benchmark. The spread is then calculated on the NGG plc hybrid and iBoxx utilities index at time of issue and subject this to a range of sensitivities to conclude on an implied cost of equity range between **5.8% - 8.5% CPIH real terms. It is concluded that even the lower bound of this range sits at the higher bound of Oxera's implied COE estimate range. This indicates that the Ofgem RIIO-2 roll forward range assumes a TMR that is too low, or a CAPM beta incapable of producing results consistent with the hybrid debt evidence.**

1.7.3. Infrastructure Funds Cross-check

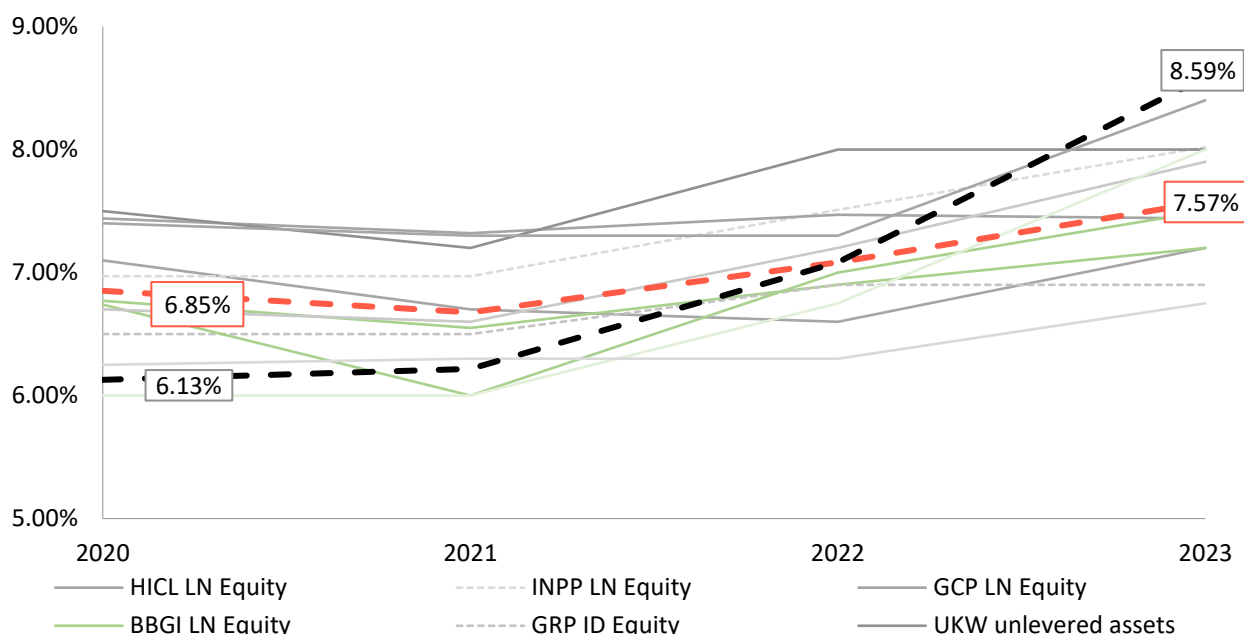
The latest data on infrastructure funds indicates a COE point estimate at the upper bound of the Oxera range. Oxera and Frontier have updated the infrastructure funds cross check applied by Ofgem at RIIO-2 for the period to December 2023. The analysis suggests that funds and investors are demanding a higher rate of return than at the time of the Ofgem RIIO-2 analysis, indicating the need to deviate to the upper bound of the CoE range. Ofgem previously relied upon infrastructure discount rates at the time of RIIO-2 final determinations. We note that Oxera and Frontier sampled ten of the thirteen funds considered by Ofgem at the time of RIIO-2 (based on the ten funds for which information was available) and have presented consistent findings on those funds within their reports. Oxera³³ found that the fund

³² Frontier (2024): 'Equity investability in RIIO-3, A report prepared for the ENA, 5 March 2024

³³ Oxera (2024), 'Infrastructure fund and investment manager rates of return, prepared for SSE, 1 March 2024

NAV adjusted IIR rates have increased by 2.5%³⁴ since 2020 while noting the NAV premium has reduced, suggesting that investors are adopting higher discount rates than those reported by funds. We do observe that the asset classes and the risk of the diversified portfolios differ significantly from those of a pure-play energy network business.

Figure 2 – Infrastructure funds’ discount rates (nominal)



Source: Oxera (2024), 'Infrastructure fund and investment manager rates of return, prepared for SSE, 1 March 2024 p.5

In real terms, the infrastructure fund managers analysis indicates a cost of equity of 6.5%, CPIH-real. This compares to a range of 5.08% - 6.48% estimated by Oxera³⁵ for a 60% geared energy network as at 20 December 2023. **This finding is consistent with the results of the ARP-DRP framework and indicates that the COE point estimate has to sit at the top end of the Oxera range.**

1.7.4. Investment Manager Forecasts Cross-check

Ofgem also previously relied upon investment managers analysis at the time of RIIO-2 draft determinations. Oxera and Frontier have reperformed this cross check against the data available for the period out to December 2023. Given the evidence is based on survey data, we do not believe this cross check carries as much as weight of those which rely on observable market evidence. **The latest Investment Manager forecast data indicates a CoE point estimate at the upper bound of the Oxera range.**

³⁴ All averages are calculated as simple averages across the sample.

³⁵ Oxera (2024), 'RIIO-3 cost of equity', prepared for the Energy Network Associated, 23 February 2024

Oxera's analysis³⁶ considers a like for like listing of fund portfolios to those considered by Ofgem at RIIO-2, however the sample is smaller due to the lack of available information on four of the funds at the time of this analysis. Oxera are also unable to identify the redacted author which Ofgem applied at RIIO-2. To account for the conversion between the geometric and arithmetic TMR, Oxera evidence two scenarios whereby they apply a 100bps which is consistent with the Ofgem RIIO-2 approach and a 223bps uplift using the variance in the return series as proposed by Schaefer (2020)³⁷. The sample analysis results in a nominal TMR of 8.9% and 10.1% respectively. Frontier's³⁸ analysis draws a broadly consistent conclusion with the same sample size restrictions. This evidence implies a CPIH-real TMR of 6.5 – 7.9%. **This supports the TMR range of 6.7-7.7% estimated by Oxera and indicates that the CoE should be closer to the upper bound of the Oxera range.**

Figure 3 – Investment manager TMR forecasts based on Ofgem's uplift

Author	Horizon	Ofgem DD (July 2020)			Oxera update (December 23)		
		Geometric forecast	Uplift	Arithmetic forecast	Geometric forecast	Uplift	Arithmetic forecast
Schroders	10	3.90%	1.00%	4.90%	10.90%	1.00%	11.90%
Blackrock	10	4.70%	1.00%	5.70%	6.70%	1.00%	7.70%
Quilter	L Term	6.52%	1.00%	7.52%	9.51%	1.00%	10.51%
Aon Hewitt	10	6.70%	1.00%	7.70%	7.60%	1.00%	8.60%
JP Morgan	L Term	5.90%	1.00%	6.90%	7.00%	1.00%	8.00%
Aberdeen	10	7.60%	1.00%	8.60%			
Nutmeg	10+	6.80%	1.00%	7.80%			
FCA	10 to 15	6.60%	1.00%	7.60%			
Redacted Author	10	6.19%	1.00%	7.19%			
Willis T W	10	4.24%	1.00%	5.24%			
Vanguard	10	4.00%	1.00%	5.00%	5.50%	1.00%	6.50%
Average		5.74%		6.74%	7.87%		8.87%
Average (excl. WTW and Vanguard)		6.10%		7.10%	8.34%		9.34%

Source: Oxera (2024), 'Infrastructure fund and investment manager rates of return, prepared for SSE, 1 March 2024 p.7

1.8. New Equity Issuance

When considering the requirement for the notional company to issue an unprecedented level of new equity in RIIO-3. Oxera have presented compelling academic evidence on the indirect costs associated with raising new equity. As discussed above, the RIIO-3 investment programme will require the notional company to issue an unprecedented level of new equity. This emphasises the importance of a RIIO-3 equity allowance which can sufficiently cover indirect costs as well as the direct costs associated with equity issuance. Indirect costs are largely attributed to under-pricing costs. Oxera define under-pricing costs as the variance between the placing price and the market price at the time the offering is agreed upon. This indicates that the issuing company suffers losses as a result of selling shares below the genuine value³⁹.

³⁶ Oxera (2024), 'Infrastructure fund and investment manager rates of return, prepared for SSE, 1 March 2024

³⁷ Schaefer, S. (2020), 'Using Average Historical Rates of Return to set Discount Rates', contained within Oxera (2020), 'Deriving unbiased discount rates from historical returns', 14 February.

³⁸ Frontier (2024): 'Equity investability in RIIO-3, A report prepared for the ENA, 5 March 2024

³⁹ Oxera (2024): 'Estimating the appropriate allowance for new equity issuances for RIIO-3, Prepared for SSE 1 March 2024

Academic evidence as presented by Brealey, Myers, Allen and Edmans (2022)⁴⁰ finds an average under-pricing cost of 6.5% in Europe, while Oxera have found the average under-pricing in the UK to be circa 7.5%⁴¹. This is supported and evidenced by the most recent equity issuance by a regulated UK utilities company. Oxera have examined the Severn Trent (SVT) share issuance which raised £1bn in 2023 where they found a discount of 7.1% at the time of the placing. By means of a dividend discount model approach to quantification, Oxera equate the impact of this discount to be a 37bps increase in the expected return. We support the view that the discount and expected return would have been higher had a public press release on the expected outperformance on ODI's not occurred.

Oxera⁴² have also conducted analysis on a series of seasoned equity offerings (SEOs) which took place in the UK across the twenty-year period from 2004 to 2024. Oxera have considered all available data from Bloomberg on SEOs across three groups being: regulated utilities, utilities and FTSE 100 companies. Oxera have sampled the data to measure under-pricing of SEOs across three main groups and their findings illustrate a mean (median) under-pricing of 9.48% (5.12%) for regulated utilities, 7.93% (5.08%) for utilities, and 2.85% (2.65%) for FTSE 100 constituents. **The evidence suggests an indirect costs allowance for new equity issuance in the range of 2.6% to 9.7% with a midpoint estimate of 5.1%.**

The academic evidence also indicates that Direct costs associated with equity issuance range from 5-12%.⁴³ Brealey, Myers, Allen and Edmans (2022)⁴⁴ found that the underwriting fees of an IPO were approximately 7%, while Oxera have found total direct costs to be 8% of the issued amount.⁴⁵ Oxera assessed extensive evidence gathered from interviews and market practitioners and found the majority of direct costs to be underwriting and advisory related.

The academic and empirical evidence on direct costs indicates that the RIIO-2 equity allowance of 5% of notional equity raised is at the lower end of the range and will require an uplift to satisfy RIIO-3 investment requirements.

A RIIO-3 allowance should sufficiently cover direct and indirect costs of issuing new equity and the evidence suggests the current 5% allowance for direct costs should be accompanied with an additional allowance for indirect costs.

⁴⁰ Brealey, R., Myers, S., Allen, F. and Edmans, A. (2022), Principles of Corporate Finance, fourteenth edition, McGraw-Hill Education; Berk, J. and DeMarzo, P. (2016), Corporate Finance, fourth edition, Pearson.

⁴¹ Oxera (2020), 'Primary and secondary equity markets in the EU', November, Figure 8.7.

⁴² Oxera (2024): 'Estimating the appropriate allowance for new equity issuances for RIIO-3, Prepared for SSE 1 March 2024

⁴³ Smithers & Co (2006), 'Report on the Cost of Capital', 1 September, Section 9; CEPA (2010), 'Cost of raising equity', 22 July

⁴⁴ Brealey, R., Myers, S., Allen, F. and Edmans, A. (2022), Principles of Corporate Finance, fourteenth edition, McGraw-Hill Education; Berk, J. and DeMarzo, P. (2016), Corporate Finance, fourth edition, Pearson.

⁴⁵ Oxera (2020), 'Primary and secondary equity markets in the EU', November, Figure 8.7.

