

Consultation

RIIO-3 Sector Specific Methodology Consultation – Finance Annex

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The next gas distribution (GD), gas transmission (GT) and electricity transmission (ET) price controls (RIIO-3) will start in April 2026. We are consulting on the methodology we will use to set these price controls.

This document sets out our finance proposals in relation to RIIO-3. This document is an Annex to the RIIO-3 Sector Methodology Consultation Overview Document and should be read alongside it.

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Contents

1. Introduction	5
2. Allowed return on debt	10
Background	10
Proposed approach for RIIO-3	11
3. Allowed return on equity	23
Background	23
Proposed approach for RIIO-3	26
4. Allowed WACC	43
Background	43
Proposed approach for RIIO-3	43
5. Financeability	46
Background	46
Proposed approach for RIIO-3	47
6. Financial resilience	50
Background	50
Proposed approach for RIIO-3	56
7. Corporation tax	60
Background	60
Proposed approach for RIIO-3	61
8. Regulatory depreciation and economic asset lives	63
Introduction	63
Key considerations	65
Proposed approach for RIIO-3	75
9. Return Adjustment Mechanisms (RAMs)	78
Introduction	78
Historical policy	78
Proposed approach for RIIO-3	79
10. Other finance issues	81

Capitalisation rates	81
Pension scheme established deficit funding	83
Directly Remunerated Services	83
Disposal of assets	86
Transparency through RIIO-3 reporting	88
Annual Iteration Process & financial modelling issues.....	91
Appendix 1 Financial Resilience License Requirements and Purposes...	94
Appendix 2 Consultation Questions.....	96

1. Introduction

- 1.1 The costs of operating and developing the gas distribution (GD), gas transmission (GT) and electricity transmission (ET) networks include the financing costs that the network companies incur. Consumers ultimately pay for these costs. These include the returns that we allow for debt and equity capital invested into network companies. We use incentives to encourage network companies to drive down costs and improve service quality. These incentives, as well as the ability for a company to make decisions around its actual capital structure, mean that a company's actual return can be higher or lower than its allowed return.
- 1.2 We set a financial framework, and associated policies and methodologies, for price controls that are broadly stable and predictable over time. This broad regulatory stability gives investors the confidence to continue to invest in the sector. It also helps us to achieve a low cost of capital without constraining our ability to act in the interests of consumers by adapting to changing circumstances and through adopting best practice. We have sought to maintain stability of the financial framework through our Future Systems and Network Regulation (FSNR) Framework Decision, published in October 2023.¹
- 1.3 In our FSNR Framework Decision, we noted that our approach to estimating the cost of capital and assessing financeability would be substantially in line with the approach taken in RIIO-2. Specifically, we:
- would continue to use the Capital Asset Pricing Model (CAPM) as the primary tool when estimating the cost of equity;
 - would continue to calculate a single cost of equity (at a notional level of gearing) for each network sector;
 - do not consider varying the allowed return on equity by either archetype or by activity to be required or beneficial. However, differences in estimation of the appropriate beta may lead to a different cost of equity for the ET and gas sectors;
 - consider a 5-year review period remains appropriate for setting the allowed return and assessing financeability; and
 - would continue to consider financeability 'in the round'.

¹ [Decision on frameworks for future systems and network regulation | Ofgem](#)

- 1.4 We aim to keep the financial policies and methodologies stable from RIIO-2, where appropriate. However, we are also cognisant that appropriate evolution, particularly to deal with macro developments that create new challenges or where updates to best practice can be identified, is likely to underpin regulatory credibility and support the ongoing attractiveness of investment in the sector. For RIIO-3, we see two macro developments as compelling us to review the way we use our regulatory finance toolkit.
- 1.5 For ET, there is a step-change in infrastructure investment needs across GB to build out a zero carbon, more flexible and more secure energy system at pace. This need to diversify risk across the energy system, attract investment and support climate change goals is coming at a time when the government's net zero policy will imminently be reflected in a new statutory duty for GEMA.² To fulfil that duty, we need to offer consistency, clear signals and direction so as to provide certainty and assurance to investors that projects are viable, investable and deliverable.
- 1.6 Through the next ET price control and beyond, we expect network companies will need to seek 'fresh' equity from their investors over and above what they would be able to fund via retained earnings, and at a time where there is greater competition for investment and capital in the UK water and global regulated infrastructure sectors. We plan to develop the notion of 'investability', alongside our existing financeability assessment, to better understand whether the allowed return on equity is sufficient to retain and attract the equity capital that the sector requires. This may involve pulling a combination of levers such as reviewing:
- the beta sample to ensure it continues to appropriately reflect the forward view on risk;
 - the equity issuance allowance to ensure it appropriately reflects market conditions;
 - the trailing average cost of debt methodology to ensure it places sufficient weight on new debt issuances driven by higher Regulatory Asset Value (RAV) growth; and

² Section 202 of the Energy Act 2023 amends Ofgem's statutory principal objective. The revised statutory text includes a specific reference to the statutory net zero targets in the Climate Change Act 2008. S202 received Royal Assent on 26 October and will come into force two months from that date. We will take this into account appropriately in our price control decisions.

- regulatory depreciation policy to ensure it continues to reflect useful economic lives.

It may also require new tools to be developed. We welcome views and evidence from stakeholders on how investability should be used and assessed with the above objective.

1.7 The challenges for the gas sector are different, with demand expected to fall over time as the energy system adapts to support the transition to a carbon-free economy by 2050 to achieve net zero. For GD and GT, since the RIIO-2 price control reviews, we have had greater clarity on government net zero policy and potential decarbonisation pathways under the Electricity System Operator's (ESO) Future Energy Scenarios (FES). The latter forecasts a significant reduction in gas volumes in distribution and transmission from the mid-2030s across all four of its key scenarios. A key implication is the present value of the current level of depreciation charge per consumer (using kWh demand as a proxy) is forecast to fall significantly short of the remaining RAV. This raises the question of who should pay for the gap. Hypothetically, the possible avenues are:

- Government/taxpayers, which is clearly dependent on future government policy;
- Investors, although we recognise this would create asset stranding risk, could undermine regulatory stability and predictability and is likely not in the consumer interest;
- A smaller number of consumers who remain on the network in future, more of whom may fall into vulnerable categories;
- Current consumers while the user base remains at its peak, albeit this would require a considerable increase in charges from RIIO-3 onwards; and
- Third-party entities who purchase assets for repurposing into hydrogen or Carbon Capture, Utilisation and Storage (CCUS) applications.

1.8 While recognising that government policy can change, Ofgem bases decisions on the current stated government position and how that flows into Ofgem's remit. Our price controls need to be financeable in their own right. On this basis, Ofgem must plan to recoup the costs from current and future consumers, and to protect consumers this may mean there is merit in leaving some optionality for transfers of repurposable assets to third parties.

1.9 Our policy aims in this context are to ensure that:

- Consumers tomorrow do not pay a significantly higher charge for deriving materially the same value from their use of the gas network (ie our policy promotes fairness between current and future consumers); and
 - Consumers today pay no more than is necessary (ie to avoid having to compensate for any misperception of asset stranding risk in the weighted average cost of capital (WACC)).
- 1.10 We are therefore considering the appropriate rate of, and asset lives for, regulatory depreciation as a tool to try to achieve both policy aims. At this stage we are only presenting our initial analysis of the potential issues and implications of not changing from the status quo. We welcome views and evidence on this matter which we will take into consideration for taking a decision through the Sector Specific Methodology Decision (SSMD).
- 1.11 We recognise that the macro challenges, and potential tools for addressing those challenges alluded to above could place considerable upwards pressure on consumer bills from the start of the RIIO-3 period. This may be necessary, and consistent, with our principal statutory objective to protect the interests of existing and future consumers, which will imminently include a net zero duty. We will maintain a close view on bill impact throughout the price control setting process.
- 1.12 We also believe that it is prudent to pre-empt potential impacts on financial resilience that the macro challenges pose to the electricity transmission and gas sectors, respectively. We define financial resilience as licensees having sufficient financial safeguards or headroom so that they can avoid and/or manage the risk of financial distress or failure if there is a downside shock. For the electricity transmission sector, we consider that the increased importance of delivering the network investment to consumer outcomes and the government's ability to achieve net zero means that consumers and wider society stand to face greater loss if poor financial resilience is a material reason for non-delivery or late delivery. For gas, if RAV is returned more quickly this could create implications for financial resilience if licensees do not reduce indebtedness in broadly the same proportion to RAV returned as existing gearing levels. We maintain the view that we expect companies to manage their own financial risks and for shareholders to directly gain or lose as a consequence of their choices. However, we need to consider measures which provide clearer early warning signs and more incentives for company management and investors to act in financially responsible ways in the event of financial deterioration, whilst minimising the impact on companies which are financially resilient.

1.13 In this annex we describe and seek views on our proposed approach to setting a number of financial parameters, including:

- allowed return on debt;
- allowed return on equity;
- our approach to financeability;
- our approach to corporation tax;
- regulatory depreciation and economic asset lives; and
- a number of other finance issues.

1.14 At this stage we focus the discussion on principles, policies and methodologies, rather than numerical assumptions or other figures. We are keeping options open but have provided meaningful levels of detail for stakeholders on our preferred options. Following consideration of responses and any other evidence received, we intend to provide an early view on the cost of capital, amongst other parameters, at SSMD.

2. Allowed return on debt

Background

The role of the allowed return on debt

- 2.1 The allowed return on debt is an estimation of the return debt investors expect from an efficiently run company. Under our RIIO-2 methodology, the allowance considers debt raised in prior price control periods in addition to new debt to be raised during the current price control period. The allowance is an important feature to enable companies to have sufficient resources to raise and service debt capital to meet investment requirements.
- 2.2 The cost of debt allowance is funded by consumer bills. To further our principal statutory objective which is to protect the interests of existing and future customers,³ it is vital that the allowance is structured to incentivise efficient financing outcomes and to protect consumers from the risks of financing decisions made by shareholders.
- 2.3 In RIIO-2, we achieved this by setting the cost of debt allowance in reference to a network licensee adopting the notional capital structure incurring efficient average sector debt costs.
- 2.4 The notional capital structure assumes that companies will raise a combination of fixed rate and index-linked debt (ILD) and adopt a set level of gearing. We will reassess these assumptions as part of the determinations for this price control.
- 2.5 Under the proposed approach for RIIO-3, we set out below the key components of the RIIO-2 methodology that we intend to review and consult on ahead of SSMD.

Summary of the FSNR Framework Decision

- 2.6 In the Framework Decision, we signalled that we plan to consider whether there is evidence and justification for updating our approach for calculating the allowed return on debt to optimise it in the context of the increasingly differing quantum and pace of investment at network companies. In addition, we stated we would

³[Gas Act 1986 \(legislation.gov.uk\)](#) - Section 4AA; [Electricity Act 1989 \(legislation.gov.uk\)](#) - Section 3A

integrate the findings of the Call for Input⁴ on the impact of high inflation on the network price control operation.

- 2.7 Our Framework Decision also flagged that we would incorporate the relevant UK Regulators Network (UKRN) Guidance recommendations⁵ into our methodology for estimating the cost of capital.⁶ As discussed in further detail in Chapter 3, the UKRN Guidance makes recommendations as to how regulators should approach setting the cost of capital.

Proposed approach for RIIO-3

- 2.8 Recommendation 8 of the UKRN Guidance states that regulators should estimate an allowance for an efficient company under the notional financial structure, with actual debt costs suitably benchmarked against other market evidence. Overall, we agree with Recommendation 8, which is also in line with the RIIO-2 price control methodology. We discuss our proposed approach in further detail in the paragraphs below.

Indexation

- 2.9 A key consideration in formulation of the allowance is the management of market uncertainty with respect to future debt costs. Since RIIO-1, we have opted for indexation of the allowance to mitigate this uncertainty. We intend to continue this approach. However, we are also considering enhancing this mechanism to improve its precision, which is discussed below. We do not consider there are any compelling reasons to not utilise an indexation-based approach.
- 2.10 In terms of index selection, we intend to continue using the IBoxx Utilities 10yr+ Index (ISIN reference DE0005996532) which was used for RIIO-2. We believe it is a reasonable expectation that an efficient operator adopting the notional capital structure can borrow at a rate broadly consistent with the index.
- 2.11 Since RIIO-1, an unweighted trailing average of the cost of debt index has been adopted⁷ for network price controls. We are reviewing whether this remains the most appropriate methodology given (i) diverging capital demands between sectors, leading to materially different levels of RAV growth and debt financing needs (ii) relatively high debt requirements for certain sectors relative to previous

⁴ [Call For Input - Impact of high inflation on the network price control operation | Ofgem](#)

⁵ UKRN (2023), [UKRN guidance for regulators on the methodology for setting the cost of capital](#), pages 4 – 5.

⁶ Ofgem (2023), [Future Systems and Network Regulation – Core Document](#), paragraph 6.36

⁷ Scottish Hydro Electric Transmission differs to the standard methodology and has a bespoke weighted methodology which is discussed below.

requirements and (iii) the higher and more volatile interest rate environment. We are also cognisant that the existing indexation process does not fully align to changes in market rates, with the allowance generally responding slower than the corresponding market rate changes.

- 2.12 For RIIO-3, we are considering a range of options that may improve our approach to calculating the allowed return on debt.
- 2.13 As in RIIO-ED2, we have considered extending the trailing average on an unweighted basis, so it captures years of higher rates and thus raises the implied allowance. However, we do not consider this to be an optimal solution. A drawback of such an approach is that it would reduce the sensitivity of the indexation mechanism to changes in future market rates. We also consider significant changes to the length of the trailing average primarily for the purpose of solving for forecast sector average costs reduces predictability, and could be detrimental to the ability of licensees to optimise their treasury strategies and long-term decisions on capital structures. RIIO-ED2 incorporated a fixed calibration adjustment to the cost of debt allowance to enable broad alignment of the allowance to forecast efficient sector average costs. While we considered this appropriate at the time it does not necessarily allow the allowance to adjust optimally to changing rates or address the implications of significant divergences between the expected required debt issuances of licensees that are subject to the RIIO-3 price control.
- 2.14 We have also considered weighting the debt index by annual RAV additions, with assumptions applied for the refinancing of debt. We believe this could mitigate near term challenges where the allowed return on debt deviates from our assessment of the cost of debt. This approach also protects consumers by compensating companies for capital raised to invest in infrastructure rather than financial engineering. A weighted allowance could also allow for the methodology to be more consistent between price controls and require lower ongoing regulatory intervention, for example via calibration or trailing average adjustments, presenting greater predictability of the allowance and opportunity for companies to optimise treasury strategy decisions.
- 2.15 We are considering the following approach to weighting:
- Within the trailing average window, each year's spot rate is weighted by the amount of (nominal) RAV additions;

- Refinancing is assumed to occur to RAV additions from before the trailing average window and to the original opening RAV balance at the start of the analytical period; and
- The opening balance RAV is refinanced assuming an even distribution per year. So, if a 14-year average tenor is assumed, then each year 1/14th of the original opening balance RAV is refinanced again. We anticipate this would ordinarily be aligned to the length of the trailing average assumed.

2.16 The proposed RAV weighting methodology is similar to that currently utilised for Scottish Hydro Electric Transmission (SHET). However, the SHET approach does not incorporate refinancing into weighting calculations – and therefore would begin to progressively overweigh historic data points from the trailing average. We are also considering aligning the approach for SHET to the new weighting approach.

2.17 The length of the trailing average selected has been previously driven primarily by the calibration exercise. The calibration exercise approach is described in Paragraph 2.21. As a result of the weighting of the allowance, we intend for this assumption to become more consistent between price controls and to reflect a general issuance assumption we consider appropriate for the notional company cross-checked through the calibration exercise. This assumption will be informed by a range of factors including capital market data and actual issuance trends. We therefore believe this change would improve the predictability and transparency of our approach. Additionally, if there is sufficient evidence of differing optimal issuance strategies between sectors, we may consider whether this should be reflected in the methodology applied to each network type.

2.18 To facilitate such a change in approach we have considered whether it may be necessary or desirable to split the allowance between embedded and new debt. We currently do not believe this is necessary and believe a fixed assumption of the relative proportion of embedded to new debt over the price control period would likely result in reduced accuracy compared to the dynamic weighting approach adopted.

Additional Borrowing Costs

2.19 We intend to continue to provide allowances for additional costs of borrowing within our final allowance which we would expect to be incurred by an efficient operator adopting the notional capital structure. We will review and, if appropriate, update the size of the allowances as part of our analysis considering new and previously submitted evidence. In particular, we intend to consider what

adjustments are required to the Consumer Prices Index including owner occupiers' housing costs (CPIH) issuance/basis mitigation allowance given the anticipated migration of the Retail Price Index (RPI) inflation measure to the CPIH methodology from February 2030. This adjustment is likely to include the removal of the allowance from 2030. We are not currently considering any new additional allowances. The current additional allowances consist of transaction costs, liquidity/Revolving Credit Facilities (RCF) costs, cost of carry and the CPIH issuance/basis mitigation allowances.

Infrequent issuer

2.20 We intend to continue providing an infrequent issuer premium previously referred to as a smaller size/less frequent additional allowance in RIIO-2. We will review the size of the allowance and the issuance threshold at which it is provided.

Calibration

2.21 The RIIO-2 approach to calibrating the index involves comparing forecast efficient pooled network debt costs to potential calibration options. We intend to continue this approach. To do this we require more information from companies, including information on the companies' plans for investment. This is expected to be provided in their business plans. After we have business plan information, we will assess expected pooled debt costs against expected allowances. We expect to set out the proposed debt allowance calibration at Draft Determinations.

2.22 We intend to continue calibrating the allowance by comparing efficient pooled debt costs of all GD&T networks. We will also consider evidence on whether calibration on an individual sector cohort basis should be adopted in the context of the diverging capital requirements between each sector in RIIO-3.

2.23 In line with RIIO-2, we are considering excluding derivative costs from the calibration exercise on the basis that:

- We consider that the debt allowance can reasonably be achieved using standard debt instruments;
- Derivative use varies between licensees and is likely to reflect company-specific risk management decisions;
- Assessing derivatives at a single point in time creates complications where derivatives are used to profile cash inflows and outflows which can be used to manipulate the calibration process; and

- The exercise to assess the overall value of derivatives over the full term would add significant complexity and amplify the time and resource burden of the calibration exercise.
- 2.24 Where a company issues non-GBP debt and this is swapped back to GBP via a cross-currency swap, we intend to consider the swapped GBP rate within the calibration.
- 2.25 We are also considering excluding the following instruments:
- Liquidity facilities, revolving credit facilities and overdrafts (as these are considered in the additional costs of borrowing, discussed above);
 - Intercompany loans (as these do not generally represent commercial terms/pricing available from third parties);
 - Subordinated instruments, such as 'Class B' debt; and
 - Instruments with insufficient data to model.

Inflation treatment – Policy options

- 2.26 At the closure of the Call for Input⁸ we stated we intended to consult, via the Sector Specific Methodology Consultation (SSMC) process, on three possible options for amending the cost of debt allowance mechanism. We are considering these changes to:
- Reduce or remove the correlation of shareholder real returns to inflation via this mechanism. Please note we are not considering any changes to the principle of general inflation protection (ie keeping real returns stable relative to inflation); and
 - Ensure the mechanism is fair for consumers and does not result in excessive remuneration for licensees. It is important that the cost of debt methodology does not have an inherently positive expected return over the long run for licensees (and so negative for consumers) by underestimating inflation expectations priced into debt. In addition, variation in returns to equity driven by high or low inflation over the short run, even if balanced over the long run, may undermine the legitimacy of the price control as these do not correspond to consumer outcomes (such as quality of service).

⁸ [Call For Input - Impact of high inflation on the network price control operation | Ofgem](#)

2.27 As noted in our Call for Input, we will continue to evaluate these options in line with our statutory duties and take into account factors such as protecting consumer interests, regulatory stability and predictability, ensuring prices are fair for the consumer, optimising the balance of risk and protecting price control legitimacy. Following our review of the Call for Input responses we consider the following suggestions from stakeholders to complement or align to the previously stated criteria:

- consideration of the consumer bill impact;
- implications for incentives;
- impact on investability;
- impact of financeability of licensees;
- impact on volatility and predictability of charges;
- complexity of implementation; and
- the risk of negative unintended consequences.

