Finance Annex

December 2024

Finance Annex

This Finance Annex builds on Chapter 10 of the SGN Business Plan, providing evidence and analysis supporting the key messages and demonstrating how our alternative assumptions better serve consumer interests.

1 **The increased costs for debt and equity investors due to uncertainty around the future of gas must be recognised by Ofgem, with a sector wide approach no longer appropriate.**

- The forecast lower utilisation of the gas assets as a result of public policy decisions is a unique situation that changes the risk profile from GD2.
- There is a wide variation in the 2024 FES scenarios between the holistic and counterfactual. Individual year on year FES forecasts also vary considerably.
- This uncertainty around future pathways and the potential pace of customer attrition in terms of gas network utilisation is driving a higher cost of capital for gas networks which needs to be recognised in GD3.

2 **Accelerated depreciation on its own is insufficient to provide for confidence in cost recovery (RAV and wider operating costs), and our investors need assurance now that all efficient costs will be recoverable. We propose an alternative approach linked to customer behaviour.**

- None of the accelerated depreciation options proposed by Ofgem provide confidence in RAV recovery as they all rely on unaffordable bills with adverse bill impacts in both the short / medium term. We propose a more optimal option, building on that proposed by Ofgem (to be considered as a part of wider regulatory reform requirements), that will protect against short-term adverse bill impacts and help intergenerational fairness based on the actual level of customer attrition experienced.
- In order to maintain safety and reliability, totex levels will stay relatively fixed even when customer numbers decline. Therefore, in terms of bill impact, ongoing cost recovery is just as material as RAV recovery (depreciation) which is not addressed in the SSMD.
- As a result Ofgem's proposed approach, if left unaltered, fails to have the stated effect, leads to increased costs and would not be in the interests of either present or future customers.

3 **Ofgem must move to a cost of debt mechanism that recognises changes in gas premiums realised in GD3, that are not adequately captured in the existing utilities' cost of debt index.**

- The relative risk perception that investors and debt issuers attach to the sector impacts the pricing and availability of debt capital, including the length of lending terms.
- Markets are already factoring in higher risk to gas networks. This is being seen in additional spreads over and above the iBoxx index and a reduced appetite and investor sentiment to continue to invest further capital within the sector, as evidenced section C.3

4 **Ofgem needs to set an appropriate cost of equity to address the future of gas risk, market calibration and methodological issues to ensure a sustainable, financeable and investable business.**

- It is important for customers and energy infrastructure investors that the regulatory framework remains stable and transparent and provides a cost of capital that allows networks to attract and retain capital in an efficient manner. Ofgem should consider relevant cross checks and stakeholder evidence in reaching its judgement and take into account future of gas risk, and the proposed methodological and calibration adjustments, as set out in Section C.2 of this Annex.
- However, whilst our proposed cost of equity supports investability in GD3, investability cannot be ensured without also at the same time resolving longer terms issues of financeability and RAV recovery set out in our plan.

5 **The regulatory model must be reformed to be financeable and investable with the prospect of declining customer numbers. The principles of reform need to be established as a priority.**

- [redacted]
- The existing regulatory framework supporting the cost of capital is done on the basis of a growing, perpetual RAV which investors will receive a return on. If substantial migration of customers away from the gas network occurs, coupled with accelerated depreciation, new and additional regulatory mechanisms will be required, going much

further than our accelerated depreciation proposals, to protect consumers from unaffordable bills and investors (from increased risks associated with cost recovery, loss of the equity risk buffer and rising financing costs).

- Clear intent and assurance over RAV and wider cost recovery (including mechanisms to manage risk in the context of increasing Totex: RAV) are required in the Final Determination, and mechanisms to ensure affordability, financeability and investability need to be already in development with wider government, supported by key stakeholders, ahead of the Final Determination.

6 For ease of reference, this document responds to the points raised in the final Business Plan Guidance, in particular but not limited to Chapter 7 'financial information':

- Section A 'Introduction and Approach to Financeability' covers setting credit rating targets, qualitative measures and why we believe our proposals are in customer's interests.
- Section B 'Financeability Assessment – Ofgem's Working Assumptions' covers base case for Notional / Actual Company, financial risk analysis (stress tests) and financeability challenges and mitigations.
- Section C 'SGN's Alternative Working Assumptions' covers our proposals on Cost of Capital and Accelerated Depreciation.
- Section D looks at the 'Customer Bill Impact' of our GD3 plan both short term and out to 2050.
- Section E 'Other Finance Issues' includes capitalisation rates, depreciation rates and revenue profiling.
- Sections G and I cover Financing Strategy and Dividend and Equity Issuance Policy
- Board Assurance – this is provided separately in SGN-GD3-SD-17 - Assurance Statement.

Section A Introduction and Approach to Financeability

7 As set out in Chapter 10 of the SGN Business Plan, it is important for the financeability assessment to be designed in such a way it can provide meaningful information about each licensee's ability to efficiently raise debt and links to equity investability of both the gas and wider energy infrastructure sector. This is particularly pertinent given the significant uncertainty surrounding:

- The 2026 Heating Policy Decision and uncertain customer behaviour on the pathways to Net Zero that will evolve;
- How regulation will respond, particularly given the market evidence of increasing costs to gas investors such as the cost of debt and the need to manage future customer profiles;
- Regulatory framework changes in GD3 e.g. accelerated depreciation and semi-nominal WACC;
- How credit rating agencies ('CRAs') views may evolve regarding their methodology, in response to Ofgem's approach to both GD3 and the long term and the lack of comments to date on the SSMD; and
- The fact that the capital markets and macroeconomic contexts we are facing are markedly different from those when the RIIO-2 price controls were being determined.

8 As per the Business Plan guidelines chapter 7, we have completed 'base case' financeability assessment analysis for GD3 using Ofgem's working assumptions, but also refined and enhanced the financeability assessment set out by Ofgem. We have expanded below on the high-level areas set out in Chapter 10 of the SGN Business Plan:

i. The **timeframe** of financeability analysis should be aligned with the major points of risk exposure. In addition to Ofgem's requirement to cover each year of GD3, a longer-term perspective considering a range of factors including the ability of companies to obtain longer-term debt tenors and debt maturity profiles is required. This also aligns with Ofgem's financeability duty which is not related to the GD3 price control period but to the longer-term ability of licensees to discharge their license obligations. We have therefore extended the assessment horizon beyond RIIO-3. This is particularly important given the perception of risk of lower utilisation of assets and therefore additional challenges in their recovery from gas customers that could occur in future energy scenarios. This analysis provides a necessary insight into potential financeability challenges GDNs may face in 10-15 years, but which need to be considered in today's decision-making. A longer-term perspective on financeability is consistent both with the discharge by Ofgem of its financeability duty and also Ofgem's consideration of equity returns through the economic cycle (e.g. a stable Total Market Return (TMR)).

ii. We have undertaken a more **rigorous risk assessment** (*Section B.3 & B.4*) by developing more robust downside scenarios. We consider Ofgem's stress test assumptions of downside scenarios do not focus on the most material risks. We have therefore considered asymmetric Totex risks and assess risks regarding the sector's ability to raise debt financing on efficient terms reflecting the uncertainty over cost, tenor and refinancing concentration risk and the availability of different types of debt financing. Section B.4 covers an assessment of our financeability challenges and recommended mitigations. We have also considered the impacts of different pathways to net zero in relation to customer numbers in section C.1.

iii. We have considered how **credit agency views may evolve** (*Section A.4*) over RIIO3 and the longer term, and assess longer term financeability in light of changes to business risk profiles. We have considered a broad range of metrics, including qualitative assessments (section A.5), rather than rely on a single interest coverage ratio (ICR) metric. These more qualitive assessments are essential around regulatory stability, the business risk profiles and how rating thresholds could be adjusted in the future particularly given the uncertainties highlighted above.

iv. We have linked our analysis to **equity investability** (*Section C.2*). Equity financeability (investability) must focus on assessing whether the equity return proposed by Ofgem is competitive when compared to other opportunities that exist in the lower risk debt markets. Without equity investability, debt financeability is completely undermined. We have looked at various cost of equity cross checks as well as reviewing the CAPM methodology in assessing the appropriateness of Ofgem's cost of equity proposals.

9 In setting out our approach to financeability we have had regard to the FES 24 scenarios that are published by the NESO. The NESO publishes three pathways to the 2050 net zero target and one counterfactual scenario that does not deliver the 2050 net zero target. Of the three pathways that deliver the net zero target 'Holistic Transition', 'Electric Engagement' and 'Hydrogen Evolution', Ofgem guidelines have identified the 'Holistic Transition' as the main reference point for our plan and for our financeability assessment. We have also referenced the Counterfactual scenario as an alternative scenario from which to assess the robustness of the findings. The other two pathways are broadly similar to the holistic transition and as a result are not useful point of reference in for the financial assessment. It should also be noted that CRAs, investors and lenders will undoubtedly look wider than the FES scenarios when assessing risk.

Table 1A: Summary of SGN's Key Assumptions

	Base Case (Ofgem Working Assumptions)		Ofgem Stress Tests	SGN Additional Stress Tests	SGN Alternative Assumptions
	Notional Co	Actual Co			
Cost of Equity	5.43%				6.7% minimum
Cost of Debt	2.65%				
Cost of Debt - Additional Borrowing Costs (ABC)	0.25%				48 bps minimum
Cost of Debt Allowance	2.90%			30 bps underfunding	
Small Company Premium					12 bps Scotland
Cost of Debt Actual	Allowed cost of debt (inc 25 bps ABC)	Actual cost of debt (inc 48 bps ABC)			
Index linked proportion	30%	c. 30%	+ / - 10%		
Gearing	60%	65% to 67%			
Totex Allowance	SGN Plan				
Totex Actual	SGN Plan		+ / - 10%	SGN Plan	
Pass Through Costs	SGN Plan				
Incentives (ODI's)	Neutral		+ / - 200bps RORE		
Depreciation	Option 2, Factor 1				Linked to Customer No.s
Inflation	2% CPIH		+ / - 2%	Combined Inflation / Interest Rate -2%	
Interest Rates	iBoxx Utilities		+ / - 2%		
CPIH / RPI Divergence	1%		+ / - 0.5%		
Customer Numbers	FES24 Holistic and Counterfactual				

Source: Ofgem Business Plan Guidelines and SGN Analysis. Note: RORE is Return on Regulated Equity

A.1 Consumer-Focused Approach to Financeability and Our Alternative Assumptions

10 We have adopted a consumer-focused approach to financeability that is consistent with Ofgem's primary duties and with the requirements set out by Ofgem in section 7 of the Business Plan guidance;

- As we set out in Chapter 10 of the SGN Business Plan and this Annex, SGN believes its approach to financeability is designed with as focus on consumer interest. In particular, our proposal for an adaptive and flexible depreciation trigger mechanism is based on the actual rate of customer attrition and disconnection. This builds upon the approach set out by Ofgem, but reduces customer bills relative to Ofgem's proposals whilst at the same time increasing customer 'intergenerational fairness' relative to the mechanism which Ofgem has proposed.
- An approach which seeks to ensure there is adequate headroom within the CRAs' target thresholds to support credit strength and enhanced financial resilience.
- The choice of a target rating which minimises costs to customers relative to targeting a lower threshold.
- A capital structure and gearing consistent with achieving a rating of BBB+/ Baa1 and which drives efficiency relative to alternative structures in response to the incentive framework Ofgem has consistently adopted to promote companies to exercise efficiency in their financial structuring.
- An approach which ensures we have a balanced approach to risk and return and, through accepting risk, we are incentivised to efficiently manage costs and deliver efficiency to the benefit of customers in both GD3 and subsequent periods (e.g. Calibration of the Totex Sharing Mechanism).

11 Our alternative assumptions in terms of Cost of Debt and Cost of Equity are grounded in economic evidence and market data which is necessary to both maintain and attract capital into the sector, and as a result supports the investment in our networks to ensure their safe, secure operation.

12 Ofgem is subject to new duties in supporting both Net Zero and Economic Growth. A financeable and investable gas network is vital for both and as such requires a new approach from that previously adopted at RIIO-2. As we set out in Section C.1 there is considerable uncertainty in relation to the speed of customer attrition from gas and adoption of electrification of heat pathways; in addition, the government decision on the adoption of hydrogen for domestic heat is not anticipated until 2026 and there is significant divergence across the various FES24 Pathways prepared by NESO.

13 To discharge its new Net Zero and Economic Growth duties Ofgem needs to secure strength in the gas networks, including optionality against future pathways. The regulatory framework must be able to support either a longer tail in terms of future utilisation, as a result of a slower pace of customer switching, or facilitate the energy transition, providing the resilience and security of supply to respond to policy changes and deliver de-carbonisation. As a result, the value to both gas customers, but also to society, of the continued sustained and financeable investment in our gas networks is greater than ever. The corollary is equally the case: if the arrangements in GD3 and the longer-term framework are neither financeable nor investable then this will act counter to customer interests. The change in Ofgem's duties from GD2 to GD3 recognises this; the GD3 determination must do likewise.

A.2 Credit Metrics Targets

14 Chapter 10 of the SGN Business Plan sets out the high-level reasons why both qualitative and quantitative measures need to be assessed. We also considered the limitations of the analysis due to uncertainties such as the impact of the 2026 Heating Policy Decision on the licensees' risk profile and the lack of guidance from the CRAs over the treatment of Ofgem's proposed policy changes in the SSMD. Further uncertainty on Accelerated Depreciation implementation and not having the foresight of the final determination adds further to the unpredictability. Notwithstanding these points, for the purposes of objectively assessing GD3 in line with Ofgem's guidance, we believe a strong investment grade rating comfortably within the BBB+ / Baa1 range is appropriate with downside stress tests providing sufficient headroom against sub-investment grade thresholds.

15 At present, company specific mitigations are severely limited as most of the above uncertainties will be driven by regulatory and government policy. Therefore, as set out in the Board assurance (provided separately in SGN-GD3-SD-17 - Assurance Statement), any assurance provided for GD3 is qualified by how these external factors play out in the future.

16 Therefore, whilst we have provided results of the credit metric tests in GD3 as per Ofgem's guidance, this alone will provide insufficient comfort without considering the:

- longer-term assessments of financeability and investability set out in this annex; and

- need to signal now, the development of key changes required to regulatory and government policy to better serve consumer interests and investability to ensure gas networks play a key part in the net zero transition and maintain a safe and reliable network for many years to come.

17 We set out below, why we believe a BBB+/Baa1 target is in the best interests of all stakeholders and consider further the impact of qualitative assessments carried out by CRAs.