1.9 RIIO-3 Risk Review

In previous price controls, there has often been a discussion around the risk of regulated networks, investment programmes, network operations, regulatory mechanisms, and general company and systematic risks. This has typically covered a qualitative assessment supplemented by a review of the financial metrics particularly an assessment of debt financeability through the use of credit metrics as well as a review of the plausible ranges on the Return on Regulated Equity (RoRE). In RIIO-2 and RIIO-1, Ofgem set out its view on the RoRE ranges and tested debt financeability through a range of interest rate, inflation, and out/under performance scenarios.

In RIIO-2 in particular, Ofgem sought to assess⁴⁶, the relative risk of RIIO-2 compared to the UK Water sector including comparing qualitative characteristics of respective regulatory frameworks. Any review of this nature has previously been focused on whether the price control was reasonably calibrated based on the RoRE range and debt financeability. In RIIO-2, there was extensive discussion around the beta as the key measure of risk which is an input into the Capital Asset Pricing Model (CAPM) and ultimately a major determinant to setting the allowed Cost of Equity (CoE). In other words, it is a quantitative risk measure used to estimate the compensation due to equity shareholders for the level of risk they take in UK regulated networks. It is worth noting that beta is a backward-looking measure and discussions are predominantly around the averaging period, methodology, and the comparator set.

In RIIO-2 evidence was reviewed whether UK Water comparators were right to be included in a beta comparator set for UK Regulated Networks. European energy networks were also reviewed extensively to determine their suitability for inclusion in the comparator set for beta. This was all on the basis that there are no pure play regulated energy networks listed on the stock market. National Grid plc is listed on the FTSE and are used as part of the beta sample for the CAPM, however, as noted, they have a mix of businesses beyond UK regulated networks including a US business. European energy networks are pure play listed energy networks and in RIIO-2, the regulatory discussions centred around how appropriate they were for inclusion given they are not UK based and their regulatory frameworks may make them unsuitable for inclusion in the beta comparator set. We set out in RIIO-2 an extensive review of European energy networks and their suitability, primarily considering their different regulatory regimes compared to the UK Water and UK Energy sector.

In advance of RIIO-3, we have taken our review of risk a step further than was done at RIIO-2. Our approach to assessing risk has continued to use a review of beta and the associated methodology. As noted above, beta is a backward-looking measure of risk, and it is well recognised that it does not capture the forward looking risks. We have supplemented this measure with a review of the quantitative risk in RIIO-2 compared to the outlook for RIIO-3. Our approach is as follows:

⁴⁶ RIIO-T2 Finance Annex Draft Determinations, July 2020, Para 3.62, Table 18

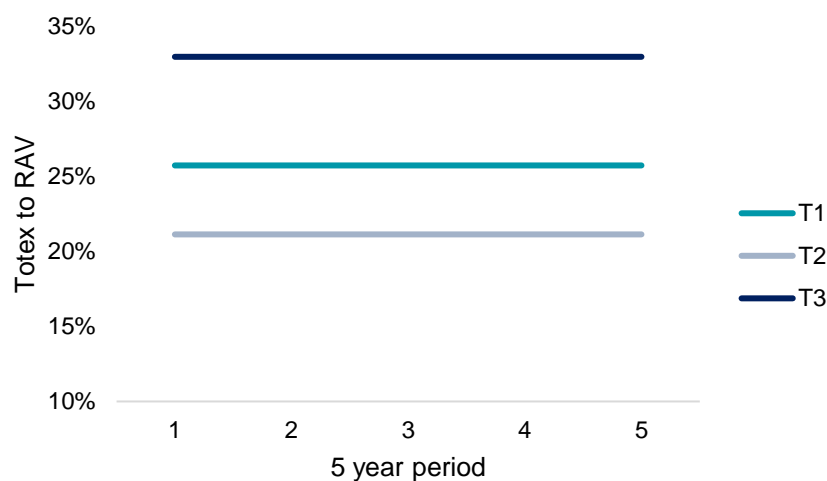
1. **Assessing the Change in Activities between Price Controls:** this includes reviewing the totex expenditure compared to the size of the network i.e. the RAV. This is used as a methodology in previous price controls and is an effective measure to quantify the scale and complexity of activity.
2. **Reviewing the Expenditure Profile compared to Regulatory Mechanisms:** we have reviewed the range of specific quantifiable risks associated with the scale of expenditure and activities over RIIO-3. This allows us to assess the impact of quantified risks before and after overlaying regulatory mechanisms in RIIO-2 compared to RIIO-3 and ASTI mechanisms. The remaining quantified risk is the financial exposure or residual risk after regulatory mechanisms. We then compare this to the equity over the period to understand the equity risk exposure between price controls.
3. **Evaluating the RoRE Ranges:** the RoRE ranges provide guidance on potential outcomes from incentive and penalty mechanisms including totex out/under performance. This shows that in RIIO-3, the current proposed calibration of shows a significant asymmetry towards penalties with little to no scope for outperformance or incentives.
4. **Quantify the implied change in equity returns required given the change in risks:** this is based on the residual risks impacting equity holders and illustrates if equity holders are taking greater degree of equity risk. This informs the forward-looking consideration of whether there has been a material change in risks compared to RIIO-2.
5. **Consider new or adjusted regulatory mechanisms to mitigate the risks identified or reduce their quantum:** refining regulatory mechanisms or introducing new mechanisms would adjust the assessment of residual risk at step 2-4.

These areas are set out below and we continue to develop this work as part of our review of RIIO-3. We would welcome the opportunity to discuss this analysis with Ofgem as it should inform policy and financial decisions relating to RIIO-3.

Assessing the Change in Activities between Price Controls

The scale of required investment in RIIO-3 represents an unprecedented step change in the drive to achieving Net Zero. We have identified there is a material shift in the scale and risk profile of electricity transmission from RIIO-1, RIIO-2, into RIIO-3. There is a material increase in capex or totex to RAV which is a key ratio to estimate the scale of activity vs the relative scale of the organisation. Figure 4 below shows the change in ratios on average over RIIO-1, forecast for RIIO-2, and the forecast for RIIO-3. This shows a significant increase in activity given the delivery of complex mega projects at a scale never previously undertaken.

Figure 4 – Totex to RAV ratios over price control periods (average)



The type of investment is also a key element of assessing the change in activity between price controls. Not only has the RAV increased significantly over each successive price control period, but the overall scale and complexity of the investment has materially changed. We are now delivering a series of mega projects totalling in excess of £20bn⁴⁷ which will deliver major upgrades across the North of Scotland to transfer the renewable generation to the rest of the UK. These mega projects are significantly more complex particularly given the global pressures on the supply chain, network capacity, timing of commissioning, and the network operation.

There is extensive research and examples globally that mega projects are by their very nature incredibly difficult to deliver. A mega project is defined as an extremely large-scale project that typically cost \$1bn or more and take several years to build. They also typically involved multiple public and private stakeholders and are deemed transformational in nature. It is also the case that a mega project could have a smaller budget than \$1bn whereby they may be incredibly complex with multiple delivery and technology challenges. Bent Flyvbjerg, a professor at the University of Oxford, has undertaken extensive research into the field of mega projects. Professor Flyvbjerg documents what is called *The Iron Law of Megaprojects*, which is that mega projects are often *over time, over budget, under benefits, over and over again*. The Iron Law applies an overwhelmingly high level of statistical significance and that projects that deliver are relatively rare.

Reviewing the Expenditure Profile compared to Regulatory Mechanisms

It is important to quantify the risk of any investment and the day-to-day operation of the overall organisation. At this stage, our risk analysis is focused on the large capital programme given the challenges delivering mega projects as noted above. We have utilised the EGL2

⁴⁷ The £20bn refers to our LOTI and ASTI capital programme and includes our share of EGL2 and EGL3 rather than 100% of their project value. This does not include tCSNP2 or any expenditure associated with RIIO-3 load and non-load capital programmes.

project to inform this analysis given it has a Quantified Risk Analysis (QRA) which Ofgem is minded-to accept as part of the Project Assessment. Our methodology is as follows:

1. Quantify Risks for Capital Programme
2. Evaluate the impact of Regulatory Mechanisms
3. Compare RIIO-2 to RIIO-3⁴⁸ Regulatory Mechanisms
4. Test a range of scenarios
5. Quantify the Residual Risk and Compare to the Equity Base

Each of these steps have identified a significant increase in the absolute value of risk stemming from the large capital programme from RIIO-2 into RIIO-3. We have summarised our provisional findings below which illustrate a significant increase in the equity risk exposure from RIIO-2 to RIIO-3.

When considering regulatory mechanisms, there is a material absolute increase in residual risk in RIIO-3 due to the scale and complexity of the capital programme. Some of Ofgem's new mechanisms such as the cap and collar on totex expenditure under and overspends mitigate some of the residual risk. Reopener mechanisms are broadly similar between each price control period with the late delivery penalty being the primary downside risk for ASTI in RIIO-3. For simplicity and comparability, we have also assumed that some form of licence enforcement would be an equal risk in both periods.

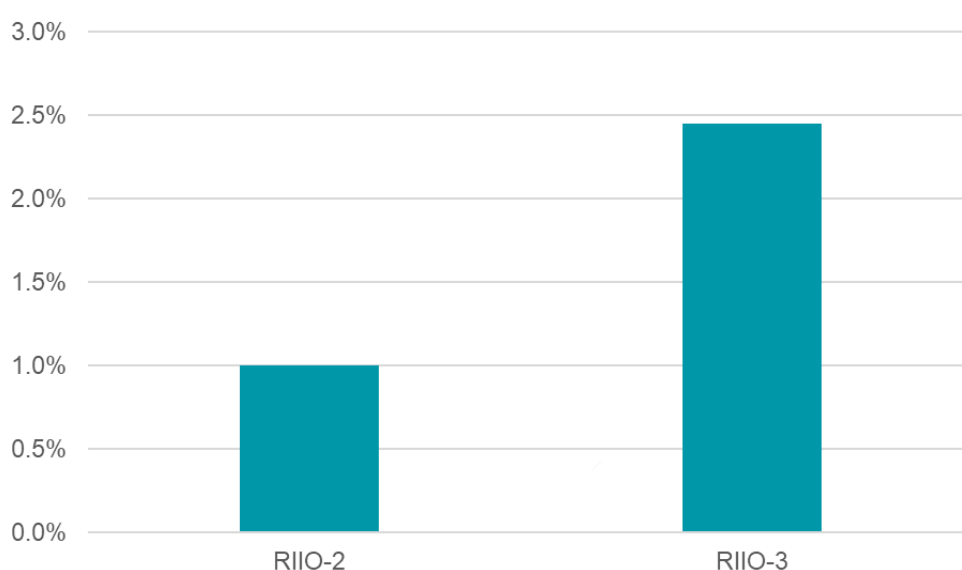
We used the EGL2 risk register (QRA) to scale the total value of risks over RIIO-3 given this is only part of the capital programme. This assumes that all other large capital projects under LOTI and ASTI carry similar levels of risk. When compared to the equity of our company, i.e. RAV less notional gearing, the average equity risk is c5% on a central case. If we assume that Return Adjustment Mechanisms (RAMs) would cap this risk at around 3% similar to RIIO-2, it means the average equity risk is at least 3% depending on the design of the RAMs. This translates to equity returns having to be increased by 3% i.e. 3% added to the allowed return on equity between a RIIO-2 methodology and RIIO-3.

When we assess the impact on equity returns, our view is that this analysis demonstrates a quantifiable increase in risk that translates to equity returns in RIIO-3 that did not exist in RIIO-2. It therefore does not appear in historical measures of risk namely the beta even if there were pure play electricity networks listed on the stock market. We believe this justifies an increase in the allowed return on equity even if Ofgem were to assume that only part of that risk materialises. For example, Ofgem have relied upon a probability of 50% (P50) of risks materialising in EGL2 based on their Project Assessment. If Ofgem were to assume 50% of the total risks of the capital programme materialised, this would lead to around 2.5% of equity risk (note the RAMs does not come into effect until 3%). We would welcome further

⁴⁸ The RIIO-3 comparison is predominantly around the mechanisms designed for ASTI given the nature of the large capital programme being a primary driver of risk in the period. This does not mean there are no other risks over the period including operational, regulatory, and other risks.

engagement on the review of risk in RIIO-3 with Ofgem’s teams across their policy and finance teams accordingly. This evidence supports a change in the allowed cost on equity and as such should be engaged with fully. Figure 5 below sets out the change in equity risk between price controls as a result of this analysis on the basis of a P50 case. This assumes that the whole capex programme in RIIO-2 would be exposed to similar risks of the Mega Projects in RIIO-3. We believe this overstates the level of risk in RIIO-2 significantly on both a scale and complexity basis meaning that the equity risk is likely lower in RIIO-2 than calculated on the graph below.