Technical explanation of real return correlation to inflation via the cost of debt mechanism

2.28 The cost of debt allowance for both RIIO-2 and RIIO-ED2 utilises a trailing average methodology. At each measurement point of the trailing average, this is deflated by a long run assumption of CPIH, being the year five Office for Budget Responsibility (OBR) forecast prevailing at that point. The long run assumption has typically aligned to 2%.

2.29 Use of a long run assumption to deflate the cost of debt allowance means the real allowance does not adjust for short term inflationary spikes or troughs, and only adjusts if there is a structural shift in long run expectations. This means the real cost of debt allowance remains invariant to outturn inflation. However, because the interest on fixed rate debt (ie the nominal cost) does not change with inflation, when outturn inflation rises, the real cost of fixed rate debt falls. The reverse is also true in periods where inflation falls below long run assumptions. This generates a mismatch between the total return on debt and the cost of debt incurred where inflation deviates from long run expectations. This mismatch generates out or underperformance potential for equity. We refer to this as "the effect" for simplicity in the text below.

2.30 It should be noted the extent of out or underperformance risk varies significantly by licensee due to differences in the proportion of fixed versus ILD in their

respective capital structures. For ILD, the nominal cost is linked with outturn inflation and the real cost is held constant. This means an increased proportion of ILD reduces or removes the potential mismatch risk between the allowance and the real cost of debt incurred.

Option 1: Nominal allowance for fixed rate debt

- 2.31 At present the cost of debt allowance is set and recovered from customers in real terms. The inflationary element of returns is earned indirectly via the effective indexation of the RAV by outturn inflation.
- 2.32 For RIIIO-3, we are considering providing the cost of debt allowance for fixed rate debt on a nominal rather than real basis. To effect this change, a portion of RAV, aligned to the notional fixed rate debt assumption, would be delinked from outturn inflation to avoid compensating investors twice. The indexation of the RAV for ILD and equity would be unaffected.
- 2.33 This approach would remove the effect and better align the 'cash' element of the allowed return on debt to the actual typical cashflow profile of fixed rate debt, with potential benefits for financeability of licensees.
- 2.34 A drawback of this approach is the near-term impact on consumer bills which would be expected to increase over the short run.⁹ Over the long run, we would expect the cumulative impact to be neutral due to lower nominal RAV growth (if inflation aligned to the long run assumption) or bills reducing if inflation exceeds the long run assumption and/or removes or reduces the requirement (and associated costs for the consumer) of taking future action in respect of maintaining financeability.
- 2.35 In mathematical form, our proposals for RAV indexation and the cost of debt allowance under this option are:

⁹ An indicative estimation of the day one bill impact is circa £10-15pa for GD&T2 and £15-25pa if all Network sectors are considered. The method for approximating the bill impact is disclosed below.

Assume a real cost of debt of 3% and a nominal cost of debt of 5%. If the cost of debt was weighted 75-25 nominal-real, the allowed cost of debt would increase from 3% to 4.5%, or a 1.5% increase. With 60% gearing, this would mean a 0.9% increase in WACC overall. ($0.75 \times 5\% + 0.25 \times 3\% = 4.5\%$ 'semi nominal CoD'. $4.5\% - 3\% = 1.5\%$ increase. $60\% \times 1.5\% = 0.90\%$ WACC impact). Multiply this increase with an assumption of £100 billion RAV (or 60 billion for GD/T only), this would be a £900m "day 1" increase in RAV return (£540m in GD/T).

To convert this into a bill impact, compare the average network cost included within domestic bills of £350/annum (approximately the price cap methodology for an indicative domestic consumer in 2022/23) with a network recovered revenue in 2022/23 of £16.9 billion (For GD/T only, £215/annum bill and £9.6 billion). Our £900m impact would be a 5.3% increase in revenue, and a 5.3% increase in £350/annum is £19/annum (or £12/annum for GD/T). ie: $900/16900 = 5.3\%$ revenue increase. $£350 \times 5.3\% = £19/\text{annum}$ increase).

$$\text{Proposed RAV Indexation} = \text{Opening RAV} * (\text{CPIH} * (1 - \text{FRD NA}))$$

$$\text{Proposed CoD Allowance} = (\text{Nominal FRD allowance} * \text{FRD NA}) + (\text{Real ILD allowance} * \text{ILD NA})$$

Where:

RAV	means Opening Regulatory Asset Value (Reg Year T)
CPIH	means average of the CPIH Monthly Price Index readings (Reg Year T) / Average of the CPIH Monthly Price Index readings (Reg Year T-1)
FRD	means Fixed Rated Debt
ILD	means Index Linked Debt
NA	means Notional Assumption, the quantum of debt assumed to be financed by the referenced instrument
Real	means deflated by Long Run Inflation Assumption (prevailing 5th year CPIH OBR forecast at each index reading) approximately 2%

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

- 2.36 This alternative proposal is derived from a solution set out by National Grid within its Call for Input response.¹⁰ In this approach, the base remuneration mechanism for the cost of debt allowance would be unchanged with a real terms cost of debt allowance and compensation provided for inflation via RAV indexation. RAV, aligned to the notional fixed rate debt assumption, would be indexed by the long run assumption used to deflate the cost of debt allowance instead of outturn inflation. The indexation for the assumed ILD and equity portions would remain unchanged and indexed to outturn inflation.
- 2.37 This approach would remove the effect but not materially alter the current real versus indexation mechanisms by which cost of debt is currently remunerated. This change would also not increase bills over the short run and potentially offer the same long run reduction if outturn inflation exceeded the long run assumption. The drawback of this approach is that it would not better align the 'cash' element of the debt allowance with the cash costs of fixed rate debt (and so would have no positive impact on financeability). We believe to fully eliminate the scope for the effect to occur, a reduction of ILD assumption to 0% is required, and this methodology would not facilitate this without cost to the consumer. This

¹⁰ National Grid's preferred view, outlined within its response to the Call for Input, is that no action is required. However, National Grid suggested consideration of an approach in line with Option 2 if Ofgem is minded to take action.

is discussed in detail in the review of the index-linked debt assumption at Paragraph 2.43.

2.38 In mathematical form, our proposals for RAV indexation and the cost of debt allowance under this option are:

$$\text{Proposed RAV Indexation} = \text{RAV} * \left((\text{CPIH} * (1 - \text{FRD NA})) + ((\text{LRA}) * (\text{FRD NA})) \right)$$

$$\text{Proposed CoD Allowance} = (\text{Real FRD allowance} * \text{FRD NA}) + (\text{Real ILD allowance} * \text{ILD NA})$$

Where:

RAV	means Opening Regulatory Asset Value (Reg Year T)
CPIH	means average of the CPIH Monthly Price Index readings (Reg Year T)/ Average of the CPIH Monthly Price Index readings (Reg Year T-1)
FRD	means Fixed Rated Debt
ILD	means Index Linked Debt
NA	means Notional Assumption, the quantum of debt assumed to be financed by the referenced instrument
Real	means deflated by Long Run Inflation Assumption (prevailing 5th year CPIH OBR forecast at each index reading) approximately 2%
LRA	means Long Run Assumption - (prevailing 5th year CPIH OBR forecast at each index reading) approximately 2%

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

2.39 In the event we do not opt for the methodology changes outlined above, we would review the long run assumption to consider whether there is a more appropriate measure of long-term inflation expectations priced into debt.

2.40 One approach under consideration is utilising breakeven inflation implied between UK sovereign nominal gilt yield and index linked real gilt yield. As index linked gilts are aligned to RPI, a wedge assumption would be implemented to derive a CPIH implied equivalent until 2030. From 2030, given the planned alignment of the RPI to the CPIH methodology a direct reading can be taken. Another interpretation of this approach is to derive the long run assumption from a medium term (circa 5 years) forward measure of breakeven inflation post the alignment of the RPI methodology to CPIH optimising the point of measurement dependent upon market liquidity.

2.41 We would welcome views and evidence of alternative approaches which could be adopted to derive a long run assumption.

2.42 This proposal would not eliminate the effect, particularly short-term variations. However, depending on the assumption adopted, it may make the mechanism fairer for consumers if this change can be demonstrated to move the expected return for licensees from the effect closer to zero.

Review of the index-linked debt assumption

2.43 In light of the proposed changes, we are also reviewing the index-linked debt assumption for the notional capital structure. It would remain possible under either option 1 or 2 for the effect to persist given licensees may finance the assumed portion of ILD with fixed rate debt in their actual capital structures. To manage this, we are considering reducing the notional assumption to 0% for ILD alongside options 1 and 2.

2.44 To evaluate this proposal, we are seeking evidence on the likely economic impact on the cost of debt should licensees no longer raise ILD.

Implementation considerations

2.45 We are aware that some licensees have capital structures with significantly higher proportions of inflation linked instruments than that assumed for the notional capital structure. If policy option 1 or 2 were to be implemented, this would reduce or remove the offsetting inflation sensitivity which corresponds to the inflation linked debt resulting in net inflation sensitivities for certain licensees. We believe that a new inflation sensitivity of this nature could adversely impact financial resilience in a manner which could not have been reasonably anticipated when licensees made these capital structure decisions.

2.46 We believe the relevant consequences can be mitigated through the implementation mechanism selected. We are considering the following implementation options:

- a) Setting a time period for implementation for the entire sector which progressively implements the approach:
 - (i) We would expect the implementation period to be lengthy (10 years +) reflecting the length of time that may be required to reconfigure capital structures without stressing market liquidity or incurring undue cost; and
 - (ii) We envisage the approach would migrate in straight line increments to the new approach in each increment corresponding to each year. For example, if a 10-year period is selected, in each

regulatory year following the start of RIIIO-3 the portion of fixed rate debt (on a notional capital structure basis) remunerated using the new approach would increase in 1/10th increments.

- b) Aligning the method of remunerating debt to actual company ILD portions within their capital structures with a set transition period for licensees to migrate to an end notional company assumption. An example is included below:
- (i) Licensee A holds 40% ILD at the start of RIIIO-3, the end notional ILD assumption is 20%, notional gearing is set to 60% and the transition period has been set at 10 years. The new fixed rate debt methodology will apply to 60% of outstanding debt (36% of RAV) and progressively in straight line increments migrate over the transition period to the notional assumption.
- c) Aligning the remuneration of debt, scaled to the notional gearing assumption, to actual company portions of inflation linked debt permanently. This would enable companies to maintain their choice of proportion of ILD aligning the remuneration mechanism accordingly.

Next Steps

- 2.47 We will continue to evaluate and construct a RAV weighted index approach to the allowance. We will consider whether any other weighting methodologies should be considered.
- 2.48 We intend to assess the appropriateness of expected allowances by considering company-provided and publicly available information relating to:
- Interest and financing costs as submitted by the companies during the Regulatory Financial Performance Report (RFPR) process;
 - Further debt raising and issuances occurring after this submission where appropriate; and
 - Expected future debt requirements based on submitted company business plans.

Allowed return on debt questions

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

- FQ2. Do stakeholders have evidence in support of, or opposition to, one or more of the updated indexation or inflation remuneration methodologies under consideration?
- FQ3. Do stakeholders have views on the potential approaches to implementation of the proposed methodology changes, including assumptions relating to ILD weights?
- FQ4. Do stakeholders wish to propose any other alternatives that have not been proposed?
- FQ5. Do stakeholders have any additional evidence for us to consider in our review of the additional borrowing allowances or infrequent issuer premium?

3. Allowed return on equity

Background

The role of the allowed return on equity

- 3.1 The allowed return on equity is an estimation of the return required to attract and retain sufficient equity capital, in this case within the network companies in the GD, GT and ET energy network sectors. As a result, when setting an allowed return, we are generally basing this on our assessment of the 'required return' or 'cost' of this equity.
- 3.2 The allowed return on equity is a significant part of the price control settlement and forms the basis of what equity investors can expect to earn in compensation for providing the capital that the sector needs to fund and sustain investment in network infrastructure (assuming alignment with the notional capital structure, efficient financing, and on-target operational performance).
- 3.3 The allowed return on equity is funded via consumer bills. To further our principal statutory objective to protect the interests of existing and future consumers, it is vital that the allowance set is a fair rate and no higher than that required to ensure adequate and timely investment in Great Britain's energy networks. The direct financial impact of each 10bps (10 'basis points' or 0.10%) on the allowed return on equity is worth approximately £55m per annum to current customer bills - highlighting the importance of setting a fair, well-calibrated allowance.
- 3.4 At the same time, attracting equity capital is a key factor in securing the step-change increase in investment in infrastructure that underpins key government policy objectives in areas such as the transition to net zero, climate resilience and energy security. We must set an allowance that contributes to an overall regulatory model that provides certainty and assurance to investors that projects are viable, investible, and deliverable.
- 3.5 The allowed return on equity in the RIIO-2 price controls is set in CPIH-real terms (assuming an estimated level of CPIH over the control). Equity investors earn the inflationary element of their allowed return on equity through annual indexation of the equity portion of the RAV¹¹ at outturn levels of CPIH. In combination with mechanisms such as totex indexation and adjustments for real price effects (RPE), equity investors' returns are well protected from erosion by inflation. This

¹¹ At the notional capital structure

'protection' from inflation risk remains a very valuable element of the equity investment proposition of energy networks, is considered to reduce risk to equity and must be adequately reflected in the real allowed return on equity.

Summary of FSNR Framework Decision

- 3.6 In our FSNR Framework Decision, we noted the benefits of stability and consistency in our approach to setting price controls.¹² Specifically, we:¹³
- would continue to use the CAPM as the primary tool when estimating the cost of equity;
 - would continue to calculate a single cost of equity (at a notional level of gearing) for each network sector;
 - do not consider varying the allowed return on equity by either archetype or activity to be required or beneficial. However, differences in estimation of the appropriate beta may lead to a different cost of equity for the ET and gas sectors;
 - consider a 5-year review period remains appropriate for setting the allowed return and assessing financeability; and
 - would continue to consider financeability 'in the round'.
- 3.7 In March 2023, the UKRN published guidance for regulators on the methodology for setting the cost of capital (the UKRN Guidance), which is discussed further immediately below at paragraphs 3.9 to 3.17, driven by an aim to create greater consistency and predictability. We committed to adopting the recommendations within this guidance, where appropriate, and for RIIO-3 consider these to be an appropriate starting point. We note that the UKRN Guidance is substantially consistent with the methodologies used in RIIO-2, which under appeal the CMA assessed to be 'not wrong',¹⁴ and where there are inconsistencies, we intend for the UKRN Guidance to take precedence. Where the UKRN Guidance is not sufficiently prescriptive, we are open to evidence as to the most appropriate parameter to use.
- 3.8 We are also cognisant that evolution, particularly when faced with macro developments that create new challenges, can compel us to review the way we use our regulatory finance toolkit and help to improve regulatory stability and

¹² Ofgem (2023), [Future Systems and Network Regulation – Core Document](#), paragraphs 6.42 – 6.43.

¹³ Ofgem (2023), [Future Systems and Network Regulation – Core Document](#), paragraph 6.44

¹⁴ CMA (2021), [GD&T Licensees vs the Gas and Electricity Markets Authority, Final Determination – Volume 2A: Joined Grounds – Cost of equity](#), paragraph 5.1067.

credibility. For RIIIO-3, the step-change in ET infrastructure investment needs across GB to build out a zero carbon, more flexible and more secure energy system at pace is considered a key macro development where there may be good reason to review the application of the UKRN Guidance for RIIIO-3 if there is a sufficient evidence base. To fulfil GEMA's duties, we need to provide consistency, clear signals, and direction to provide certainty and assurance to investors that projects are viable, investable and deliverable.

UKRN Guidance Recommendations

- 3.9 Our Framework Decision flagged that we would incorporate the relevant UKRN Guidance recommendations¹⁵ into our methodology for estimating the cost of equity that is appropriate for the GD, GT and ET network sectors.¹⁶
- 3.10 In November 2021, the government asked Ofwat, Ofgem and Ofcom to work together, through the UKRN, to identify areas where there was already significant alignment in cost of capital methodologies and areas where further alignment could be achieved. To meet this challenge, the UKRN formed a taskforce of Ofwat, Ofgem, Ofcom, the Civil Aviation Authority (CAA), Office of Rail and Road (ORR) and the Utility Regulator of Northern Ireland (UREGNI).
- 3.11 The taskforce noted that greater transparency and consistency in decisions should reduce the uncertainty associated with final price control outcomes and should allow for easier cross-sector comparisons. Estimating the WACC involves judgement where there are different possible approaches to estimate many of the cost of capital parameters. In some cases, differences between methodological approaches applied will be due to sector specific issues. Where this is not the case, aligning through a reasonable methodology for market parameters where practicable would reduce the need to continue revisiting theoretical debates where there is no clear benefit of doing so. This in turn would allow companies and regulators to focus on the effective running of their respective sectors and would allow all parties to focus on delivering best outcomes for consumers.
- 3.12 Following the publication of draft guidance and a period of consultation with industry, the UKRN taskforce published its final guidance on the methodology for setting the cost of capital in March 2023. The guidance makes nine recommendations for application in future cost of capital decisions.

¹⁵ UKRN (2023), [UKRN guidance for regulators on the methodology for setting the cost of capital](#), pages 4 – 5.

¹⁶ Ofgem (2023), [Future Systems and Network Regulation – Core Document](#), paragraph 6.36

- 3.13 We consider the recommendations contained within the UKRN Guidance to be substantially in line with the methodological approach used in the preceding RIIO-2 price controls.
- 3.14 In line with both the spirit and the letter of the original request from the Government, GEMA has committed to having regard to the recommendations in the guidance in its future price control decisions where this is permitted by its statutory duties, and to deviate only where it considers there are good reasons to depart from these recommendations.
- 3.15 In the paragraphs below, we lay out the key UKRN Guidance recommendations and how we expect these to apply to the estimation of the cost of equity in the next price control period.
- 3.16 We consider there to be benefits from following RIIO-2 and/or UKRN Guidance recommendations unless there is good reason not to. We consider stability, consistency and predictability provided by this approach will allow investors to have ongoing confidence in the regulatory framework, ultimately helping to keep the cost of capital for the sector as low as possible. Given these factors, it is important to clarify our operating definition of 'good reasons' to deviate from this approach. When deciding whether there are 'good reasons' to depart from the UKRN Guidance, we are likely to place lower weight on evidence that was considered in the UKRN Guidance review itself or price controls which pre-dated it such as RIIO-2. 'Good reasons' to depart from the UKRN Guidance are more likely to arise from material new evidence which was not considered in those processes.
- 3.17 We invite stakeholders to provide feedback on our recommendations, including identifying areas where stakeholders believe either we have misapplied the UKRN Guidance recommendations or there are 'good reasons' not to follow the UKRN Guidance recommendations.

Proposed approach for RIIO-3

Primary cost of equity estimation methodology

- 3.18 The cost of equity is not directly observable - it is a forward-looking assessment of the opportunity cost for investors. Calculating an appropriate cost of equity involves an assessment of the risks being taken by investors in energy network companies and the associated level of return required to compensate for those risks.
- 3.19 UKRN Guidance recommendation 2 suggests that since the cost of equity is not directly observable, it must be estimated using a widely accepted method. The

recommendation is that regulators should continue to use the CAPM as their primary approach for estimating the cost of equity.

- 3.20 Use of the CAPM as the primary tool for estimating the cost of equity is well established in regulatory, finance and investment practice, and is in line with the RIIIO-2 price control methodology. We propose to continue to estimate the allowed return on equity based primarily on the output of an appropriately calibrated CAPM calculation.
- 3.21 The CAPM has three inputs, all of which need to be estimated to calculate the cost of equity for energy networks and set an appropriate allowed return on equity for the price controls:
- The Risk-Free Rate (RFR);
 - The Total Market Return (TMR);¹⁷ and
 - The Equity Beta (β)
- 3.22 These inputs are combined in the following way to estimate the cost of equity:
- $$CoE = RFR + \beta(TMR - RFR)$$
- 3.23 When estimating these parameters, we will typically use methodologies consistent with a long investment horizon. As we are using historical data to estimate a forward-looking cost, this requires careful consideration and the application of regulatory judgement.
- 3.24 In line with the approach taken for the RIIIO-2 price controls, we are planning to 'index' the allowed return on equity on an annual basis, updating the allowance to reflect moves in the RFR. Our proposed methodology for indexing the allowed return on equity is discussed further at paragraph 3.41.