A.3 Ratings Thresholds

18 There is uncertainty around how the CRAs may adjust their ratings methodologies for GD3, including changes to the calculation of metrics and down/up-grade thresholds. [redacted]

19 We have been instructed by Ofgem to use the existing GD2 guidance from the CRAs for this assessment despite key policy changes being signalled by Ofgem. Therefore, we have also assessed financeability against adjusted thresholds recognising that thresholds may increase to incorporate Ofgem's policy changes. This may include greater focus on nominal metrics. Notwithstanding presenting this sensitivity, the financeability analysis will have to be updated when we receive updated guidance from the CRAs, in order to present an accurate picture of financeability.

Table 2A: Credit rating agencies guidance

		S&P	Moody's	Fitch
Current		BBB stable	Baa1 stable	Senior Unsecured debt BBB+ stable (IDR BBB stable)
Senior unsecured rating	A-/ A3/ A-	FFO/netdebt ≥ 12%	Net debt/RAV ≤ 68% AICR ≥ 1.6x	Net debt/RAV ≤ 68% Cash PMICR ≥ 1.7x Nominal PMICR ≥ 2.0x
	BBB+/ Baa1/ BBB+	FFO/netdebt ≥ 9%	Net debt/RAV ≤ 75% AICR ≥ 1.4x	Net debt/RAV ≤ 73% Cash PMICR ≥ 1.5x Nominal PMICR ≥ 1.8x
	BBB/ Baa2/ BBB	FFO/netdebt ≥ 6%	Net debt/RAV ≤ 85% AICR ≥ 1.2x	No precedents (SGN Assumes Cash PMICR >= 1.3x, Nominal PMICR >= 1.6x)
	BBB-/ Baa3/ BBB	No precedents (SGN Assumes FFO/netdebt >= 3%)	No precedents (SGN Assumes AICR >= 1.0x)	No precedents (SGN Assumes Cash PMICR >= 1.1x, Nominal PMICR >= 1.4x)

Source: Fitch, Moody's, Standard & Poor (S&P)[1]

20 In relation to GD3 target thresholds, SGN achieves a higher issuer rating with S&P (BBB+) and Moody's (Baa1) compared to Fitch, which rates SGN one notch lower (BBB) based on the Issuer Default Rating (IDR). However, Fitch applies a one notch uplift to debt issued by regulated utilities in creditor-friendly jurisdictions with a robust regulatory environment like the UK. In Fitch's recent report on the SSMD, it states 'We believe the senior debt rating (rather than the IDR) would be a more appropriate rating to monitor, to factor in recovery considerations and to allow better comparison with the ratings of other agencies (where rating definitions may vary)'[2]. We have completed our assessments using Fitch's senior debt rating to achieve consistency.

21 The licence conditions to maintain an investment grade rating and dividend lock up provisions refer to the IDR, however, as stated above we have conducted our financeability assessment based on the senior debt rating which for Fitch is one notch higher. In the GD3 Licence it is essential that the financeability and licence definitions are aligned as currently, licence breaches are one notch tighter than the threshold used in the financeability assessment. Our preference is that the licence condition is based on the senior debt rating triggers as debt investors focus on this rating.

22 In GD2, we currently have an S&P rating which is one notch below our target. It is therefore important that cost pressures are recognised in the cost assessment process for GD3 and longer-term structural changes to manage business risk are implemented now to create an investable gas network.

[1] Note: S&P A- inferred from rating as of April 2021. Moody's ratings based on generic guidance for GB energy networks. Highlighting denotes current rating as of November 2024. Blue line indicates threshold used for SGN's financeability assessment.
[2] Fitch Ratings 'What Investors Want to Know: RIIO-3 Sector Specific Methodology Decision (p3), November 2024

23 It is important to note that credit metrics only form one part of a ratings assessment. In fact, qualitative factors are given a higher weighting of 60%, relative to 40% for the credit metrics, in the overall assessment by Moody's. We present more analysis of this topic in section A.5.

A.4 Target Credit Rating Threshold

Considerations When Setting a Target Credit Rating Threshold for the Notional and Actual Company

24 In our financeability assessment we target strong Baa1/BBB+, for the notional and actual company, because:

- RIIO-2 Final Determination implied Baa1 or above for all notional networks.[3]
- [redacted]
- [redacted]
- During GD3, there is a need to ensure there is enough headroom to absorb adverse shocks, as well as being able to maintain financial resilience, mitigate financial risk and raise efficient debt. One such event could be the 2026 Heating Policy Decision which may create an adverse shock that is challenging to predict or prepare for. Also, we have seen many instances of increased market volatility over the last 4-5 years, for example as a result of Covid, high inflation, political developments in the UK/Europe, market responses to budgets and a swathe of small bank defaults in the US. Recent market responses to the UK budget and the US election reiterate our view that this heightened level of volatility is likely to remain. This can have consequences for network companies in terms of cashflows, rating outlook and cost of financing.
- We have looked at trading spreads of existing bonds that are constituents of the iBoxx £ Utilities 10+ and iBoxx £ BBB 10+ indices, and concluded that targeting a lower Baa2/BBB (based on Ofgem's current notional capital structure) leads to a higher cost of debt in the range of 26 – 71bps. We have assumed at least 30bps, which would lead to a higher cost of capital, and thus increase customer bills by at least £2), which could be more significant if customers start to migrate away from gas under certain pathways. Therefore, we do not believe this will be in consumer interest.
- It is also imperative that a BBB+ rating is achieved and maintained in order to allow the company to approach the debt markets efficiently in an accelerating depreciation environment. The company will have significant maturities from debt raised when depreciation was a normal rate and to refinance these maturities a strong rating is essential. Coupled with our other recommendations for long term financeability and investability, this allows the company to approach different markets and procure the most efficient sources of debt financing, which is in consumers interests.
- The company may also be required to raise debt that is structured differently than it has been in the past and will potentially require a more amortising profile beyond GD3, which will require a BBB+ rating in order to attract investors and meet capacity.
- The sector specific risks arising from changes to the political and regulatory environment highlights the requirement to maintain the current rating levels and avoid any future downgrades. Section D highlights the pressure on customer bills into the future in the gas sector which will only be amplified with a weaker rating.

25 [redacted]

[redacted]

[redacted]

26 [redacted]

[redacted]

Section B Financeability Assessment – Ofgem's working assumptions

27 Chapter 10 of the SGN Business Plan sets out on a GD3 average basis, the key credit metrics for both the notional and actual company using current rating thresholds with a prudent 'adjusted rating threshold' to reflect potential changes as a result of the SSMD policy changes (e.g. move to semi nominal WACC). The conclusion is that taking all the metrics 'in the round' both the notional and actual company would just achieve the required target credit rating (under the more prudent thresholds) and downside stress tests remain at investment grade (albeit one notch away from a licence breach). However, we believe due to the qualitative assessment concerns and financial resilience changes, this is at the absolute minimum position, and we should be aiming for some further headroom when the overall package is calibrated. We also believe the 3% underlying dividend yield (excluding accelerated return of capital) is too low and should be in line with an appropriate cost of equity.

28 This annex provides further detail on the credit metrics by year in GD3, and by price control period in the long term for the notional company. The stress test analysis based on SGN's downside assumptions are then presented together with mitigations, particularly around the longer term financeability and investability concerns. Appendix 1 sets out each of the Ofgem stress tests in more detail. Our analysis is based on Fitch senior unsecured debt rating thresholds which are one notch higher than the licence definition (IDR) – see also Section F.2 why we believe the licence should reflect the senior unsecured debt rating.

29 Please note the colour coding for all financeability assessments in our Business Plan submission and appendices:

- Green: acceptable.
- Amber: one notch below.
- Red: significantly missing targets.

B.1 Notional Company

30 All credit metrics are from the BPFM, and are 'adjusted for interest on debt raised in year, post interest and tax'.

RIIO-GD3 – Current Thresholds (as requested by Ofgem)

31 Table 1B below shows the key metrics based on Ofgem's working assumptions, using current thresholds;

Table 1B: Notional Company – GD3 Key Metrics

Scotland:

Metric		BBB+ / Baa1 range	GD3 Average	GD3 MIN	GD3 MAX	2026-27	2027-28	2028-29	2029-30	2030-31
Credit Metrics										
Fitch	Cash PMICR	1.5x - 1.7x	1.77	1.73	1.82	1.82	1.78	1.77	1.75	1.73
	Nominal PMICR	1.8x - 2.0x	1.94	1.91	1.97	1.97	1.94	1.94	1.93	1.91
Moody's	AICR	1.4x - 1.6x	1.77	1.73	1.82	1.82	1.78	1.77	1.75	1.73
S&P	FFO/Debt	9% - 12%	18.1%	16.8%	19.7%	16.8%	17.2%	17.9%	18.8%	19.7%
Gearing		75% - 68%	60.0%	60.0%	60.1%	60.0%	60.1%	60.1%	60.0%	60.0%
Liquidity										
	Dividend Yield		3.0%			3.0%	3.0%	3.0%	3.0%	3.0%
	Return of Capital		4.6%							

Southern:

Metric		BBB+ / Baa1 range	GD3 Average	GD3 MIN	GD3 MAX	2026-27	2027-28	2028-29	2029-30	2030-31
Credit Metrics										
Fitch	Cash PMICR	1.5x - 1.7x	1.77	1.73	1.82	1.82	1.78	1.77	1.76	1.73
	Nominal PMICR	1.8x - 2.0x	1.94	1.90	1.97	1.97	1.94	1.94	1.93	1.90
Moody's	AICR	1.4x - 1.6x	1.77	1.73	1.82	1.82	1.78	1.77	1.76	1.73
S&P	FFO/Debt	9% - 12%	17.8%	16.4%	19.3%	16.4%	17.0%	17.7%	18.5%	19.3%
Gearing		75% - 68%	60.0%	60.0%	60.1%	60.1%	60.0%	60.0%	60.1%	60.1%
Liquidity										
	Dividend Yield		3.0%			3.0%	3.0%	3.0%	3.0%	3.0%
	Return of Capital		3.0%							

RIIO-GD3 – Adjusted Thresholds

32 Table 2B below shows the key metrics based on Ofgem's working assumptions, using adjusted thresholds due to the uncertain regarding the impact of semi-nominal WACC:

Table 2B: Notional Company – GD3 Key Metrics – Adjusted Thresholds

Scotland

Metric		BBB+ / Baa1 range	GD3 Average	GD3 MIN	GD3 MAX	2026-27	2027-28	2028-29	2029-30	2030-31
Credit Metrics										
Fitch	Cash PMICR	1.8x - 2.0x	1.77	1.73	1.82	1.82	1.78	1.77	1.75	1.73
	Nominal PMICR	1.8x - 2.0x	1.94	1.91	1.97	1.97	1.94	1.94	1.93	1.91
Moody's	AICR	1.7x - 1.9x	1.77	1.73	1.82	1.82	1.78	1.77	1.75	1.73
S&P	FFO/Debt	15% - 18%	18.1%	16.8%	19.7%	16.8%	17.2%	17.9%	18.8%	19.7%
Gearing		75% - 68%	60.0%	60.0%	60.1%	60.0%	60.1%	60.1%	60.0%	60.0%
Liquidity										
	Dividend Yield		3.0%			3.0%	3.0%	3.0%	3.0%	3.0%
	Return of Capital		4.6%							

Southern

Metric		BBB+ / Baa1 range	GD3 Average	GD3 MIN	GD3 MAX	2026-27	2027-28	2028-29	2029-30	2030-31
Credit Metrics										
Fitch	Cash PMICR	1.8x - 2.0x	1.77	1.73	1.82	1.82	1.78	1.77	1.76	1.73
	Nominal PMICR	1.8x - 2.0x	1.94	1.90	1.97	1.97	1.94	1.94	1.93	1.90
Moody's	AICR	1.7x - 1.9x	1.77	1.73	1.82	1.82	1.78	1.77	1.76	1.73
S&P	FFO/Debt	15% - 18%	17.8%	16.4%	19.3%	16.4%	17.0%	17.7%	18.5%	19.3%
Gearing		75% - 68%	60.0%	60.0%	60.1%	60.1%	60.0%	60.0%	60.1%	60.1%
Liquidity										
	Dividend Yield		3.0%			3.0%	3.0%	3.0%	3.0%	3.0%
	Return of Capital		3.0%							

33 Under the more prudent adjusted thresholds most metrics stay above the BBB+ downgrade but the cash PMICR does start to weaken during GD3 due to the higher cost of debt ratio vs cost of equity – this is discussed further below.

Long Term Credit Metrics – Adjusted Thresholds

34 Table 3B below shows the long term key metrics based on Ofgem's working assumptions (including 60% notional gearing), using adjusted thresholds due to the uncertainty regarding the impact of semi-nominal WACC:

Table 3B: Notional Company – Long Term Key Metrics – Adjusted Thresholds

		Downgrade thresholds		GD3 ('26-31)	GD4 ('31-36)	GD5 ('36-41)	GD6 ('41-46)	GD7 (46-51)
		BBB+	Sub IG					
Scotland								
Fitch	Cash PMICR	1.80x	1.40x	1.77x	1.62x	1.59x	1.58x	1.54x
	Nominal PMICR	1.80x	1.40x	1.94x	1.79x	1.76x	1.76x	1.75x
Moody's	AICR	1.70x	1.30x	1.77x	1.62x	1.59x	1.58x	1.54x
S&P	FFO/Debt	15%	9%	18%	23%	32%	55%	207%
	RAV £m			2455	2235	1707	1022	290
Southern								
Fitch	Cash PMICR	1.80x	1.40x	1.77x	1.64x	1.56x	1.56x	1.52x
	Nominal PMICR	1.80x	1.40x	1.94x	1.81x	1.73x	1.73x	1.73x
Moody's	AICR	1.70x	1.30x	1.77x	1.64x	1.56x	1.56x	1.52x
S&P	FFO/Debt	15%	9%	18%	23%	32%	55%	196%
	RAV £m			5590	5189	3717	2068	582
SGN								
Totex:RAV (Sc / So)				13% / 13%	13% / 11%	17% / 14%	29% / 23%	107% / 89%
Dividend Yield (Sc / So)				3%	3%	3%	3%	3%
Average Customer Bills (Holistic, £ Cust)				230	283	406	840	4294

35 The downward trend in interest coverage metrics (which continues into GD4 / GD5) is driven by the divergence of allowed cost of equity (which remains constant) and cost of debt (which is still increasing) over time. This highlights the need to ensure over the longer-term that the cost of equity is appropriately calibrated relative to the cost of debt, as illustrated by the weakening ICRs. Absent a reasonable spread of the cost of equity over cost of debt, the company may not be able to retain and attract equity and this in turn increases risk to debt investors. This puts the company at risk of a credit rating downgrade, exacerbating the issue as credit spreads would then rise. The rising cost pressures on the cost of debt will only make this situation worse.