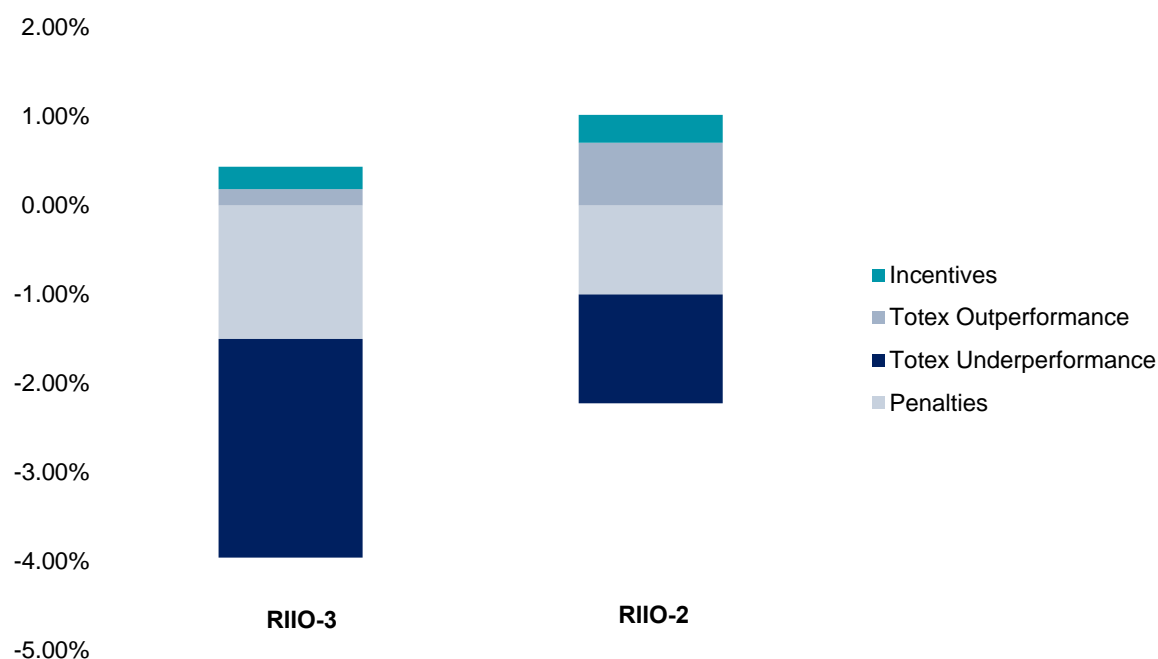
Figure 5 – Equity Risk Differential between RIIO-2 and RIIO-3



Evaluating the RoRE Ranges

We reviewed the potential RoRE ranges based on the potential for incentive and penalties based on the proposed design of the regulatory framework. Our assessment at this stage is that RIIO-3 creates a significant downside potential i.e. asymmetric penalty/incentive regime which is markedly more pronounced than RIIO-2. This is a key element in considering the risk-reward relationship for RIIO-3 in comparison to RIIO-2. There is a significant increase in downside risk alongside a reduction in the upside opportunity in RIIO-3. This provides evidence of a further increase in downside risk which needs to be assessed in the context of incentive design and compensation through the allowed cost of equity. This is additive to the scale of activity (totex to RAV ratios) and the increase in absolute risk from the capital programme alone (as noted above). Figure 6 below shows this asymmetric position for RIIO-3 particularly given the risk exposure from the delivery of mega projects and the associated penalties and late delivery related licence conditions. This is centred around zero whereby in a RoRE range the split between incentives and penalties is centred around the Cost of Equity. We have removed the CoE to show the negative vs the positive impact of the proposed incentive/penalty regime.

Figure 6 – RoRE Ranges from RIIO-2 to RIIO-3 (CPIH-real)



Summary

Overall, we believe there is substantial qualitative and quantitative evidence which demonstrates that the allowed return on equity should increase from RIIO-2 to RIIO-3. The macro-economic evidence and cost of equity methodology is set out separately. The business related risk has been outlined above with a particular focus on the large capital programme over the period. In summary, the risk has increased from RIIO-2 into RIIO-3 as a result of:

- Significant increase in relative scale of capital programme (totex to RAV) compared to the overall size of our network.
- There is a material increase in the complexity and type of investment we are undertaking including the accelerated delivery dates, parallel capital delivery programmes, and complex commission requirements.
- The absolute risk has increased to a scale far beyond RIIO-2 levels and after accounting for the impact of regulatory mechanisms, the equity risk has increased by over 4%. This only adjusts down to 3% over the period due to an assumed cap created by the RAMs mechanisms.
- RIIO-3 is more asymmetrically negative on the RoRE ranges due to the large penalty regime compared to the relatively modest incentive regime design.

As a result, we believe the transition from RIIO-2 to RIIO-3 is a material change in regulatory and operational risk and the price control mechanisms, financial returns, and overall calibration should reflect that change. We have quantified the macro-economic impact on

equity returns and the change in business risk for the forthcoming period supports a similar view of where equity returns should be positioned. We would welcome engagement on our risk analysis and Ofgem's calibration of the price control including the design of regulatory mechanisms and the setting of the financial parameters in particular the Allowed Cost of Equity.

2. COST OF DEBT

2.1. Introduction to Cost of Debt

Regulated Energy Networks raise debt as a critical source of funding to support capital investment and is a large proportion of the capital structure of an energy network. As a result, Ofgem must set the Cost of Debt (CoD) as an allowance (i.e. interest costs) over a price control period with the aim of remunerating efficient financing costs covering both embedded debt (debt raised prior to the start of the control period) and new debt raised during the control period. This section sets out our updated views on Ofgem's approach to calibrating the CoD mechanism over the RIIO-3 period (2026 to 2031). This section is therefore set out as follows:

- **Benchmark Index Selection or Baseline Yield** – this is the market index used for calibrating the CoD allowance mechanism. Ofgem have initially proposed a continuation of using the iBoxx Utilities Index which is the same index used in RIIO-2.
- **Calibration and Averaging Methodology** – this section reviews the methodology for determining and testing the averaging methodology for the CoD Benchmark Index. For example, Ofgem have proposed a weighted mechanism akin to our CoD mechanism for RIIO-2 alongside a 14-year trailing average period for RIIO-3.
- **Costs of Borrowing or Transaction Costs** – it is important to ensure that any CoD mechanism sufficiently compensates for the costs of borrowing when raising debt. This is over and above the interest costs incurred for any debt instrument. Ofgem assumed 25bps in RIIO-2 for these transaction costs.
- **Treatment of Inflation in the CoD mechanism** – this section reviews the options initially proposed by Ofgem as ways in which to treat inflation within the CoD. This is primarily due to Ofgem using a real cost of capital and providing inflation protection⁴⁹.
- **Treatment of Index Linked Debt** - this section looks at the ILD assumption for the notional company.

Each of these sections are based on the information provided to date by Ofgem and our own initial assessment of proposals. The detailed design of these mechanisms will need to be further refined prior to finalising our view on the appropriateness of the CoD allowance mechanism for RIIO-3.

2.2. Benchmark Index Selection or Baseline Yield

Ofgem intends to continue using iBoxx GBP Utilities 10yr+ in RIIO-3, as it did in RIIO-2. The Markit iBoxx GBP Regulated Utilities Index is designed to reflect the performance of GBP denominated investment grade corporate regulated utilities debt.

Characteristics of iBoxx GBP Utilities 10+ index broadly aligns with the characteristics of a Notional Company Debt profile. Ofgem propose to align the CoD methodology to the UKRN

⁴⁹ Ofgem previously consulted on the treatment of inflation in the CoD mechanism and noted that it would seek to review the methodology for RIIO-3 onwards. Ofgem (2023) 'Call For Input - Impact of high inflation on the network price control operation – Conclusion and Next Steps', pp. 2-5.

Guidance Recommendation 8⁵⁰. The recommendation 8 indicates that ‘Regulators using an index to benchmark notional company costs should consider how aligned the index characteristics are with both accepted features of the notional company and evidence from actual sector issuance’. Table 3 summarises the characteristics of the iBoxx GBP Utilities 10+ index as of January 30, 2024. The index includes instruments from the utility sector which are similar in nature to the energy sector. Furthermore, the credit rating of the majority of the instruments included in the index (76%) is consistent with the credit rating standards of licensees. Therefore, based on the characteristics of the index as of January 30, 2024, we believe that the iBoxx GBP Utilities 10+ index is currently suitable for a notional company debt profile albeit we would recommend monitoring this prior to the Final Determination on RIIO-3.

Table 3: Utilities Index Characteristics as of 30 Jan 2024

Sector	Utilities
Maturity	19.4 years to maturity and 11 years modified duration
Credit rating	70 instruments (76%) are rated BBB and 22 instruments (24%) are rated A
# bonds	The index has 92 constituents with a median notional issuance size of £350m
% GB regulated	70 instruments (76%) are issued in the UK; 3 of the 70 instruments may fall outside the typical regulatory utilities industry definition

Source: IHS Markit iBoxx

2.3. Calibration and Averaging Methodology

2.3.1. RAV Weighting

In this section we evaluate the effectiveness of Ofgem’s proposed approach of a RAV-weighted CoD methodology prior to reviewing the averaging period and refinancing assumption which must be assessed concurrently. The foundation of this approach aligns with the methodology currently adopted by SSEN Transmission in RIIO-T2 with the addition of the refinancing of RAV additions⁵¹.

Whilst we agree with the principle of a RAV weighted CoD methodology and the inclusion of refinancing of RAV additions, further information is required by Ofgem regarding the detailed calculation. Clarity is required from Ofgem outlining the basis in which the RAV will be weighted (e.g. individual company, ET sector or GD&T as a whole). It is our view that anything other than a CoD weighted by the individual company RAV would not be reflective of a licensees financing profile. This is consistent with our CoD mechanism in RIIO-2 and given the composition of the Electricity Transmission sector and sizes of respective Transmission Operators (TO), this could skew any allowance towards the largest TO. The weighting towards

⁵⁰ UKRN (2022), ‘UKRN guidance for regulators on the methodology for setting the cost of capital’, pp. 31 - 33, https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance_22.03.23.pdf (last accessed on 7 February 2024).

⁵¹ In RIIO-2, Ofgem did not assume any refinancing of the opening RAV in relation to the design of the CoD mechanism. This is a new assumption and therefore must be calibrated carefully to ensure it works under different interest rate assumptions.

individual company changes in RAV is consistent with the methodology used for SSEN Transmission in RIIO-1 and RIIO-2.

We don't anticipate Ofgem's proposed changes to the calculation of the CoD methodology to affect the opening RAV balance at the start of the price control period, however consideration should be given to the legacy RAV (referred to as opening RAV balance as at the start of RIIO-1) which should be refinanced within the weighting calculation. We are suggesting that an assumption should be placed on the notional company's opening RAV balance at the start of RIIO-1 and assume a 1/14th refinancing to be included within the CoD methodology. This better aligns the notional company with the actual company costs which ensures greater transparency. At such a crucial time in the Net Zero campaign, financeability is at the forefront of operator's business plans to ensure security of the network is maintained. Refinancing of the opening RAV balance is needed to continue funding the expected growth.

2.3.2. Calibration Options

The RIIO-2 approach to calibrating the index involved comparing forecast efficient pooled network debt costs to potential calibration options. Ofgem intend to continue this approach for RIIO-3. During both RIIO-T2 and RIIO-ED2, Ofgem maintained options for calibration up until final determinations. In doing so, this allowed business plans and refinancing profiles to be considered as part of the process for calibrating the CoD mechanism. In SSEN Transmission, we have had a weighted mechanism linked to changes in our RAV as a proxy for our financing profile. Below we outline our view on calibration considerations:

Sector specific calibration ignores the differences in RAV growth and financing preferences of individual licensees. As we move into a new price control which is expected to be capital intensive, it should be ensured that business plans and uncertainty mechanisms are fully considered prior to final determinations. While we acknowledge that the scope of the calibration process will be determined at the final determination level, we are of the firm belief that the calibration process should ensure that it is not skewed towards sectors or companies that are materially different. For example, in RIIO-2, Ofgem pooled Gas Distribution Networks (GDNs) with TOs when assessing the mechanism calibration. We do not believe, at this stage, for that approach to be appropriate given the material differences between financing profiles between GDNs and TOs over RIIO-3. We also believe that Ofgem must be careful when assessing the CoD mechanism in ET on a pooled basis. For example, there may be a need for different financial parameters across TOs which would give rise to different RAV growth rates in addition to the varying sizes of TOs and existing debt profile of TOs. We see this as a continuation of Ofgem creating company specific calibration in line with the RIIO-2 approach where SSEN Transmission was given a company specific CoD based on a RAV weighted basis.