Estimating the RFR

- 3.25 The RFR is, in theory, the rate of return required to invest at zero risk. In practice, no investment is truly risk-free, so this hypothetical risk-free rate of return must be estimated.
- 3.26 It is common practice to use the yield (ie annual rate of return to maturity) on extremely low-risk investment instruments as a proxy for the RFR. Previous price controls and appeals to the CMA have considered which low-risk instrument or

¹⁷ Alternatively, the CAPM can use an estimate of the Equity Risk Premium input instead of calculating this metric as the estimate of the TMR minus the estimate of the RFR. We discuss our preferred approach below at paragraph 3.47.

instruments provide the best proxy for the RFR, and whether further adjustments would lead to a more accurate estimate.

- 3.27 UKRN Guidance recommendation 3 states that regulators should use recent yields on the index-linked gilts (ILG), with a maturity which matches the assumed investment horizon for their sector to estimate the RFR. This approach is in line with the RIIO-2 price control methodology.
- 3.28 Recent regulatory price controls, and most directly the CMA's Redetermination of PR19,¹⁸ have considered whether ILGs alone are the best proxy for the RFR. While ILGs are generally considered to be a very close proxy for the hypothetical RFR, questions have been raised on issues such as whether the RFR should be a 'market' rate at which participants can both borrow and lend or whether ILG prices (which move inversely to yields) include value that investors ascribe to these instruments over and above their proximity to being 'risk-free'. This value is often described as a 'convenience yield', which may reflect attractive characteristics specific to government bonds, such as money-like functionality or their widespread acceptance as collateral in financial transactions.
- 3.29 Conversely, Ofgem has previously considered whether measures such as the Sterling Overnight Index Average (SONIA) swap rates at the appropriate timeframe would be a superior (or supplementary) proxy for the RFR. In support of this, we note that the Bank of England states that SONIA is the preferred benchmark for the transition to sterling risk-free rates from the previous benchmark, the London Inter-Bank Offer Rate (LIBOR).¹⁹
- 3.30 The UKRN Guidance notes that the issue of convenience yields is not a well-established topic in economic regulation, and that (at the time of writing) there are no empirical estimates of the convenience yield in ILGs at the 10-20 year CAPM investment horizon used by most regulators. Given this, the UKRN Guidance does not propose alignment to a particular stance; however, it suggests that regulators should clearly set out their assessment of the evidence base in making their decisions.
- 3.31 In its Redetermination of PR19, the CMA stated that "evidence provided on both the presence of a convenience yield within ILG yields and on market RFRs with different borrowing and lending rates suggest that the appropriate RFR for our CAPM is likely to sit above the ILG yield."²⁰ The CMA considered that AAA

¹⁸ CMA (2021), [PR19 Redetermination – Final Report](#), paragraphs 9.123 - 9.144.

¹⁹ See Bank of England [website](#).

²⁰ CMA (2021), [PR19 Redetermination – Final Report](#), paragraph, 9.264

corporate bonds (the highest quality bonds not issued by the UK Government and, in fact, rated higher by credit rating agencies than UK Government debt) would be another useful proxy for the RFR.²¹ The CMA argued that AAA corporate bonds could provide a practical ceiling to any estimate of the 'market' RFR, stating that "it is likely that the RFR appropriate for a range of relevant investors sits above the return available from ILGs, but below the level suggested by the return on AAA bonds."²² In order to set a point estimate, the CMA chose the midpoint of the ILG-AAA range as its estimate of the RFR.²³

- 3.32 In RIIO-2, we agreed with the CMA's assessment that AAA-rated non-government bonds are low risk but disagreed with the CMA's inclusion of such bond in the estimate of the RFR. We noted several in-principle and practical concerns with the use of AAA-rated non-government bonds, and ultimately concluded that "relying on ILGs alone is simpler, more principled, and supported by greater precedent, than other methods or combinations of methods."²⁴
- 3.33 This approach was tested when the RIIO-2 price controls were appealed to the CMA in 2021. As part of this process, Ofgem provided the CMA with evidence that the AAA non-government bond index used by the CMA in the Redetermination of PR19 may not have been appropriately aligned to the time horizon of the price control and so it is not equivalent to 20-year ILGs. Specifically, we noted that once very long-term and illiquid instruments were excluded from the index and estimates of relevant risk premia (from economic consultants working on behalf of appealing companies) were applied, AAA non-government bonds may actually suggest a RFR close to or lower than suggested by ILGs alone. Considering a range of evidence and arguments, including our evidence relating to the use of AAA bonds, the CMA concluded that GEMA was "not wrong in excluding AAA bond data from their estimate of the RFR" and that "as a result, having considered the evidence [the CMA] conclude that GEMA's decision to rely solely on ILG yields when estimating the RFR was not wrong."²⁵
- 3.34 Supported by the CMA's assessment of the RIIO-2 approach and the UKRN's Guidance recommendation, and in the absence of observing material new evidence on this matter, we continue to view ILGs as the most appropriate proxy for the RFR. As a result, we are not proposing to use evidence from alternative

²¹ CMA (2021), [PR19 Redetermination – Final Report](#), paragraph, 9.198

²² CMA (2021), [PR19 Redetermination – Final Report](#), paragraph, 9.264

²³ CMA (2021), [PR19 Redetermination – Final Report](#), paragraph, 9.265

²⁴ Ofgem (2021), [RIIO-2 Final Determinations – Finance Annex \(REVISED\)](#), paragraph 3.23

²⁵ CMA (2021), [GD&T Licensees vs the Gas and Electricity Markets Authority, Final Determination – Volume 2A: Joined Grounds – Cost of equity](#), paragraph 5.107

proxies suggested in recent price control and appeal processes, such as AAA non-government bonds, SONIA swap rates, nominal gilts or international government bonds.

- 3.35 In line with the RIIIO-2 approach, we propose to base our estimate of the RFR on the one-month (October, daily) average of 20-year ILG yields. If we were setting an RFR for the entire control period, there may have been a benefit from basing our estimate of the RFR on a longer-average of ILG yield data to avoid potentially 'locking in' short-term volatility for the whole length of the control. As the RFR will be updated annually to index the cost of equity (see para 3.41 below), we consider a 1-month average to be appropriate.
- 3.36 We do not anticipate a need to adjust this figure to take account of implied forward rates. As discussed by the CMA in the Redetermination of PR19, such 'forward rate adjustments' do not seem to provide a more accurate estimate of future spot rates than current spot rates²⁶ and so are likely to impair rather than improve our estimate of the RFR. In addition, and as discussed in further detail below at paragraph 3.41, we propose to index the cost of equity by annually updating the RFR. This updating process should negate any potential benefit from attempting to imply market expectations of future rates.

Setting the RFR in CPIH-real terms

- 3.37 ILGs are 'RPI-real' instruments - their value is uplifted annually by outturn RPI inflation. RPI inflation was historically considered to be approximately 90bps higher than CPIH inflation due to the method of calculation.²⁷ To use ILG yields as a proxy for the RFR, we must adjust yields to 'CPIH-real' terms by estimating the difference between future CPIH and RPI inflation - often referred to as the inflation 'wedge'.
- 3.38 Estimating the CPIH-RPI 'wedge' on a forward-looking basis is complicated by two main factors:
- As of 21 March 2017, CPIH became the Office of National Statistics' (ONS) lead inflation index. However, estimates of future CPIH inflation are less readily available than other national statistics such as the Consumer Price Index (CPI); and

²⁶ CMA (2021), [PR19 Redetermination – Final Report](#), paragraphs, 9.228 - 9.234

²⁷ OBR (2019), [Forecast evaluation report](#), Box, 2.3: Long-run wedge between RPI and CPI inflation

- The Retail Prices Index (RPI) and its derivatives have been assessed against the Code of Practice for Official Statistics and found not to meet the required standard for designation as National Statistics. As a result, the calculation of RPI will be brought in-line with the calculation of CPIH from February 2030,²⁸ at which point CPIH and RPI inflation rates will be identical. As 20-year ILGs will remain in issue through this transition process, we must consider how investors are including the impact of this change within current ILG prices.

3.39 We propose to address the lack of CPIH forecasts by utilising forecasts of CPI from reputable sources such as HM Treasury (HMT) or the OBR as a proxy until such time as reliable CPIH forecasts are available. Historical CPI and CPIH rates of inflation have typically been very close on average: between June 2013 and June 2023 (inclusive), average monthly CPIH and CPI inflation varied by only 14bps.²⁹ This approach has also been adopted by Ofwat³⁰ and by the CMA.³¹ Although the difference between CPI and CPIH varies in the short term, in making a long-term estimate for RFR commensurate with the use of 20-year ILGs, we consider assuming that CPI is a close proxy for CPIH is appropriate.

3.40 In relation to the calculation of an appropriate 'wedge' for converting RPI-real ILG yields into CPIH-real yields, there are several approaches we could take. Recognising that there is no completely accurate way to calculate the view being taken by a broad spectrum of ILG investors, we propose to use wedge data based on a simple assessment of:³²

- official (HMT or OBR) forecasts of CPI and RPI out to a period up to the point of convergence of RPI and CPIH growth rates (assumed to be February 2030); and
- a zero wedge for the period ranging from the point of convergence to the maturity of the ILG being measured.

Indexing the cost of equity via updating the RFR

3.41 In line with the approach used during RIIO-2, we continue to view an annual update of the estimate of the RFR to be the simplest and most effective way to

²⁸ HMT (2020), [A response to the Consultation on the Reform to Retail Prices Index \(RPI\) Methodology](#).

²⁹ Calculated using data from the ONS's consumer price inflation, UK: June 2023 [update](#).

³⁰ Ofwat (2023), [PR24 Final Methodology](#), page 6.

³¹ CMA (2021), [PR19 Redetermination – Final Report](#), paragraph, 9.35

³² Any 'early view' of the cost of capital provided ahead of the Final Determination may also need to make an assumption about the difference between CPI and RPI inflation for the period beyond that covered by official forecasts but before the anticipated change in RPI calculation methodology in February 2030. If appropriate, we will include an assumed long-term RPI-CPI 'wedge', which we anticipate to be based on the OBR's latest estimate of this figure.

index the cost of equity. This should ensure that allowed returns on equity remain in line with relevant market rates.

- 3.42 We propose to update the RFR used within our CAPM calculation (in relation to both the RFR and the calculation of the Equity Risk Premium (ERP) as the TMR minus the RFR) based on average daily ILGs yields in the October preceding the commencement of each year of the price control.

Estimating the Total Market Return (TMR)

- 3.43 The TMR is an estimate of the return that investors expect for taking the market-average level of risk. The TMR is an estimate and cannot be definitively calculated in advance.
- 3.44 The CAPM calculation requires an estimate of the ERP, the additional return over the RFR that investors expect for taking the market-average level of risk. Regulators often calculate the ERP as the difference between the TMR and the RFR (ie $ERP = TMR - RFR$). An alternative approach would be to estimate the ERP directly. The choice of estimating the TMR or ERP for the CAPM takes into consideration which metric is more stable over time (and so more likely to be a useful proxy for future expectations).
- 3.45 The TMR used for calculating the ERP in the CAPM is typically estimated using long-run historical averages of relevant broad equity indexes as the best proxy for long-term future expectations. The TMR can also be estimated using forward-looking methodologies such as surveys of the expectations of professional investors, or via a combination of historical and forward-looking methodologies.
- 3.46 In RIIO-2, our methodology was in line with previous (2018) UKRN guidance and is substantially in line with the current UKRN Guidance. The methodology in RIIO-2 estimated a TMR (rather than directly estimating an ERP) and calculated the ERP as $TMR - RFR$. The methodology focused on historical ex-post data and used the Bank of England's 'Millennium' inflation dataset as the primary source of historical inflation data.³³

Our proposed approach to estimating the ERP

- 3.47 UKRN Guidance recommendation 4 states that regulators should estimate the ERP within the CAPM as the difference between TMR and the RFR. The UKRN Guidance notes that there is significant alignment amongst regulators in the overall

³³ The Bank of England's 'Millennium' dataset provided a back-projected measure of CPI for the 1949-1988 period that the 2018 UKRN Guidance considered to be 'distinctly superior to RPI'.

approach to the TMR/ERP, namely that in recent determinations UK regulators assume greater stability in the TMR and therefore estimate it directly from historical equity returns data.³⁴ The UKRN Guidance recommends that in the interests of maintaining consistency across sectors and across time, continuing with this approach remains preferable.

- 3.48 In the next price controls, we propose to continue to estimate the TMR rather than the ERP, and propose to calculate the ERP as $TMR - RFR$.

Our proposed approach to adjusting for inflation

- 3.49 In relation to the use of historical inflation data, our proposed approach is in line with the UKRN Guidance. For the period of 1900-1949 (which predates the collection of RPI, CPI or CPIH data), we consider the Consumption Expenditure Deflator to be more appropriate than the Cost of Living Index, on account of its more realistic treatment of weights applied to consumed goods. For the period 1950-1987, regulators generally consider now that relying on backcast CPI or CPIH data is likely to be preferable to using RPI data (including RPI data that has been adjusted for the 'formula effect').³⁵ From 1988 onwards, sufficient data exists to directly observe rates of CPI and CPIH inflation.

- 3.50 This combination of inflation datasets is marginally different to that used in RIIO-2 – with ONS backcast data for the 1950-1987 period generally considered to be superior to the CPI-backcast data contained within the Bank of England's 'Millennium' dataset that underpinned the RIIO-2 estimates.

Our proposed approach to calculating the TMR

- 3.51 The UKRN Guidance notes that all regulators place weight on historical ex post approaches and many of them on historical ex ante methods. Some regulators have also considered forward-looking evidence in their most recent decisions. The UKRN Guidance recommends that the TMR should be primarily based on historical ex post and historical ex ante evidence.
- 3.52 In line with the UKRN Guidance, we propose to continue to estimate the TMR via assessment of long-run historical returns,³⁶ and propose to consider a range of appropriate timeframes, averaging methodologies and potential adjustments in

³⁴ For further discussion of whether the ERP or TMR is the more stable input, see Wright, Burns, Mason and Pickford (2018), [Estimating the cost of capital for implementation of price controls by UK Regulators](#) (the '2018 UKRN guidance'), Section 4.4

³⁵ The formula effect represents that impact of the differences between the calculation methods of RPI and CPI. Methodological changes to RPI over time has meant the size of the formula effect has been inconsistent.

³⁶ We anticipate using the most up-to-date Dimson, Marsh and Staunton (DMS) returns dataset when calculating historical returns.

order to use historical data to provide an effective forward-looking estimate of the TMR.

- 3.53 Reflecting the UKRN Guidance recommendation, as well as recent relevant precedent such as the CMA's Redetermination of PR19,³⁷ we propose to give weight to both historical ex post and historical ex ante analysis when estimating the TMR. The exact balance of historical ex post and historical ex ante inputs into the TMR estimate will reflect the evidence and our regulatory judgement.
- 3.54 When calculating estimates based on historical ex-post analysis, we propose to apply a range of averaging techniques to the data to arrive at an appropriate input into our overall TMR estimate.
- 3.55 Ofgem, other sector regulators and the CMA have considered or placed weight on a number of approaches in recent price controls, including:
- the geometric average of real returns over the whole dataset with an uplift to convert this to an arithmetic average, adjusting for the effects of serial correlation;
 - the arithmetic average of real returns over the whole dataset;
 - the arithmetic average of real returns over overlapping 10yr and 20yr samples of the dataset;
 - the arithmetic average of real returns over non-overlapping 10yr and 20yr samples of the dataset;
 - the Blume estimator;
 - the Jacquire, Kane and Marcus (JKM) unbiased estimator; and
 - the JKM minimum mean squared error (MSE) estimator.
- 3.56 We welcome evidence on the appropriate weight that should be applied to these techniques. When finalising our methodology, we will examine the strength of the evidence for and against different averaging techniques and may set our estimate range or point estimate using a single methodology or a combination of approaches.
- 3.57 When calculating estimates based on historical ex-ante analysis, we note that there are two approaches commonly used to derive TMR:³⁸

³⁷ CMA (2021), [PR19 Redetermination – Final Report](#), paragraphs, 9.339 - 9.361

³⁸ CMA (2021), [PR19 Redetermination – Final Report](#), paragraph, 9.341

- the Fama and French dividend growth model approach, which can be used to estimate reasonable expectations for TMR based on the historical combination of dividend yield plus dividend growth; and
- the DMS compositional approach that adjusts historical returns for expansion in the price/dividend ratio and changes in the real exchange rates, these being elements of 'luck' that are unlikely to feature in investors' expectations of ongoing returns.

3.58 We welcome evidence on the appropriate application of these methodologies. When finalising our ex ante methodologies, we will examine the strength of the evidence for any calculation approach or applicable adjustments to base data and may set our estimate range or point estimate using a combination of approaches.

3.59 We do not plan to place significant weight on forward-looking estimates, noting that this approach is likely to be inconsistent with a methodology based on a stable TMR. We understand that a stable TMR assumption may mean that at certain points in the equity performance cycle, our TMR estimate may appear slightly too high or too low relative to some measures of expectations for near term equity performance. However, when setting our allowed return on equity we are estimating a long-term cost of equity, not trying to predict short-term market performance, and we see value to investors and consumers in the consistency and predictability provided by the stable TMR approach.

Estimating Beta (β)

3.60 The CAPM that we use to estimate the cost of equity assumes that risks that are specific to an investment (or set of investments) can be diversified away - meaning that investors do not require compensation for exposure to these 'specific' or 'non-systematic' risks. The risk exposure that remains is unavoidable or 'systematic' and cannot be diversified away and so investors require compensation for exposure to this risk. The most commonly referenced systematic risk is exposure to the general performance of the economy.

3.61 Beta is the measure of an asset's exposure to undiversifiable systematic risk, relative to the average exposure of assets in the market. The average exposure to systematic risk is defined as a beta of 1. Regulators typically use the covariance of price movement of listed companies' shares and the average price movement of relevant equities indices to estimate beta (either directly for listed companies or indirectly where listed companies are used as proxies for unlisted companies).

Asset Beta (β_a)

3.62 The relative systematic risk faced by investors in an asset is called the asset beta. In practical terms, investors typically invest in debt and equity securities which can call on the returns earned by a firm's assets (rather than investing directly into the assets themselves). As a result, the asset beta (β_a) can be split into equity beta (β_e), the exposure of shareholders to systematic risk, and debt beta (β_d), the exposure of debt investors to systematic risk. To calculate the asset beta, we weight the debt beta by the proportion of debt (g) or 'gearing' in the capital structure and the equity by the proportion of equity ($1-g$) in the capital structure, as shown below.

$$\beta_a = (g \cdot \beta_d) + (1 - g) \cdot \beta_e$$

Equity Beta

3.63 We can rearrange the asset beta formula to solve for equity beta.

$$\beta_e = (\beta_a - (g \cdot \beta_d)) / (1 - g)$$

3.64 As shown by this reformulation, and supported by financial theory, adding debt to the capital structure of an asset increases equity holders' exposure to systematic risks. Combining asset beta and the impact of gearing gives us the equity beta, a measure of the exposure of shareholders in a firm to systematic risk. Equity beta is the input required within the CAPM. Equity betas are typically the most straightforward to observe, while asset beta is generally inferred from equity beta by adjusting for gearing and making an assumption about debt beta (discussed further below at paragraph 3.70).

3.65 Regulators typically measure 'raw' equity betas from market data of comparators that either individually or collectively are assumed to have a similar underlying exposure to systematic risk (ie a similar asset beta). In line with common regulatory practice, this raw equity beta data is then 'de-gearred' (based on net debt to enterprise value) to strip out the impact of the level of debt within the capital structure of each firm (assuming a zero debt beta) to find an unlevered asset beta. This unlevered asset beta is then combined with an assumption around debt beta to allow regulators to compare the asset betas of relevant comparators.

3.66 This asset beta is then 're-gearred' to assumed levels of debt in line with the notional capital structure used in the price control (based on the regulatory gearing definition). This gives us the equity beta at the notional capital structure that is a required input of the CAPM when estimating the cost of equity.