36 Table 3B also highlights the growing ratio of Totex: RAV and the unaffordable customer bills in the 2040s, both of which impact affordability and financeability and are discussed further in Section C (SGN's Alternative Working Assumptions).

B.2 Actual Company

37 The BPFM actual company cash and nominal PMICRs are aligned to Moody's calculations, which are based on P&L interest not cash interest. As there are timing differences between cash and P&L interest, this causes some averaging differences. In addition, Fitch exclude bond fees and also recognise the lower cash interest versus P&L interest (which is more pronounced for Southern). Moody's and Fitch also have a different treatment of interest income. Therefore, we show SGN's forecasts of the actual company cash and nominal PMICRs in the tables in this section and the commentary relates to these, but also show the BPFM forecasts at the bottom of each table (in italics) for information and completeness. For the avoidance of doubt all other metrics are from the BPFM.

RIIO GD3 - Current Thresholds

38 Table 4B below shows key metrics based on Ofgem's working assumptions, using current thresholds (requested by Ofgem).

Table 4B: Actual Company – GD3 Key Metrics

Scotland:

Metric		BBB+ / Baa1 range	GD3 Average	GD3 MIN	GD3 MAX	2026-27	2027-28	2028-29	2029-30	2030-31
Credit Metrics										
Fitch	Cash PMICR	1.5x - 1.7x	1.84	1.70	2.07	2.07	1.78	1.86	1.80	1.70
	Nominal PMICR	1.8x - 2.0x	1.88	1.80	2.03	2.03	1.82	1.89	1.84	1.80
Moody's	AICR	1.4x - 1.6x	1.73	1.59	1.92	1.92	1.70	1.72	1.69	1.59
S&P	FFO/Debt	9% - 12%	15.5%	14.7%	16.5%	14.8%	14.7%	15.3%	16.1%	16.5%
Gearing		75% - 68%	66.1%	65.8%	67.1%	65.8%	65.8%	66.0%	65.8%	67.1%
Liquidity										
	Dividend Yield		3.6%			3.0%	2.7%	3.8%	3.7%	4.8%
	Return of Capital		2.8%							
BPFM	*Cash PMICR*	*1.5x - 1.7x*	*1.73*	*1.59*	*1.92*	*1.92*	*1.70*	*1.72*	*1.69*	*1.59*
	Nominal PMICR	*1.8x - 2.0x*	*1.77*	*1.69*	*1.92*	*1.92*	*1.75*	*1.77*	*1.75*	*1.69*

Southern:

Metric		BBB+ / Baa1 range	GD3 Average	GD3 MIN	GD3 MAX	2026-27	2027-28	2028-29	2029-30	2030-31
Credit Metrics										
Fitch	Cash PMICR	1.5x - 1.7x	1.84	1.68	1.97	1.87	1.90	1.77	1.97	1.68
	Nominal PMICR	1.8x - 2.0x	1.91	1.79	2.04	1.91	1.96	1.86	2.04	1.79
Moody's	AICR	1.4x - 1.6x	1.66	1.53	1.73	1.71	1.73	1.71	1.60	1.53
S&P	FFO/Debt	9% - 12%	14.8%	13.7%	15.8%	13.7%	14.3%	14.8%	15.3%	15.8%
Gearing		75% - 68%	67.8%	67.7%	68.3%	67.7%	67.7%	67.7%	67.7%	68.3%
Liquidity										
	Dividend Yield		3.1%			1.8%	2.6%	2.9%	3.8%	4.2%
	Return of Capital		2.3%							
BPFM	Cash PMICR	1.5x - 1.7x	1.66	1.53	1.73	1.71	1.73	1.71	1.60	1.53
	Nominal PMICR	1.8x - 2.0x	1.75	1.65	1.81	1.78	1.81	1.81	1.70	1.65

RIIO GD3 - Adjusted Thresholds

39 Table 5B below shows the key metrics based on Ofgem's working assumptions, using adjusted thresholds due to the uncertainty regarding the impact of semi-nominal WACC:

Table 5B: Actual Company – GD3 Key Metrics – Adjusted Thresholds

Scotland:

Metric		BBB+ / Baa1 range	GD3 Average	GD3 MIN	GD3 MAX	2026-27	2027-28	2028-29	2029-30	2030-31
Credit Metrics										
Fitch	Cash PMICR	1.8x - 2.0x	1.84	1.70	2.07	2.07	1.78	1.86	1.80	1.70
	Nominal PMICR	1.8x - 2.0x	1.88	1.80	2.03	2.03	1.82	1.89	1.84	1.80
Moody's	AICR	1.7x - 1.9x	1.73	1.59	1.92	1.92	1.70	1.72	1.69	1.59
S&P	FFO/Debt	15% - 18%	15.5%	14.7%	16.5%	14.8%	14.7%	15.3%	16.1%	16.5%
Gearing		75% - 68%	66.1%	65.8%	67.1%	65.8%	65.8%	66.0%	65.8%	67.1%
Liquidity										
	Dividend Yield		3.6%			3.0%	2.7%	3.8%	3.7%	4.8%
	Return of Capital		2.8%							
BPFM	*Cash PMICR*	*1.8x - 2.0x*	*1.73*	*1.59*	*1.92*	*1.92*	*1.70*	*1.72*	*1.69*	*1.59*
	Nominal PMICR	*1.8x - 2.0x*	*1.77*	*1.69*	*1.92*	*1.92*	*1.75*	*1.77*	*1.75*	*1.69*

Southern:

Metric		BBB+ / Baa1 range	GD3 Average	GD3 MIN	GD3 MAX	2026-27	2027-28	2028-29	2029-30	2030-31
Credit Metrics										
Fitch	Cash PMICR	1.8x - 2.0x	1.84	1.68	1.97	1.87	1.90	1.77	1.97	1.68
	Nominal PMICR	1.8x - 2.0x	1.91	1.79	2.04	1.91	1.96	1.86	2.04	1.79
Moody's	AICR	1.7x - 1.9x	1.66	1.53	1.73	1.71	1.73	1.71	1.60	1.53
S&P	FFO/Debt	15% - 18%	14.8%	13.7%	15.8%	13.7%	14.3%	14.8%	15.3%	15.8%
Gearing		75% - 68%	67.8%	67.7%	68.3%	67.7%	67.7%	67.7%	67.7%	68.3%
Liquidity										
	Dividend Yield		3.1%			1.8%	2.6%	2.9%	3.8%	4.2%
	Return of Capital		2.3%							
BPFM	*Cash PMICR*	*1.8x - 2.0x*	*1.66*	*1.53*	*1.73*	*1.71*	*1.73*	*1.71*	*1.60*	*1.53*
	Nominal PMICR	*1.8x - 2.0x*	*1.75*	*1.65*	*1.81*	*1.78*	*1.81*	*1.81*	*1.70*	*1.65*

40 Under the more prudent adjusted thresholds the average GD3 metrics are within target levels (AICR in Southern just drops below Baa1) but, as highlighted above, ratios do start to weaken over time.

B.3 Financial Risk Analysis - Stress Tests

SGN Stress Tests – Adjusted Thresholds

Table 6B: SGN Stress Tests – Adjusted Thresholds

		Downgrade thresholds		Base case		Stress Tests on Metrics notional – actual			Downside	
		BBB+	Sub IG	Notional (60% Gearing)	Actual (65.7% Gearing)	Totex allowances reduced - 10% Scotland - 15% Southern	Cost of debt allowances reduced 30bps	Macro 2% lower interest / Inflation	Notional (60% Gearing)	Actual (65.7% Gearing)
Scotland (notional company gearing 60%, actual 65.7%)										
Fitch	Cash	1.80x	1.40x	1.77x	1.84x	(0.10x) - (0.10x)	(0.07x) - (0.07x)	(0.02x) - (0.04x)	1.59x	1.64x
PMICR	Nominal	1.80x	1.40x	1.94x	1.88x	(0.09x) - (0.08x)	(0.06x) - (0.06x)	(0.20x) - (0.17x)	1.59x	1.57x
Moody's	AICR	1.70x	1.30x	1.77x	1.73x	(0.10x) - (0.10x)	(0.07x) - (0.07x)	(0.02x) - (0.04x)	1.59x	1.52x
S&P	FFO/Debt	15%	9%	18.1%	15.5%	(0.4%) - (0.3%)	(0.3%) - (0.3%)	(0.1%) - 0.6%	17.4%	15.5%
Dividend Yield exc return of capital				3.0%	3.6%	(1.3%) - (2.0%)	(0.4%) - (0.4%)	(1.4%) - (1.4%)	(0.1%)	(0.3%)
Southern (notional company gearing 60%, actual 67.7%)										
Fitch	Cash	1.80x	1.40x	1.77x	1.84x	(0.12x) - (0.12x)	(0.07x) - (0.06x)	(0.04x) - (0.05x)	1.55x	1.60x
PMICR	Nominal	1.80x	1.40x	1.94x	1.91x	(0.11x) - (0.10x)	(0.06x) - (0.06x)	(0.22x) - (0.19x)	1.55x	1.57x
Moody's	AICR	1.70x	1.30x	1.77x	1.66x	(0.12x) - (0.12x)	(0.07x) - (0.06x)	(0.04x) - (0.05x)	1.55x	1.42x
S&P	FFO/Debt	15%	9%	17.8%	14.8%	(0.4%) - (0.4%)	(0.3%) - (0.3%)	(0.1%) - 0.5%	17.0%	14.7%
Dividend Yield exc return of capital				3.0%	3.1%	(2.0%) - (2.4%)	(0.4%) - (0.4%)	(1.3%) - (1.4%)	(0.7%)	(1.2%)

41 We have conducted the pre-defined stress tests proposed by Ofgem and these can be found in section K.1 (Appendix 1). Under all individual stress tests (e.g. Totex, Macro economic assumptions and Incentives (RORE)), no sub investment downgrade triggers are met. The biggest impact is the RORE downside which is aimed at incentives and drops to around the sub investment grade threshold, however due to the small materiality on this area (maximum penalties in GD2 are approx. 25% of the Ofgem stress test value), we have not modelled this in our combined stress test.

42 We have run a more robust, risk scenario above capturing a combined set of downside risks, shown in table 6B above, which recognises the asymmetric cost pressures that have not been funded in GD2 in Southern, risks of not accurately providing for the cost of debt (eg gas premiums) and macro assumptions. Although Southern Network falls to BBB- / Baa3, when these stress tests are combined, it remains investment grade. However, longer term investability concerns set out throughout this annex remain.

43 Please note the actual company base cash and nominal PMICRs are as per SGN's forecasts, as per the rationale explained in section B.2 above. All other actual company output, all notional company output and stress test output is from the BPFM (for the PMICRs stress test variances are applied to the SGN forecast actual company base case PMICRs). Section B.2 above also shows the actual company base cash and nominal PMICRs output from the BPFM.

B.4 Financeability Challenges and Mitigations

44 Whilst the ratios in GD3 are just within the credit metric targets set out, using Ofgem's working assumptions (including neutral totex performance), we believe there are material financeability and investability challenges facing the Company, both in GD3 and the longer term. We have examined the building blocks of RORE and have determined that Totex and Financing are the two material drivers of risk. We have also captured the long-term risks identified in the Finance Chapter and this annex relating to financeability, investability and affordability. We believe this covers all applicable measures to aid financeability. As per the Ofgem business plan guidelines, we have therefore summarised in table 7B below an explanation of the key areas of company risks SGN currently face and also in the longer term, mitigating actions available to the company (including gearing) and what regulatory / government mitigations are required:

Table 7B: Key Areas of Risk and Mitigation Actions (Company and Ofgem/Government)

Area	Challenge	Company Mitigations	Ofgem / Govt mitigations
GD3 Totex	In GD2, Southern Network is overspending its Totex allowances by 8% (industry is overspending by 5%). Risk Ofgem continue to underfund allowances in GD3.	We have submitted an efficient GD3 Plan which we consider to be value for money. Due to the compliance nature of our business, there are minimal options to cut discretional spend (which would be suboptimal to consumers).	We set out proposals to strengthen cost assessment process to ensure all efficiently incurred costs (such as the cost of working in London / South-East) are fully funded.
Cost of Debt	Risk that due to increasing market pressures, financing costs will increase significantly in GD3, and the current funding mechanism will be insufficient.	Mitigations were undertaken in GD2 to access wider markets and reduce short term cash interest through derivatives. Debt capacity is reducing, tenors shortening, spreads widening driven by regulatory / government policy out of our control. Refinancing risk will increase as debt investors shorten tenors and maturities become more concentrated. [redacted]	The cost of debt funding mechanism should have uncertainty measures in place to ensure that all efficiently incurred gas premiums are fully funded. We also believe in parallel, a review of the appropriateness of the iBoxx utilities index used to calibrate ex-ante allowances should be reviewed.
Additional Borrowing Costs (ABC)	Risk that efficiently ABCs are not covered by the GD2 25bps allowance in Ofgem's working assumptions. Shorter tenors / higher interest rates make the continuation of 25bps unsustainable.	ABCs are market driven.	Ofgem should adopt our ABC proposals for 48bps plus 12bps to recognise a small company premium in Scotland.
Disconnect between RAV and Totex longer term	Risk that as RAV falls to low levels in 2040s faster than Totex, equity return risk buffers through cost of equity are insufficient to compensate for Totex risks.	None available without impacting network safety and reliability.	SGN's trigger option for accelerated depreciation partially mitigates if holistic pathway does not materialise but more fundamental reform of RAV based model required.
Longer Term Revenue recovery	In the 2040's there is a risk that as bills become unaffordable, Totex / pass-through Costs as well as depreciation are not recovered.	None available without impacting network safety and reliability.	Charging reform needed to ensure all efficient costs are recovered from a wider customer base (e.g. all energy uses, general taxation etc.) Accelerated Depreciation alone will not mitigate this material proportion of the bill.
Gearing	There is a risk that interest costs become too high to support credit metrics.	Gearing level at around 65% to 67% already supports a BBB+ / Baa1 investment grade target rating and not excessive compared with 60% at the notional level. Reducing gearing further would directly impact our underlying dividend yield, which is already	True up for gas premiums incurred in GD3 and an appropriate underlying dividend yield (consistent with cost of equity) would mitigate unnecessary need to de-gear.

Area	Challenge	Company Mitigations	Ofgem / Govt mitigations
		below the appropriate level for cost of equity and would be insufficient to attract investment.	
Investability	Risk that Gas Networks cannot attract / retain equity as the Network does not appear to be an attractive proposition.	None available without impacting network safety and reliability.	An appropriate cost of equity supported by robust CAPM methodology and Cross Checks together with the necessary reform of the regulatory model.