We see no reason to deviate from the instruments included in the efficient pooled debt from those of RIIO-T2. In line with RIIO-2, Ofgem will be removing derivatives from efficient pooled debt. Ofgem is also considering removing below instruments from the efficient pooled network debt.

- Liquidity facilities, revolving credit facilities and overdrafts

- Intercompany loans
- Subordinated instruments, such as 'Class B' debt; and
- Instruments with insufficient data to model.

The exclusion of the instruments is in line with the calibration process of the previous price controls. This approach is dependent on design factors of the mechanism such as assumptions on Index Linked Debt (ILDs) as noted below. We note that intercompany loans should continue to refer to short term trading balances and not long term debt instruments from group companies.

2.3.3. Length of Trailing Average

In this section we assess the length of the trailing average window for the benchmark index. In RIIO-T2 Ofgem implemented a trombone average starting from a 10-year trailing average to a 14-year trailing average. In addition, to set the allowance for SSEN Transmission, Ofgem applied a RAV-weighted indexation mechanism where the trombone average is weighted by the RAV value in that year. Ofgem have stated that length of the trailing average selected will be driven by the calibration exercise, however *'...significant changes to the length of the trailing average...could be detrimental to the ability of licensees to optimise their treasury strategies and long-term decisions on capital structure'*⁵².

Trailing average length should reflect the average tenure of actual companies' debt profile.

While we accept that the calibration process will determine the trailing average length, we believe the trailing average length that Ofgem chooses to employ should be supported by comparison with actual company debt. The trombone mechanism used in RIIO-T2 is not in line with the characteristics of the average sector debt maturity as it started with a 10-year trailing average to end with a 14-year trailing average. The average tenor of issued bonds, as depicted in Table 4 below, is 24 years across the sectors and 22.6 years for ET specifically. This is an indication that the typical tenor of a bond issued is around 20 years. We recently issued a £500m Green Bond for a 20-year tenor for example. It may be that the trailing average is different from the refinancing assumption depending on when the refinancing period commences or the remaining life of bonds.

Table 4: Average tenor of issuance of energy network bonds (years)

Bond type/Sectors	All companies	ED	ET	GD	GT	GD>
All maturity types	24.0	23.5	22.6	23.1	28.2	26
Bullet maturity	25.9	25.6	24.8	23.5	30.6	27.3

Source: An internal analysis (All bonds in the sample have a maturity date after 1 September 2023)

⁵² Ofgem (2023) 'RIIO-3 Sector Specific Methodology Consultation – Finance Annex', S 2.13, p. 12

2.4. Cost of Borrowing Cost / Transaction Costs

2.4.1. Additional Cost of Borrowing

In this section we provide analysis outlining the additional cost of borrowing along with our view on the considerations Ofgem should take into account. This includes an exercise carried out by NERA on behalf of the ENA which has reviewed Ofgem's methodology and decision regarding additional costs of borrowing and its conclusions are summarized in the table below⁵³.

Table 5 - NERA summary of Ofgem analysis compared its own (bps)

	Ofgem RIIO GD/T2 & ED2	NERA (Feb 2024)	Comment
Transaction Costs	6	6	<ul style="list-style-type: none"> Based on updated companies' data
Liquidity/RCF costs	4	13	<ul style="list-style-type: none"> Both Ofgem and NERA draw on companies' assumptions on RCF size and cost, but NERA assume 15% of RCF drawn to fund working capital/operational needs Increased liquidity cost also reflects higher short-term borrowing rates at RIIO-3
Cost of carry	10	12	<ul style="list-style-type: none"> Two approaches: 1) companies' cash and debt in latest RFPRs (12 bps), consistent with Ofgem's approach at RIIO-2, and 2) assume 12-24 month pre-financing, half met by RCF (range 8-16 bps)
CPIH premium	5	18-23 (21)	<ul style="list-style-type: none"> Ofgem recognized CPI switching costs of 5bps p.a. (30 bps for new CPI debt, and 15bps for switching RPI-CPI, weighted by ILD%) NERA estimates 30-50 bps p.a. for new CPI issuance using latest nominal-CPI swap costs, and 15 bps p.a. for managing RPI-CPI basis risk. Ofgem does not recognize CPI-CPIH basis risk cost, which NERS estimate to be 40-50 bps p.a. based on 1 standard deviation. The total cost for CPIH basis risk mitigation is estimated to be 18-23 bps p.a. by weighting the above estimate with 30% ILD, and new/embedded debt respectively
New Issue Premium	0	5	<ul style="list-style-type: none"> Latest market evidence supports a 15bps NIP, consistent with CAA for HAL. Multiplying 15 bps with 35% assumed new debt% results in c.5bps p.a. of NIP
Additional Cost of Borrowing	25	54-59 (57)	

⁵³ NERA (2024) 'Additional Cost of Borrowing for the RIIO-3 Price Control', February 2024.

	Ofgem RIIO GD/T2 & ED2	NERA (Feb 2024)	Comment
Small Company/Infr equent Issuer Premia	6	10-18 (14)	<ul style="list-style-type: none"> Lower bound based on the CMS-implied premium, since CMS does not provide risk hedging for credit risk (Ofgem approach) Upper bound based on liquidity premium estimated using the bid-ask spread differential between sub-benchmark issues and issues at and above £250m
Total	31	64-77 (71)	

The evidence presented within Table 5 is elaborated on below;

Companies' data evidences that transaction cost allowances from RIIO-2, should be adjusted in RIIO-3. NERA's analysis⁵⁴ based on companies' historical transaction cost data considering amounts issued and tenors (17 years), estimates a transaction cost of 6 bps p.a. This aligns with Ofgem's estimate of RIIO-2. However, if Ofgem consider a shorter tenure upon completing the CoD calibration, these estimations should also amend to reflect the same.

Ofgem's liquidity/RCF costs approach does not consider draw-down costs, which forms a significant part of company liquidity cost. At ED2, Ofgem cited evidence of liquidity cost of 4 bps p.a. based on the RFPR and group account data about RCF holdings. However, this estimate only includes commitment fees. Draw-down expenses - which form a significant portion of the liquidity cost - are disregarded in this strategy. Ofgem previously assumed that the *"RCF is not drawn down and that any draw-down costs would be covered through the calibration of the debt allowance."* However, evidence indicates that companies draw down RCF/working capital facilities (WCF) to manage volatility in cash-flows and meet working capital requirements, incurring utilisation fees and interest costs. The facilities are drawn to fund working capital requirement, and do not generate any offsetting interest. NERA⁵⁵ estimates draw-down of notional facility of around 15% based on company data. Moreover, the 35-45 bps p.a. considered by Ofgem ignores other potential costs such as upfront arrangement fees, legal fees and annual (agency) fees, although these additional costs are small and of the order of circa 1 bps p.a.⁵⁶. We, therefore, firmly believe that the RIIO-2 approach of Ofgem's liquidity/RCF cost significantly underestimates the real company liquidity costs and requires adjustments as suggested by NERA.

Ofgem should consider the potential impact of financial resilience measures on additional borrowing costs, especially the impact on liquidity cost and cost of carry. The liquidity cost and cost of carry estimated by NERA⁵⁷ as summarised on Table 5, are based on the status quo.

⁵⁴ NERA (2024) 'Additional Cost of Borrowing for the RIIO-3 Price Control', February 2024.

⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ Ibid

If Ofgem decides to implement financial resilience measures mentioned in para 6.23 to 6.31 in the SSMC, cost components of the additional borrowing costs also need to be adjusted to reflect the increased liquidity measures required to maintain desired financial resilience levels. For example, Ofgem proposes to introduce an amendment to the “availability of resources” condition to require licensees to hold sufficient financial resources to cover the entire price control period or a minimum of three years ahead. Such a change is likely to increase companies’ cost of carry and liquidity costs. The liquidity cost/cost of carry estimated in this report are based on historical cash holdings and existing license requirements, and therefore would understate companies’ cost at RIIO-3, if proposed financial resilience measures were to be implemented.

It is also the case that the costs of carry are significantly higher for periods of high investment and therefore the ET sector should have a higher allowance to reflect that. In the event we do not have funds available, we are reliant on an RCF which is a critical part of cash management. Ofgem should seek to supplement the base Cost of Carry with an additional allowance given the significant cash requirements to fund large parts of the capital investment programme.

Companies are also exposed to CPI-CPIH basis risk, which is not compensated in the existing allowance which only includes premium for CPI. Licensees are subject to the risk of a CPI-CPIH wedge because they issue CPI-related debt (i.e., pay CPI) yet their revenues are connected to CPIH through RAV indexation. Since the current CPI premium allowance only permits the issuance of CPI debt and the management of basis risk between CPI and RPI, rather than CPIH, such basis risk is not covered by it. The CPI-CPIH wedge's volatility has grown over time, indicating a rise in basis risk. Since 2021, the CPI-CPIH's 5 and 10-year rolling standard deviations have been significantly larger. According to NERA the CPI-CPIH wedge's standard deviation is approximately 40–50 bps⁵⁸ and should be considered in estimating the embedded debt RPI/CPIH basis risk allowance. The average over a period of time has also been material and Ofgem must ensure these costs are remunerated for particularly during the period of significant financing for the ET sector.

Ofgem would be wrong to remove CPI/H issuance and basis mitigation allowance from 2030, because it ignores transition costs. Given the planned transfer of the RPI inflation measure to the CPIH starting in February 2030, Ofgem stated in the RIIO-3 SSMC that it is considering eliminating the CPI/H issuance and basis mitigation allowance starting in 2030. We disagree with this assumption for the reasons listed below, which are consistent with NERA's analysis⁵⁹:

- Companies may incur transition costs in order to make up for a fundamental change in a bond's index, in which case the real coupon may need to be raised to guarantee that investors won't be worse off.
- Companies may incur expenditures for negotiating modifications with bondholders and updating documents, which may need approval solicitation. These costs would

⁵⁸ NERA (2024) ‘Additional Cost of Borrowing for the RIIO-3 Price Control’, February 2024.

⁵⁹ Ibid.

include legal, trustee, agency, and administration/tabulation fees, as well as any fees paid to banks for running a consent solicitation procedure.

In alignment with the CAA’s decision and latest market evidence we believe that Ofgem should consider a New Issue Premium (NIP). An analysis undertaken by NERA identifies that there is a NIP of around 5bps (Assuming a 35% new debt proportion). The evidence for a NIP is based on the analysis of the Halo Effect. In previous price controls Ofgem has disregarded the halo effect due to misstatement of estimates using an incorrect methodology. As stated in reports by NERA these issues included Ofgem’s spreads not being controlled for tenor precisely, its sample excluding relevant bonds issued by SSE, and including callable bonds.

Upon updating the oversights of the previous Ofgem approaches, NERA has estimated a negative halo of between 6-8 bps p.a. as of February 2024. A negative halo reflects the cost of incentivising investors in the primary market relative to the secondary traded market yields. This finding is in line with recent research studies which estimate a NIP of 10-14 bps.⁶⁰ Moreover, evidence from the market (As depicted on Table 6) and data provided by banks shows that NIP have increased in recent years to approximately 10-19 bps in 2022-2024 from 4-6 bps⁶¹. At H7 price control for Heathrow also, CAA allowed a 15bps p.a. NIP in line with the midpoint of HAL’s submitted NIP range (10-20bps) and CAA’s own analysis. CAA states that *“The use of secondary market yields means that we must also consider whether it is appropriate to apply a New Issue Premium”*⁶². We therefore believe that Ofgem should reconsider its approach and consider a NIP in line with the market information and CAA’s decision.