- 3.67 The measurement of raw equity betas requires statistical analysis. This can take the form of relatively simple 'Ordinary Least Squares' (OLS) regressions or can involve more advanced statistical analysis techniques such as Generalised Autoregressive Conditional Heteroskedasticity (GARCH) methodologies.
- 3.68 When conducting beta analysis, regulators must choose an overall approach and consider the most appropriate calibration of analysis - for example, whether to use daily, weekly or monthly price data and over what historical timeframe to measure beta. There is no single approach that is recognised as being the most appropriate for all circumstances and judgement is necessary. For example, longer-term data may provide more datapoints and so improve statistical reliability. Longer-term data may also give more comprehensive and reliable insight into a firm's beta over a business cycle. Conversely, shorter-term data may be more representative of the forward-looking exposure to systematic risks that we are looking to include in our estimate.
- 3.69 It is important that regulators consider whether there have been material changes to systematic exposure of a company within the timeframe of the data being analysed. For example, if a firm had previously sold a business division with a particularly high or low exposure to systematic risk relative to the average exposure of the remaining operations, only data from the point of sale of this division is likely to be useful in estimating the appropriate beta for the firm on a forward-looking basis.

Debt beta

- 3.70 Debt beta is a measure of the exposure of debt holders in a firm to systematic risk. Debt beta is generally more difficult to measure than equity beta. Debt securities do not tend to trade in the same liquid fashion as listed equities and so the quality of bond return data is likely to make accurate debt beta analysis difficult.
- 3.71 Regulators, economic advisors and financial market participants have used a range of direct and indirect ways to estimate debt beta. Recent precedent indicates that regulators have generally incorporated a relatively small debt beta figure in their cost of equity analysis. Since 2019, debt beta assumptions in regulatory price controls have ranged from 0.05 to 0.125.³⁹

³⁹ [UKRN 2023 Cost of Capital Report](#), Tables 2 and 3

Proposed methodology

- 3.72 Recommendation 5 of the UKRN Guidance suggests that regulators should estimate equity beta for the notionally capitalised company using comparable listed companies and standard regression techniques (ie OLS). The UKRN Guidance also notes that where the listed comparator has different gearing to the notional company, regulators should continue to de-lever and re-lever the raw equity beta.
- 3.73 We agree with the UKRN Guidance recommendation, which is in line with the RIIO-2 approach. We intend to base our beta analysis on OLS regressions of relevant listed comparators, de-gearing data to make asset beta comparisons before re-gearing to the notional capital structure to estimate an appropriate equity beta input for the CAPM cost of equity.
- 3.74 We propose to consider a range of timeframes and frequencies when analysing equity beta data. We intend to weight data based on regulatory judgement and will decide on the exact calibration of our calculations on the basis of the evidence considered.
- 3.75 We expect to utilise similar comparator firms to those considered during RIIO-2, including listed UK energy and water networks. We continue to believe that these firms are likely to be more representative of the core risks faced by GB energy networks, in the round, than other comparator firms. However, we recognise that there may be evidence to indicate that energy networks face higher or lower levels of systematic risk on a forward-looking basis in the round after accounting for relevant price control mechanisms, which may not be accurately reflected in beta samples which are backwards looking. Therefore, we may consider attributing different weights to the RIIO-2 comparator firms and/or including a broader set of comparator firms if there is sufficient evidence that these, either individually or in aggregate, allow us to calculate a more accurate estimate of the beta that is appropriate for energy networks. If there is also evidence indicating that the GD, GT and ET sectors face different levels of systematic risk on a sectoral basis, it may be appropriate to use different beta estimates for the different network sectors and the allowed return on equity may differ as a result. For example, this could be due to licensees adopting new licence obligations which would materially change the systematic risk of the licensee in the round after relevant risk sharing, transfer and/or mitigation mechanisms (including those within the wider price control arrangements) are reflected.

Choosing a point estimate for the allowed return on capital

- 3.76 Inputs into the CAPM may be expressed as a range, depending on the breadth of evidence that is included when making the estimation. Where ranges are used as inputs into the CAPM, this will naturally lead to there being a high and low estimate for the cost of equity. Our intention is that GEMA will set a single cost of equity (at a notional level of gearing) to be applied in relevant licensees. If we have estimated the cost of equity initially as a range, we intend to choose a point in that range as the allowed return on equity.
- 3.77 UKRN Guidance recommendation 6 suggests that the RFR, TMR and (re-levered) equity beta assumptions should be combined using the CAPM to produce a cost of equity range. The mid-point of the range should be used as the central estimate for the CAPM cost of equity.
- 3.78 Our central proposed assumption is that the allowed return on equity should match our assessment of the cost of equity. If we do utilise a range for one or more of the CAPM inputs, we propose to calculate the associated high and low range cost of equity estimates and anticipate the midpoint of this range will represent our best estimate of the cost of equity, which we propose will be used to set the allowed return on equity.

The use of cross-checks

- 3.79 As noted at paragraph 3.20, and in line with UKRN Guidance recommendations, we continue to view the CAPM as the most appropriate tool for setting the allowed cost of capital.
- 3.80 We consider it prudent to cross-check our CAPM-derived estimate of the cost of capital against relevant market data and other estimation methodologies to provide assurance that such estimate is neither too low nor too high. In RIIO-2, we used a three-step process to set the allowed return on equity, with Step 1 being to establish a CAPM-based estimate and Step 2 being calibration based on cross-checks. While the Step 2 process in RIIO-2 could have justified a lower estimate of the cost of capital than the CAPM from Step 1, we chose not to make an adjustment to the allowed return on equity to reflect this. Instead, we narrowed the cost of equity estimate range, using more discretion to adjust the high end than the low end.⁴⁰

⁴⁰ Ofgem (2021), [RIIO-2 Final Determinations – Finance Annex \(REVISED\)](#), paragraphs 3.113 – 3.121.

- 3.81 Recommendation 7 of the UKRN Guidance suggests that cross checks may be used to sense check the CAPM derived point estimate. However, the Guidance recommends that regulators should only deviate from the mid-point of the CAPM cost of equity range if there are strong reasons to do so.
- 3.82 We agree with this recommendation. We propose to use a range of cross checks to assess whether our CAPM-based estimate is materially out of line relative to estimates suggested by relevant market data and other estimation methodologies. In the RIIO-2 price controls, we considered the following cross-checks:⁴¹
- A WACC cross-check on the basis of observed gearing levels at comparator companies;
 - A Market-Asset-Ratio cross-check on implied costs of equity;
 - An Offshore Transmission Operator (OFTO) implied returns cross-check;
 - An unadjusted investment managers' implied cost of equity cross-check;
 - An unadjusted infrastructure fund implied cost of equity cross-check; and
 - An adjusted (at 0.9 beta) investment managers' implied cost of equity cross-check.
- 3.83 In RIIO-2 our Step-2 cross-checks generally pointed to a cost of equity that was lower than suggested by our CAPM-based calculations. In RIIO-2 we chose not to make any downward adjustments to reflect this as the overall pattern did not suggest that any of the cross-checks were more reliable indicators of the cost of capital than that provided by the long-term approach used in the CAPM. We propose a similar approach from RIIO-3 unless there is evidence to justify changing this approach.
- 3.84 We note that our allowed return on equity is calculated using a stable TMR assumption (see Paragraph 3.47). This approach supports overall stability in the allowed return, a feature that we consider to be valuable to long-term investors in the energy networks. The unavoidable implication of this approach is that the calculated cost of equity may be slightly higher or lower than would have been the case if we had instead used a stable ERP assumption. When analysing allowed returns on equity relative to debt as a cross check of a CAPM-based estimate, it may be the case that the equity premium over debt may be higher or lower than

⁴¹ (Ofgem 2020), [RIIO-2 Draft Determinations – Finance Annex](#), Table 24

the through-cycle average. This dynamic means that it is very important that we do not 'cherry-pick' when assessing equity premium over debt, as 'fixing' for any perceived insufficient premium in one price control period, without factoring in the through-the-cycle impact of the stable TMR approach, may lead to consumers structurally over-rewarding investors.

Expected versus allowed returns

- 3.85 In RIIO-2 Step 3 in the process of setting an allowed return on equity was an adjustment to account for anticipated outperformance.
- 3.86 Under the appeal of the RIIO-2 price control, Ofgem's Step 3 process and the introduction of an 'outperformance wedge' was considered to be 'wrong' by the CMA and was subsequently removed from the RIIO-2 controls (and was not applied for RIIO-ED2).⁴²
- 3.87 The CMA noted that the overall extent of operational outperformance in RIIO-1, and evidence on totex outperformance in previous energy price control periods, provided strong support for GEMA treating the scope for operational outperformance as an important risk area for RIIO-2. The CMA also stated that it was appropriate for GEMA, having defined and calibrated the totex and Output Delivery Incentive (ODI) arrangements, to take a step back and consider whether those arrangements overall could be expected to provide for an appropriately stringent and robust price control, and if not, to identify whether additional (and potentially novel) responses were appropriate. However, the CMA ultimately concluded that GEMA had not demonstrated sufficiently why the extensive set of tools GEMA used for RIIO-2 should be regarded as providing insufficient protection for customers.⁴³
- 3.88 We have taken on board the feedback from the CMA on this issue and do not propose reintroducing Step 3 into our process for assessing allowed returns on equity in these price controls. However, when setting appropriate allowed returns, we must take into account the expected outcome of the entire price control (for efficient licensees at the notional capital structure). For example, the skew of incentives in the price controls could be set in a way which would result in the expected return on equity for an efficient licensee being higher or lower than our estimate of the cost of equity. If there was evidence of this, we may need to

⁴² CMA (2021), [GD&T Licensees vs the Gas and electricity Markets Authority, Final Determination – Volume 2B: Joined Grounds B, C and D](#), paragraph 6.182.

⁴³ CMA (2021), [GD&T Licensees vs the Gas and electricity Markets Authority, Final Determination – Volume 2B: Joined Grounds B, C and D](#), paragraphs 6.178 – 6.181.

adjust the allowed return on equity such that expected returns match our best estimate of the cost of equity.

- 3.89 We will further calibrate our methodology for setting the allowed return after the overall price control package has been established, we have analysed business plans and the expected outcome 'in the round' is better understood.

Allowed return on equity questions

- FQ6. Do stakeholders agree with our interpretation and proposed application of UKRN Recommendations 2-7?
- FQ7. Do stakeholders consider there to be good reasons to deviate from the respective approaches set out under UKRN Recommendations 2-7?
- 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?
- 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?

4. Allowed WACC

Background

- 4.1 The total allowed return for companies in this price control is calculated as a WACC. The WACC consists of three inputs:
- The allowed return on debt;
 - The allowed return on equity; and
 - The relative weights of debt and equity.
- 4.2 The WACC calculation combines the allowed returns on debt and equity according to the following formula:⁴⁴

$$WACC = K_d \cdot g + K_e \cdot (1 - g)$$

- 4.3 In regulatory price controls the mix of debt and equity capital are referenced in terms of the weight of debt within the capital structure, known as 'gearing'. Regulators typically set price controls with reference to a notional level of gearing, although this level (and the associated allowed return) can then be varied depending on circumstances relating to individual companies or network types.
- 4.4 The level of gearing is also used within the calculation of the allowed return on equity. As discussed at paragraph 3.64, the equity beta, and so the overall cost of equity, rises with the level of gearing.
- 4.5 In addition to defining the amount of gearing, the notional structure can be more explicit about the types of debt used within an overall gearing assumption. In this way, the notional capital structure can reflect both the proportion and the type of debt we assume that companies utilise when setting our allowed return on capital.

Proposed approach for RIIO-3

- 4.6 Notional capital structures are widely used in regulatory price controls and this approach was a central feature of the RIIO-2 controls.
- 4.7 The notional capital structure is conceptually distinct from the actual capital structures used by companies - which is a choice for company management and

⁴⁴ Where K_d is the allowed return on debt, K_e is the allowed return on equity and g is the weight of debt within the capital structure, also known as gearing.

owners, within licence condition boundaries. In setting allowed returns based on a notional capital structure, regulators allow companies the flexibility to make decisions on capital structure that are appropriate for each individual business (subject to financial resilience requirements). This approach ensures that management and owners remain responsible for the risks and rewards of the actual capital structure and financing decisions, and that the outcome of these independent decisions does not impact consumers.

- 4.8 Recommendation 1 of the UKRN Guidance notes that regulators should continue to estimate the allowed rate of return in price controls based on the weighted average cost of capital for a notionally financed firm within their sector. We agree with this recommendation and propose to set WACC-based allowed returns and assess financeability⁴⁵ with reference to a notional capital structure.
- 4.9 Recommendation 9 of the UKRN Guidance states that the notional gearing assumption should reflect the regulator's assessment of the balance of risks facing the regulated company, a wide range of benchmarks on gearing levels and overall regulatory policy objectives - not just the gearing level of the actual company (or companies) in question. We agree with this recommendation and note that several factors, including the anticipated pace and quantum of investment, market commentary such as from credit rating agencies and the availability of equity versus debt capital, should be taken into account when setting the gearing assumption within the notional capital structure.
- 4.10 We currently expect gearing levels in these price controls to remain consistent with those used in RIIO-2. However, this will be subject to the confirmation of company specific investment plans. The gearing assumptions in RIIO-2 were as follows:

⁴⁵ For further discussion of our approach to assessing financeability, please see chapter 5

Table 1: Notional gearing levels applied in RIIO-2

Licensee	RIIO-2 Starting Notional Gearing
SHET	55%
SPTL	55%
NGET	55%
NGGT	60%
Cadent	60%
Northern	60%
Scotland	60%
Southern	60%
Wales & West	60%

Source: RIIO-2 Final Determinations - Finance Annex (Revised), Table 14

4.11 We are proposing to update our approach to the application of notional gearing levels during the course of the price control. Currently, notional levels of gearing are assumed at the beginning of the price control and are allowed to flex on the basis of cash generation over the course of the price control period. We consider that it may be more intuitive to assume that the notional capital structure remains constant in each year of the price control and that variables such as net issuance of debt and equity are varied in order to achieve this.

Allowed WACC questions

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

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?

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?

5. Financeability

Background

- 5.1 Ofgem has a statutory duty to have regard to the need to secure that companies are able to finance the activities which are the subject of obligations imposed by or under the relevant legislation.⁴⁶ The assessments we perform to discharge this duty are often referred to as assessments of 'financeability'.
- 5.2 We assess the financeability of energy networks on the basis of an efficient licensee adopting the notional capital structure (the notional capital structure is described at paragraphs 4.6 – 4.11). This approach is critical to ensuring that consumers are protected from risk associated with actual financing decisions that licensees and their shareholders have made. As with previous price controls, we consider it appropriate that the risks and rewards arising from financing decisions reside with equity investors.
- 5.3 The energy networks operate large portfolios of long-life infrastructure. This type of infrastructure is well suited to debt-based financing. It is assumed that 55-60% of our notional capital structures for the networks is derived from debt financing, under the notional capital structure. This is a level which balances efficient financing costs with the alignment of interests and the financial resilience that comes from significant levels of equity capital.
- 5.4 Debt capital and equity capital have different characteristics. Most notably, debt capital typically comes with explicit service costs in the form of interest on loans or coupon payments on bonds. In general, these debt service costs cannot be avoided or changed without significant additional costs. Equity financing costs are less tangible and more flexible. For example, investors may choose to forgo dividend returns in a period if a company requires that capital to fund growth or to improve financial resilience.
- 5.5 In addition, the allowed return element of the price control has typically been set in 'real' or inflation-adjusted terms, with investors earning the inflationary element of their return through the annual indexation of the RAV. This means that companies receive an allowed return on capital that is in real terms but often

⁴⁶ Ofgem's principal statutory objective is to protect the interests of gas and electricity consumers, existing and future, wherever appropriate by promoting effective competition. Ofgem also has a range of secondary duties including its duty to have regard to the need to secure that licence holders are able to finance the activities which are subject of obligations imposed on them (See section 3A(2)(b) of the Electricity Act 1989 and section 4AA(2)(b) of the Gas Act 1986)

have large proportions of their debt servicing costs that are set in nominal terms. This can be problematic if, for example, debt costs have been historically high while current required returns on equity are lower.

- 5.6 Combined, these issues lead the financeability assessment to focus primarily on whether the price control package in-the-round puts licensees (at the notional capital structure) in a position where they can service reasonable debt costs and maintain financial metrics that would be associated with an appropriate credit rating range. As a result, regulators often use calculations based on the metrics and methodologies used by the major credit ratings agencies, in particular Adjusted Interest Cover Ratio and Funds From Operations over Net Debt when conducting their financeability assessments.⁴⁷
- 5.7 As there are, in general, no strictly unavoidable cash costs associated with equity financing, regulators have tended to use the assessment of the cost of equity and the setting and cross-checking of the allowed return on equity as the primary tools in assessing equity financeability.
- 5.8 In addition, to support companies to raise equity capital in RIIO-2 we gave an allowance of 5% to cover the direct and indirect costs (such as discounts) of issuing new equity.
- 5.9 A related concept is equity 'investability'. While there may be no explicit in-year cash costs that would threaten equity financeability, investability considers whether the allowed return on equity is sufficient to retain and attract the equity capital that the sector requires. This issue is likely to be increasingly important in the coming years as the need to invest in infrastructure rises significantly (for energy networks across the UK and globally) and companies are required to seek 'fresh' equity from their investors over and above what they would be able to fund via retained earnings.

Proposed approach for RIIO-3

- 5.10 In order to assess debt financeability we propose to adopt an approach that is similar to that adopted for RIIO-2. We intend to conduct an in-the-round assessment that targets an efficient licensee adopting the notional capital structure broadly achieving comfortable investment grade credit quality. Within this assessment we plan to consider:

⁴⁷ Credit ratings by agencies such as Moody's, S&P Global and Fitch are based on licensees' actual capital structures. As the financeability assessment is based on the notional capital structure, the ratings assigned by the major credit rating agencies cannot be used for financeability assessment purposes.

- financial projections from our financial model(s);
- the implied Moody’s methodology rating (as this is the most transparent and therefore replicable methodology of the three rating agencies that we currently rely upon);
- the strength of quantitative metrics for credit quality, particularly those emphasised by credit rating agencies or that are under pressure;
- the strength of other metrics and qualitative factors; and
- stress testing results.

5.11 We also intend that our financeability testing should consider financial ratios on the basis of both baseline totex allowances and scenarios where there could be additional totex allowed through variant ex-post expenditure.

5.12 In the Framework Decision we noted stakeholder calls for enhancements to our approach to assessing financeability, such as increased sophistication and longer time horizons in our assessment. Network companies specifically suggested a need to better consider equity financeability or investability to take account of challenges such as uncertainties around the long-term role of gas networks and both changing investment cycles and a significant increase in required investment in the ET sector.

5.13 As noted in the Framework Decision, we continue to consider the overall financeability framework to be appropriate for the coming price controls. However, we are open to considering whether a broader assessment of investability in addition to our traditional assessment of financeability may be necessary and has benefits for consumers. We invite views and evidence on how this could be assessed.

5.14 Incremental improvements we could make to the assessment of financeability and investability could include:

- Conducting longer-term analysis beyond the immediate price control via economic form modelling, as we have previously. An economic form model serves to extract from shorter term impacts and does not require a lot of detailed assumptions a long way into the future which are currently uncertain. We may consider conducting similar analysis in RIIO-3 or using an extended version of the more detailed Business Plan Financial Model or adopt another approach. An intended benefit of doing this is to anticipate potential unintended consequences of decisions made for RIIO-3 price controls on future periods. However, we note that this could lead to complications such as

what assumptions to use for the subsequent price control which would not be subject to the RIIO-3 Final Determination or may not have reliable business plan inputs from companies. In all cases we cannot fetter GEMA's discretion in relation to future price controls as GEMA is a public body which is required to take decisions on the basis of all relevant factors and evidence available at the time of taking the relevant decision.

- changing the way we calculate simulated credit ratios (for example, using the forecast sector average cost of debt rather than the cost of debt allowance in our analysis to avoid an unintended consequence whereby an upwards calibration adjustment designed to provide more headroom results in an adverse movement in financeability metrics);
- including additional credit ratios in our analysis;
- assessing broader indicators of equity cost, such as dividend yield expectations; and
- assessing the appropriate equity issuance cost allowance.