Source: SGN Analysis

Section C SGN's Alternative Working Assumptions

45 Our assessment of alternative working assumptions is divided into three sections.

- The first, section C.1, assesses the impact of accelerated depreciation and looks at the challenges that this creates if we assume that the holistic transition pathway is maintained and the challenges if the counterfactual is maintained. We propose an alternative 'calibrated' accelerated depreciation approach which avoids locking us into a pathway prematurely.
- The second, section C.2, assesses the evidence that identifies a recalibration of the cost of equity is appropriate when taking into account future of gas risk, market calibration and methodological issues
- The third, section C.3, assesses the evidence on the cost of debt and the risk premium that markets are already pricing into the cost of debt and how this has arisen during GD2. We then assess the risk that further increases may happen during GD3. We therefore propose an ex-post true up mechanism that would ensure that the cost of debt allowance appropriately reflects current market evidence and captures further changes in the perception of gas sector risk. Finally, we consider the appropriate level of Additional Borrowing Costs for GD3, which we believe needs to increase significantly from the allowances in GD2.

46 We believe our alternative assumptions are realistic and in the best interests of consumers because:

- We demonstrate our alternative approach to accelerated depreciation is in consumer interests – as it avoids potentially unnecessary bill increases in GD3 without creating new issues over the longer term.
- Gas Networks need to be investable and financeable longer term to maintain safety and reliability.
- This will also allow the gas networks to play a full role in the orderly transition to net zero.
- Risk of downgrades will increase the cost of debt significantly, again not in consumer interest

47 These measures need to be taken in conjunction with wider reform of the regulatory model which needs to be clearly signalled in the GD3 final determination including:

- commitments to RAV and Cost recovery.
- mechanisms to share future costs that are unaffordable to gas consumers (particularly in the 2040's) across a wider customer base (in certain energy pathways).
- longer terms mechanisms to deal with financeability concerns as RAV falls faster than Totex and debt moves to a more amortising structure.

48 All these require Ofgem and Government leadership supported by the industry.

C.1 Accelerated Depreciation

Key conclusions

49 As set out in Chapter 10 of the SGN Business Plan, SGN recognises that Ofgem considers Accelerated Depreciation to be an important tool to mitigate the perception of asset stranding, smooth customer payments and avoid unaffordable bills. However, our assessment shows that the adoption of Accelerated Depreciation does not achieve these objectives and creates additional issues for consumers and stakeholders which are set out below.

50 We have considered the application of Accelerated Depreciation under two of the FES customer transition scenarios – holistic and counterfactual (shown in figure 1C below) - both of which present significant but different concerns;

- In the first scenario, where customers migrate away from the network as anticipated under the holistic scenario, we find that customer bills are peaky and reach unaffordable levels. These unaffordable bills increase the risk of RAV and ongoing costs non-recovery. In addition, as the RAV is reduced significantly, the approach will result in the return on the RAV being insufficient to compensate investors for the risks of operating the network and debt tenors will reduce to the point that funding will need to switch to an amortising basis. Both of these factors will result in additional costs for consumers.
- In the second scenario, counterfactual, there are sufficient customers remaining on the network to provide for smooth and affordable bills to mitigate perceptions of risks to RAV recovery. However, where an Accelerated Depreciation profile such as proposed by Ofgem is adopted, the RAV will be reduced and so the additional costs to provide for appropriate returns and amortising debt will still be incurred. In addition, customers in GD3 & GD4 would have paid higher bills for accelerated depreciation that was neither required nor appropriate.

51 Given the implications of the above, we have proposed an alternative 'calibrated' approach – which is effectively a variant of the acceleration factor based approach proposed by Ofgem, to accelerated depreciation, that links customer migration numbers (and therefore economic use of the asset) to the rate of depreciation. We believe that this approach provides an appropriate level of flexibility to calibrate accelerated depreciation to customer behaviour rather than locking down a high-risk approach today in the absence of answers to some fundamental questions that are outstanding.[5]

52 However, in isolation accelerated depreciation does not and cannot address the RAV recovery issues and cannot solve these wider cost recovery issues. We believe potential solutions are dependent on Government policy addressing the question of how RAV recovery and ongoing costs should be recovered when there are fewer customers remaining on the network, alongside how the costs of service disconnections and the cost of de-energising and decommissioning the network should be recovered. This wider policy context needs to be developed urgently and signalled as a part of the GD3 process to maintain investor confidence.

53 This section sets out more fully the evidence and analysis supporting our conclusions and why we believe our proposal is in consumer interest.

Ofgem Working Assumptions

54 Ofgem sets out four options in the SSMD for Accelerated Depreciation, to address the issues identified:

1. Depreciate all assets by 2050 (Sum of Digit).
2. As 1 but with acceleration factor to speed up / slow down levels of depreciation.
3. Depreciate all assets by 2050 (Straight line with acceleration factor).
4. Depreciate new assets only by 2050.

55 Ofgem guidance for companies' Business Plans was to include option 2 with a depreciation factor of 1. This makes options 1 and option 2 equivalent in terms of outcomes.

[5] In addition to considering depreciation profile our analysis has also considered recovery of Totex (and pass-through) costs. Without confidence in cost recovery there can be no confidence in RAV recovery and there would be significant financeability challenges. This is particularly important as costs will not reduce in proportion to reductions in customer numbers. This is because given gas networks investment is driven by safety and reliability requirements rather than volume of gas consumed or customers on the network. Accordingly, many of our costs are largely fixed at current levels longer term. The challenge is therefore one of cost recovery against a decreasing customer base. It should be noted that the Totex and pass-through costs in our modelling exclude service disconnections and network de-energisation and decommissioning.

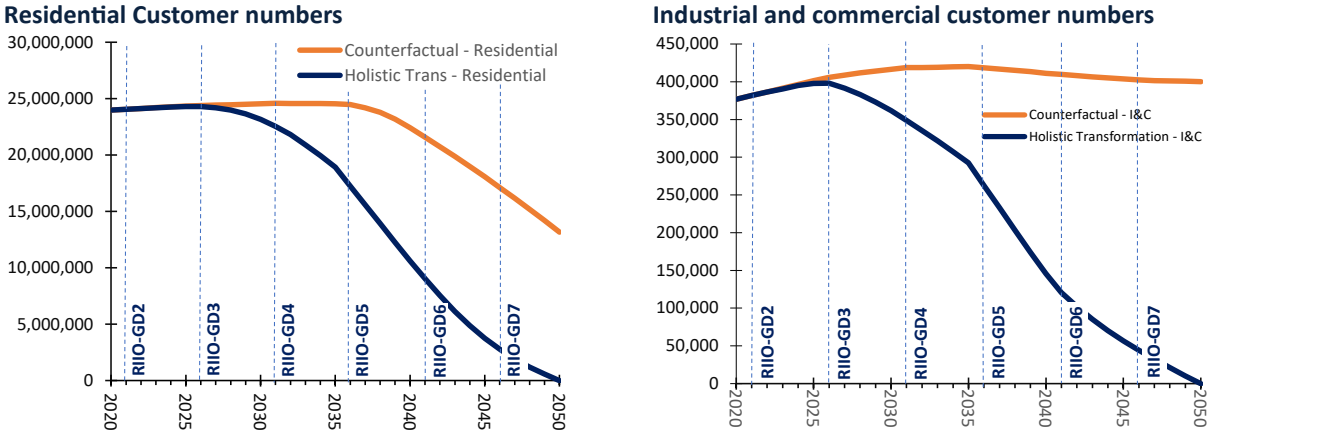
56 Ofgem asked companies to assess these options (and any alternatives) using the following criteria of: (i) customer bills during RIIO-3; (ii) future customer bills, (iii) perceived asset stranding risk and (iv) financeability.

57 We have employed option 2 as requested, and consistent with Ofgem's guidance include an alternative option for the reasons set out below, using the same assessment criteria as Ofgem proposed.

Customer Bill Impact

58 The impact on current and future customers' bills is very important to us and Ofgem. We have undertaken analysis to consider the impact on customer bills of the different Accelerated Depreciation options and with different FES scenarios. Figure 1C below shows the customer numbers of the holistic and counterfactual scenarios for SGN.

Figure 1C: Customer numbers by Scenario



Source: SGN analysis on NESO Future Energy Scenarios (table ED3 Gas and heat demand summary)

59 In contrast to Ofgem's analysis that only considered the impact of depreciation on customer bills, our analysis has included the full customer bill impact i.e. it also includes forecast Totex costs, pass through costs and return on the RAV. A full analysis of all cost impacts (our analysis does not include disconnection or de-energisation and decommissioning costs) is required to understand the full impact on customer bills. A partial assessment risks introducing incorrect policy solutions.

60 We have projected longer term Totex forward to 2050 based on the following assumptions in table 1C below:

Table 1C: Long Terms Totex assumptions

Cost	Description		
Direct Opex	Maintenance and repair costs, emergency work	80% of GD2 average is fixed, 20% is scaled with total customer numbers	GDNs are obliged to resource for emergency response standards and maintenance schedules irrespective of customer numbers. Majority of costs are caused by age, location and third-party interference rather than customer numbers. As set out in the main business plan, I&C customers would still need a significant proportion of the network operational.
Indirect Opex	Business support costs such as expenses on HR, regulation and buildings	80% of GD2 average is fixed, 20% is scaled with total customer numbers with a 5-year lag	A proportion of indirect opex is also de-linked from customer numbers, for the same reasons as above. Many of these costs are essentially fixed overheads. Variable costs only adapt to customer numbers with a lag taking time to adapt.
Load-related capex	Assets to accommodate changes in the level or pattern of gas supply and demand	20% of GD2 average is fixed, 80% is scaled to total customer numbers	New connections and reinforcement likely to reduce with customer numbers, albeit a small proportion fixed. Note: this is a relatively small proportion of GDN totex.

Cost	Description	Cost evolution beyond RIIO-GD2	Rationale
Non-load-related capex	LTS, Storage & Entry, Governors, SIU, other network and non-network capex	80% of GD2 average is fixed, 20% is scaled with total customer numbers with a 5-year lag	Flexing LTS, Storage & Entry projects will take time, hence the 5-year lag
Repex	Costs of the replacement of metallic pipes (e.g. HSE-led Iron Mains Risk Reduction Programme)	Trends down after T1 programmes ends in 2032: 20% in low-gas and 50% in high-gas pathways	Costs are likely to increase until 2032 due to complexity of work at the end of the Iron Mains Risk Reduction Programme. After 2032 it is likely T2 & T3 mains replacement will continue at an increased rate given evidence on mains deterioration (this is likely to be mandated by HSE).
Non-Controllable Costs	Includes NTS Exit Charges, Business Rates, Shrinkage Gas	Assumed 70% fixed and 30 % variable with customer numbers	Assuming NTS costs are largely fixed, and shrinkage will modestly fall as repex programme is completed

Source: SGN Analysis

61 The resulting Totex projections ('best view') are shown in table 2C below:

Table 2C: Totex scenarios under alternative FES Scenarios

Holistic customer profile EXCLUDING disconnection

Scotland						
£m 23/24 Prices	GD2	GD3	GD4	GD5	GD6	GD7
Opex	94	114	112	108	108	106
Repex	73	91	73	63	47	41
Capex	73	78	58	49	46	43
Totex	240	283	243	220	200	191

Southern						
£m 23/24 Prices	GD2	GD3	GD4	GD5	GD6	GD7
Opex	197	210	186	171	122	153
Repex	226	332	200	123	119	88
Capex	81	123	94	87	82	77
Totex	504	664	480	381	322	317

Counterfactual customer profile EXCLUDING disconnection

Scotland						
£m 23/24 Prices	GD2	GD3	GD4	GD5	GD6	GD7
Opex	94	114	114	115	115	111
Repex	73	91	140	144	81	14
Capex	73	78	58	49	46	43
Totex	240	283	311	308	242	167

Southern						
£m 23/24 Prices	GD2	GD3	GD4	GD5	GD6	GD7
Opex	197	210	189	184	126	161
Repex	226	332	355	328	206	210
Capex	81	123	94	87	82	77
Totex	504	664	638	599	414	447

Source: SGN analysis

62 As set out earlier in the Main Business Plan, the Network element of the GD3 Domestic Customer bill is forecast to be £186 which is broadly at the GD1 level (in 23/24 prices). However, policy proposals on semi nominal WACC and Accelerated depreciation, for GDNs specifically, will add approx. £45 p.a. to Domestic Customer bills in GD3 due to the acceleration of revenues. Service disconnections (which are excluded above) would increase this figure further.

63 Under the holistic pathway, due to the declining customer numbers, bills become unsustainable around GD5 / GD6 primarily because of ongoing cost and RAV recovery whereas under the counterfactual pathway, whilst bills are rising, they remain within credible levels. Table 3C below details the bill make up over time in more detail.

64 Analysing the bill buildup for SGN in GD7 more closely, it can be seen in table 3C below that depreciation only makes up approximately a half of bill whilst the total of depreciation and non-depreciation element averages £4,296 under a holistic pathway:

Table 3C Comparison of Depreciation vs Total Revenue By Price Control

£m 2023/24 prices	GD3	GD4	GD5	GD6	GD7
Fast Totex	324	297	280	270	259
Pass Through	159	155	142	125	105
Return	337	322	230	124	36
Tax	156	176	154	125	74
	976	950	806	644	473
Depreciation	634	710	676	613	473
Total Revenue	1611	1661	1482	1257	946
Domestic Revenue	82%	82%	82%	82%	82%
	1324	1364	1216	1030	775
Customers (Holistic P/way)	5,748,613	4,836,587	3,003,340	1,227,255	180,320
Bill (£) - Non Depn	140	161	220	430	2,149
Bill (£) - Depreciation	91	121	185	409	2,147

Source: SGN analysis[6]

65 Using the holistic scenario, none of the accelerated depreciation (AD) options solve or even materially mitigate the adverse impact on bills, as shown in table 4C below. The AD proposal as set out therefore fails to have the stated effect which underpins its introduction.