Table 6: Average New Issue Premium for GBP issues (bps)

	Market	Utility
2024	16	10*
2023	12	13*
2022	16	19
2021	4	4
2020	8	6

**2024 and 2023 figures excludes Thames Water transactions. Including Thames Water transactions, the 2024 figure would be 14bps and 2023 figure would be 15bps.*

Source: Clearing Bank’s Estimates (Extract from NERA (2024))

⁶⁰ Maitra and Salt (2018) estimates an average NIP of 14bps for European corporate bond since 2009; Rischen and Theissen (2018) estimates the NIP to be 10bps, measured as the underpricing in the primary issues of European corporate bonds. Maitra and Salt (May 2018) New issuance premium in European corporate bonds, Lombard Odier Asset Management; Rischen and Theissen (2018), Underpricing in the euro area corporate bond market: New evidence from post-crisis regulation and quantitative easing, CFR Working Paper, No. 18-03.

⁶¹ NERA (2024) ‘Additional Cost of Borrowing for the RIIO-3 Price Control’, February 2024.

⁶² CAA (March 2023), H7 Final Decision, Section 3: Financial issues and implementation, CAP2524D, para 9.176

2.4.2. Infrequent Issuer

We welcome clarification from Ofgem on the review they are undertaking on the size of the allowance (£150m per annum in RIIO-2) and qualifying criteria to meet the eligibility of the allowance.

2.5. Treatment of Inflation in the CoD Mechanism

2.5.1. Assessment of Proposed Remedies to the Alleged Leverage Effect

Ofgem have proposed three options to remedy an alleged leveraging effect arising due to a potential mismatch between outturn inflation used for indexing the RAV and forecast inflation embedded in the CoD allowance. In RIIO-1, Ofgem used Breakeven Inflation i.e. the difference between Index Linked Gilts (ILGs) and Nominal Gilts to determine the inflation to deflate the CoD allowance. This was in relation to RPI and due to the transition to CPIH, Ofgem switched the deflation measure to the OBR assumption and long term Bank of England target of 2% CPIH.

As set out in SSEN's response to Ofgem's Call for Input on the 'Impact of High Inflation on the Network Price Control Operation' inflation is a key cornerstone of regulatory price controls and as such any review of the operation of inflation is complex, requires care, and should be consulted on fully over a period of time. The impact of any changes to the treatment of inflation are of profound importance to the stability and operation of regulatory price controls with specific reference to:

- Inflation indexation of the Regulatory Asset Value (RAV) and use of the real cost of capital is a fundamental component of price controls and has been since privatisation.
- Inflation is structured throughout the fabric of the price control and care must be taken when analysing inflation or characterising variations in inflation.

Potential changes to future price controls must be carefully considered in detail, and robustly tested in the context of the wider price control package

From the outset SSEN Transmission has been of the view that Ofgem are basing policy decisions on a flawed and narrow assessment of the leverage effect itself. When controlling for the exceptional events caused by the Covid-19 pandemic and the geopolitical crisis in Europe, the inflation outturn has been in line with long term Bank of England and government targets of 2% CPIH. When accounting for two events that have not occurred for 100 years, the basis for a material policy change is not justified. **We believe that Ofgem should maintain the approach adopted in RIIO-2 for RIIO-3 thereby giving long term confidence to investors during a period of significant investment and debt financing.** The changes risk undermining the regulatory framework which whereby stability and predictability is paramount to give investors' confidence. As set out in the call for input, due to below reasons we believe that Ofgem's characterisation of an alleged leveraging effect is flawed:

- Ofgem had conducted its assessment of the leverage effect on the basis of the notional company. But the reality is Ofgem's impact assessment does not represent the 'true' gain/loss for any network (unless networks have adopted the notional financing structure exactly).

- The degree of gain/loss depends on each networks' actual debt book, including the proportion of that debt book which is comprised of ILD (or inflation swaps that achieve the same effect).
- Ofgem has failed to take account of investor preferences. The existing cohort of investors in energy networks made those investments cognisant of the fact that they would be exposed to the inverse leverage effect. Exposure to this effect may be valuable to those investors and removing it will diminish their appetite to invest.

As such, to select an option purely on the basis of its ability to eliminate the leverage effect is a narrow and flawed view. As stated above, we do not believe a change in methodology from RIIO-2 to RIIO-3 has been justified. Whilst this remains SSEN's position, this section assesses the options proposed by Ofgem to address the alleged leverage effect.

2.5.2. Option 1: Nominal allowance for fixed rate debt

Under this approach licensees would receive a CoD allowance for fixed rate debt on a nominal rather than real basis. The share of notional RAV funded by fixed rate debt would not be indexed i.e. inflated up annually with outturn inflation, only the share of RAV assumed to be financed either by equity or by Index Linked Debt (ILD). There are benefits and drawbacks from this option as there are in option 2 or the status quo. Option 1 should not undermine the basis of setting other elements of the price control such as the Cost of Equity given the importance of equity investability.

2.5.3. Option 2: Match indexation of the RAV to the long run assumption in proportion to the fixed rate debt notional capital structure proportion

This approach seeks to address the alleged leverage effect via RAV indexation whereby the long run assumptions used to derive a CPIH-real CoD would be used for RAV indexation on the percentage of fixed rate debt assumed for the notional company. In essence, from SSEN Transmission's perspective, Option 1 and Option 2 have similar characteristics in that they are compensating for the fixed nominal CoD. The difference arises between either using a real CoD rather than a nominal CoD. The latter i.e. Option 1 provides a cash allowance through revenue whereby Option 2 relies on part cash allowance and part RAV allowance which is similar to the approach in RIIO-1 and RIIO-22.

2.5.4. Option 3: Unchanged methodology - review of the long run assumption

Option 3 indicates it would retain parts of the existing methodology but potentially adjust the long run assumption used in the calculation of the CoD allowance. Currently this assumption is based on the OBR forecast which has been close to 2%. We do not believe that this is an appropriate methodology since it introduces estimation and transparency risk which undermines the predictability and stability of the regulatory framework. As noted above, the long run inflation when controlling for exceptional 1 in 100 year events is in line with the Bank of England targets of 2% and the OBR's long term forecast. That is the only suitable estimate for long run inflation and if that is used then it is akin to the RIIO-2 methodology.

Breakeven inflation as a base to long run inflation assumption will add complexity to the estimation. The SSMC suggests that a possible approach could be to utilise Breakeven (B/E) inflation as the foundation for the long run inflation assumption. B/E inflation is the difference between UK sovereign nominal gilt yield and index linked real gilt yield. Using B/E inflation as

a base introduces unnecessary complexity due to the transition to CPIH from RPI in RIIO-2. In RIIO-1, Ofgem used B/E inflation when deflating the CoD while using outturn inflation as the basis of the allowance. In the end, this assumed that long term inflation, similar to B/E, would be in line with Bank of England targets and would be relatively neutral over a long period of time. We do not believe Ofgem can use B/E due to the difference between CPIH and RPI and the fact there is no capital market for CPI/H linked government debt over RIIO-3.

If the approach to the long run inflation assumption were to be changed, it must pass a test of being an improvement on the status quo as opposed to a means to arbitrarily bring down the CoD allowance. B/E inflation is less reliable, but all the other options that Ofgem previously mentioned don't, in our opinion, offer a foundation for improvements over the current approach. In fact, it is more appropriate to use the authority on inflation forecasts which is deemed to be the OBR and Bank of England. We would not support any deviation from that basis of inflation forecast and therefore the only viable design of Option 3 is exactly the same as the status quo in RIIO-2. For this reason, we do not see a basis for option 3 of the inflation treatment thus respectfully requests Ofgem to remove option 3 from the list of options on the basis we do not believe the basis of an inflation forecast can be changed from the long-term OBR forecast of 2% for CPIH.

2.5.5. Other Considerations

Inflation protection and any relevant impacts on the real return regime.

Under Option 1, provided that the proposed nominal CoD allowance is calibrated appropriately the necessary level of inflation protection (i.e. sufficient to cover changes on new debt issuance) would be provided to the notional firm through calibration of the CoD allowance as part of the annual iteration process. Option 2 may be considered to reduce the inverse exposure to inflation of investors while retaining the essential features of the existing treatment of inflation, which are well understood by investors. Option 3 introduces an area of judgement which is unnecessary and would lead to an increase in risk and undermine the stability and predictability of the regulatory framework.

Financeability and Bill Impacts

Option 1 will better align the annual flow of revenue to cover debt costs with the typical cashflow profile of fixed rate nominal debt. In the longer term, we note that this approach would lead to lower RAV, since RAV's would no longer be inflated annually to compensate for the inflation component of debt costs. This would have the effect of moderating bills in the long run. Option 2 would not be expected to materially change the speed of money, and hence should not have any material influence on financeability assessments at future price controls, or on short run customer bills versus the current approach in RIIO-2.

2.6. Index linked Debt (ILD) Assumption

2.6.1. Impact of removing ILD

In this section we look at the ILD assumption for the notional company. From RIIO-T1 to RIIO-T2 we seen an increase in the ILD for the notional company increase to 25-30%. Ofgem's proposal in the SSMC is to move to a debt structure for the notional company of 0% ILD which in theory would require gradual implementation. This differs to what the sector has seen in

previous price controls and due to the implementation timeline requires great consideration and thought to how this transition would work.

Removing ILD eliminates the freedom of financing decisions given to licensees. UKRN guidance recommendation 09⁶³, recommends that licensees exercise the freedom to their financing decisions. Companies were therefore incentivised to achieve financing structures which were more efficient compared to the notional and were permitted to take on exposures that matched their preferences. This freedom to funding is a fundamental part of the regulations and aligns with Ofgem's broader objectives. Reducing the ILD assumption to zero therefore limit the freedom given to licensees for its own financing decisions and violate the provisions given in the UKRN recommendation guidance.

ILD is an integral part of an efficient notional capital structure. UKRN guidance recommendation 9 states that the historic financing decisions of the sector indicates what companies consider to be an efficient capital structure. Currently the licensees in the electricity transmission sector hold ILD/Floating debt from 32% to 5%⁶⁴ while maintaining the required credit ratings. The sector average thus indicates the need to retain ILD for an efficient notional capital structure.

There is no clear rationale for removing ILD from financing options available to fund investment to achieve the transition to net zero. Specially at a time where companies are required to raise substantial amounts of capital, effectively Ofgem would be removing the ability for companies to raise ILD when diversity of investors and sources of funding will be critical. It also appears to be an unreasonable assumption for a notional company given Ofgem assumed 25-33% for RIIO-2. In response to the appeal during RIIO-2 on errors relating to adjustments to the notional company structure, CMA stressed that the notional capital structure should be reasonable, achievable, and economically sustainable⁶⁵. We believe that downgrading ILD assumption from industry average of 30% to 0% is neither achievable nor economically sustainable.

With all above reasons, we believe that proposed changes to the ILD to zero is not reasonable and does not align with a reasonable definition of the notional company.

2.6.2. Implementation considerations

Implementation considerations are in line with the reduction of ILD to zero. As we have already highlighted, we believe the ILD assumption is not reasonable and limit the financial freedom of licenses to raise required capital for upcoming projects. We also believe that Ofgem should consider the complexity of the maturity profiles of any existing company ILD when finalizing its decision on a proper implementation mechanism.

⁶³ UKRN (2022), 'UKRN guidance for regulators on the methodology for setting the cost of capital', p. 33, https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance_22.03.23.pdf (last accessed on 7 February 2024).

⁶⁴ Based on RFPR submissions in 2023

⁶⁵ CMA (2021), 'Energy license modification appeals 2021', Available on: <https://www.gov.uk/cma-cases/energy-licence-modification-appeals-2021>

3. FINANCEABILITY AND INVESTABILITY

3.1 Financeability

A Strong Investment Grade credit rating (BBB+/Baa1) must be maintained to attract unprecedented levels of debt and equity investment. In order to deliver the unprecedented level of capital investment to transition to NetZero. Network operators must have sufficient operational resources to deliver all its licence obligations across the medium term and maintain an investment grade credit rating to reassure both debt investors and equity investors, along with wider stakeholders. Concurrently, Ofgem also has a statutory duty to support an investment grade credit rating for network operators. SSEN Transmission works hard to maintain its strong credit history, and along with our investors believe that in this period of unprecedented and globally competitive clean energy infrastructure investment, as strong investment grade credit rating of no lower than Moody's Baa1 is justifiable.

We also strongly encourage Ofgem to consider the unintended consequences of any alterations to the RIIO-3 price control mechanism which may negatively impact companies credit ratings, potentially causing a downgrade, through no direct action of the company. Credit rating downgrades directly lead to increased financing charges which both increase costs to consumers and foster negative sentiment from both debt and equity investors.