5.15 As noted in the Framework Decision, and in line with the UKRN Guidance recommendations, we do not consider 'aiming-up' of the allowed return on capital to be in consumers' interest. In the event financeability constraints are identified, we could consider a number of financeability 'levers'. We welcome evidence on levers that would support financeability in this scenario without imposing inappropriate additional cost on consumers. This could include, but is not limited to:

- reducing the dividend assumption, if appropriate; and
- adjusting capitalisation and/or regulatory depreciation rates.

5.16 We encourage stakeholders to submit relevant evidence in relation to our existing financeability assessment approach and any potential incremental improvements.

Financeability questions

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

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

6. Financial resilience

Background

- 6.1 Financial resilience is defined as regulated licensees having sufficient financial safeguards or headroom so that they can avoid and/or manage the risk of financial distress or failure if there is a downside shock. The extent of this risk and potential impact is dependent on factors including the size of the shock, the level of headroom, the proximity to consumers and any mitigating arrangements, such as ringfencing protections.
- 6.2 Companies and their shareholders have significant discretion to make decisions about their financing and capital structure within the boundaries set by the price control, their licence and company law. We expect companies to manage their own financial risks and for shareholders to directly gain or lose as a consequence of their choices, not the consumers.
- 6.3 The purpose of financial resilience measures is to protect consumers from the adverse consequences of financial distress or failure, which includes the higher costs of capital and the potential impact on quality of service associated with companies with poor resilience. These companies may also potentially be at risk of licence breaches, default or administration.
- 6.4 The aim of the policy tools we have is to provide early warning of financial distress, thereby allowing Ofgem and the company to consider potential mitigations and/or restrict certain activities in the event of financial deterioration. The intention is to make failure less likely and/or increase the chance and quantum of recovery for the benefit of consumers.
- 6.5 As the regulator we should always be vigilant and look at best practice across the regulatory landscape for measures that improve existing financial resilience requirements to protect against the downsides that consumers could bear but which do not introduce disproportionate incremental costs.
- 6.6 In this section we will review the existing licence conditions applicable to energy network companies which protect consumers from the adverse consequences of financial distress and propose possible reforms to protect companies' financial resilience for the next price control.

Existing preventative financial resilience measures

- 6.7 We will examine the value of these preventative measures individually and as a whole and also how they tend to work in practice. The relevant licence conditions

are listed in Appendix 1 Table 10 with the purpose for the condition detailed in Table 2.

Table 2: Licence conditions purpose

Measure	Purpose
External Credit Rating	<ul style="list-style-type: none"> * Incentivises management teams to maintain a financial policy in line with investment grade criteria as outlined by the three main credit rating agencies. * Reduces potential for a default based on default rates as outlined by the agencies. * Increases likelihood that a company maintains access to debt markets at an efficient cost * Early warning indicator for the regulator of potential financial distress * An indicator to the regulator if the company is taking appropriate action to resolve the potential distress * Incentivises shareholders and management to maintain credit rating headroom. * Reduces cash leakage in a situation where financial resilience is low
Ultimate Controller Undertaking	<ul style="list-style-type: none"> * To ensure that ultimate controller is committed to resilience of the Licensee
Disposals & Charges	<ul style="list-style-type: none"> * To protect the regulatory ringfence around the regulatory asset base
Cross-subsidies	<ul style="list-style-type: none"> * To protect the regulatory ringfence around the regulatory asset base
Restriction on Activity and Financial Ring Fence	<ul style="list-style-type: none"> * To protect the regulatory ringfence around the regulatory asset base
Availability of Resources	<ul style="list-style-type: none"> * To ensure that Shareholders remain obligated that their financial policies and actions do not result in licence breaches.
Indebtedness	<ul style="list-style-type: none"> * Early warning indicator for the regulator of potential financial distress
Reporting under Regulatory Instructions and Guidance (RIGs)	<ul style="list-style-type: none"> * Provides transparency around direct measures of financial resilience and indirect measures such as poor operational performance which may lead to financial resilience issues over a prolonged period * Early warning indicator for the regulator of potential financial distress

6.8 In the round, we consider these financial resilience measures to have been broadly effective in helping to incentivise shareholders and management to maintain financial policies and outcomes that are consistent with a financially resilient sector.

6.9 GD, GT and ET companies have adhered to the licence conditions with each company maintaining an investment grade rating with headroom.

Table 2: GD, GT and ET companies' credit ratings

Full name	Entity	Price control	Moody's	S&P	Fitch
National Grid Electricity Transmission plc	NGET	ET	Baa1	BBB+	A-
Scottish Hydro Electric Transmission plc	SHET	ET	Baa1	BBB+	n/r
SP Transmission plc	SPTL	ET	Baa1	BBB+	n/r
Cadent Gas Ltd	Cadent	GD	Baa1	BBB+ Neg	BBB+
Northern Gas Networks Ltd	Northern	GD	Baa1	BBB+	n/r
Scotland Gas Networks plc	Scotland	GD	Snr: Baa1 Issuer: Baa1	Snr: BBB Issuer: BBB	Snr: BBB+ Issuer: BBB
Southern Gas Networks plc	Southern	GD	Snr: Baa1 Issuer: Baa1	Snr: BBB Issuer: BBB	Snr: BBB+ Issuer: BBB
Wales & West Utilities Limited	Wales & West	GD	n/r	Class A: A- Class B: BBB	BBB
National Gas Transmission plc	NGGT	GT	Baa1	n/r	BBB+

6.10 We also recognise that the tax clawback provisions which trigger in circumstances where a company's gearing moves away from the notional company's gearing is also a disincentive to increasing the gearing of the licensee.

- 6.11 However, there could be potential shortfalls or disadvantages of the existing measures, particularly in changing environments where companies are materially growing or shrinking. In considering how the measures can be evolved to incentivise more robust levels of financial resilience, we also recognise that a higher level of consumer protection may bring with it associated costs to consumers and companies, and regulatory judgement is required in determining an appropriate trade-off.
- 6.12 The ET and gas sectors face evolving challenges, notably with significantly increased investment required in ET (which may have implications for exposure to risk). For gas, the need to manage the pathway to net zero has potential implications for the trajectory of the RAV (which can have implications for gearing, for example). Whilst it is our expectation that responsible owners would use the majority of any accelerated depreciation in gas to de-lever and broadly maintain gearing levels, licensees have flexibility within the existing conditions to diverge materially from existing or notional gearing levels, subject to financial resilience requirements, if that helps to efficiently manage the reduction in debt levels.
- 6.13 As these challenges evolve during the price control period and beyond, there is the potential that they begin to highlight gaps and shortfalls in current financial resilience measures.
- 6.14 Potential shortfalls or disadvantages could include:
- We utilise the assessments of external credit ratings to improve our visibility into companies' financial resilience and the credibility of our assessment, whilst seeking to avoid becoming reliant upon the views of any one or combination of credit rating agencies. We recognise the rating agencies criteria and obligations that are different to Ofgem's duties and financial resilience requirements, and so any external judgments need to be weighted appropriately in our assessment;
 - The flexibility within the rating boundaries, along with information asymmetry, can mean that companies are able to take risks with aggressive financial policies and instruments in a way that might be contrary to the consumer interest (eg over hedging, 'kick the can' inflation swaps, inappropriately high leverage and complex corporate structures with debt issued above the licensee entity which is reliant on regular dividend flows for servicing). Locking up distributions at the lowest investment grade rating with a negative outlook/watch may be too late an intervention;

- It is untested, and therefore not entirely clear, as to how effective the suite of early warning indicators is. For example, a 'reasonable endeavours' or 'appropriate measures' threshold is untested and could create unnecessary uncertainty for investors and consumers. It also offers less protection for consumers than an absolute requirement to maintain investment grade;
- Provision of information on dividend rationale, in particular how it relates to customer metrics, service and satisfaction, financial outlook and reporting information related to financial resilience has been variable in quality in the last two years. It is unclear whether this is due to lack of clarity on the information we require from companies under the RIGs, or an unwillingness of companies to engage fully with the intention of the RIGs, or some other reason; and
- Board certifications around many of the measures in Table 10 (and the statutory going concern statement) are informed by a short term 12-month forecast, which provides minimal visibility into the longer-term viability of the licensee or even its ability to deliver its statutory and regulatory commitments for the entirety of the price control period. This does not appear to be consistent with the long-term, essential services characteristics of the licensees.

Consideration of other measures to improve financial resilience

- 6.15 We note that other sector regulators are considering, and in some cases have introduced, further improvements to protect consumers through financial resilience measures.
- 6.16 Firstly, we note the measures that Ofwat has introduced in the regulated water sector over recent years. Whilst there are fundamental similarities between Ofwat and Ofgem's approaches, there are currently key differences in the measures used by Ofwat and Ofgem - which we highlight in the paragraphs below.
- 6.17 Under Ofwat licence conditions the company must ensure that it maintains, at all times, two investment grade issuer credit ratings.
- 6.18 With respect to Ofwat's approach to dividends, these are only declared and paid if in line with a board approved policy which aligns with the following principles:
- dividends won't impair ability to finance the business, taking into account current and future investment needs and long term financial resilience;
 - dividend distributions take account of service delivery and the environment, including performance levels; and

- dividend distributions reward efficiency and effective management of risks.
- 6.19 The dividend lock-up trigger is BBB with negative outlook and licensed entities must notify Ofwat of changes in credit rating and credit rating provider.
- 6.20 Secondly, we note that the CAA in its 2017 and 2019 consultations undertook a review of financial resilience as it considered Heathrow Airport Limited's ("HAL's") financial resilience ahead of the potential build of a third runway. This review is informative as it considers additional measures for a regulated entity as it moves from a stable investment regime to an increasing requirement for debt and equity investment and what protections consumers may require in this new operating environment. The CAA considered including the following measures (in addition to measures already in place in the GD, GT and ET sectors):
- Obligation to maintain credit rating. HAL to have and maintain an investment grade credit rating;
 - Ultimate controller obligation. Clarify HAL's existing obligation to make clearer that group companies are expected to provide information for CAA; and
 - Information provision. Require provision of information in line with information provided to bondholders under HAL's financing platform.
- 6.21 Lastly, it is relevant to consider that Ofgem has introduced financial resilience controls and measures in the retail market. We recognise this is a differently regulated sector with a different risk profile, but it has aided our thinking around the risks to financial resilience and putting in measures without additional reliance on rating agencies and formal rating actions.
- 6.22 The tools Ofgem has introduced include:
- an Enhanced Financial Responsibility Principle to give Ofgem greater tools to facilitate ongoing resilience monitoring and measures by imposing a positive obligation on all suppliers to evidence that they have sufficient business-specific capital and liquidity so that their liabilities can be met on an ongoing basis and to establish a framework for proactive reporting;
 - Quarterly stress testing of the licensee finances, based on feasible future downside scenarios, to ensure the robustness of the licensee's capital structure and liquidity; and
 - a minimum and target capital requirement based on an adjusted net asset definition with a target compliance by March 2025 to help bolster financial resilience in the sector.

Proposed approach for RIIO-3

- 6.23 We are considering evolving existing financial resilience measures to ensure appropriate levels of protection for consumers from downside risks as the business environment for the gas and ET sectors evolves. We are considering strengthening the mix of incentives to management and early warning indicators for Ofgem. For clarity, we use the term 'distributions' to capture dividends to ordinary equity as well as payments made by the licensee in relation to equity-like instruments, such as preference shares and shareholder loans, regardless of whether they are paid up to external shareholders, consistent with RIG 4.23.
- 6.24 As part of company business plan submissions, we intend to again require companies to provide accompanying certifications of financeability (on notional and actual capital structure bases) for the price control period which have an appropriate level of board assurance.
- 6.25 We are also considering if and how we should view the potential for increasing levels of MidCo and/or HoldCo debt within group corporate structures. We see this as debt raised at levels above the licensee that is used to (for example) help finance equity injections into the licensee or help finance the acquisition of the licensee to increase equity returns. We recognise that the characterisation of such additional indebtedness is complex.
- 6.26 We also understand that equity investors invest into this sector with a level of expectations around the certainty of distributions from the licensee and that is part of the attraction of investment into this sector. However, we believe there is a difference between an expectation for a distribution to appropriately reward risk taking and performance, and a need for a distribution in order to meet contractual obligations to maintain debt service at a MidCo or HoldCo level. This is particularly pertinent where shareholders are unwilling or unable to provide further equity to meet those contractual debt service obligations. In the latter scenario, there is a risk at higher levels of MidCo or HoldCo leverage (potentially in conjunction with higher levels of licensee leverage) that the risks associated with such additional leverage begin to harm the consumer interest. This starts to undermine the principle that consumers should be insulated from the impact of actual company financing decisions.
- 6.27 We note that different credit rating agencies have taken different views on this, with some taking a more negative view on a licensee's credit rating taking into account the financial policies and obligations of the group as a whole. As licensees

have the option to pick two out of the three credit rating agencies it allows them to pick the credit rating agencies that take the more positive stance.

6.28 We view distributions as a reward for the risks of investment and as not being guaranteed. The level of distributions is one of the tools that a licensee should use to adjust in periods of poor financial resilience, poor performance and/or periods of high investment need. We believe that at a minimum we need to have sufficient scrutiny over the decision making around distributions and licensee groups' financial structures. We are also open to views and suggestions on how we should think about and manage the risks of high levels of leverage at MidCo and HoldCo companies that could negatively impact decision making and the resilience of the licensee.

6.29 We consider this requires Ofgem to review and consult on modifying the RFPR RIGs for the 2023/24 reporting year to highlight the importance of financial resilience reporting and to ensure that we have a comprehensive suite of early warning indicators for financial resilience issues.⁴⁸ This may include:

- Disclosure around existing debt covenant trigger events, such as a distribution lock-up in the event of a financial metric breaching a threshold;
- Disclosure around MidCo or HoldCo financing, including the implied annual cashflow service requirement and other potential implications for financial flexibility of the licensee, as well as any relevant mitigants;
- Providing a copy of the licensee's distribution policy where our expectation is that it would take into account an array of factors including long-term financial sustainability, delivery for customers, long-term investment needs, other stakeholder obligations and (if relevant) previously deferred distributions;
- Introducing a consistent template to provide clear disclosure on:
 - (a) The governance process at which distribution decisions were arrived;
 - (b) Why the declared or paid level of distributions are justified in the context of the licensee's delivery for consumers;
 - (c) Why distributions are sustainable taking into account financial resilience and investment requirements; and

⁴⁸ We plan to address this issue in the upcoming RFPR RIG consultation process, which will commence in spring of 2024.

(d) How external benchmarking or other information was used to provide assurance to the board that the overall level of yield is appropriate in light of all relevant factors.

6.30 We welcome views from stakeholders via the upcoming RIG consultation process.

6.31 We are also proposing to introduce the following measures within RIIO-3 and would welcome feedback from stakeholders:

Table 3: Potential financial resilience measures under consideration

Measure	Rationale
1. Amend the licence condition to "require" licensees to maintain more than one investment grade rating rather than "use reasonable endeavours" or "all appropriate steps".	<ul style="list-style-type: none"> * Brings the licence in line with comparable UK regulated sectors. * Provides greater certainty to investors around the condition than the current "reasonable endeavours" language.
2. Amend the dividend lock-up trigger to be the earlier of reaching BBB- with a negative watch/outlook and 80% regulatory gearing.	<ul style="list-style-type: none"> * 80% gearing is considered to be an inappropriate gearing level and not in consumers' interests. * A gearing-based trigger is simpler, more transparent and unlikely to impose material additional costs on companies and consumers than lifting the BBB- (neg) requirement by one notch.
3. Amend the Availability of Resources requirement for board certification to require that the licensee states that, based on agreed assumptions, it has sufficient financial resources to cover the entire price control period or a minimum of three years ahead.	<ul style="list-style-type: none"> * Increases visibility into the longer term viability of the licensee and its ability to deliver its statutory and regulatory commitments for the entirety of the price control period. * Stronger early warning signal for risks to financial resilience which affords Ofgem to intervene more promptly if appropriate.

Financial resilience questions

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?

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?

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?

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?

7. Corporation tax

Background

- 7.1 In RIIO-1 and RIIO-2, a financial model is used to calculate a tax allowance on the basis of an efficient company with a notional capital structure, as a proxy for efficient corporation tax costs,⁴⁹ for each of the relevant licensees ("Calculated Tax Allowance").
- 7.2 The tax allowance is supplemented by two specific uncertainty mechanisms:
- A tax trigger ("TTE") mechanism that reflects changes in tax rates, legislation and accounting standards; and
 - A tax clawback ("TGIE") mechanism that claws back the tax benefit a licensee is assessed to have obtained as a result of gearing levels and interest costs that are higher than assumed.
- 7.3 In RIIO-2 and RIIO-ED2, we added an additional mechanism: a tax allowance adjustment ("TAXAt") mechanism that enables Ofgem to direct an adjustment to the Calculated Tax Allowance subject to a tax review and having consulted with the licensee. The purpose of this mechanism is to adjust a licensee's tax allowance, if needed, as part of an annual review and update of the Allowed Revenue (ARt) during the Annual Iteration Process (AIP). The mechanism serves in the best interest of the consumers and is in line with the principal statutory objectives of Ofgem, ensuring that licensees do not benefit from undue financial gains if their actual tax liability is materially different from the notional tax allowance. As a supportive measure, two additional protections were introduced namely 'Tax reconciliation' and 'Board assurance statement' which required licensees to submit an annual tax reconciliation between the notional allowance and actual tax liability accompanied with an assurance from the board over the appropriateness of the values in the reconciliation, as an enabler for Ofgem to trigger a formal tax review as necessary.
- 7.4 For calculation of capital allowances in RIIO-2, we changed our RIIO-1 approach and made both the allocation rates and tax rates variable values to enable updates during the price control. Additionally for capital allowance opening balances, we established that licensees must roll forward RIIO-1 closing balances

⁴⁹ Out of the three options proposed and considered in RIIO-2 SSMD and Draft Determinations, we opted for "Option A - notional allowance with added protections", see RIIO-2 Sector Specific Methodology Decision – Finance ([ofgem.gov.uk](https://www.ofgem.gov.uk)), [draft determinations - finance.pdf \(ofgem.gov.uk\)](#)

on a notional basis as opposed to resetting them based on the actual tax computations.

- 7.5 For tax clawback (TGIE) purposes, we introduced a gradual decrease to the notional gearing levels ie "glide path" to allow companies some time to adjust to the lower levels of gearing.
- 7.6 We also decided not to pursue the Fair Tax Mark certification for RIIO-2 as proposed in RIIO-2 SSMD.
- 7.7 We are considering if these arrangements in RIIO-2 need amending to remain suitable for RIIO-3.

Proposed approach for RIIO-3

- 7.8 For RIIO-3, we propose to maintain our corporation tax approach,⁵⁰ set in RIIO-2 with the exception of one proposed amendment, to the tax clawback methodology described below.
- 7.9 The tax clawback mechanism currently in place from RIIO-1 does not include the cumulative accretion, net of paydown, associated with inflation-linked derivatives within the definition of net debt. We consider that this can create an unintended difference in the "Gearing Level Test" results for two identical companies, albeit one company achieves its inflation-linked exposure with inflation-linked bonds whilst the other company does so with inflation-linked derivatives. We consider the Gearing Level Test for the latter company would be understated as the value of its cumulative accretion, net of paydown, would be excluded from the measurement of its net debt. We do not consider this to be an intended operation of the TGIE.
- 7.10 We propose that the regulatory definition of net debt be revised to include this cumulative accretion, net of paydown, to fully capture the components of gearing where there are no substantive economic reasons to differentiate between instruments. We do not consider this to be inconsistent with our view of excluding derivatives for cost of debt allowance purposes as the cumulative accretion described above is economically equivalent to net debt and would be latent if excluded from the definition of gearing.

⁵⁰ As confirmed in the RIIO-2 and RIIO-ED2 Final Determinations

7.11 Accordingly, we consider that this change in tax clawback methodology will result in a more accurate and appropriate gearing level to be reflected in the "Gearing level test" of the clawback calculation.

7.12 Our current view is that we retain Option A - notional allowance with added protections; the approach to capital allowances and "glide path" as set out in paragraphs 7.4 - 7.5 and 7.8 with the exception of the proposed amendment to tax clawback methodology in paragraphs 7.9 - 7.11.

Corporation tax questions

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"?