Table 4C – SGN Customer Bills by AD Option(2023-24 prices)

	GD3	GD4	GD5	GD6	GD7	FY26 to GD3
Holistic						
AD option 1	230	282	405	839	4,296	46%
AD option 3	192	252	412	1,026	7,024	22%
AD option 4	204	272	417	919	5,079	30%
No AD	195	241	363	802	4,846	24%
Counterfactual						
AD option 1	221	240	268	319	322	41%
AD option 3	184	212	260	361	513	17%
AD option 4	196	232	275	340	363	25%
No AD	187	201	224	268	329	19%

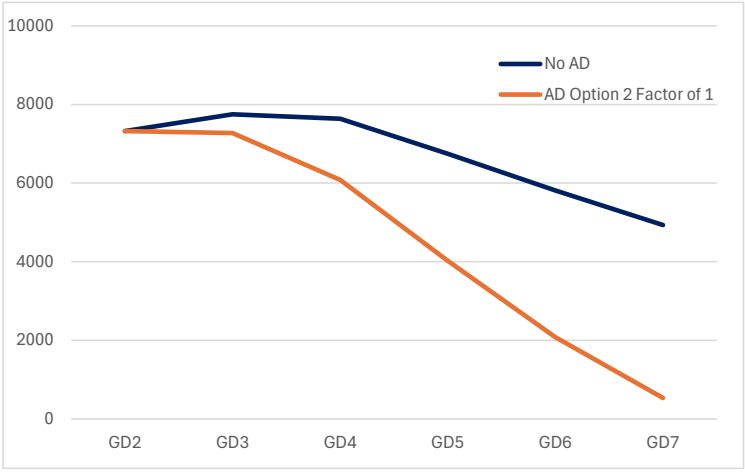
Source: SGN analysis

66 The increase in bills, under the holistic pathway, starts to become excessive from GD5 (10 years from now) under any of the Accelerated Depreciation options and is completely unaffordable from GD6 onwards, significantly risking recoverability of RAV and ongoing operating costs as a result. Unless mitigated, this will completely undermine investability. While there are some differences, given the unaffordability with any of the options, any differences are largely irrelevant.

67 This analysis illustrates that the risks of unaffordable customers' bills is not a function of the choice of depreciation policy, but rather a function of the impact of low utilisation of the gas network. This is an issue that is not solved or materially mitigated, in any way, through changes in depreciation policy, without other supporting policy changes.

68 Figure 2C shows that the real RAV declines under both depreciation scenarios with the Accelerated Depreciation Option 2 RAV depreciating to zero by 2050. Under the current policy, undepreciated RAV would be around

Figure 2C SGN real RAV £m 23/24 prices



Source: SGN analysis

[6] Note – the 82% is an estimate of total revenue passed on to domestic customers.

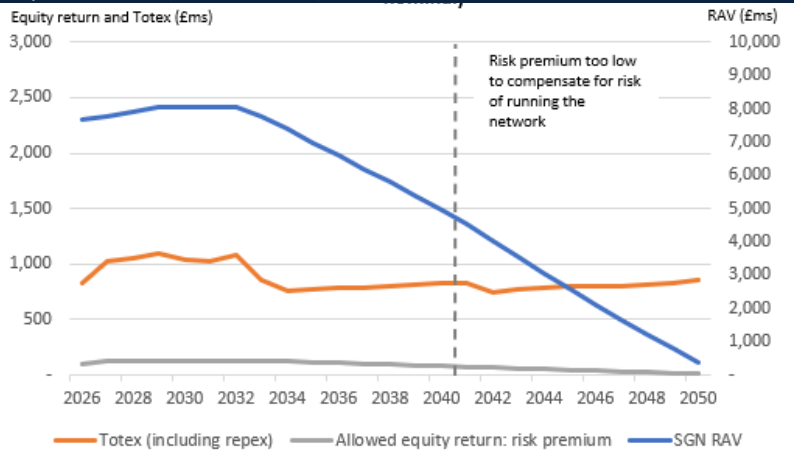
£5bn in 2050 – if the counterfactual customer profiles materialised, there would still be around 3 million consumers to continue funding the RAV post this date.

Financeability Concerns from Accelerated Depreciation

69 One of the objectives of the introduction of AD is to provide for confidence of RAV recovery. However, as shown in Table 4C above, RAV recovery by 2050 using AD is dependent on unaffordable bills, which means in practice that it cannot provide adequate comfort that RAV can be recovered in any realistic scenario.

70 A further issue with introducing AD in GD3 is that AD in itself creates additional financeability and investability issues. Figure 2C shows the impact of AD option 2 (with a factor 1) on the level of RAV. This highlights that Ofgem's working assumption results in a significantly lower RAV by GD5. The lower RAV will have a number of significant consequences.

Figure 3C RAV, equity return (risk premium) and totex requirements (£m nominal)



Source: SGN analysis

71 Firstly, as shown in figure 3C, the allowed equity risk premium component of revenue[7] will reduce significantly and will reach a point where the £ value of the equity return buffer will not be sufficient to compensate for the risks involved in running the network. These risks will be largely similar to today, even with a loss of customers. This is because we need to fully maintain the network whilst there is gas being contained within it, in a safe manner in accordance with our licence and broader regulatory obligations.

72 Secondly, in its financeability assessment for GD3 (and previous price controls) Ofgem asked for a 10% Totex over-spend sensitivity. This implies that an equity return (risk premium) buffer of at least 10% of Totex should be maintained to be able to accommodate Totex variations. As shown in the analysis in Figure 3C above, the level of RAV would fall below this level from the end of GD5 as indicated by the dotted line. Maintaining an equivalent equity return buffer to accommodate totex variations once the RAV is largely depreciated would need to be added as a building block to the regulatory model.

73 As a result, at this point the regulatory model breaks down and a new approach is required to ensure that investors (both debt and equity) are attracted into, and stay in, the market.

74 The KPMG report 'Debt Market Analysis: GDNs and UK regulated comparators' (SGN-GD3-ECR-05, provided to Ofgem earlier in the year) showed that for gas distribution companies the tenor of bond issuances debt is shortening relative to other GB network companies and cost of debt is increasing relative to the tenor-adjusted iBoxx Utilities index. As regulators signal the point at which the RAV will reduce to zero, debt providers will logically shorten the tenor further, which will increase concentration refinancing risk as tenors become shorter and shorter and a point will be reached where the nature of financing will need to change from fixed period debt to a form of annual amortising debt, which will be more expensive to fund. This is a further additional cost that is a consequence of the introduction of AD.

Uncertainty over Customer Pathways

75 The above has demonstrated that:

- There is a cost recovery concern as customer numbers decline and bills become unaffordable irrespective of whether accelerated depreciation is utilised or not;
- Assuming customer decline along the lines set out by the holistic scenario, then the cost recovery concerns create a risk around RAV recovery that AD was looking to avoid in the first place;
- If customer numbers decline at the pace identified by the counterfactual, then cost recovery concerns do not arise to the same extent;

[7] the allowed equity risk premium component of revenue is the allowed equity return less the risk-free rate, in £ terms

- With accelerated depreciation as the RAV declines the £value of the equity return buffer diminishes to the point that it does not compensate for the risks or provide a sufficient incentive to invest;
- As the RAV declines, additional funds need to be put aside to cover the totex risk that occurs on an annual basis; and
- The current regulatory model does not operate as an effective support of either financeability or investability once the RAV has depleted.

76 From the above analysis it is clear that there are significant doubts about whether the proposal to introduce any of the proposed AD options satisfy Ofgem's own criteria. We do not consider that the introduction of AD will in any way mitigate investor concerns over perceptions of asset stranding risk, reduce the risk of unaffordable bills or provide confidence in repayment of debt and equity investment.

77 These are significant issues with the proposed approach and as a result it is appropriate to stress test the outputs against alternative scenarios where the customers do not behave in the way that is forecast by the FES scenarios.

78 We consider there to be a number of reasons why testing against an alternative forecast is appropriate:

Figure 4C: Estimation ranges for heat pump uptake by FES pathway between 2022 and 2024 (millions)

Source: SGN Analysis

- The lack of evidence of an alternative heating solution being adopted by consumers through a consumer-led transition , i.e. there is not evidence supporting scenarios that anticipate a full household transition by 2050.
- The lack of evidence that the technology identified by FES as delivering this change is being supported to the extent anticipated by consumers purchasing patterns today. In the last two years only 80,000 customers have installed heat pumps compared to the 1 million identified in the FES 'Leading the Way' scenario.
- The FES scenarios vary significantly from year to year. Figure 4C above outlines the variation in estimations for the uptake of heat pumps between the 2022, 2023 and 2024 iterations of the FES across the three primary Pathways and the counterfactual. The bar shows the range in each year and the line shows the trajectory between the mid points. This shows a significant variance between forecasts. For example, the 2030 forecast (red box) for heat pumps has been revised downward by 58% in just two years from 6.9 million (2022 estimate) to 2.9 million (2024 estimate).

79 Given the consequences set out above of significantly reducing customer numbers, significantly reducing RAV and a regulatory model which requires adaptation under a declining RAV and customer number scenario, it is important that all implications are fully assessed and considered.

80 The issues above highlight the potential issues that may arise from the introduction of AD in the longer term. However, there are also short-term issues, with a significant number of customers struggling with bills it does not seem appropriate to add further to bills unnecessarily in GD3 from the introduction of AD, which would add £35 per annum to GD3 bills unless there are clear and tangible long-term benefits.

81 This suggests that customers would be better served by means of a flexible re-opener or trigger mechanism which reflects that which is actually being experienced as both and customer behaviour continues to evolve.

SGN Alternative 'Calibrated' Accelerated Depreciation Profile

82 We have therefore included an alternative proposal which aligns with Ofgem's option 2 approach of reviewing the acceleration factor in light of experience and new information and provides a calibrated mechanism to determine the level of the acceleration factor.

83 The calibrated mechanism could be used to implement Option 2 and allows the level of the acceleration factor to reflect actual experience of customer switching to an alternative heating source in a given year, without the need to follow any forecast profile of transition.

84 The alternative proposal would assess the current rate of transition of customers to alternative heating options and take the assumption that the rate of change would continue at the same rate in the future and the date at which full transition would occur could be calculated.

85 The acceleration factor would then be set at the rate necessary to fully recover the RAV by that date. If the level of depreciation generated from this method was less than the GD2 methodology, the existing depreciation approach would be used. Once the rate of transition was such that the RAV would be depreciated more quickly under the calibrated mechanism than under current policy, additional accelerated depreciation would be charged.

86 As a result, the level of accelerated depreciation would not be charged and reflected in customer bills until evidence from the rate of transition indicated that transition would occur faster that implied by current depreciation policy. Bills would therefore not increase in GD3 unless evidence of consumer switching supported the need for accelerated depreciation.

87 Such a calibrated mechanism could be set out in the licence so that any changes are clearly understood and can be anticipated and responded to.

88 While the alternative SGN mechanism will provide benefits and avoid the need for the RAV to be reduced or bills increased before there is tangible evidence of customers switching, it does not provide for a long-term affordable and financeable business should the level of customer attrition forecast under the Holistic Pathway ultimately transpire. Accelerated depreciation, on its own does not and cannot provide the answer if there is a rapid decline in the utilisation of the network. It is essential that Ofgem work with Government and key stakeholders to provide for the costs of energy transition to net zero to be shared across all energy customers. In addition, there is a need, as utilisation of the network reduces, for a longer-term evolution of the regulatory model from that of simply RAV/WACC building blocks. This needs to start in GD3.

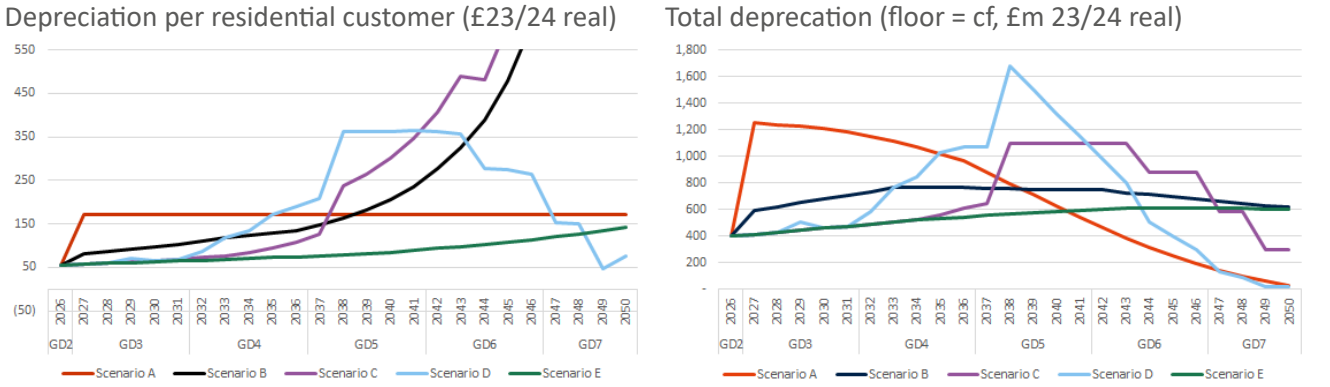
Social Impact of Accelerated Depreciation Options

89 We have examined the impact on customer bills of our proposed calibrated accelerated depreciation profile against 4 other scenarios. These are:

- Scenario A: creates the ideal depreciation charge (same cost per customer per year) with perfect knowledge of customers' movements.
- Scenario B: represents the Ofgem base case of Option 2 with an Accelerated Depreciation factor of 1.
- Scenario C: uses our proposed calibrated accelerated depreciation factor, aligned with the number of customers leaving the network.
- Scenario D: uses the same approach as Scenario C but includes an equalisation mechanism that looks to equalise the cost to customer over the remaining life of the asset.
- Scenario E: assumes no change on existing depreciation policy.

90 The impact of each of these is shown in Figure 5C below in terms of the level of depreciation per residential customer and the total depreciation observed assuming that the holistic pathway is maintained.

Figure 5C Depreciation Per Residential Customer and Total Depreciation, By Scenario



Source: SGN Analysis

91 This identifies that:

- Scenario A (perfect knowledge) has the same cost per customer throughout the holistic pathway, leading to high level of RAV recovery in the first years of GD3 and rapidly declining thereafter as customer numbers reduce. This is the 'fairest' approach, if there is perfect knowledge.

- Scenario B (Ofgem's business planning requirement) depreciation costs increase rapidly over time, but pace of accelerated depreciation lags behind C and D. Charges for customers become unaffordable.
- Scenario C (our proposed calibrated mechanism) would both introduce higher levels of accelerated depreciation once consumer migration has picked up compared to scenario B with a significant step change anticipated in GD5, if the holistic pathway was followed after a slower start.
- Scenario D (calibrated mechanism with equalisation) aims to provide for intergenerational fairness once the rate of change was sufficient to justify moving to AD but as it always assumes that the rate of change is linear from the last year's change as such it does not achieve the same consistency as Scenario A.
- Scenario E assumes network utilisation and customer numbers follow the FES24 Counterfactual pathway and the network is depreciated consistent with the current policy.

92 If there was confidence that the holistic pathway would materialise, an equalisation approach (scenario D) would provide for a more even charge over time and avoid completely unaffordable charges in future periods. As outlined above, it cannot however on its own deal with increased charges on Totex for low utilisation and the framework would continue to present financeability challenges once RAV was significantly reduced, requiring additional returns and different financing approaches.