Ultimately, the scale of debt and equity investment required means that Strong Investment Grade Credit rating is a core foundation of investability as it will ensure the sector remains competitive globally to attract and retain that financial capital. **Any unnecessary obligations or reduction in that credit strength will undermine the ability to raise the necessary capital and increase the risk to debt and equity holders.** We believe this would be to the detriment of current and future customers.

3.2 Investability

Investability assessment must feature heavily in Ofgem's design of the RIIO-3 financial framework and must be applied to both existing and new equity investors. The concept of investability must ensure that companies remain investable from the perspective of both debt and equity investors; and we see a strengthening of Ofgem's financeability commitments vital to maintaining debt investor confidence in network operators.

The gap that we see investability measurements addressing is the need to assess investability from the perspective of equity investors. We believe in the context of RIIO-3 investability should focus on an assessment of whether equity investors will be willing to retain their investment in a network operator and / or be willing to invest new equity, especially given the significant level of investments required by TO's during the RIIO-3 period.

We see this assessment based on factors such as the absolute equity return meeting investors' required hurdle rates; along with the opportunity cost of this investment in any UK network operator compared to competing investment opportunities elsewhere.

Network operators need to remain globally attractive to compete for this capital inflow, particularly given the precedent level of investment required to meet UK carbon reduction targets. Otherwise, consumers will ultimately pay the costs – both financial and societal – if

network operators are unable to provide their services in a financially efficiently and robust manner.

We are keen to understand what measurements Ofgem are considering using as evidence of the markets' willingness to finance the unprecedented quantum of investment required to upgrade the transmission network. We believe, these may include, but are not limited to the following qualitative and quantitative measurements:

- Sell side analyst commentary
- Investor Feedback, including for example, the Global Infrastructure Investor Association (GIIA) view
- Share price movements
- Discount on equity raise, issuance and transaction costs
- Credit Rating Metrics Net Debt/EBITDA
- Valuation Metrics EV/EBITDA

There will be much published by analysts on their view of how RIIO-3 should be designed, and it is important to have a sense of investor sentiment towards the forward looking risks and costs associated with investment in electricity transmission. The need to attract equity and debt markets and ensure the UK can compete globally is critical particularly in the face of the unprecedented scale of investment across the sector. For example, recent equity analyst commentary on the sell sides expectations for RIIO-3 include:

*'Recognising the significant implosion in capex spend in the next price control, Ofgem plan to develop the notion of 'investability', alongside the existing financeability assessment, to retain and attract the equity capital that the sector requires. This could be achieved for example by setting higher betas for Electricity Transmission and weighting the cost of debt index to RAV additions would allow the cost of debt to flex upwards faster for electricity transmission companies which will see a much faster growth in RIIO-T3. See UK Utilities: Ofgem RIIO-T3 consultation'*⁶⁶

'Investability and financeability idea is positive: Ofgem plan to develop the notion of 'investability', alongside their existing financeability assessment, to retain and attract the equity capital that the sector requires. We discuss setting different betas for the different network types if there was sufficient evidence of risk profiles diverging in the future.

*We support this - i) CAPM betas are backward looking in our view and may not pick up the increased risks of a large increase in investment, and ii) a 'developer' premium (hurdle rate) is part of corporate investment decisions, and relying on a cost of capital at hurdle rate may not attract capital.'*⁶⁷

Market Sentiment indicates Higher Returns than a mechanistic RIIO-2 Roll Forward are Required. As we have set out in our CoE section, market evidence does not support a roll forward of the RIIO-2 methodology. Fundamental economics implies that investors expect a higher rate of return for a higher risk and the material change in risk free rates i.e. government gilts. The step up in investment flows into the UK to fund the energy transition is

⁶⁶ Bernstein (2024), 'National Grid and SSE: A deep dive into future UK transmission investment'

⁶⁷ Barclays (2024), 'Ofgem consultation on reform of regulation'

unprecedented and while Ofgem have offered some reassurances on investability and financeability, there is still a higher perception of risk for RIIO -T3, than T2.

Dividends payments are an intrinsic part of the equity story and when paid fairly should be supported by Ofgem. Dividend payments are an intrinsic part of the equity investor relationship and when paid fairly should be welcomed and supported by Ofgem. Given the significant investment levels already being required by companies and the seismic step up of this during RIIO-3, it would not be unexpected that companies continue to reinvest funds to support future investment, minimising or postponing dividend payments in the medium term. When companies cashflows do have the ability to eventually pay dividends they, and their equity investors, are concerned that this may be received negatively by wider stakeholders, particularly consumer groups and the media. This negativity may also be further reinforced if the high level of capital investment means that the company has had little or no requirement to pay corporation tax in recent years due to government changes in tax legislation. We have been a supporter and certified Fair Tax Mark company for several years and will continue to ensure we retain that reputation as being a responsible company. These factors are often lost when simplified at a headline level around taxation, profitability, and dividends and it is important Ofgem reflect that they have the mechanisms in place to protect consumers, companies are going to go through cycles and it is important to look over the long term rather than short term measures. Therefore, we seek reassurance from Ofgem that they will support the fair distribution of dividends by companies to their equity investors when cashflow metrics allow.

4. FINANCIAL RESILIENCE

In this section we review Ofgem's proposed approach for RIIO-3 and financial resilience for the sector. **We firmly believe that existing regulatory measures on financial resilience have been successful in guaranteeing a resilient industry.** Existing financial resilience related measures include the following:

- Ultimate Controller Undertaking
- Disposals and Charges
- Cross-subsidies
- Restriction on Activity and Financial Ring Fence
- Availability of Resources
- Indebtedness
- Reporting under Regulatory Instructions and Guidance (RIGs).

These measures are therefore extensive and have been effective in ensuring network operators do not have financial stability issues. Tax clawback provisions which trigger in circumstances where a company's gearing moves away from the notional company's gearing also act as an early warning measure under financial resilience. As clearly mentioned in the section 6.9 of the SSMC all TOs are already adhering to the credit rating requirements and are maintaining two investment grade credit ratings with sufficient headroom, which indicate a healthy sector. We therefore believe that these measures will continue to provide effective early warnings in case of a financial distress despite the ongoing expansions to fund net zero targets and that any further measures and disclosures would be excessive.

Statutory reporting requirements and independent external audits provide further protection against company going concern assumptions. Statutory financial statements are prepared on a going concern basis and audited by external independent auditors. Both the Companies Act 2006⁶⁸ and the Financial Reporting Standard (FRS) 102⁶⁹ collectively establish the regulatory framework for companies to assess and report on an ongoing basis. Requirements emphasise the need for directors to thoroughly evaluate the company's ability to sustain its operations in the longer term. External auditors are also required to scrutinise financial ratios, cash flow projections, company plans, and internal controls to ensure the viability of the ongoing basis of accounts. They are liable to report on any material uncertainty relating to events that may cast significant doubt about the company's ability to continue to adopt the going concern basis of accounting. Measures relating to the 'going concern' concept go beyond information provided on the 'Availability of Resources statement', thus there are duplicate efforts already in place to ensure financial resilience. The statutory protection imposed on directors and auditors coupled with already existing regulatory measures, therefore, fortify transparency in reporting and eliminates the need for additional measures to signal early warnings on financial distress.

The Viability Statement included within the financial statements provides additional early warnings of possible financial distress in the longer term. An update of the UK Corporate Governance Code in September 2014 introduced a requirement for the Board of Directors to make a statement in the Regulatory Report and Accounts as to the long-term viability of the Company. The precise wording of the requirement is *"The directors should state whether they have a reasonable expectation that the company will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, drawing attention to any qualifications or assumptions as necessary."*⁷⁰ The Financial Reporting Council's (FRC) guidance emphasises stress and reverse stress testing as a basis for conducting the viability assessment. Accordingly, the Viability Statement typically covers a period significantly longer than the 12-month period addressed in the going concern assessment and provide insights into the board's evaluation of the potential challenges and uncertainties that may impact the company's ability effectively operate over the longer term. It quantifies principal risks/uncertainties and forecasts headroom if all principal risks to materialise at once and thereby indicate potential financial distress. The Viability Statement is different to the 'Availability of Resources' (AoR) statement required by the regulator and therefore can consider an important additional measure in ensuring financial resilience. It should not be confused that a Viability Statement is the same as the AoR Statement and therefore extending out the AoR requirements to three years would be entirely inappropriate particularly given the scale of change and investment, the short term nature of price controls, and the volatility in capital markets and macro-economic environment.

There are sufficient statutory protections/requirements on distributions (dividends) to ensure financial health of a company and we see no basis for additional measures from the regulators Companies are bound by legal and regulatory frameworks, including the Companies Act 2006, which establishes safeguards to ensure that dividends are declared responsibly without compromising a company's financial health. Directors are required and

⁶⁸ Companies Act (2006), S. 495 & S. 714

⁶⁹ Financial Reporting Council (2022), 'FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland, pp. 60 – 61.

⁷⁰ FRC Corporate Governance Code (2014), page 17, C2.2

could be personally held liable to exercise due diligence and consider the long-term impact on the company's solvency, liquidity, and overall viability before recommending or approving dividends. The UK Corporate Governance Code also emphasizes the importance of maintaining a balance between returning value to shareholders and retaining earnings for future growth and unforeseen challenges. Robust risk management processes and comprehensive financial assessments are integral to these protective measures, helping companies avoid excessive payouts that could jeopardize their ability to navigate economic uncertainties and sustain resilience over time. These statutory safeguards have been effective in ensuring responsible distributions and securing required funds for investment for networks despite level of MidCo/ HoldCo leverage and the dividend lockup triggers imposed by the regulators. We therefore see no value or basis for additional safeguards implied on distributions in the SSMC. We also have material concerns that this is beyond Ofgem's remit in that Mid-Co and HoldCo's are not part of the regulatory licence other than by virtue of the Ultimate Controller Licence condition. That however is not the same as 'regulating' parent companies or placing unnecessary restrictions on licensees for arbitrary reasons. We also have concerns given the scale of investment forthcoming and the reasonable expectation that shareholders should be able to draw a dividend in future. This will risk deterring investors and making it more challenging to raise capital at a time when it has never been more critical.

The financial resilience of the industry is already secured by a number of regulations and statutory safeguards, therefore it's unclear how further financial resilience measures suggested by the SSMC may benefit customers. In the sections above, we highlighted the various measures that already exist to ensure the industry's financial resilience. Therefore, we believe that there are no additional benefits to consumers from those additional measures recommended in the SSMC. We therefore request clarification and evidence from Ofgem on what further benefits these measures propose to provide to consumers. Regulation should not be introduced because Ofgem decide it helps the optics of the regulatory mechanism. There needs to be a tangible case with real benefits to new regulation in line with the Principles for Better Regulation. Ofgem have not yet presented any such benefit or indeed why existing regulatory arrangements are not more than sufficient to provide such benefits.

Increased financial resilience requirements would incur additional costs to companies which will be passed on to consumers. Such additional cost should be associated with additional benefits to consumers. Additional disclosure requirements and credit rating requirements implied in the SSMC incur extra costs to companies and these costs will be passed on to the consumer. For example, in the SSMC, Ofgem proposes to introduce further financial resilience measures, including a proposed amendment to the 'availability of resources' condition to require licensees to hold sufficient financial resources to cover the entire price control period or a minimum of three years ahead. Such a change is likely to increase companies' cost to carry and liquidity costs and will lead to an increased cost of borrowing⁷¹. Ofgem therefore should consider additional benefits that these measures would bring to consumers, given that there are sufficient statutory and regulatory safeguards already to secure the financial resilient of the industry. Importantly, Ofgem must recognise that a strong investment grade credit rating, akin to Baa1, and the costs of carry associated with financing well in advance of investment periods are required to sustain financial resilience requirements.

⁷¹ NERA (2024) 'Additional Cost of Borrowing for the RIIO-3 Price Control', February 2024.

Changing financial resilience requirements to align with other regulatory industries that have had different regulatory arrangements and experiences of financial resilience is not justified. It is incorrect to draw conclusions that there is a need for regulatory intervention when there is no **evidence** or even risk of needing such a regulatory intervention. As we have noted above, there is an extensive list of conditions and obligations in place that protect consumers and companies both from the licence and a statutory perspective. Ofgem is considering changes in other regulatory industries such as Ofwat, to impose additional financial resilient measure to the energy networks. For example, under Ofwat licence conditions companies must ensure they maintain, at all times, two investment grade credit ratings and that dividends are only declared and paid if in line with a Board approved policy which ensures that the distribution will not impair its ability to finance the business. However, as we have established above, such assessments are already in place through statutory requirements, for example due diligence required by the Companies Act 2006 when declaring dividends. Also, Ofwat holds a different risk profile and require a lower level of credit rating than regulated energy networks. Therefore, we see no reason or additional benefits to consumers by aligning energy network financial resilient measures to those of other regulated industries.