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

8. Regulatory depreciation and economic asset lives

Introduction

- 8.1 Regulatory depreciation is a key building block of the revenue that network companies are allowed to make. Regulatory depreciation is comprised of an assumed asset life (or lives) and an assumption of the profile(s) of usage across the asset life (or lives). The regulatory depreciation assumptions determine the speed that RAV additions are paid for by consumers as part of the return of capital to investors. For this reason, it is also commonly referred to as 'RAV depreciation' or 'allowed depreciation'. We may use this nomenclature interchangeably. Our existing policy for RIIO-1 and RIIO-2 is to depreciate the RAV at a rate that broadly approximates the useful economic life of the network assets and incentivises investment efficiency.⁵¹
- 8.2 The key aims of this policy are to:
- allocate costs fairly between current and future consumers; and
 - ensure that company revenues reflect the licensee's need to make annual and economic investments.
- 8.3 It is therefore important that the regulatory depreciation assumptions on asset life and profile also reflect the economic life and use of the assets.
- 8.4 The key principle for intergenerational fairness is that the rate of depreciation should be set so that different generations and types of consumers pay network charges broadly in proportion to the value of network services they receive. If we assume the current network will continue to deliver useful service only over the next 50 years, then the RAV should be depreciated over 50 years. If there is evidence that network assets may cease to be useful sooner, then the RAV may need to be depreciated over a shorter period and/or at a faster rate.
- 8.5 Table 4, Table 5 and Table 6 summarise the RIIO-1 final proposals for gas distribution,⁵² gas transmission and electricity transmission⁵³ respectively. These proposals broadly followed the proposals laid out in the RIIO Strategy Document⁵⁴ and the subsequent initial proposals.^{55,56} For all new assets for all sectors, an

⁵¹ [RIIO-2 Framework \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/consult/condocs/riio2/riio2-framework/riio2-framework.pdf)

⁵² [RIIO-GD1: Final Proposals - Finance and uncertainty supporting document \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/consult/condocs/riio-gd1/riio-gd1-final-proposals-finance-and-uncertainty-supporting-document/riio-gd1-final-proposals-finance-and-uncertainty-supporting-document.pdf)

⁵³ [RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/consult/condocs/riio-t1/riio-t1-final-proposals-national-grid-electricity-transmission-and-national-grid-gas/riio-t1-final-proposals-national-grid-electricity-transmission-and-national-grid-gas.pdf)

⁵⁴ [Decision on strategy for the next transmission and gas distribution price controls - RIIO-T1 and GD1 Financial issues \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/consult/condocs/riio-t1/riio-t1-and-gd1-decision-on-strategy-for-the-next-transmission-and-gas-distribution-price-controls-riio-t1-and-gd1-financial-issues/riio-t1-and-gd1-decision-on-strategy-for-the-next-transmission-and-gas-distribution-price-controls-riio-t1-and-gd1-financial-issues.pdf)

⁵⁵ [RIIO-GD1: Initial Proposals \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/consult/condocs/riio-gd1/riio-gd1-initial-proposals/riio-gd1-initial-proposals.pdf)

⁵⁶ [RIIO-T1: Initial Proposals \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/consult/condocs/riio-t1/riio-t1-initial-proposals/riio-t1-initial-proposals.pdf)

asset life of 45 years was chosen following analysis from CEPA.⁵⁷ Final determinations for all sectors left these proposed new asset lives unchanged. For GD1, a front-loaded depreciation profile was chosen for post-2002 RAV additions to decrease the risks of increasing customer charges (on a per unit basis) should lower utilisation of the network transpire under the various scenarios of the future use of the gas distribution network.

Table 4: RIIO-GD1 final determinations for gas distribution

Asset type	Asset lives	Depreciation profile
Pre-2002 additions	56 years	Sum-of-digits
Post-2002 additions	45 years	Sum-of-digits

Table 5: RIIO-T1 final determinations for gas transmission

Asset type	Asset lives	Depreciation profile
Pre-2002 additions	45 years	Straight line
Post-2002 additions	45 years	Straight line

Table 6: RIIO-T1 final determinations for NGET

Asset type	Asset lives	Depreciation profile
Pre-2013 additions	20 years	Straight line
Post-2013 additions	45 years	Straight line
Transition period	8 years	N/A

8.6 Table 7 summarises the Final Determinations as published for RIIO-2⁵⁸ (using RIIO-1 FDs for historical policy as displayed above). GD and ET companies did not propose depreciation policy changes for RIIO-2 in their business plan submissions and as such the approaches for these sectors were rolled over from RIIO-1. For RIIO-2 Ofgem also considered the economic and technical lives of GT assets and how they compared with those in the GD sector along with the latest Future Energy Scenarios (FES2019). Ofgem and other stakeholders found that there was a risk (falling mostly but not exclusively on consumers) that gas volumes continue to fall. For this reason, Ofgem decided to align the depreciation and asset life policy for GD and GT sectors. Finally, it was reasoned that the extra

⁵⁷ [Microsoft Word - Ofgem economic lives of assets 15 Dec FINAL](#)

⁵⁸ [RIIO-2 Final Determinations – Finance Annex \(REVISED\) \(ofgem.gov.uk\)](#)

clarity, regarding volumes and government policies such as heat and net zero, that would arise before RIIO-3 would benefit the policy for both sectors ahead of the next price control.⁵⁹

Table 7: RIIO-2 final determinations

Sector	Asset type	Asset lives	Depreciation profile
GD (rollover)	Pre-2002 additions	56 years	Sum-of-digits
	Post-2002 additions	45 years	Sum-of-digits
GT	Pre-2002 additions	45 years	Straight line
	Post-2002 additions	45 years	Sum-of-digits
ET (rollover)	Pre-2013 additions	20 years	Straight line
	Post-2013 additions	45 years	Straight line

8.7 Table 7 does not necessarily reflect the true, real world depreciation schedule that network companies receive. Vesting has led to the creation of multiple different depreciation schedules. Full details of up-to-date depreciation schedules for all sectors can be found in the relevant Price Control Financial Models.^{60,61,62}

Key considerations

8.8 There are two main policy decisions we will need to make for each sector in the RIIO-3 price controls; these are asset life assumptions and depreciation profile. As set out below, we see the issues facing the Gas and ET sectors to be considerably different.

Gas Distribution and Gas Transmission

Perception of asset stranding risk

8.9 The UK government has set a target for the UK to achieve net zero carbon emissions by the year 2050.⁶³ Section 202 of the Energy Act 2023,⁶⁴ which received royal assent at the end of October and will come into force two months

⁵⁹ [draft_determinations_-_finance.pdf \(ofgem.gov.uk\)](#)

⁶⁰ GD - [GD2 Price Control Financial Model | Ofgem](#)

⁶¹ GT - [GT2 Price Control Financial Model | Ofgem](#)

⁶² ET - [ET2 Price Control Financial Model | Ofgem](#)

⁶³ [PM recommits UK to net zero by 2050 and pledges a "fairer" path to achieving target to ease the financial burden on British families - GOV.UK \(www.gov.uk\)](#)

⁶⁴ [Energy Act 2023 - Parliamentary Bills - UK Parliament](#)

from the date of royal assent, puts into place a statutory net zero duty for GEMA. The Act amends Ofgem's existing principal objective by including reference to the net zero targets and five-year carbon budgets in the Climate Change Act 2008. This requires Ofgem to consider how its decisions may assist the Secretary of State in meeting the government's net zero target, while protecting the interests of existing and future consumers.⁶⁵ Meeting this target will require the decarbonisation of the GB economy, including the energy networks. Achieving net zero may involve a number of technologies, including electrification, local low carbon heat networks and hydrogen. Each possible pathway or combination of interventions would result in a very different future use of the gas networks, which could have implications for the decommissioning and/or repurposing of the gas distribution and transmission networks.

- 8.10 Scenario analysis from the Climate Change Committee suggests that natural gas usage is likely to decrease by 40-60% by 2035.⁶⁶ National Grid's Future Energy Scenarios (FES) publication forecasts a significant reduction in gas volumes in both distribution and transmission across all four of its key scenarios⁶⁷ (see Figure 1 and Figure 2).⁶⁸ However, we note that demand will not necessarily reach zero in these scenarios due to the potential role of hydrogen in decarbonising the gas networks.

⁶⁵ [Ofgem welcomes Energy Act getting Royal Assent | Ofgem](#)

⁶⁶ [Sixth Carbon Budget - Climate Change Committee \(theccc.org.uk\)](#)

⁶⁷ [download \(nationalgrideso.com\)](#)

⁶⁸ FES demand data has been compiled from a number of different National Grid FES sources. 2010-2018 data was obtained using the "Total GB Gas Demand" formula from the "ED4" tab of the [FES 2019 Data Workbook](#). 2019 data was obtained using the "Total GB Gas Demand" formula from the "ED4" tab of the [FES 2020 Data Workbook](#). Data from 2020 onwards has been obtained from the "EC.04" tab of the [FES 2023 Data Workbook](#). An outturn value for exports in 2019 was not available in the FES 2020 Data Workbook, so all scenarios were assumed to be equal to the "System Transformation" and "Consumer Transformation" scenario value of 112 GWh. Please note that 2019 and 2020 publications did not use the same demand scenarios as the 2023 publication so gas demand is uniform across GD and GT until 2023.

Figure 1: FES GD demand

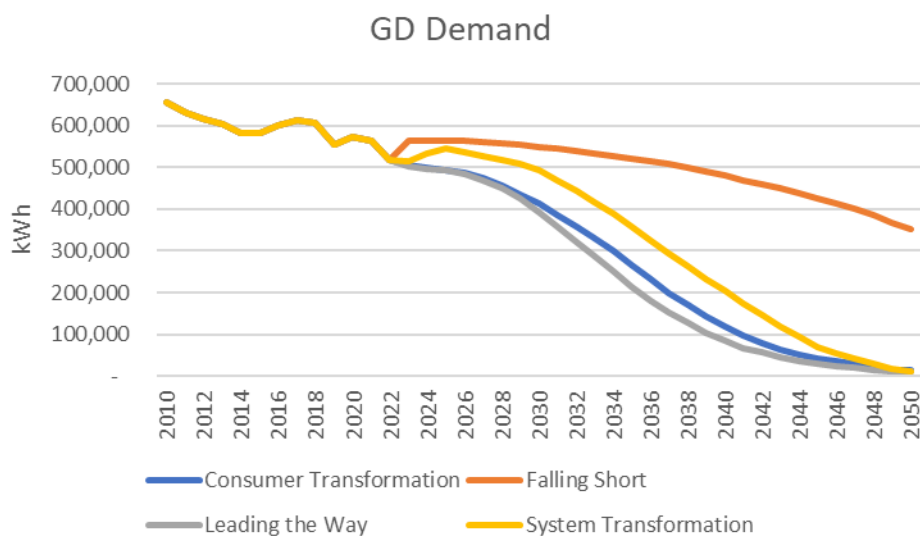
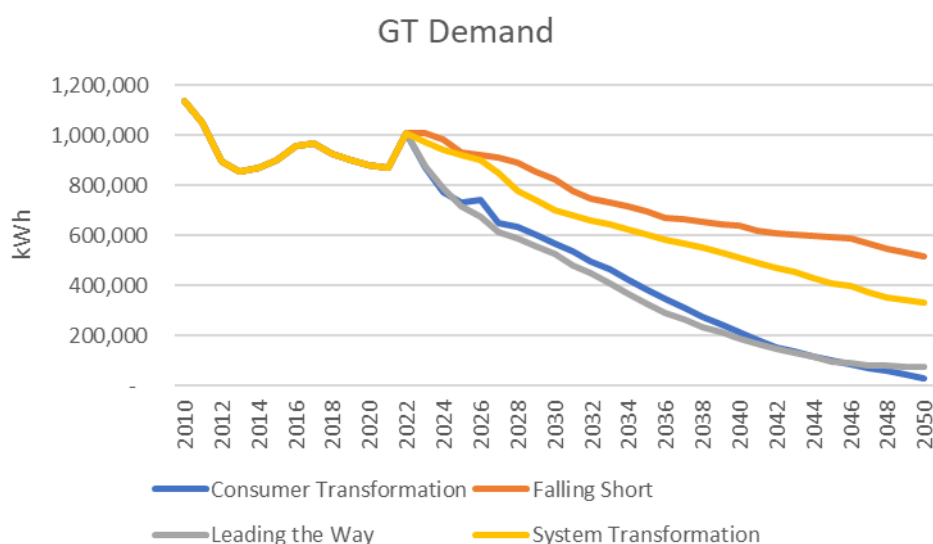


Figure 2: FES GT demand

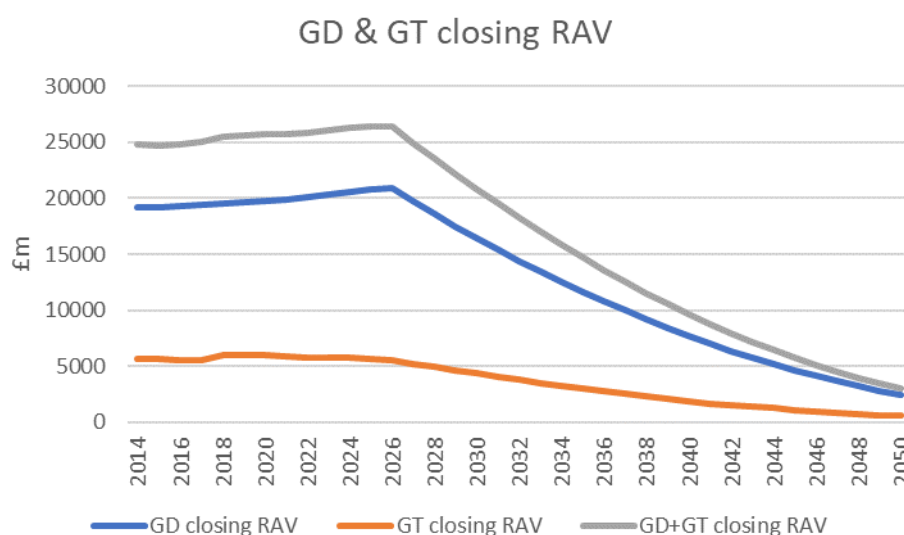


8.11 Gas-related RAV, the amount of investment in gas transmission and distribution networks not yet paid for by consumers, is forecast to grow modestly during the RIIO-2 price control period. Gas-related RAV is expected to be approximately £26.1bn (in real 18/19 CPIH prices) at the start of the RIIO-3 control period. The majority of assets in the RAV by value, and new additions during RIIO-2, are currently depreciated and charged to consumer bills on the assumption of an asset life of 45 years.⁶⁹ Focusing on existing RAV as at the end of RIIO-2 only,

⁶⁹ Asset investment is added to the RAV with assets having an assumed asset life of 45 years. This means that this investment is paid back to investors (through depreciation) over the course of 45 years (using a sum-of-digits profile). This payment is ultimately repaid through consumer bills.

our indicative modelling suggests that there could be a residual RAV of approximately £3bn across both sectors by 2050 (equivalent to 12% of the current RAV).

Figure 3: GD and GT closing RAV balances



8.12 We recognise that a scenario where a RAV balance remains beyond the point of decarbonisation of the energy network could give rise to a perception of 'asset stranding' risk among investors in the gas networks. Asset stranding arises where a 'sunk' asset becomes unusable for its original purpose and unsuitable for resale or repurposing. Asset stranding without associated mitigations could lead to investors failing to recover their investment in the network over time. If material, this perceived risk could result in investors seeking compensation via the cost of capital for the gas networks.

8.13 In the FSNR consultation, stakeholders also described the overall uncertainty associated with the long-term future of gas networks and argued that this uncertainty would also need to be compensated in the allowed return applied to gas networks.⁷⁰

8.14 In the Open Letter on Future of Gas Price Controls (the Open Letter), Ofgem stated "One challenge for the next [price control] period will be to address concerns about increased risk to the longer-term life of the gas network assets".⁷¹ In the Open Letter, we described two primary ways that we seek to mitigate this risk. One way was through the choice of depreciation profile and asset lives. The

⁷⁰ [Decision on frameworks for future systems and network regulation | Ofgem](#)

⁷¹ [Open Letter on Future of Gas Price Controls \(ofgem.gov.uk\)](#)

other was through price control reopeners. Neither of these options are considered to fetter the government's ability to make future decisions relating to the long-term future of the gas networks or limit alternative approaches to dealing with residual gas assets.

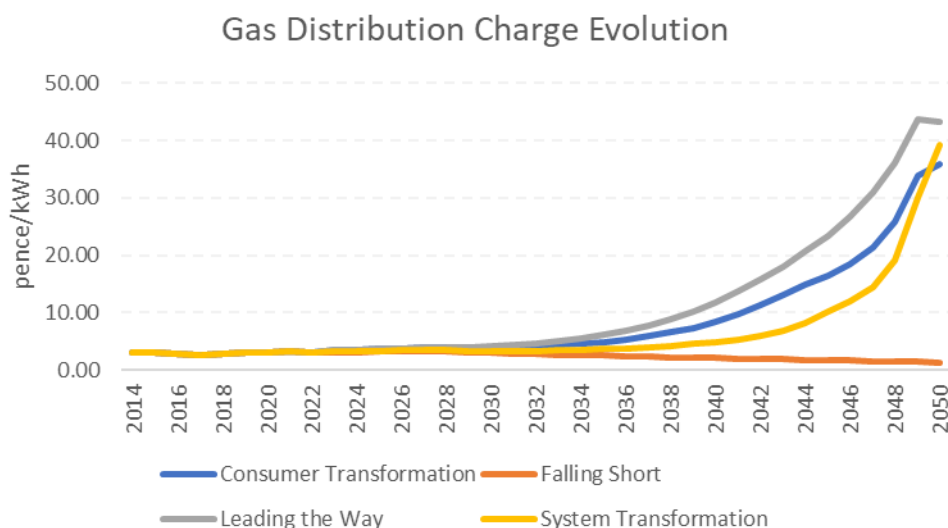
- 8.15 We continue to disagree with stakeholders who have suggested that it would be appropriate or necessary to increase allowed returns on capital in compensation for this perception of increased risk to the long-term value of the RAV. Increases in the allowed returns on capital would increase consumer bills which may ultimately prove to be unnecessary with greater clarity, such as around the approach to RAV recovery or on government policy, in future periods. This suggests that consumers would be funding increased returns to investors for no tangible benefit, which would not be in the consumer interest. There would also be practical constraints to assessing and implementing an adjustment that was suitably commensurate with the perception of risk.
- 8.16 As suggested in the Open Letter, Ofgem could follow an approach that reduced asset life assumptions so that the RAV is depreciated to zero by the 2050 net zero target. In addition to broad asset life reductions or as an alternative mechanism, Ofgem could implement a depreciation profile that would 'front load' the depreciation of RAV value to further accelerate the return of capital. Ofgem is interested in stakeholder views as to the potential benefits and costs of implementing these options as an effective mitigant to the perceived asset stranding risk.
- 8.17 Ofgem is also considering whether a price control re-opener during RIIO-3 on depreciation policy may be necessary. We would like to seek feedback on the potential triggers for such a re-opener. For further details of any reopeners, please see Chapter 8: Managing Uncertainty of the SSMC Overview Document.

Impact on consumers

- 8.18 Any adjustment to asset lives or depreciation will have an impact on consumer bills. Reducing asset lives alone so that the RAV is depreciated to zero by 2050 has the benefit of simplicity and a smaller impact on short-term bills but may put increased pressure on a smaller number of gas consumers in outer years. Reprofiled depreciation alone could allow a fairer balancing of costs across generations of consumers while retaining flexibility to adjust the policy in the future, but is likely to lead to more significant bill impacts in the short term and does not reduce the potential balance of RAV at 2050 per se.

8.19 All else being equal, our modelling of status quo policies suggests that the falling numbers of gas network domestic customers is likely to result in an increase in average domestic consumer bills.⁷² Using National Grid's FES data, we can create a high-level estimate of the likely direction that customer bills will take on a volumetric unit basis.⁷³ This is displayed in Figure 4 and Figure 5 below. In most scenarios, the average forecast gas charge starts to increase significantly in the mid-2030s. This is because gas demand is forecast to fall significantly faster than the combined allowed depreciation and allowed return revenue building blocks. In this scenario, the cost of the RAV is being paid for by fewer consumers - leading to increasing charges per remaining consumer.