93 Ofgem's (scenario B) approach to accelerated depreciation means that should holistic pathway materialise that individual customers are undercharged in the short term and significantly over-charged in the later years; however, should a scenario closer to counterfactual emerge, Ofgem's scenario B would result in customers paying higher than necessary or appropriate bills and ultimately give rise to higher costs than under the accelerated depreciation trigger mechanisms. Ultimately Ofgem's Scenario B is not as effective as Scenario A or D in providing fairness in the context of Ofgem's consumer duty.

94 Under the calibrated accelerated depreciation approach (scenario C) any increase in bills is deferred under the holistic scenario until 2035 when the rate of customer transition justifies it introduction. Bills then increase above Ofgem's approach when the trigger is first activated but avoids massive increases in charges in later periods.

95 The above assume that the holistic pathway is followed. If the counterfactual out turned in reality, the trigger approach would have avoided an unnecessary bill rise in GD3, with no subsequent costs.

Initial conclusions

96 If the counterfactual scenario turns out to be reality, there would be a high cost of implementing AD from the start of GD3:

- The present cost (PC) of the depreciation component of residential customer bills to 2050 (assuming a 3.5% societal discount rate) would be £2.8bn more than would have been the case with the existing depreciation approach.
- An additional cost of £490m (PC terms) would be incurred to provide for the additional return required to support totex risk from 2038.
- There would be other additional costs associated with debt refinancing and potentially higher costs of shorter tenor amortising debt.

97 Even if the holistic scenario does turn out to be reality, the PC of the depreciation component of customer bills would effectively be unchanged (scenario D) or be still lower with the calibrated mechanism (scenario C) compared to Ofgem's SSMD position (scenario B).

98 The PC of depreciation component of customer bills would be £659m lower (scenario C), driven by the bill profile over time, where AD is only switched on with clear evidence that transition is happening at a sufficient rate.

Table 5C: Present cost of total depreciation charged to residential customers to 2050

3.5% discount rate (£m 23/24 real) ***positive = Present cost of additional depreciation*** *'-' no change*	**Variance if Holistic Transition pathway transpires**	**Variance if Counterfactual pathway transpires**
Scenario B: (Business plan requirement)	*No change*	2,781
Scenario C: (Calibrated mechanism)	(659)	*Not required*

Scenario D:(Calibrated mechanism with equalisation)	24	*Not required*

Source: SGN analysis

99 Furthermore, given there are questions around feasibility of bills in later periods, it may be more appropriate to place greater weight on bills in GD3-4, which would support the introduction of a trigger to mitigate against unnecessary near-term bill rises if the counterfactual outturns.

100 By creating a direct link between the rate of customer attrition and AD, the calibrated mechanism would also provide greater certainty to investors as to how AD may be assessed in future price controls. If Ofgem were to implement this proposal today, it would provide an indication of how the AD factor would be calibrated at RIIO-4 and beyond, if customer numbers were not to outturn in line with the holistic pathway in GD3.

101 A calibrated mechanism could in theory lead to significant shifts in accelerated depreciation factors if there was a mass movement away from the gas network, however real world constraints (supply chains, installer numbers and customer inertia) mean such a scenario could not be realised in practice.

102 The analysis, in table 5C above, has not considered the impact of service decommissioning and de-energisation or decommissioning more generally. As a broad estimate, as customers leave the network gas distribution companies need to ensure that the service is decommissioned. The current costs of this in SGN are £1300 per connection. With 6 million customers to disconnect this will result in a cost of up to c.£8bn (dependent on level of customer funded disconnections), which if it occurs over a relatively narrow period of time will be unaffordable. Even over the period of 25 years to 2050 this would amount to £320m pa which would represent a c.25% increase in revenues to be absorbed by an ever-decreasing number of customers. This is before the significant cost of decommissioning the mains network.

103 Once the network is closed down there will be a need to be a complete and safe decommissioning of the network, which will need to be funded as there will be no customers to contribute to the costs.

C.2 Cost of Equity

104 The capital markets and macroeconomic contexts we are currently facing are markedly different from those when the RIIO-2 price controls were being determined. It is therefore critical that the regulatory allowance enables companies to offer investors returns that are attractive and provide companies with reliable access to sufficient capital. A series of cost of equity, and cost of equity cross checks, reports have been prepared by Oxera and Frontier to provide the evidence base to determine an appropriate cost of equity range that SGN can propose.

105 Oxera have written three reports that provide the evidence base to determine the appropriate cost of equity that SGN can propose:

1. RIIO-3 Cost of Equity – CAPM Parameters (SGN-GD3-ECR-12), sets out the cost of equity parameters that are applicable to all energy networks, i.e. energy networks baseline estimates for RIIO-3, before the consideration of sector specific forward-looking risks;
2. Cost of Equity for RIIO-GD3 (SGN-GD3-ECR-13), sets out evidence of how to reflect gas specific risks in an appropriate GDN Cost of Equity range, through a revised GDN asset beta allowance; and
3. Regulatory Regimes and Business Mixes of Relevant European Comparators (SGN-GD3-ECR-14), assesses whether the five European energy network comparators identified by Ofgem show similar, higher or low risk than GB energy networks.

106 **An executive summary of these reports and their key findings are set out below.**

RIIO-3 Cost of Equity – CAPM Parameters (SGN-GD3-ECR-12)

107 Oxera assess the evidence on the Risk Free Rate (RFR), Total Market Return (TMR) and Beta which are summarised below. They broadly welcome a number of changes to Ofgem's methodology in the SSMD following the SSMC process, however, they do raise the following areas of disagreement in relation to Ofgem's intended methodology for the estimation of the CAPM parameters.

Risk Free Rate (RFR)

108 In the determination of the RFR, Ofgem does not account for the convenience premium embedded in the gilts, despite the existence of the convenience premium being well documented in academic literature. Moreover, other regulators, including the Competition and Markets Authority (CMA), the Civil Aviation Authority (CAA) and the Utility Regulator (UR), have adjusted the government bond yield for the convenience premium. Although the value of this premium varies over time, making no adjustment for it when setting the RFR introduces a downward bias to the estimate for a five-year price

control period. They also note that despite the H7 and Northern Ireland Electricity decisions being published after the RIIO-2 appeals, the CAA and UR still included a convenience premium.

109 Furthermore, Oxera show that Ofgem's exclusion of the premium rests on analysis that produces a negative convenience premium. This is inconsistent with the extensive evidence, presented in the report, supporting a positive convenience premium.

110 Correcting Ofgem's calculations results in a positive convenience premium of 0.27% above a 20-year ILG (RPI-real) of 1.16% (1st July 2024 cut off as per Ofgem's latest WACC Allowance Model for RIIO-3).

111 Based on the findings of the Oxera report (SGN-GD3-ECR-12), SGN recommend that this positive convenience premium of 0.27% should be combined with the 0.11% RPI-CPIH wedge calculated by Ofgem, to give a RFR of 1.54%

Total Market Return

112 In their report Oxera set out areas identified where Ofgem's SSMD methodology should be revised. These are;

- Ex ante TMR: The SSMD applies a downward adjustment (the Cost-of-Living Index (COLI)-Consumption Expenditure Deflator (CED) adjustment) to the Dimson, Marsh and Staunton (DMS) decompositional approach, to reflect the difference in the historical inflation series used by DMS and Ofgem. This adjustment is no longer necessary, as DMS provides sufficient data to estimate a nominal dividend growth rate which can then be deflated using the same historical inflation series used by Ofgem to estimate the ex-post TMR. Removing the COLI-CED adjustment while correcting the inflation series significantly increases the value of the ex-ante TMR. In addition, the SSMD applies a downward adjustment for serial correlation. However, there is no evidence of serial correlation in the historical data at standard levels of statistical significance. As such, there is no basis for this downward adjustment when calculating the ex-ante TMR. Finally, Ofgem gives equal weight to the ex-post and ex ante approaches. Oxera consider ex ante approaches to be not particularly informative, for example because they involve a degree of subjective judgement about how the future will be different from the past, and thus Oxera consider it is not correct to place 50% weight on historical ex ante approaches. Instead, Oxera propose that the TMR allowance should be informed predominantly on the basis of the one-year arithmetic mean approach, which gives a TMR of 6.96% (rounded up to 7.0%). However, to the extent that Ofgem decides to place any weight on historical ex ante approaches, Oxera state that the evidence presented in relation to the COLI-CED, and serial correlation adjustments supports an ex ante TMR of 6.85% which is significantly higher than the estimate set out in the SSMD of 6.50%. A higher ex ante TMR would also be aligned with the recent convergence between ex ante and ex post TMR that Oxera highlights.
- The relationship between gilts and TMR: The SSMD proposes not to reflect the higher interest rate environment in the estimation of the TMR, although it accepts that this is a potential issue. This is inconsistent with past regulatory practice of reducing the TMR as interest rates decreased. Oxera also highlight that UKRN guidance states the TMR should not be considered to be fixed, but should be relatively less variable than the underlying RFR. Oxera recommends that Ofgem should reflect the current interest rate environment when setting the TMR range. Following a 'through the cycle' approach that gives no weight to changes in market conditions risks underestimating the TMR and not supporting companies in retaining and attracting investment in RIIO-3, due to reducing investability (across the energy sector at a time when the need for capital is increasing materially).

113 The SSMD sets out an 'early view' on the TMR is a range of 6.50–7.00%. Oxera's analysis of the historical evidence and current market conditions points towards a TMR range of 7.00–7.50% (CPIH-real) for RIIO-3. This range takes into account the 'through the cycle' estimate, as well as current market conditions. In fact they cannot exclude the possibility that values higher than 7.50% would be required at this point in time.

114 It is highly likely that the recent increase in gilt yields will not have been entirely offset by a reduction in the equity risk premium, and therefore will have led to upward revisions of investors' expectations of market returns. Oxera note that when a similar level of gilt yields was last seen, the TMR allowance was above 8.0% in CPIH-real terms.

115 The relationship between gilt yields and TMR has also been analysed by Frontier Economics (SGN-GD3-ECR-15), with its TMR cross-checks also supportive of a TMR range for RIIO-3 of 7.00–7.50%, with a point estimate towards the top of the range, in the current interest rate environment. **Therefore SGN recommend a TMR value towards the top of a 7.0-7.5% range.**

Beta

116 Oxera are supportive of including European comparators, stating it is not clear why the asset risk between UK and other European energy networks would be seen as less relevant than the risk of two different industries in the same country, such as UK water and energy networks.

117 At the same time, they disagree with the SSMD's decision to exclude Pennon from the sample of beta comparators and show that the concerns about Pennon's historical non-water business are not supported by Oxera's analysis. Moreover, the SSMD did not provide sufficient justification for excluding Pennon, especially when considering that the company was part of the sample in RIIO-2. Therefore, and considering also that by the time of the RIIO-3 final determinations there will be more years of Pennon data with a limited level of non-water business, Oxera believe it is appropriate to include Pennon in the sample.

118 The SSMD sets out an 'early view' on the asset beta range of 0.30–0.40. However, Ofgem is expecting a higher beta for RIIO-3 compared with RIIO-2, and the regulator acknowledged that its preferred approach would result in a point estimate towards the upper end of the 0.30–0.40 asset beta range. On this point, they note that current evidence suggests that there are many factors putting an upward pressure on the risk of energy networks, pointing towards a range of 0.35–0.40 or higher.

119 More broadly, Oxera set out that equity returns will need to be set at a level that ensures the investability of the energy sector, not least because of the asymmetric consumer welfare loss in case of under-investment. The beta choice will be another significant determinant of investability (in addition to TMR).

120 Taking all of this into account, **Oxera consider a narrower beta range of 0.35–0.40 to better reflect the challenges that energy networks will face during RIIO-3, before the consideration of sector specific risks. SGN support this view of the energy networks beta range before consideration of sector specific risks.**

Overall Cost of Equity before Gas Specific Risk are taken into account

121 The 'early view' set out in the SSMD of the allowed cost of equity (CoE) for RIIO-3 is a range of 4.57–6.35% (CPIH-real, at 60% gearing). This becomes a range of 4.60–6.36%, using 1 July 2024 as the cut-off date, with a midpoint of 5.45%. Oxera agree with the SSMD's observation that focusing on ten-year betas and adding European companies to the sample would result in an estimate in the upper half of the 0.30–0.40 asset beta range presented in the SSMD, and hence in the upper half of the CoE range. Restating the SSMD's CoE range for the upper end betas results in a revised SSMD CoE range of 5.26–6.36%, with a 5.79% midpoint (using 1 July 2024 as the cut-off date).

122 Adjusting the RFR, TMR and beta for the points discussed above results in an Oxera CoE range of 5.70–6.83% (CPIH-real, at 60% gearing). The 5.45% midpoint of the range calculated using the SSMD methodology is below the bottom of the Oxera CoE range.

123 Table 6C below outlines the CAPM parameters underlying Ofgem's[8] and Oxera's CoE estimates *before* incorporating the evidence of gas specific risks.

Table 6C: Ofgem SSMD CoE Range and Oxera CoE Range (Pre Gas Specific Risks)

	Formula	Ofgem (RIIO-3 SSMD)			Oxera		
		Low	High	Midpoint	Low	High	Midpoint
RFR[1]	[A]	1.27%	1.27%	1.27%	1.54%	1.54%	1.54%
TMR	[B]	6.50%	7.00%	6.75%	7.00%	7.50%	7.25%
Asset beta	[C]	0.30	0.40	0.35	0.35	0.40	0.38
Re-levered equity beta at 60% gearing[2]	[D] = {[C] – (gearing*beta debt)} / (1-gearing)	0.64	0.89	0.76	0.76	0.89	0.83
CAPM CoE	[E] = [A] + [D] × ([B] – [A])	4.60%	6.36%	5.45%	5.70%	6.83%	6.25%

[8] Based on a cut-off date of 1 July 2024. The value of Ofgem's RFR differs from the value reported in the RIIO-3 SSMD, as the value in the table reflects Ofgem's latest estimate of the RFR included in the latest WACC Allowance Model for RIIO-3)

Source: Oxera[9]

Cost of Equity for RIIO-GD3 (SGN-GD3-ECR-13)

124 There are gas sector-specific, forward-looking risks, that are not properly reflected within the sample that Ofgem examined in the SSMD (i.e. UK water, National Grid and European energy networks).

125 In weighing the evidence at its disposal to derive its asset beta estimate, Ofgem should account for the fact that the forward-looking risks faced by gas networks are inadequately captured by UK water networks, who face different systematic risks compared to gas networks and whose RAV is expected to increase significantly by 2050. Overall Oxera consider that Ofgem's statement that:

'*The Water networks in England and Wales as having (…) thematically similar challenges relating to ensuring resilience, managing investment and adapting to climate change'*[10]

does not directly apply to the gas sector as the implications of net zero for gas networks are very different to what they are for water companies, in particular in terms of required levels of investment and future utilisation levels. Gas sector-specific risks are also not fully reflected within the beta estimates of National Grid, who divested gas assets from 2017 to 2023 following its strategy to pivot its portfolio towards electricity.