5. CORPORATION TAX

In this section we review Ofgem’s proposed approach for RIIO-3 and tax position for the sector.

Tax should be treated as a pass through albeit a transition period may be required. Inclusion of the Fair Tax Mark certification helps to improve the credibility of the sector, demonstrating the proactive approach companies are taking to ensure the correct tax is paid. The Fair Tax Mark also ensures companies are not benefiting from the recovery of tax paid whilst contributing fairly to the cost of providing the public services we rely on. Ofgem should go further than this and treat tax as a pass-through cost. This would streamline the reporting and reconciliation requirements that would be required for RIIO-3. We welcome clarity from Ofgem on the reporting requirements for tax throughout the next price control, however below comments are made on the prevailing tax calculations and topics discussed in the SSMC. Due to the changing complex taxation arrangements, it may be that transition to pass-through treatment of corporation tax requires a period of transition.

The definition of net debt cannot be amended arbitrarily. The suggested amendment of inclusion of the cumulative accretion, net of paydown in the gearing calculation of the tax clawback methodology better aligns the components of gearing, however this change cannot be processed by altering the definition of net debt. This would ultimately change the basis on which net debt is calculated which would drive a variance between the accounting definition and how net debt is actually defined. This suggested modification is insignificant in comparison to the other tax issues faced by the industry and within the regulatory reporting models. Ofgem consider that the proposed change “will result in a more accurate and appropriate gearing level” however to have a more accurate tax allowance, the below modifications should be taken into consideration.

Modifications are required in regulatory reporting models and the calculation of Tax Trigger Event (TTE) value. The country has seen a large shift in tax treatment since the Autumn 23’ budget was announced which will have a material impact on the sector’s forecast tax

allowances compared to what the industry has previously seen. The regulatory models that are used in the Annual Iteration Process therefore need to be updated to account for government policy changes to ensure transparency for consumers when reviewing published models. With such a change, we agree its adequate to keep the overall approach the same but modifications to the models are required using the TTE calculation as an example. We welcome Ofgem consulting on this as a separate consultation.

Capital allowance opening balances should be trued up to align with actual company tax return closing balances. In reference to paragraph 7.4 within the SSMC finance annex and RIIO-2 licence conditions, capital allowance opening balances must be rolled forward from closing balances on a notional basis as opposed to resetting them based on actual tax computations. In line with the points we have noted above, the changes to the capital allowances regime driven by government require Ofgem to look at this again. If the models are left as is, companies will see material variances within the tax reconciliation tab of the Regulatory Financial Performance Report (RFPR). With totex profiles increasing due to the growth of the networks, this issue will only materialise the longer the pools aren't trued up. The tax reconciliation included within the RFPR and Board Assurance Statement were brought in to help bridge the gap between the notional and actual company and we believe the treatment of tax pools should be the same.

6. REGULATORY DEPRECIATION AND ECONOMIC ASSET LIVES

In this section we review the economic asset life expected over the RIIO-3 price control and the effect this will have on the regulatory depreciation.

The asset profile predicted for RIIO-3 significantly differs to what has been seen by the industry over previous price controls. With the inclusion of ASTI and LOTI in our T3 view we anticipate circa. £20bn will be spent in the enhancement of our network, helping to achieve net zero targets set by the Ofgem and government. Of this spend, we expect >50% will be in relation to offshore assets which due to their nature, and weather extremes they are exposed to, have a much shorter asset life. The inclusion of assets such as subsea cables within the offshore projects require assets to be replaced at a much faster pace than seen previously due to the seabed terrain and offshore weather conditions. The scale of these projects drives a material decrease in the weighted asset life of the statutory asset profile and is something Ofgem should thoroughly review when set out in companies business plans. We also note that in Germany, Elia has a regulatory depreciation of 25-30 years for new assets⁷².

Asset lives should reflect the statutory life of the assets whilst ensuring the depreciation rate is fairly allocated across the years the consumer will benefit from the services these assets provide. Through such a capital heavy investment period, financeability and cashflow requirements are some of the biggest blockers in reaching net zero goals. We acknowledge that asset lives can be used to improve cashflow's, a key metric for network operators and therefore consideration should be given to reducing assets lives both as a mechanism to support cashflows in a period of unprecedented investment and to ensure consumer balance.

⁷² Moody's (2024), 'Eurogrid GmbH: Update following rating downgrade; outlook stable', Last Updated: 7 February 2024.

Given the unprecedented rate of investment Electricity Transmission Operators are being asked to make in the next decade, the requirement to accelerate and support company cashflows is vital. A shorter asset life would assist from a practical cashflow perspective, but also help to drive down the level of debt funding from the sector having a positive knock-on effect to the gearing ratios. Subsequently this would improve financeability ratings such as FFO/Net debt calculations helping to adhere to a strong investment grade credit rating, ensuring a lower cost of borrowing which ultimately benefits consumers through lower costs.

We welcome Ofgem’s reassurance that Financeability and Investability are essential considerations to support the delivery of RIIO-3, in order to help play our role in delivering the UK’s Net Zero targets. All available levers must be considered to support companies managing their working cashflow as efficiently as possible to both ensure consumers are serviced while also attracting and retaining investment. As such we believe the asset lives over the RIIO-3 period should be significantly reduced which we will evidence in our business plan submission. It is important that Ofgem protect Strong Investment Grade Credit Rating (BBB+/Baa1) and that coupled with the continuation of the existing regulatory protections will support company stability and long term investability. This is preferable and more effective compared to unnecessary burdens and obligations that do not have an adequate justification for their introduction while also reducing the credit strength and investability of electricity networks.

7. RETURN ADJUSTMENT MECHANISMS (RAM)

We did not support the introduction of the Return on Adjustment Mechanism as part of RIIO-2 and recommend it is reviewed for its effectiveness in RIIO-3. We do not believe this has been required in RIIO-2 and adds unnecessary regulatory complexity. However, as it currently stands, there is a significant negative skew on downward penalties on the RoRE and unless that is adjusted there will be need for a downside protection through a RAM.

8. EXECUTIVE REMUNERATION AND DIVIDEND POLICIES

In line with our ED2 response and the response⁷³ to the Ofgem’s consultation on disclosures related to executive remuneration, we continue to strongly oppose to the new disclosure requirements related to executive remuneration and dividend policies.

Lack of Evidence and Justification of Benefits to Consumers.

We do not agree that additional reporting requirements previously introduced for RIIO-2 price controls on executive pay/remuneration and dividend policies on an annual basis will help to improve the legitimacy and transparency of a company’s performance under the price control. In our view on Financial Resilience, we established the fact that there are sufficient statutory and governance measures and disclosure requirements in place to ensure transparency around dividends. And the same fact remains on executive pay, as we highlight below. Therefore, we are not clear as to why additional reporting is required by third parties and so it is inconsistent with Ofgem’s information collection and reporting simplification objectives.

⁷³ Response to Ofgem’s consultation, and subsequent decision on 1 June 2022, introducing a new section in the RFPR RIGs template whereby SSEN Transmission is required to report on executive remuneration, August 2022.

8.1. Executive remuneration

We believe that there are sufficient disclosure requirements and governance policies to ensure the transparency around executive pay determinations. We do not support providing additional information on executive remuneration. This information is already included in the Statutory Financial Statements for the SSEN companies, prepared under applicable statutory accounting frameworks and which are all subject to external audit under ISA's. A requirement to disclose personal data/information for publication is not one that Ofgem should impose and also conflicts with requirements in respect of good corporate governance and the disclosure of directors' remuneration set by Parliament, the FCA or any exchange on which a company's securities are listed. It is our view that this disclosure is excessive as the existing statutory reporting requirements and the publication of the information on an aggregate basis delivers Ofgem's original stated purpose.

Disclosures around executive pay is against complex data protection considerations. New disclosures on executive pay goes beyond a simple exchange of information and includes data that could directly or indirectly identify an individual. These disclosures relate to individual's personal incomes and pensions which, combined with other information, would identify an individual and is therefore deemed to be personal data. Directors are employees, and as such we have a professional and statutory duty to protect their personal data. There has been a noticeable and concerning lack of specific engagement and assessment by Ofgem on the data protection aspects and how Ofgem has (presumably) reconciled the detail it is requesting against complex data protection considerations such as the protection of data subject's rights (i.e. the executive directors) under UK GDPR and the Data Protection Act, and obligations relating to the collection, storing, data retention and publication of the additional executive remuneration information.

8.2. Dividend policy

Sufficient statutory disclosures are already available to ensure the fairness of distributions. Our dividend policy is based on a range of factors considered by the Board of Directors including delivering our Business Plan, maintaining our investment grade credit rating and providing an appropriate rate of return to shareholders. We do not agree with the requirement to report on this annually as Ofgem does not provide a robust case for what value annual reporting of this would add. As stated in section on Financial Resilience, we believe that there are sufficient statutory disclosure requirements and measure in place to ensure fair distributions. We therefore see no reason for any additional reporting on dividends by the regulator.

9. RECOMMENDATION AND NEXT STEPS

We ask Ofgem to note the views above and look forward to continuing to work with them to shape the financial parameters of RIIO-3 price control framework at this key time for critical national infrastructure investment.

We particularly welcome time with Ofgem in the coming weeks to discuss our submission, the evidence we have provided, and a follow up discussion on the risk measures from RIIO-2 to RIIO-3 which would require engagement with Ofgem finance and policy teams.

10. SSMC FINANCE ANNEX QUESTIONS SUMMARY RESPONSES

Allowed Return on Debt

FQ1. Do stakeholders consider there to be good reasons to deviate from the overall approach set out under UKRN Recommendation 8?

We are in agreement with the overall approach set out under UKRN Recommendation 8 and see no reason to deviate from this approach. However, we would recommend continuous monitoring of the iBoxx GBP Utilities 10+ index which has been selected as the suitable benchmark. We have set out further detail of our views in the main finance response in the cost of debt section 2.2.

FQ2. Do stakeholders have evidence in support of, or opposition to, one or more of the updated indexation or inflation remuneration methodologies under consideration?

We have set out our views on the cost of debt indexation within section 2.2 and set out our response to the inflation remuneration methodologies within section 2.5 of the main finance response.

FQ3. Do stakeholders have views on the potential approaches to implementation of the proposed methodology changes, including assumptions relating to ILD weights?

We have set out our views on the cost of debt proposed methodology changes within section 2 of the main finance response including our view on the implementation consideration of ILD assumption within section 2.6.2.

FQ4. Do stakeholders wish to propose any other alternatives that have not been proposed?

We have set our views on proposed alternatives within section 2 of the main finance response. We require further clarity from Ofgem in regard to the approaches for the alternatives, once received we will be better placed to provide alternative approaches.

FQ5. Do stakeholders have any additional evidence for us to consider in our review of the additional borrowing allowances or infrequent issuer premium?

We have set our view on the additional borrowing allowances and infrequent issuer premium in section 2.4.1 of the main finance response. We have presented additional evidence in terms on New Issue Premium (NIP) under additional borrowing cost in section 2.4.1 and 2.4.2.

Allowed return on equity

FQ6. Do stakeholders agree with our interpretation and proposed application of UKRN Recommendations 2-7?

We have set out our views on the UKRN recommendations within the cost of equity section 1 of the main finance response.

FQ7. Do stakeholders consider there to be good reasons to deviate from the respective approaches set out under UKRN Recommendations 2-7?

We have set out our views within the cost of equity section 1 of the main finance response.

FQ8. Do stakeholders agree with our proposed methodologies where not specifically covered by the UKRN Guidance recommendations or our approach in previous price controls, such as the proposed approach to converting the RPI-real yields to CPIH-real inputs in the RFR calculation?

We have set out our views within the cost of equity section 1 in our main finance response.

FQ9. What comparators and/or timeframes are likely to provide the most accurate estimate of beta for the energy network sectors on a forward-looking basis?

We have set out our views within the cost of equity section 1.6.1 in our main finance response.