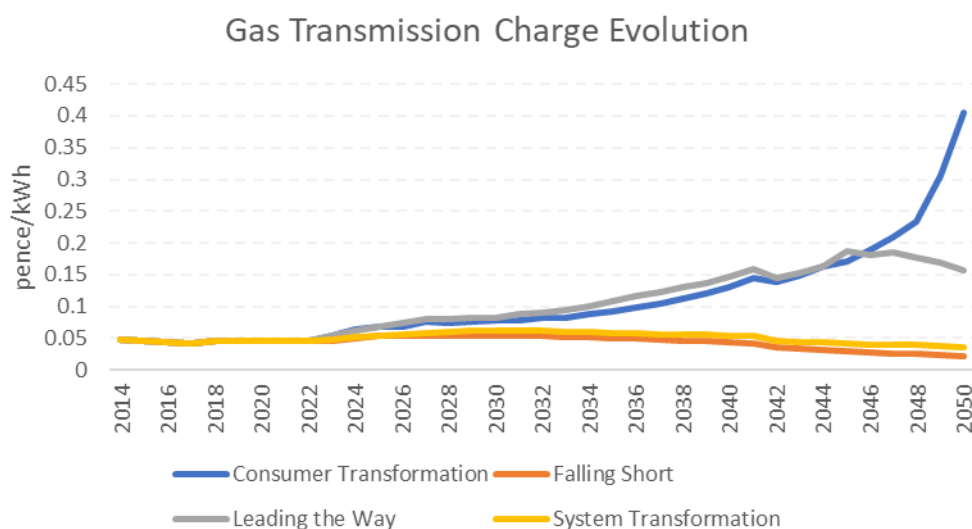
Figure 4: GD consumer bill estimate



⁷² We provide an indicative domestic bill for a sense of scale of the impact. Just over half of gas network revenue is collected from domestic consumers with the remainder collected from other types of consumer such as commercial or industrial.

⁷³ To estimate consumer charges, annual network company depreciation and return revenue has been divided by the gas demand for each demand scenario each year. RAV return and depreciation data is sourced from the GD2 and GT2 Price Control Financial Models updated for the AIP in 2022 - future years are an Ofgem analysis by extending the depreciation and return & RAV tabs of the PCFM.

Figure 5: GT consumer bill estimate



8.20 Ofgem's principal statutory objective is to protect the interests of existing and future consumers in relation to gas conveyed through pipes and electricity conveyed by distribution or transmission systems.⁷⁴ In meeting this duty, Ofgem often faces the difficult challenge of balancing the interests of existing and future consumers when deciding how policy aims (such as meeting the government's net zero targets) should be achieved.

8.21 Figure 4 and Figure 5 suggest that, without pre-emptive mitigation, those consumers that continue to use the gas networks past the mid-2030s may face significant cost increases that do not reflect increases in usage or the total value that customers have gained from access to the gas networks over the preceding decades. In this example, the spike in charges may not be a fair and appropriate way to distribute costs between consumers. The materiality of the increase raises an issue of fairness between current and future consumers. In addition, it may also be the case that a proportion of those who continue to use gas networks do so because switching is not feasibly available to them, or they cannot afford to do so. Constraints on consumers' ability to leave the gas network (and so avoid these rising costs) would raise further concerns about the fairness of cost allocation under these future scenarios.

8.22 It is important to note that this analysis is based on the balance of existing RAV projected at the end of RIIO-2. New net capital expenditure from RIIO-3 onwards would lead to a greater RAV balance, further increasing future bills on the above

⁷⁴ [Our powers and duties | Ofgem](#)

analysis. Without a change to policy, new natural gas investments (with a 45-year asset life) would be assumed to have ongoing value into the late 2060s. This would be very unlikely from the perspective of methane alone in a scenario of successful transition to a net zero economy by 2050.

- 8.23 We have not attempted to model any feedback loops associated with consumers leaving the market. A potential scenario exists where there is upwards pressure on our estimates of future charges above due to a faster pace of consumers switching from the gas network. Increasing costs on a natural gas network may lead to those who are able to change to alternative energy sources (such as heat pumps for home heating). This would leave even fewer consumers to share those increasing costs. This further incentivises current consumers to leave the network. The cycle continues until only those who are unable to leave the network (often the most vulnerable consumers) are left paying for the network. This adds a further dimension to the intergenerational fairness issue.
- 8.24 Another potential issue for consumer fairness is around decommissioning costs. As noted in Chapter 4, paragraphs 4.20-4.24 of the Overview Document, the extent and speed of any decommissioning of the existing gas network, as well as upon whom the burden falls, is subject to future government policy decisions. Depending on the extent to which the existing gas network is decommissioned, it is likely that there could be significant costs associated with this programme of work from the 2030s onwards, but we do not currently anticipate large-scale decommissioning costs during the RIIO-3 price control period. Notwithstanding uncertainty over government policy, it may be appropriate to create a mechanism in RIIO-3 to pre-fund future decommissioning liabilities and spread the burden of this expected future expense over current and future generations of consumers. The introduction of such a charge would put further upward pressure on current network charges within consumer bills. We welcome stakeholders' views on this as part of their response to Question 6 on Decommissioning in the Overview Document.

Potential alternative approaches

- 8.25 Using the same data, we have indicatively modelled a scenario that would 'smooth' the depreciation of the Gas Distribution RAV over the existing and future customer base. In this example we have sought to profile a flat allowed depreciation charge (in real 18/19 CPIH prices) according to gas demand per kWh. Profiling depreciation of the RAV in this way avoids the dramatic increases in the customer unit charge that we see in Figure 4 and Figure 5 above.

- 8.26 Our modelling of this scenario suggests that for Gas Distribution networks, this depreciation smoothing approach would increase average domestic gas bills by approximately £35 (or 30% of the network charge) per annum, all else being equal. This approach would still result in a residual gas RAV at 2050 of £3bn. Further adjustment of the profile so that the GD RAV is fully depreciated by 2050 would increase bills by a total of £43 (or 37%) per annum. Again, this scenario is for GD only. We expect that the increase in charges for a similar smoothing of GT would be less significant than the smoothing scenario for GD because GT charges are borne less proportionally by domestic consumers compared to GD charges.
- 8.27 We are interested in stakeholder views as to the potential benefits and costs of potentially implementing such a smoothing scenario. We are particularly interested in which metric we should consider potential smoothing over should we pursue this further. Examples include: gas demand, consumer numbers, customer numbers, number of connections, etc.
- 8.28 On the other hand, Ofgem must consider the potential role of repurposing assets for hydrogen or CCUS network usage when making decisions concerning the residual RAV and reprofiling user charges. If assets are intended to be repurposed for hydrogen or CCUS (and therefore transferred to a future hydrogen or CCUS licensee at various points before and including 2050), there may be merit in solving for a trajectory that retains some residual RAV which represents, as far as practicable, the value of such assets. This is on the basis that these assets would continue to provide economic value beyond the 2050 net zero target, albeit for a different purpose and for a potentially different licensee. Investors in the residual RAV would be made whole by the purchaser of the RAV, thereby mitigating asset stranding risk.
- 8.29 If the RAV were to be fully depreciated to zero before repurposing, then network companies would stand to benefit from any subsequent asset transfers and there could be a risk of methane consumers overpaying and hydrogen or CCUS consumers underpaying for their respective networks. We recognise that this is highly complex. It is currently unclear what proportion of assets are likely to be repurposed and solutions are dependent on a level of clarity of government policy which may not be available by the time of the RIIO-3 Final Determinations. We are therefore interested in stakeholder views as to the considerations raised by asset repurposing and how these might affect the decisions to be made on regulatory depreciation policy for GD and GT. We also seek views as to what guidance is required for the SSMD to provide licensees with sufficient clarity for their business plans.

Electricity Transmission

- 8.30 The electricity transmission sector will play a vital role in an economy which has successfully transformed to net zero. The wind down of gas network usage will lead to increased reliance on electricity as an energy source (for example, electricity will play a greater role in domestic heating through heat pumps). This will likely lead to a "doubling or trebling of electricity peak demand by 2050".⁷⁵ Since the electricity transmission network remains necessary under successful net zero transformation, the issues faced in the gas sectors described earlier are not expected to be applicable for ET.
- 8.31 Our existing 45-year asset life policy for new assets is based on a 2010 CEPA study as detailed earlier. There were differing views in RIIO-1 as to whether the 45-year asset life figure for post-2002 assets that arose from CEPA's paper was too long and whether a shorter asset life would have been more appropriate.⁷⁶ However, a decision was taken for RIIO-1 that the 45-year asset life was appropriate on the basis that Ofgem did not agree with some of the assumptions that reduced the estimate of average economic life. This decision was ratified in RIIO-2 on the basis that alignment between GT and GD was favoured over further distinctions. One company has said it believes that since the 2010 CEPA study and RIIO-2 Final Determinations, evidence would suggest that 45 years may no longer be reflective of the actual economic lives of the assets, particularly on a forward-looking basis. As such we are seeking views and evidence as to whether, and why, asset lives have materially changed from the 45 years existing assumption. Ofgem sees that we have three key options on asset life policy.
- 8.32 Absent evidence that our current approach is inappropriate for continuation, we would propose to continue to apply the depreciation and asset life policy used in RIIO-2. We welcome stakeholder views as to whether our current assumptions remain appropriate on balance.
- 8.33 If evidence is presented that proves that that actual asset lives differ materially from our current 45-year assumption for new assets, then we welcome views on the following alternative approaches.

⁷⁵ [Consultation on frameworks for future systems and network regulation: enabling an energy system for the future \(ofgem.gov.uk\)](#)

⁷⁶ [Decision on strategy for the next transmission and gas distribution price controls - RIIO-T1 and GD1 Financial issues \(ofgem.gov.uk\)](#)

- 8.34 One alternate approach would be to change the asset life assumption across the sector based on our best view of the evidence and regulatory judgement so that every company has the same new assumed asset life (eg 40 years).
- 8.35 A second alternate approach would be to set a methodology for determining the asset life for each company based on a given set of parameters. This could involve creating categories for different types of assets with similar asset lives, assigning assumed asset lives to each category and asking companies to apply these categories to their asset base based on actual weightings. This would better reflect the actual mix of existing and anticipated investments for each company and the economic life of the company's actual assets. However, it is likely to result in different weighted average asset life assumptions across the sector and thereby add complexity to the price control. It would also need careful consideration of the potential impact on regulatory incentives.

Proposed approach for RIIO-3

- 8.36 At this stage, for all sectors we are seeking only to set out the most pertinent issues and invite feedback on our analysis.
- 8.37 For gas, we consider the key issue arises from the observation that the status quo depreciation charge is unsustainable for ensuring all invested RAV is repaid by 2050. This raises the question of who should pay for the gap. Hypothetically, the possible avenues are:
- Government, but this is clearly dependent upon future government policy;
 - Investors, although we recognise this would create asset stranding risk, could undermine regulatory stability and predictability and is likely not in the consumer interest;
 - A smaller number of consumers that remain on the network in future, more of whom may fall into vulnerable categories;
 - Current consumers while the user base is maximised, albeit this would require a considerable increase in charges from RIIO-3 onwards; and
 - Third-party entities who purchase assets for repurposing into hydrogen or CCUS applications.
- 8.38 While recognising that government policy can change, Ofgem bases decisions on the current stated position and how that flows into Ofgem's remit. Our price controls need to be financeable in their own right. On this basis, Ofgem must plan to recoup the costs from current and future consumers and to protect consumers,

this may mean there is merit in leaving some optionality for transfers of repurposable assets to third parties.

8.39 We seek stakeholders' views and evidence on the merits of, and potential methodological considerations we should consider around:

- reducing asset lives to the assumed de-energisation point (currently 2050, but this remains subject to the specified business planning scenario that will be issued) and/or further accelerating the profile to effectively mitigate the perception of asset stranding risk; and
- 'smoothing' the profile of consumer unit charges between the RIIO-3 and the assumed de-energisation point to promote fairness between current and future consumers.

8.40 For electricity transmission, we consider our existing approach to asset life and depreciation profiles is likely to remain appropriate. However, we welcome views and evidence on whether and why a different approach may be more appropriate for RIIO-3.

8.41 In all cases, we expect network companies to lay out how they have considered customer interests in their responses.

8.42 It is also important for Ofgem to consider how other RIIO-3 policies will simultaneously interact with, influence, and affect regulatory depreciation and economic asset lives policy. One key consideration is around RAV indexation to inflation. Changes around the level of indexation to inflation for example could have effects on RAV growth. This will require careful consideration when setting regulatory depreciation and economic asset lives policy. More details of allowed return on debt policy can be found in Chapter 2: Allowed return on debt.

Regulatory depreciation and economic asset lives questions

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?

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?

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

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?

FQ25. ET: do stakeholders consider there to be a need for amending the existing RIIIO-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.

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?

9. Return Adjustment Mechanisms (RAMs)

Introduction

- 9.1 The purpose of RAMs is to provide protection to consumers and investors in the event that network company returns are significantly higher or lower than anticipated at the time of setting the price control.
- 9.2 Consumers and investors benefit from the introduction of RAMs as they would be protected against the possibility of unreasonably high or low returns in the RIIO-2 price controls. RAMs will help to ensure the fairness of RIIO-3 by protecting consumers and investors against ex post overall returns from network price controls deviating greatly from ex ante expectations.

Historical policy

- 9.3 Through the RIIO-2 policy development process we discussed a range of options for achieving this aim. This included: a hard cap and floor, zero sum incentives, fixed incentive pots, discretionary adjustments, and anchoring. We then sought and acted upon stakeholder views on these options, and we considered the RAMs mechanism was the most appropriate of the options. In developing our RAMs policy, which includes moderating the effect of returns being very low due to factors outside of companies' control, we have had regard to our financeability duty.
- 9.4 In our Final Determinations Finance Annex for RIIO-2, we decided that the RAMs will take into account combined performance under the Totex Incentive Mechanism (TIM) and ODIs, and that adjustments under the RAMs will be implemented as part of the close out of RIIO-2. We also decided that we would apply symmetry to the upside and downside application of the RAMs thresholds.⁷⁷ In the RIIO-2 Final Determinations we set out parameters for the RAMs threshold trigger levels and adjustment rates.
- 9.5 Below is a summary of the RAMs in RIIO-2 and RIIO-ED2.

⁷⁷ https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf pp. 102

Table 8: RIIO-2 Summary

Parameter	Final Determination
Primary threshold	300 RoRE basis points (bps) plus or minus the baseline allowed return on equity
Primary adjustment rate	Adjustment of 50% applied to returns above or below the primary threshold level
Secondary threshold level	400bps plus or minus the baseline allowed return on equity
Secondary adjustment rate	Adjustment of 90% applied to returns above or below the secondary threshold level
Symmetry	RAMs will be symmetrical, allowing for adjustments for both under- and outperformance
Combined or separate Totex and ODI performance	Combined Totex and ODI performance.
Adjustment Timing	Any adjustments under RAMs are made following the closeout of the relevant RIIO-2 price controls and reflected in company revenues in RIIO-3

Proposed approach for RIIO-3

- 9.6 We are considering rolling over the existing methodology from RIIO-2. We currently have no evidence to suggest that a methodology change would be necessary or desirable.
- 9.7 We do not intend to make a decision on the adjustment rate or on threshold level at SSMD. Similar to our reasoning in RIIO-ED2 SSMC, we believe that it would be preferable to set these parameters once we have a more complete picture of the overall price control package (including relating to TIM⁷⁸ efficiency incentive rates and the level of reward and penalty available under ODIs) and in light of having

⁷⁸ The TIM is designed to encourage network companies to improve efficiency in delivery and ensures that the benefits of these efficiencies are shared with consumers. It also provides some protection to companies from overspends, as the costs of overspends are also shared with consumers.
[RIIO-2 Final Determinations - Core Document \(ofgem.gov.uk\)](#) pp. 131

reviewed business plans. We will therefore consult on proposals for these parameters as part of our Draft Determinations.⁷⁹

- 9.8 Under RIIIO-3, there are likely to be programmes which form a considerable proportion of overall business plan spend and potential ODI outcomes (eg ASTI).⁸⁰ This then creates a risk that under/overspend and/or ODI reward/penalties for a specific programme trigger the threshold of RAMs and dilute or distort the incentive power of RAMs in respect of the 'BAU' business plan activities. We will be seeking stakeholder views on how to best approach this.

Return Adjustment Mechanisms questions

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

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?

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?

⁷⁹ https://www.ofgem.gov.uk/sites/default/files/docs/2021/03/riio_ed2_ssmd_annex_3_finance_0.pdf pp.85

⁸⁰ Accelerated Strategic Transmission Investment (ASTI). The framework was introduced to both assess and fund large strategic onshore electricity transmission projects and incentivise the timely delivery of these projects. [Accelerated Strategic Transmission Investment Informal Licence Drafting Consultation | Ofgem](#)

10. Other finance issues

10.1 In this section we consider the following financial issues:⁸¹

- Capitalisation rates;
- Pension Scheme Established Deficit Funding;
- Directly Remunerated Services;
- Amounts recovered from the disposal of assets;
- Transparency through RIIO-3 reporting; and
- Annual Iteration Process & financial modelling issues.

We discuss each of these areas in turn below, outlining the relevant background, setting out our proposals and seeking stakeholder views thereon.

Capitalisation rates

Background

- 10.2 Capitalisation rates are the proportion of costs added to the RAV and paid by consumers over time (slow money), rather than paid within the year incurred (fast money).
- 10.3 In general, the regulatory capitalisation rate broadly reflects the split of capital expenditure (capex) and operating expenditure (opex) expected over the price control. Setting this rate accurately ensures that charges over time are fair to both existing and future consumers.
- 10.4 In RIIO-2, Ofgem implemented two capitalisation rate "buckets": one for ex ante allowed totex and one for re-openers. This was because Ofgem anticipated a much larger proportion of totex to be allowed via re-openers than in RIIO-1 which would be mostly capex. These two buckets allow the overall capitalisation rate to change as additional re-opener funding is allowed.
- 10.5 Both buckets of expenditure have their capitalisation rate fixed ex ante for the duration of the price control.

Interaction with the totex incentive mechanism

- 10.6 The two expenditure buckets added some complexity to the price control financial model, as both allowed and actual expenditure must be allocated into the two

⁸¹ Unless otherwise stated, the "Other Finance Issues" policy decisions apply to GD, GT, and ET.

categories. However, this allows the TIM to be calculated on each bucket separately, so that the underspends or overspends are appropriately capitalised.

Proposed approach for RIIO-3

- 10.7 We propose to continue broadly reflecting the natural capex/opex split over the price control period.
- 10.8 We expect the challenge of RIIO-2, where a significant amount of spend could be approved through re-openers, will continue or increase in RIIO-3 and beyond. This is particularly the case for ET, but we would like stakeholder views on whether GD and GT companies may also be impacted.
- 10.9 Therefore, the options for implementing this policy in the financial model are:
- a) Retain the two capitalisation-rate approach, accepting the additional reporting complexity;
 - b) Expand the multiple bucket approach by reporting actual costs for each uncertainty mechanism/component of allowed totex, this would give more flexibility in policy parameters for each licence mechanism but increase actual cost reporting complexity;
 - c) Move to outturn capitalisation rates entirely, but this was generally opposed when proposed during RIIO-2 consultations; or
 - d) Report an outturn capitalisation rate for overall actual totex, then calculate the TIM on fast-money and slow-money separately, rather than by bucket.
- 10.10 We propose that option d) best blends increasing accuracy and retaining flexibility. We would like stakeholder views on whether this might be simpler than dividing actual cost reporting into the two categories.

Capitalisation rates questions

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

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?

Pension scheme established deficit funding

Background

- 10.11 Our current policy sets a commitment to consumer funding of deficits in defined benefit pension schemes, which were generally in existence before the energy network sector was privatised. To reflect this commitment, our price controls provide a form of pass-through funding by consumers of pension scheme established deficits (PSEDs) in respect of those attributable to service before certain specified cut-off dates. We last updated our policy on this in April 2017.⁸²
- 10.12 The allowed revenue that network companies can recover under this policy is reviewed on a triennial basis as a 'reasonableness review'. We recently performed this review and set a new established deficit pension allowance effective from 1 April 2024.⁸³
- 10.13 We also noted that most schemes are now over 90% funded, with some schemes in surplus. We flagged that we consider that this may be an appropriate time to carry out a review of the policy for funding PSEDs and who should bear the relevant risk in the future. Our review will be subject to a full consultation process. Any outcomes of a policy review would only be effective from 1 April 2027 at the earliest and we may also consult on the most appropriate date from which any policy changes should be effective.