126 Therefore, it is appropriate to assess further evidence to inform a gas-specific asset beta range that would adequately represent the gas-specific risks faced by the GDNs in RIIO-3 and beyond. Due to the lack of pure-play publicly listed gas networks in Great Britain, Oxera focus their assessment on three listed European gas networks (which are in Ofgem's beta sample), who face largely similar risks, under the regulatory frameworks in which they operate, as the GDNs. They also show how the use of European comparators in determining asset betas is not unusual for UK and European regulators, and review asset beta allowances by European regulators for gas transmission (GT), gas distribution (GD), gas storage and regasification assets.

127 In order to further inform our analysis of a gas-specific asset beta range, they then widen the sample of comparators to include network companies from other countries. As a starting point, they look at the international sample used by the New Zealand Commerce Commission (NZCC) for its beta allowance for energy networks—the NZCC screens for pure-play gas networks across Australia, New Zealand, the UK and the USA. Combined with the European gas network comparators, this results in a comparator sample of nine US gas networks and three European gas networks.

128 Oxera observe that while the level of asset betas varies among companies, most asset betas in their analysis follow a similar pattern over time. The co-movement of gas network companies' betas in the international sample they assess, supports their hypothesis that the risks of these companies are reasonably similar and representative of the gas network sector.

129 The overall asset beta range based on the described evidence is 0.29–0.50. They have narrowed down this gas-sector range of evidence to 0.40–0.44 based on the following considerations;

- Oxera consider 0.40 to be an appropriate lower bound for their gas specific asset beta range, in light of European evidence, whether empirical (the evidence on the long-term European gas networks' asset betas suggesting a figure towards the top of Ofgem's own focal SSMD range of 0.35 to 0.40), or regulatory (precedents on the asset beta allowance for gas networks being in a range of 0.38–0.50). Furthermore, the empirical analysis of the asset betas of their sample across the two considered geographies (i.e. the USA and Europe) shows that most of the estimated asset beta averages are above 0.40, with only the very short-term (i.e. the spot and two-year average of the two-year asset betas) below this mark. Given Ofgem's view that more weight should be placed on long-term betas, supported by GB regulatory precedent by Ofwat, CMA and Ofgem, Oxera consider that the balance of the evidence supports a lower bound of 0.40.
- As for the upper bound of the narrow range, Oxera consider 0.44 to be appropriate. Indeed, it is the midpoint of the range of European regulatory precedents on asset beta allowances for gas networks (0.38–0.50). It is also consistent with the average of the long-term betas in the two considered geographies within the sample (i.e. the USA and Europe). They note that in consolidating the upper bound of our narrow range, they retain the simple average of the European and US asset betas, which implicitly gives more weight to European evidence, as there are less European than US comparators in the extended sample.

[9] Note RFR of 1.27%, and thus CoE of 5.45%, differ from the values reported in SSMD (1.18% RFR and 5.43% CoE) as the value in the table reflects Ofgem's latest estimate of the RFR included in the latest WACC Allowance Model for RIIO-3.
[10] Ofgem (2024), 'RIIO-3 Sector Specific Methodology Decision – Finance Annex', 18 July, para 3.202.

130 Oxera then explain that while a 0.40–0.44 asset beta range robustly reflects gas-specific evidence, they observe that Ofgem will likely attribute some weight to the non-gas UK evidence (as per Ofgem's SSMD sample), when forming a judgement on the RIIO-GD3 allowed beta. In order to reflect this, Oxera assume a wider range of 0.38–0.44 for RIIO-GD3 is appropriate to cross-check the calculation of the CoE based on the capital asset pricing model (CAPM). Specifically, the lower bound of this range is equal to the midpoint of Ofgem's own focal SSMD range, and it is consistent with the lower bound of the precedents on gas asset beta allowances in Europe.

131 Combining a GDN asset beta range of 0.38-0.44 with the RFR and TMR ranges used in their energy networks baseline cost of equity range, as set out in paras 107-114 above, Oxera recommend a RIIO-GD3 Costs of Equity Range of 6.0%-7.4% *after* incorporating the evidence of gas specific risks, as shown in table 7C below. Oxera also set out in their report how this range is supported by their asset risk premium-debt risk premium (ARP-DRP) framework as a cross check, incorporating the gas premium in debt markets.

Table 7C: Oxera RIIO-GD3 Cost of Equity Range

	Ofgem (SSMD) Mid-point	Oxera (evidence)	
		Low	High
RFR	1.27%	1.54%	1.54%
Debt beta	0.075	0.075	0.075
Asset beta	0.35	0.38	0.44
Notional Gearing	60%	60%	60%
Equity Beta	0.76	0.83	0.99
TMR	6.75%	7.00%	7.50%
Cost of Equity	5.45%	6.0%	7.4%

Source: Oxera

132 Finally, Ofgem considers that changes to the beta comparator sample (i.e. the inclusion of European energy networks) and to the depreciation profile of the GDNs' regulated asset value (RAV) (i.e. accelerated depreciation) are sufficient to reflect changes in the GDNs' risk profile between RIIO-3 and RIIO-2. Oxera highlight that proposed changes to the depreciation schedule of network assets are not sufficient to fully eliminate the asymmetric risks of asset stranding and non-recovery of the ongoing costs of operating the network, as uncertainty remains around networks' future ability to recover their costs.

133 While Ofgem indicated in the SSMD that it was considering aiming up within the asset beta range, Oxera note the regulator's intention in doing so is to improve the accuracy of its asset beta estimate (i.e. parametric uncertainty), and not to compensate for asymmetric risks. In light of the fact that asymmetric risks are not adequately addressed by the proposed regulatory package. Oxera's view is that aiming up within the proposed cost of equity range provides a mechanism that Ofgem may use towards providing a compensation to GDNs for these risks, and set out how other UK and international regulators have recognised that if they are unable to fully address factors such as parameter uncertainty and asymmetric risks at source, aiming up might be necessary as an adequate way to counter the remaining risk.

Multi Factor Models (MFM)

134 Ofgem acknowledged the importance of a "*consistent and accurate assessment of beta*" for investability, focusing on the inclusion of European comparators to improve the beta estimate's representation of systematic risks in UK energy networks. To date in the RIIO-3 process CAPM has been used to assess systematic risk for energy networks. However, Multi Factor Models are gaining prominence, and their use is an area of possible further development in the assessment of systematic risks during the next phase of the RIIO-3 price control process.

Review of the Regulatory Regimes and Business Mixes for Relevant European Comparators to Strengthen the Use of European Beta Data (SGN-GD3-ECR-14)

135 The SSMD sets out a minded to position of including a set of listed European energy networks, to act as additional comparators when it evaluates systematic risk. Ofgem will consider further, ahead of Draft Determinations, whether the regulatory regimes and business mixes of the European comparators in its SSMD asset beta sample are suitably similar to GB networks. In this report Oxera assess the regulatory regimes and business mixes of the five European gas and electricity network comparators identified by Ofgem (Enagás, Redeia, Italgas, Snam, Terna).

136 Oxera find that risk factors relating to the regulatory process are similar across the British, Italian and Spanish regimes. Either the competition authority or a court hears an appeal rather than makes a redetermination. The regulators in these

countries have powers to operate independently. Regulatory frameworks in all three countries have been broadly consistent over time, with methodologies and parameters being updated at each price control review.

137 Furthermore, Oxera find that the design of the regulatory regime for energy networks is broadly similar across these jurisdictions. Companies are largely insulated from demand risk but face exposure to the risk that actual costs differ from the regulatory allowances. Although in Italy and Spain operating expenditure and capital expenditure are regulated separately rather than being regulated as total expenditure (Totex), overall, they consider the level of cost risk to be broadly comparable to the regulation of Totex under RIIO-2. Oxera summarise the results of their regulatory regimes risk assessment as per table 8C below;

Table 8C: Summary of the Regulatory Regimes Risk Assessment

Company	Regime (covering the majority of business activities)	Risk compared to RIIO-2
Terna	Italy ET	Similar (slightly towards lower risk)
Snam	Italy GT	Similar (slightly towards lower risk)
Italgas	Italy GD	Similar (slightly towards lower risk)
Redeia	Spain ET	Similar
Enagás	Spain GT	Similar (slightly towards higher risk)

Note: ET—electricity transmission; GD—gas distribution; GT—gas transmission.

Source: Oxera

138 Finally, they find that the share of the comparators' revenues from regulated networks in Spain or Italy accounts for the most significant portion of the companies' revenues. **Oxera conclude that the business mixes and the regulatory regimes of the five European comparators identified by Ofgem are sufficiently similar to GB energy networks for Ofgem to include them in their comparator beta sample used to estimate the cost of equity**.

Updated Cost of Equity Cross-Check Evidence (SGN-GD3-ECR-15)

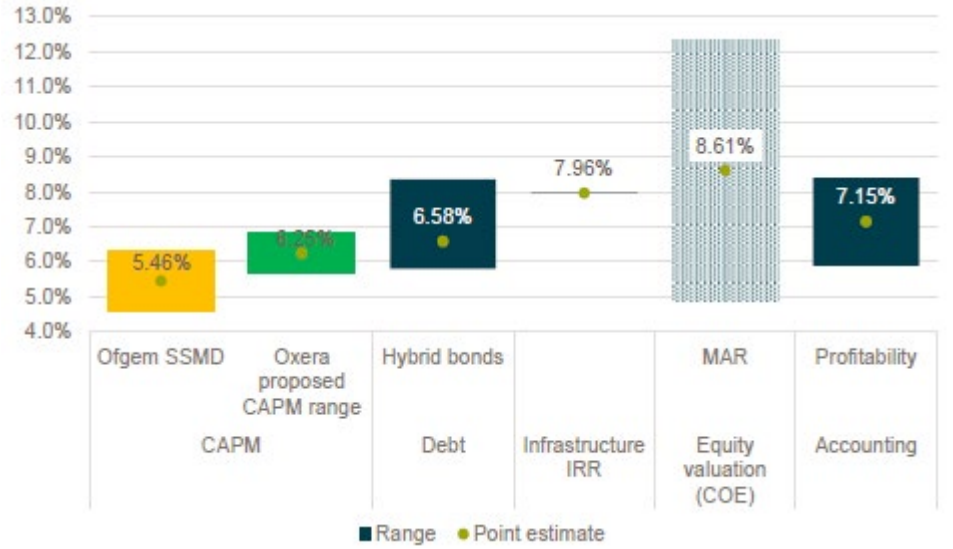
139 This report builds on the cross-check evidence Frontier set out in its March 2024 Investability report[11], submitted as part of SGN's SSMC response. It provides updates for a range of cross-checks that test the adequacy of the Step 1 CoE and a further range of cross-checks that test whether the point estimate and range for Total Market Return (TMR) set out in the SSMD is appropriate. These are reviewed below;

Cost of Equity Cross Checks

140 The overall finding of these updated cross-checks is that the CoE range proposed in the SSMD Step 1 CAPM estimation is too low, as summarised in figure 6C.

141 Furthermore, Frontier highlight that the midpoint of Ofgem's range will not satisfy its equity investability objective and the top of Ofgem's range falls below the point estimate of the hybrid bond cross-check range (+6.6%), which is the CoE cross-check which Frontier considers the most relevant.

Figure 6C: CoE Estimates and Cross Checks (CPIH-real)



Source: Frontier Economics[12]

Hybrid bonds are securities that combine debt and equity characteristics. Since the yield on these hybrid bonds is directly observable, with an appropriate assumption on the proportion of equity like feature of the hybrid bond, an expected return on equity can be implied. Chapter 2 of Frontier's report addresses the comments made in the SSMD Finance Annex on the evidence provided in response to the SSMC. Frontier also note that the Asset Risk Debt Risk Premium (ARP-DRP) analysis, presented by Oxera in its Cost of Equity report[13] submitted to Ofgem in response to the SSMC, also supported a significant increase in the RIIO-3 Cost of Equity vs RIIO-2.

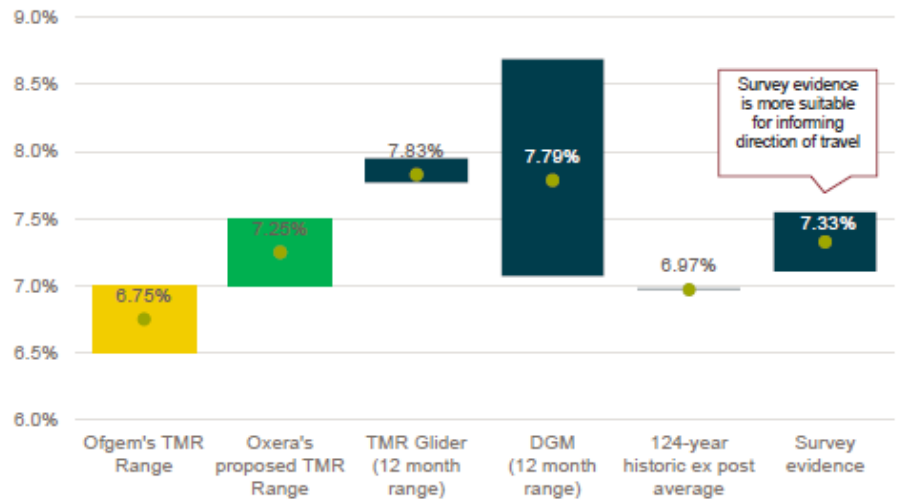
142 Frontier place least weight on the MARs inference analysis as set out in chapter 4 of their report. It is worth noting the ENW market-to-asset ratio (MAR) was for an electricity network, and gas networks have significant uncertainty over the future of gas and the impact that will have. Frontier estimate a MAR of less than one for Phoenix Gas.