Allowed WACC

FQ10. Do stakeholders consider there to be good reasons to deviate from the respective approaches set out under UKRN Recommendations 1 and 9?

We have set out our views on the cost of equity section 1 in our main finance response.

FQ11. Do stakeholders consider there to be good reasons to deviate from the notional gearing assumptions (with respect to the level of gearing and the mix of debt types) applied to GD, GT and ET companies in the RIIO-2 price controls?

We agree with the notional gearing assumptions remaining at 55% in line with the RIIO-2 price controls. However, we will keep this under review for its appropriateness in the coming period as it is dependent on the broader financial parameters, incentive/penalty regime, and other regulatory mechanisms alongside our business plan activities (i.e. totex expenditure and outputs).

FQ12. Do stakeholders agree with the proposal that notional gearing levels should be maintained for each year of the price control? Do stakeholders have a preference for how this assumption is managed within the price control process?

We agree that notional gearing should be maintained at the pre-agreed level for each year of the price control period.

Financeability questions

FQ13. What, if any, improvements should Ofgem make to the assessment of financeability in the next price control?

We have set out our views on the assessment of financeability for the next control period within section 3.1 in our main finance response to the consultation.

FQ14. What evidence, if any, should Ofgem consider in relation to expanding its assessment of financeability to account for 'investability'?

We have set out our views on the expansion of financeability to account for 'investability' in the next control period within section 3.2 in our main finance response to the consultation.

Financial resilience

FQ15. What is your view on the proposed financial resilience measures? Are these appropriate and/or are there any other measures that you would propose?

We have set out our views on the proposed financial resilience measures within section 4 of the main finance response.

FQ16. Are there better ways to protect against excessive leverage and financial risks, in particular leverage via acquisition finance, by utilising existing powers rather than imposing new requirements in the licence?

We agree that the existing measures coupled with statutory protections for going concern of companies are sufficient protections against excessive leverage and financial risks. We have set out our views within section 4 of the main finance response.

FQ17. For the SSMC we have not proposed dividend controls or dividend policy requirements. How should we think about protections to ensure that leverage at MidCo and/or HoldCo does not become disproportionately influential in decision making at the licensee with the potential for negative outcomes for consumers?

We believe that existing statutory protections against dividends are sufficient to ensure financial resilience. We have set out our detailed response on this in section 4 of the main finance response.

FQ18. Is there merit in amending the RFPR RIGs to include requirements for Licensees to undertake stress-testing, and to provide the results to Ofgem, as in the Retail sector and as the Prudential Regulatory Authority/Bank of England does for banks, to test for financial resilience?

We believe that existing measures are effective in ensuring a resilient industry and that additional reporting requirements increase costs without additional benefits to consumers. We have set out our justification within section 4 of the main finance response.

Corporation tax

FQ19. Do you agree with our proposal to align the RIIO-3 tax approach with RIIO-2 and RIIO-ED2 including to maintain Option A - notional allowance with added protections; the approach to capital allowances, and "glide path"?

We do not support the proposal to maintain the use of option A for the RIIO-3 tax approach. This approach does not appropriately ensure licensees pay their actual tax due.

We believe that licensees should be fully funded for their actual tax costs and that consumers only pay for those actual tax costs. Therefore, tax should be treated as a pass-through cost if licensees can demonstrate compliance (or a demonstrable equivalent level of compliance) with a tax accreditation standard. We are accredited under the Fair Tax Mark. We recognize there would need to be a period of transition if we were to move to a pass-through mechanism. Thus, this is not in the best interest of consumers and does not recognise companies with responsible tax track records.

FQ20. Do you agree with the proposed revision to tax clawback methodology?

We believe the proposal of the inclusion of the cumulative accretion, net of paydown in the gearing calculation of the tax clawback methodology better aligns the components of gearing, however this change cannot be processed by altering the definition of net debt.

We have set out our views in further detail for corporation tax in our main finance response section 5.

Regulatory depreciation and economic asset lives

FQ21. GD & GT: assuming re-openers are available and there is no adjustment to the allowed WACC, how should regulatory depreciation be used to address the uncertainty around the future path for gas and perceived asset stranding risk?

Not applicable to electricity transmission.

FQ22. GD & GT: what long-term path should regulatory depreciation aim to follow between 2026 and the assumed de-energisation point to promote fairness for current and future consumers? What unit metrics should this be based on? Is this resilient to the various scenarios under FES 2023?

Not applicable to electricity transmission.

FQ23. GD & GT: assuming there is a relevant gas reopener for government policy, is there a need to reopen regulatory depreciation policy intraperiod?

Not applicable to electricity transmission.

FQ24. GD & GT: what considerations are raised by asset repurposing and how might these affect the decisions to be made on regulatory depreciation policy? What guidance is sought for the SSMD so that licensees have sufficient clarity for their business plans?

Not applicable to electricity transmission.

FQ25. ET: do stakeholders consider there to be a need for amending the existing RIIO-ET2 asset life and/or profile assumptions, on either a company specific or sector basis? If so, please set out your evidence base and potential consumer benefits and costs of changing the existing methodology.

We note that, particularly with increased offshore asset composition with the realisation of larger projects, that the asset life forecast for RIIO-3 differs significantly from that of asset lives permitted in prior price controls. As a result, we believe that this modification of the status quo should be included in the asset life for the next price control. Section 06 provides a detailed explanation of our reasoning behind this assertion.

FQ26. If a 'semi-nominal' cost of debt and WACC approach were to be adopted which results in an acceleration of cashflows, would this impact your responses to any of the questions above?

This would not impact our response to the previous questions answered above. We have set out our view on option 1 of the inflation treatment approach- which is the real/nominal blended WACC, or 'semi-nominal' WACC- in section 2.5 of the main finance response. We agree that the semi-nominal WACC would accelerate cash flows initially, it also reduces the rate of RAV accumulation affecting the balance of costs borne by current and future generations. We think that a "semi-nominal" WACC is a new, complex, and unproven concept, and caution is required prior to implementing such a change. We also believe that any changes should not undermine other changes required elsewhere in the financial framework such as the Cost of Equity due to a change in cash flows.

Return Adjustment Mechanisms (RAMs)

FQ27. Do stakeholders have views or evidence as to why RAMs should or should not continue?

We have set out our views in further detail for RAMs in our main finance response section 7 to the consultation.

FQ28. Do stakeholders have views or evidence as to whether the RAMs methodology should be amended, such as recalibrating the threshold or rates or including financial performance?

In line with FQ 27 we do not support the continuation of the RAMs methodology.

FQ29. Do stakeholders have views or evidence as to whether there should be separate RAMs for 'BAU' parts of the business and specific programmes, such as ASTI?

We would welcome clarity from Ofgem on the potential views/programmes available for specific ASTI RAMs given ASTI is already subject to a regulatory regime with applicable delivery penalties. In the absence of proposals, we do not currently have a view to present on this on this and we invite clarity as to how this would minimise the potential risks to the BAU business plan incentives.

Other finance issues

FQ30. Is there a case for altering the capitalisation rate modelling approach between sectors (e.g. removing the multiple bucket approach for GD)?

Any change to the status quo should bring incremental benefits to consumers more than increased complexity in reporting. Outturn capitalisation rate, especially a rate updated ex-post to reflect outturn capex and opex proportions could bring uncertainty and revenue volatility by varying capitalisation rates on an annual basis and would introduce complexity into the price control unnecessarily. We are therefore of the firm belief that that the capitalisation rate should be consistent across the price control period. Also, in RII0-2 and RII0-1, Ofgem selected a capitalisation rate that was lower than the natural rate due to support cash requirements and balance charges over current and future consumers. We set

this out in our SSMC response and therefore it would not be suitable to change ex-post the capitalisation rate in electricity transmission since it should not reflect the natural rate.

FQ31. What are your views on retaining an ex-ante capitalisation rate for allowed totex, but reporting an outturn capitalisation rate for the purpose of calculating the totex incentive mechanism?

We support the retention of the RIIO-2 ex ante capitalisation approach. We would propose this should be towards the lower end of the estimate, for example the ex-ante and UM rate from RIIO-T2 i.e. between 77% and 85% to sufficiently support equity financeability.

This would align with RIIO-T2 whereby Ofgem stated they set a lower capitalisation as part of:

“avoiding over capitalisation, as this could result in less fast money than might be reasonable, which could hamper company investment and consumer interests.” Para 11.8, RIIO-T2 Finance Annex. Ofgem also state that “The precise capex/opex mix for uncertainty mechanism totex is uncertain ex ante and overcapitalisation could put pressure on some credit metrics. We therefore consider it appropriate to set the capitalisation rate for uncertainty mechanisms at the lower end of the range of possible capex/opex assessments under different scenarios.” Para 5.32, RIIO-T2 Finance Annex.

We welcome further clarity from Ofgem on options (b), (c), and (d).

FQ32. Are there any reasons why the RIIO-3 approach to directly remunerated services should differ from RIIO-2?

We agree with the proposal to retain the approach to directly remunerated services from RIIO-2 to RIIO-3 and have no material reasons as to why this should differ.

FQ33. Do stakeholders have any reasons or evidence to suggest more directly remunerated service categories are necessary?

We do not have any material proposals beyond the existing categories however do see value in retaining DRS15 Miscellaneous in the event of any other activities.

FQ34. Do stakeholders have views or evidence in support of or objection to treating all asset disposals as fast money? Would the existing or alternative approaches have greater merit?

We support the existing approach to net the proceeds from the disposal of assets off against totex from the year in which the proceeds occur such that the RIIO-2 financial arrangements and incentivisation intentions remain. We agree with the downside concerns regarding credit metrics and cashflow as highlighted within the SSMC. Changing this to fast money rather than deducting it from totex removes the matching of where the original asset cost has likely been attributed to. It would therefore be preferable the existing treatment is retained i.e. it is offset against totex to ensure the disposal matches the regulatory accounting of the original capex or RAV addition.

FQ35. Do stakeholders have views or evidence as to what reporting information should be provided to Ofgem (under the RPFRRs or other forms) to ensure objective identifiability of repurposed assets and cost data remains appropriately like-for-like?

We have no material reasons or evidence to present on repurposing given this is largely applicable to the gas sector and currently a rare occurrence within the electricity transmission sector. We would invite clarity on the treatment of repurposed assets within the regulatory reporting pack to the extent that it does not compromise the accuracy of unit cost data.

FQ36. Do you consider that the existing reporting requirements on executive pay/remuneration, dividends and corporate governance previously introduced for RIIO-2 price controls remain appropriate in helping demonstrate the legitimacy and transparency of company performance?

We firmly believe that current disclosure requirements on executive remuneration and dividend policies are excessive and add no additional benefits to consumers. Executive remuneration disclosures especially are in violation of privacy related regulations. We are therefore of opinion that disclosures related to executive remuneration and dividends should be limited to statutory and governance related disclosure requirements. Our detailed response in relation to this are set out in section 8.

FQ37. Do you have any other suggestions for clarifying or strengthening the reporting requirements with regard to executive pay/remuneration, dividends or corporate governance?

We seek clarity from Ofgem as to how increased disclosure requirements add incremental value to consumers. Overall, we are not in agreement of these disclosure requirements are of firm believe that such disclosures should be limited to those that is required by statutory disclosures. Our detailed response on this is set out in section 8.

FQ38. Do you have any suggestions on how to improve and future-proof the price control financial model, or use cases it could better support?

We believe the current RIIO-T2 price control financial model is broadly fit for purpose. We believe the model could better serve taxation reporting to the extent that supertax/ full first year allowances on qualifying expenditure become mechanically inherent within the model calculations, negating the need for offline models. Additionally, the RIIO-2 model did not true up for historical differences in charges, allowances and capital allowance pools, which causes a mismatch between actual and notional taxation reporting. We believe the RIIO-3 model should true up for those differences.

FQ39. What are your views on allowing licensees to self-publish the PCFM with their charging statements, rather than relying on an Ofgem publication or direction to determine allowed revenue?

We see no material reason to change the current RIIO-T2 approach. We believe the current direction and publication from Ofgem operates efficiently.

FQ40. What are your views on applying a single time value of money in the financial model to all prior year adjustments, based on nominal WACC?

We have no material objection to the application of a single time value of money in the financial model for prior year adjustments, however we do believe that any single time value should be based on a real WACC. We welcome clarity from Ofgem as to why a nominal WACC is deemed the appropriate basis.