Proposed approach for RIIO-3

- 10.14 For the business plans, we expect network companies to assume pension allowances for the relevant portion of PSEDs during the RIIO-3 period that reflect the outcome of the recent triennial review effective 1 April 2024 and no change to the existing policy.

Directly Remunerated Services

Background

- 10.15 Directly Remunerated Services ("DRS") are specific activities of the network companies that are settled outside of the normal regulatory price control. Companies are allowed to charge their customers directly for certain services performed. For instance, a network company may enter into a commercial

⁸² [Decision on Ofgem's policy for funding Pension Scheme Established Deficits](#)

⁸³ [Revised pension allowance values and completion of 2023 reasonableness review](#)

agreement with a third party such as a telecoms provider to lease out unused space on its grid infrastructure for the placement of satellite dishes or pylons. The telecoms provider would then pay a rental fee directly to the network company, according to the terms of that agreement. These services are “directly remunerated” by the customer rather than through Ordinary Transportation Charges.⁸⁴

10.16 The policy intent across sectors is to avoid consumers paying for a service for which the network companies have already been remunerated. Costs associated with these services are paid for directly by the specific party (or parties) requiring the service. As such, these costs should not be factored into the network companies’ cost allowances, to avoid double-counting.⁸⁵

10.17 Ofgem will forecast the expected revenues and costs from the network company providing these services and reflect these when setting the allowances at the beginning of the price control. Where the actual revenue earned or cost incurred differs from original forecasts, in some cases, it may be appropriate to true-up this difference. The need for a true-up depends on the category of services and whether the costs and revenues are incentivised.

Changes made in RIIO-2

10.18 In the RIIO-GD&T2 Final Determination, it was decided to harmonise the classification and numbering of categories across sectors.⁸⁶

Table 9: The categories of DRS in RIIO-2

Sector	ET	GD	GT
DRS1. Connection services	✓	✓	✓
DRS2. Diversionary works under an obligation	✓	✓	✓
DRS3. Works required by any alteration of premises	✓	✓	✓
DRS4. Telecommunications and information technology infrastructure services	✓	n/a	✓

⁸⁴ https://www.ofgem.gov.uk/sites/default/files/docs/2018/12/riio-2_finance_annex.pdf pp.73

⁸⁵ https://www.ofgem.gov.uk/sites/default/files/docs/2018/12/riio-2_finance_annex.pdf pp.74

⁸⁶ https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf pp.122

Sector	ET	GD	GT
DRS5. Outage Changes	√	n/a	n/a
DRS6. Emergency Services	n/a	√	√
DRS7. PARCA Activities ⁸⁷	n/a	n/a	√
DRS8. Independent System operation	n/a	√	n/a
DRS9. Network Innovation Funding	√	√	n/a
DRS10. Value Added Services	n/a	n/a	n/a
DRS11. Top-up, standby, and enhanced system security	n/a	n/a	n/a
DRS12. Revenue protection services	n/a	n/a	n/a
DRS13. Metering Services	n/a	n/a	n/a
DRS14. Smart Meter Roll-out rechargeable services	n/a	n/a	n/a
DRS15. Miscellaneous	√	√	√

10.19 We also introduced a new re-opener (the Coordinated Adjustment Mechanism, or "CAM"), which allows for complete transfer of responsibility for the relevant output to the network undertaking the work.

Proposed approach for RIIO-3

10.20 We are considering a continuation of the existing DRS policy and methodology for RIIO-3.

Directly Remunerated Services questions

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

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

⁸⁷ Planning and Advanced Reservation of Capacity Agreements (PARCA) process.

Disposal of assets

Background

10.21 Where network assets are no longer required, network operators may dispose of or relinquish operational control, subject to consent. They may also recover from third parties any costs in respect of damage to their network. Some of these transactions can include the disposal of land. Consumers should benefit from receiving a share of the proceeds from the sale of assets no longer required.

10.22 The financial impact of disposing of assets includes the following:

- cash proceeds of sale at an arm’s length transaction to a third-party external to the licensee group;
- transfer at an arm’s length fair market value of assets within the licensee group;
- cash proceeds of sale of assets as scrap; and
- amounts recovered from third parties, including insurance companies, in respect of damage to the network.

10.23 The RIGs provide guidance on how companies should report on disposal of assets.

Historical policies

10.24 For assets disposed in RIIO-1, adjustments were made as part of the close-out of RIIO-1, based on the respective sector policy that was in place for RIIO-1. RAV was adjusted with net proceeds (for GD there was a five-year lag).

10.25 In RIIO-2, it was decided that where a company has disposed of an asset,⁸⁸ we would net the cash proceeds off against Totex from the year in which the proceeds occur before it was subject to the TIM. This decision followed a consultation where all eight respondents were in favour of said policy change.⁸⁹

10.26 In the RIIO-2 Final Determination⁹⁰ it was decided that where an asset is transferred to a company within the licensee group and then subsequently sold to a third party, we may review the final sale to ensure it was undertaken at a fair market price and in the best interests of consumers. Where there was a

⁸⁸ The sale of a gas holder site that is no longer operationally required is one example of an asset disposal.

⁸⁹ https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf pg.123, para 11.31

⁹⁰ https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf pg. 123, para. 11.32

difference, we would consider whether a further adjustment to Totex was required. The licensee would be required to inform Ofgem promptly of any completed sale to a third party, setting out:

- the amount of the proceeds from the third party; and
- the factors which the licensee considers account for any difference between the transferred amount and the proceeds from the third party referring in particular to:
 - (a) the general movement in market prices of similar assets; and
 - (b) costs incurred by the company in improving or maintaining the asset between the date of transfer and the date of sale to the third party.

Proposed approach for RIIO-3

10.27 We are considering a general continuation of the existing disposal of assets policy and methodology for RIIO-3.

10.28 One aspect that we are seeking to specifically review is that, in the RIIO-2 Final Determinations, we said we would consider the case to treat all the incentivised net proceeds as fast money, especially for those assets already fully depreciated. Treating the net proceeds as fast money would better allow those consumers who have already paid for the assets, rather than future consumers, to gain from the sale proceeds.⁹¹ On the other hand, doing so could result in a significant revenue and cashflow reduction in a subsequent year. This could have unintended adverse consequences for licensees' financial resilience with respect to their debt service coverage ratios for debt compliance and credit ratings purposes.

10.29 As flagged in the GD Annex, to facilitate repurposing of assets, we will need to enable the transfer of assets between RIIO-3 and the Hydrogen Transport Business Model. We will also explore during the RIIO-3 process (and future RIG consultations if appropriate) what reporting information will be necessary to ensure objective identifiability of repurposed assets in advance of any transfer. This will also help to ensure the data for cost benchmarking remains appropriately like-for-like in a scenario where companies replace assets with new assets at a higher cost to ensure hydrogen capability or optionality. We expect companies will already be considering these questions for internal reporting and governance purposes.

⁹¹ https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf pg. 124, para. 11.35

Disposal of assets questions

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?

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

Transparency through RIIO-3 reporting

Background

10.30 We recognise that it is important that investors in the networks sector can achieve a reasonable return on their invested capital, and dividends are considered an important component of the equity return. As companies adapt to a variety of challenges over the coming years, most obviously the changes required to help meet net zero targets, maintaining best practice in corporate governance measures is likely to become increasingly important.

10.31 During the development of both RIIO-2⁹² and RIIO-ED2⁹³ we identified several areas where we considered there could be improved transparency through reporting. These included:

- Executive pay/remuneration;
- Dividend policy; and
- Corporate governance and ownership.

10.32 Our focus on these issues reflected a recommendation to Ofgem from the January 2020 National Audit Office report on electricity networks.⁹⁴ This recommended that Ofgem should ensure network companies make it clear how much tax they pay; how executives are rewarded and how this links to quality of service for customers, and how dividend policies ensure companies remain sustainable. Several commentators (such as Citizens Advice) had also drawn attention to high levels of returns and made suggestions for reform.⁹⁵

⁹² https://www.ofgem.gov.uk/sites/default/files/docs/2020/07/draft_determinations_-_finance.pdf

⁹³ https://www.ofgem.gov.uk/sites/default/files/docs/2020/07/ed2_ssmc_annex_3_finance.pdf

⁹⁴ See paragraph 22d here: <https://www.nao.org.uk/wp-content/uploads/2020/01/Electricity-networks.pdf#page=13>

⁹⁵ <https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/EnergyConsumersMissingBillions.pdf>

- 10.33 In our RIIO-2 Final Determinations⁹⁶ we introduced new reporting requirements for the disclosure of executive remuneration to a similar level to that required for UK-listed public limited companies and publication of sustainable dividend policies. These new reporting requirements were practically introduced via a new section on Corporate Governance, contained within the RIGs and RFPR template.⁹⁷
- 10.34 In August 2022, the first round of the revised RFPR including the new corporate governance chapter was submitted by GD, GT and ET licensees. Levels of compliance and completeness against reporting requirements were noticeably variable.
- 10.35 Ofwat, in its Price Review 2024 (PR24) has asked companies to set out proposed dividend and performance-related executive pay policies for the period 2025-30.
- 10.36 Companies should commit in their dividend policies to clearly explain the payment of any dividend, including the base dividend yield, by reference to delivery of their obligations and commitments to customers, communities and the environment and long-term financial resilience. Based on an early view of allowed revenue in the final methodology, Ofwat considers 4% as a reasonable base dividend yield for the period 2025-30, although it notes certain circumstances where a lower base dividend yield may be appropriate (eg where companies must fund significant investment programmes, address pension funding concerns or operational issues, or improve financial resilience). In relation to the benefits that accrue to equity from the consequences of high inflation, Ofwat maintains the view that these should be retained or reinvested by companies and not distributed as outperformance, thus ensuring that customers benefit through improved supplier resilience and/or enhanced services.
- 10.37 Performance-related executive pay policies should clearly demonstrate that the criteria for awarding short and long-term performance related elements are substantially linked to stretching performance delivery for customers, communities and the environment. Policies should demonstrate how remuneration committees will take appropriate account of company performance overall, and wider compliance issues, as well as performance against specific metrics, when deciding on what, if any, award to make. Further, Ofwat is

⁹⁶ https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf

⁹⁷ <https://www.ofgem.gov.uk/publications/decision-modifications-regulatory-financial-performance-reporting-rfpr-template-and-regulatory-instructions-and-guidance-rigs-riio-2>

considering the introduction of a new end-of-period reconciliation mechanism which would allow adjustment of revenue allowances, so that customers no longer fund awards, if companies are unable to demonstrate their decisions reflect Ofwat expectations, including by reference to overall performance.

Proposed approach for RIIO-3

- 10.38 It is important that companies demonstrate with transparency how the decisions they make in declaring and paying distributions, and in awarding executive performance-related pay, take due account of matters that include long-term financial sustainability, delivering for customers and other stakeholder obligations. Fundamental to this is the principle that shareholder distributions and executive performance-related pay should fairly reflect performance, something which is key to helping ensure the legitimacy of the sector.
- 10.39 In this light, Ofgem has a clear expectation that the requirements of the RFPR corporate governance section are met in full and that remuneration and decision making in the interests of consumers and other stakeholders are an integral component of licensees annual reporting.
- 10.40 As flagged in Chapter 6, we will be reviewing and likely consulting separately on the RIGs to highlight the importance of financial resilience reporting and ensure we have a comprehensive suite of early warning indicators for financial resilience issues. We believe that at a minimum we need to have greater scrutiny over the decision making around distributions and licensee groups financial structures. We are also open to views and suggestions on how we should think about and manage the risks of high levels of leverage at MidCo and HoldCo companies that could negatively impact decision making and the resilience of the licensee.

Transparency through RIIO-3 reporting questions

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

Annual Iteration Process & financial modelling issues

Background

10.41 The AIP allows us to recalculate revenue allowances annually using an updated set of variables. This means changes to inputs, such as actual expenditure, can be reflected in the forthcoming AIP rather than waiting until the next price control.

10.42 At each price control we seek improvements to efficiency, simplicity, and flexibility of the AIP, recognising that these are trade-offs in some cases. To this end, we also propose to carry over procedural changes made in RIIIO-ED2 into RIIIO-3.

Improvements to the Price Control Financial Model (PCFM)

10.43 Through price control financial modelling working groups, we intend to improve the PCFM for RIIIO-3. We are seeking suggestions for improvement along the following themes:

- Enhancing adaptability of the model to handle new policies and mechanisms added and removed through time;
- Creating a consistent set of "core" calculations that can be kept consistent between price controls;
- Better documenting PCFM calculations and simplifying where possible; and
- Ensuring the PCFM is fit for purpose in a world with modernised regulatory reporting.

10.44 We would also like to seek feedback from broader stakeholders on the PCFM and its use cases beyond network companies calculating their allowed revenue.

10.45 We expect a continuous development process from a "business plan financial model" (BPFM: used by companies in submission of their business plan) through to a "price control financial model" (PCFM: used in running the RIIIO-3 price control). The main functional differences will be scenario analysis capability, "actual debt" financeability analysis, and that the BPFM will not yet have decided policies in some areas.

10.46 Indicatively, working groups will commence in early 2024, and the draft business plan financial model released alongside the business plan guidance. We will work with stakeholders to ensure a final BPFM is provided within Q4 of 2024.

Licensee self-publication of allowed revenue

- 10.47 In RIIO-2 (excluding electricity distribution), it is Ofgem's responsibility to publish annually the model which provides values licensees must use in determining their allowed revenue (ADJR*).
- 10.48 We propose to require licensees to update and publish the PCFM themselves in RIIO-3, in accordance with the licence, PCFM handbook, and related guidance. With a self-publication requirement, licensees would be responsible for calculating their own Allowed Revenue values and publishing the PCFM on their websites with charging statements.
- 10.49 Ofgem would continue to publish a consolidated version for the sector annually and incorporate any modifications to the PCFM and all updates to variable values.
- 10.50 We believe this proposal to be a continuation of the decisions we made in the RIIO-GD&T2 price controls, that is, to move away from a directed AIP in recognition that the licence itself determines how much revenue licensees can collect. Moving towards a process that can run with less intervention from the regulator would also enable licensees to more easily reflect changes to their variable values where those are subject to volatile fluctuations and would make the price control more cost-reflective. This proposal has received broad support from electricity distribution licensees in our discussions to date.
- 10.51 This proposal would align RIIO-3 with RIIO-ED2.

Interest on prior year adjustments (time value of money)

- 10.52 In our Draft Determinations for the GD, GT, ET, and ESO licensees, we consulted on using one time-value of money (TVOM) for all true ups based on the short-term cost of debt.⁹⁸
- 10.53 We cited a CEPA study published at that time, which noted that a nominal WACC was a valid choice but provided compelling reasons why a short-term cost of debt may be appropriate.
- 10.54 We received fifteen responses to our consultation questions as well as a paper prepared by First Economics for the ENA. In general, there was little support for a short-term cost of debt-based rate universally applied to all true ups.

⁹⁸ RIIO-2 Draft Determinations Finance Annex, Page 162,
https://www.ofgem.gov.uk/sites/default/files/docs/2020/07/draft_determinations_-_finance.pdf#page=162

- 10.55 In our Final Determinations⁹⁹ we decided to retain two separate rates for the RIIO-GD&T2 price controls, acknowledging that the proposal to use one TVOM was a move away from Ofgem regulatory practice. However, we said that we will continue to review the case for the application of one TVOM applicable to all revisions and corrections, engaging further with other GB regulators and industry on this issue and drawing upon the experience of the new RIIO-2 AIP arrangements. We said that where appropriate, we will consult on any proposed changes to our TVOM approaches.
- 10.56 We propose to use a single true-up mechanism with a uniform TVOM for all types of prior year adjustments and true-ups, using nominal WACC as the rate.
- 10.57 As stated in RIIO-GD&T2 Draft Determinations¹⁰⁰, we continue to believe that there are good arguments in support of a short-term cost of debt interest rate for true ups that are separable and low risk (constituting only cash flow timing risk). We also acknowledge arguments favouring nominal WACC, and that it may be more appropriate when true-ups are large (such as delayed and uncertain investment funding). We also understand that in practice, actual companies may bundle capital, suggesting the opportunity cost is WACC.
- 10.58 Bundling all forms of prior-year adjustments into one pot suggests that WACC may be the more appropriate rate, as WACC would better compensate for delays in funding projects through re-openers, earned incentives, and other values that are uncertain.
- 10.59 This proposal would align RIIO-3 with RIIO-ED2.

Financial modelling questions

- 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?
- 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?
- 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?

⁹⁹ RIIO-2 Final Determinations Finance Annex, Page 126,
https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf#page=126

¹⁰⁰ RIIO-2 Draft Determinations Finance Annex, Paragraph 11.59,
https://www.ofgem.gov.uk/sites/default/files/docs/2020/07/draft_determinations_-_finance.pdf#page=163

Appendix 1 Financial Resilience License Requirements and Purposes

Table 10: Summary of relevant existing license conditions

Requirement	Details	GD2 & GT2 Licence	ET2 Licence	ED2 Licence
External Credit Rating	Licensee must take "all appropriate steps" or "use reasonable endeavours" (depending on licence) to ensure it maintains an investment grade rating.	SSC A38	SLC B10	SLC 40
	Prevents distributions if a rating falls below investment grade	SSC A37	SLC B7	SLC 30
	Licensee must provide a financial resilience report if rating falls to BBB with negative outlook.	SSC A38	SLC B10	
Ultimate Controller Undertaking	Holding company that owns the licensee must commit that it and other group companies will refrain from action that would likely cause a breach of the licence.	SSC A26	SLC B8	SLC 31
Disposals & Charges	Licensee shall not dispose of asset or grant any mortgage without consent	SSC A27	SLC B3	SLC 26
Cross-subsidies	Licensee shall not give any cross-subsidy or receive a cross-subsidy from any other group company.	SSC A35	SLC B5	SLC 4
Restriction on Activity and Financial Ring Fence	Restriction on permitted activities of the Licensee, including investment activities.	SSC A36	SLC B6	SLC 29
Availability of Resources	At all times act in a manner to secure it has available financial resources to comply with licence obligations	SSC A37	SLC B7	SLC 30

Requirement	Details	GD2 & GT2 Licence	ET2 Licence	ED2 Licence
	<p>Each year the licensee's board must certify that it has sufficient financial resources (taking into account dividends).</p> <p>They must produce a cash flow statement and a counter-certificate by their Auditor stating it is consistent with their Audit.</p> <p>Each year statement saying that they have sufficient operational resources.</p> <p>Each year board must give statement that they are in compliance with Availability of Resources, Credit Rating and Indebtedness conditions.</p> <p>Licensee cannot declare a dividend unless it provides a board approved certificate that it complies with Availability of Resources, Credit Rating and Indebtedness conditions now and in future.</p>			
Indebtedness	Licensee will not effect any mortgage, security or undertake indebtedness other than on an arms length basis for a permitted purpose.	SSC A39	SLC B9	SLC 41
Regulatory Instructions and Guidance (RIGs)	Requires certain reporting in relation to dividends and dividend decisions. Licensee must comply with the RIGs.	SSC A40	SLC B15	SLC 46

Appendix 2 Consultation Questions

Introduction

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?
- FQ2. Do stakeholders have evidence in support of, or opposition to, one or more of the updated indexation or inflation remuneration methodologies under consideration?
- FQ3. Do stakeholders have views on the potential approaches to implementation of the proposed methodology changes, including assumptions relating to ILD weights?
- FQ4. Do stakeholders wish to propose any other alternatives that have not been proposed?
- FQ5. Do stakeholders have any additional evidence for us to consider in our review of the additional borrowing allowances or infrequent issuer premium?

Allowed return on equity

- FQ6. Do stakeholders agree with our interpretation and proposed application of UKRN Recommendations 2-7?
- FQ7. Do stakeholders consider there to be good reasons to deviate from the respective approaches set out under UKRN Recommendations 2-7?
- 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?
- 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?

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?

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?

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?

Financeability

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

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

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?

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?

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?

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?

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"?

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

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?

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?

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

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?

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.

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?

Return Adjustment Mechanisms (RAMs)

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

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?

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?

Other finance issues

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

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?

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

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

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?

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

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?

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

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?

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?

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?