TMR Cross Checks

143 Until now Ofgem has relied on survey evidence as its only cross-check evidence of its TMR range (in CPIH-real terms). Frontier have developed a set of further TMR cross-checks based on market evidence to address this issue. As shown in the graph below Frontier's TMR cross checks show that the TMR included in Ofgem's CAPM (step 1) CoE calculation is too low, and this plays an important role in explaining why Ofgem's overall CoE is found to be too low:

[11] Equity Investability in RIIO-3, a report prepared for the ENA (Frontier, March 2024)
[12] Note – all figures in CPIH. To derive CPIH-real figures, Frontier consider a CPIH assumption of 2% and deflate nominal estimates using the Fisher equation.
[13] RIIO-3 Cost of Equity (Oxera, February 2024)

Figure 7C: TMR Estimates and Cross Checks (CPIH real)



Source: Frontier Economics[14]

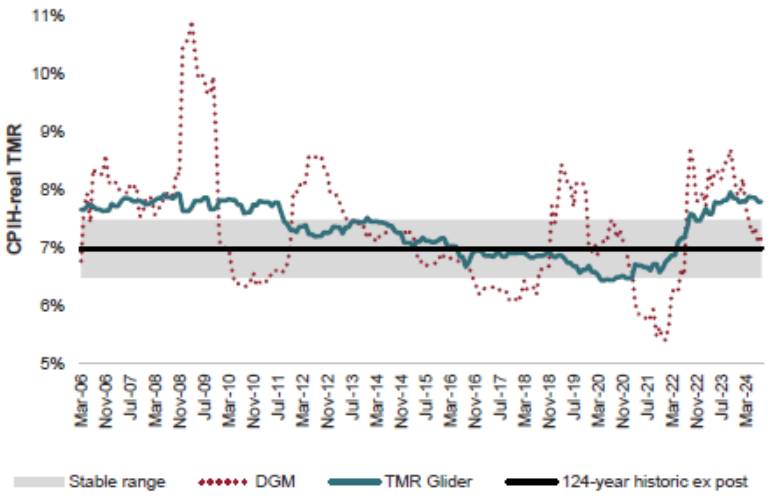
A TMR range consistent with Ofgem's objectives and the UKRN's Guidance

144 Ofgem have stated a balanced set of cross checks can support safeguarding investability and looking 'through the cycle' when setting TMR. Frontier highlight that UKRN guidance supports a stable TMR. This means that the TMR (and thus CoE) can reflect movements in interest rates but not on a one-to-one basis. Frontier consider that their TMR cross checks can inform a TMR range which is stable, investable and acknowledges Ofgem's policy objective of looking through the cycle.

145 The TMR glider, which draws upon the relationship between market TMR and gilt yields, provides a framework for the TMR which moves with gilt yields but is much less than a one-to-one relationship, i.e. the TMR glider provides a framework for the TMR which is 'stable but not fixed' in line with UKRN Guidance. The interquartile range of the TMR Glider is 1% and Frontier state this can be interpreted a reasonable range of variation of a stable TMR.

146 Focusing on long run evidence from the TMR Glider, DGM and 124-year historic ex post average they find that the trend in these cross checks over time support a long run unconditional[15] TMR range of 6.5% - 7.5% around the 124-year average of 7.0%, as illustrated in Figure 8C below:

Figure: 8CTrend in TMR Glider, DGM and 124-Year Historic Ex Post Average Over Time



Source: Frontier analysis[16]

[14] All figures in CPIH real. To derive CPIH-real figures for the cross-checks, Frontier consider a CPIH assumption of 2% and deflate nominal estimates using the Fisher equation. TMR Gilder range over the last 12 months, which is 7.77% - 7.95%, with an average of 7.87%. The DGM range represents the observed range over the last 12 months which is 7.07% - 8.69%, with an average over the last 12 months of 7.79%. All figures presented to 2d.p.

[15] Frontier define an unconditional TMR as unconditional on prevailing market conditions

[16] CPIH-real figures have been derived using an inflation assumption of 2%, deflated using the Fisher equation.

147 Frontier conclude that a long-run unconditional, stable range of 6.5% - 7.5% CPIH-real, could be an approach to setting the TMR which meets the stated policy objectives. They consider this range reflects a 'through the cycle view' and provides sufficient flexibility to allow Ofgem to respond to changes in the macroeconomic environment in a stable and predictable way. Focusing in on RIIO-3, Frontier observe that the DGM and TMR Glider values have been consistently above the stable range in the last 24 months. This indicates that the market required rate of return has been relatively high. On this basis, and on the basis of the hybrid bond cross-check, **Frontier state there are strong reasons to set the TMR range at the top half of the stable range for RIIO-3, at 7.0% - 7.5%. They highlight this is consistent with Oxera's RIIO-3 CAPM report detailed above. Finally, they recommend the point estimate should be towards the top of the 7.0%-7.5% TMR range.**

Summary of our alternative cost of equity proposal

148 **Taking the gas specific risk analysis into account, we are proposing a CoE range of 6.0% to 7.4%, in line with Oxera's RIIO-GD3 CoE range. Given the asymmetric risks facing the GDNs and the strong evidence of cross-checks including TMR, amongst other important factors, the 6.7% mid-point is considered a minimum requirement of the allowed CoE.** Dependent on how the draft determination addresses the asymmetric risks set out in this Finance Annex (including consideration of the wider policy issues recommended in this plan), the top end of our range is still very plausible and we reserve our right to increase this mid-point. The mid-point is 1.3% higher than Ofgem's CoE mid-point and 0.3% above the upper end of its range. Table 9C below provides a summary of the differences.

Table 9C: SGN's Alternative Cost of Equity Proposal[17]

	Ofgem (SSMD) Mid point	Oxera (evidence)		Implied CoE Mid Point
		Low	High	
Risk Free Rate (RFR)	1.27%	1.54%	1.54%	
Debt beta	0.075	0.075	0.075	
Asset beta	0.35	0.38	0.44	
Notional Gearing	60%	60%	60%	
Equity Beta	0.76	0.83	0.99	
TMR	6.75%	7.00%	7.50%	
Cost of Equity	**5.45%**	**6.0%**	**7.4%**	**6.7%**

Source: Ofgem SSMD and Oxera

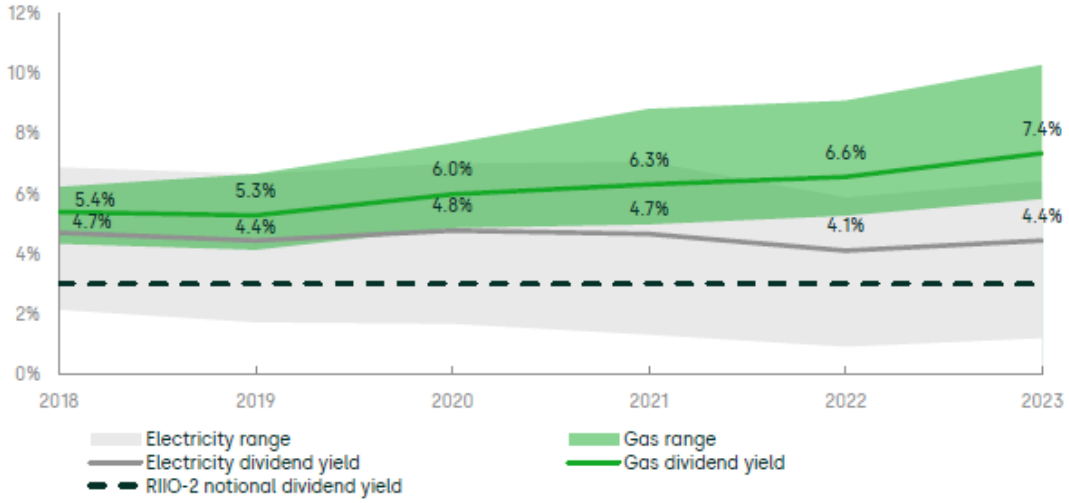
Gas Distribution Networks' Dividends in RIIO-GD3 (SGN-GD3-ECR-16)

149 **Ofgem's dividend yield assumption of 3% (excluding the accelerated return of capital) is significantly too low. Ofgem should instead appropriately differentiate the dividend policies of gas and electricity networks in its financeability and investability assessments, in particular, allowing for a higher underlying dividend yield for gas networks**.

150 Dividend expectations depend on the ability of the business to reinvest the cash it generates into profitable investment opportunities: a business that is mature and less likely to expand will likely pay more dividends than a business that is growing its asset base. Any dividend yield set below the cost of equity implies the ability for the company to grow its per-share dividend payments into perpetuity (and/or growth in the applicable equity RAV), which is an unrealistic assumption for the gas sector. This is reinforced by the evidence that trends in dividend payments between European gas and electricity networks have started to diverge as shown in Figure 9C below;

[17] Based on a cut-off date of 1 July 2024. The value of Ofgem's RFR differs from the value reported in the RIIO-3 SSMD, as the value in the table reflects Ofgem's latest estimate of the RFR included in the latest WACC Allowance Model for RIIO-3.

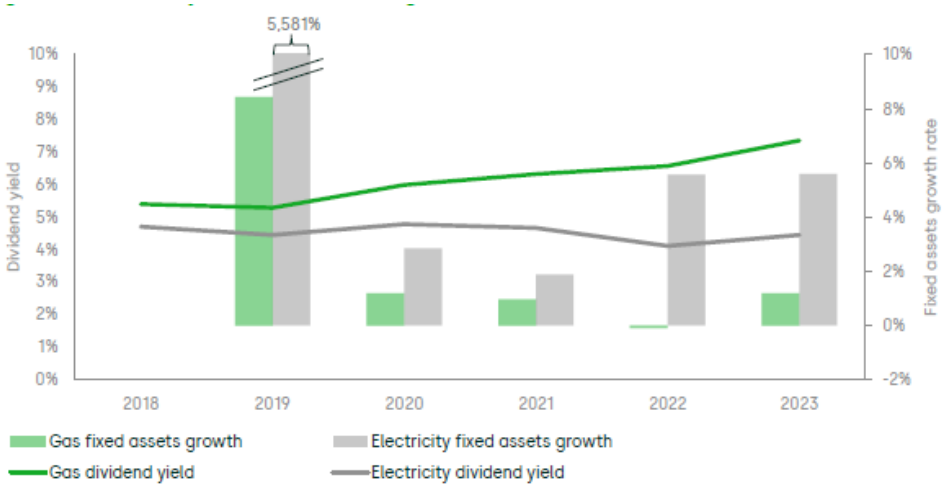
Figure 9C: Dividend Yield of European Listed Gas and Electricity Networks



Source: Oxera

151 The average dividend yield of European gas networks has increased from 5.4% in 2018 to 7.4% in 2023, exceeding the average dividend yield of European electricity networks, the latter remaining relatively constant over same period (between 4.1–4.8%). This is consistent with the differential growth rates in fixed assets on these networks' balance sheets, with average asset growth of gas networks being lower than that of electricity networks as shown in Figure 10C below:

Figure: 10C Dividend Yield and Fixed Assets Growth of European Listed Gas and Electricity Networks



Note: The fixed assets growth rate in 2019 for electricity networks is higher than shown by the bounds on this chart (it is at 5,581%) because of REN increasing its fixed assets substantially.

Source: Oxera

152 Furthermore, the investability assessment should assess the ability of the regulatory framework to not only retain and attract, but also to return it to shareholders. Oxera welcome Ofgem introducing the additional return of capital dividend assumption, on top of the dividend yield, to maintain the notional capital structure in light of Ofgem's working assumption of accelerating depreciation to achieve a RAV of zero in 2050.

C.3 Cost of Debt

153 [redacted]

154 [redacted]

155 [redacted]

156 [redacted]

157 [redacted]

158 [redacted]

159 [redacted]

160 [redacted]

b. [redacted]

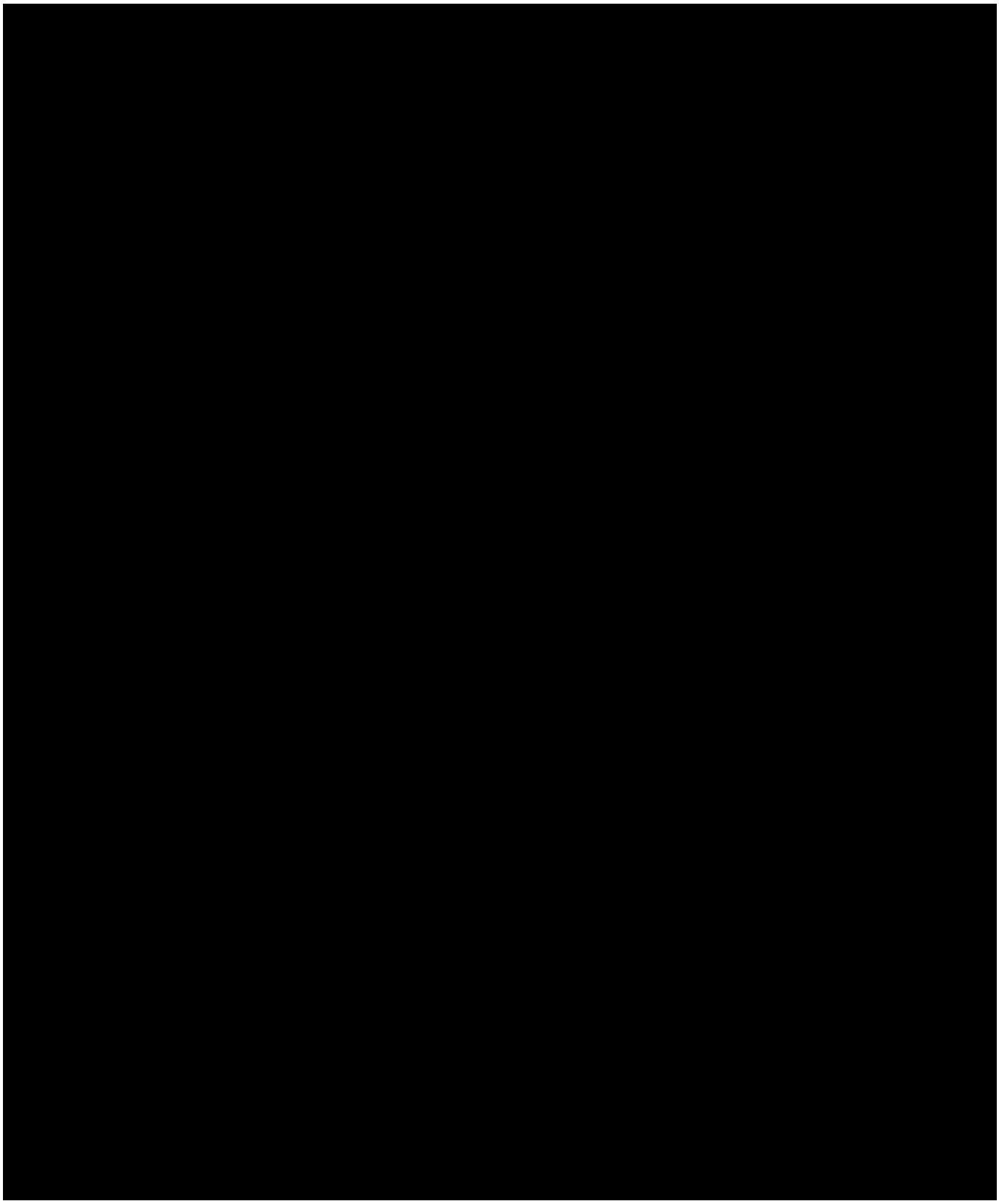
c. [redacted]

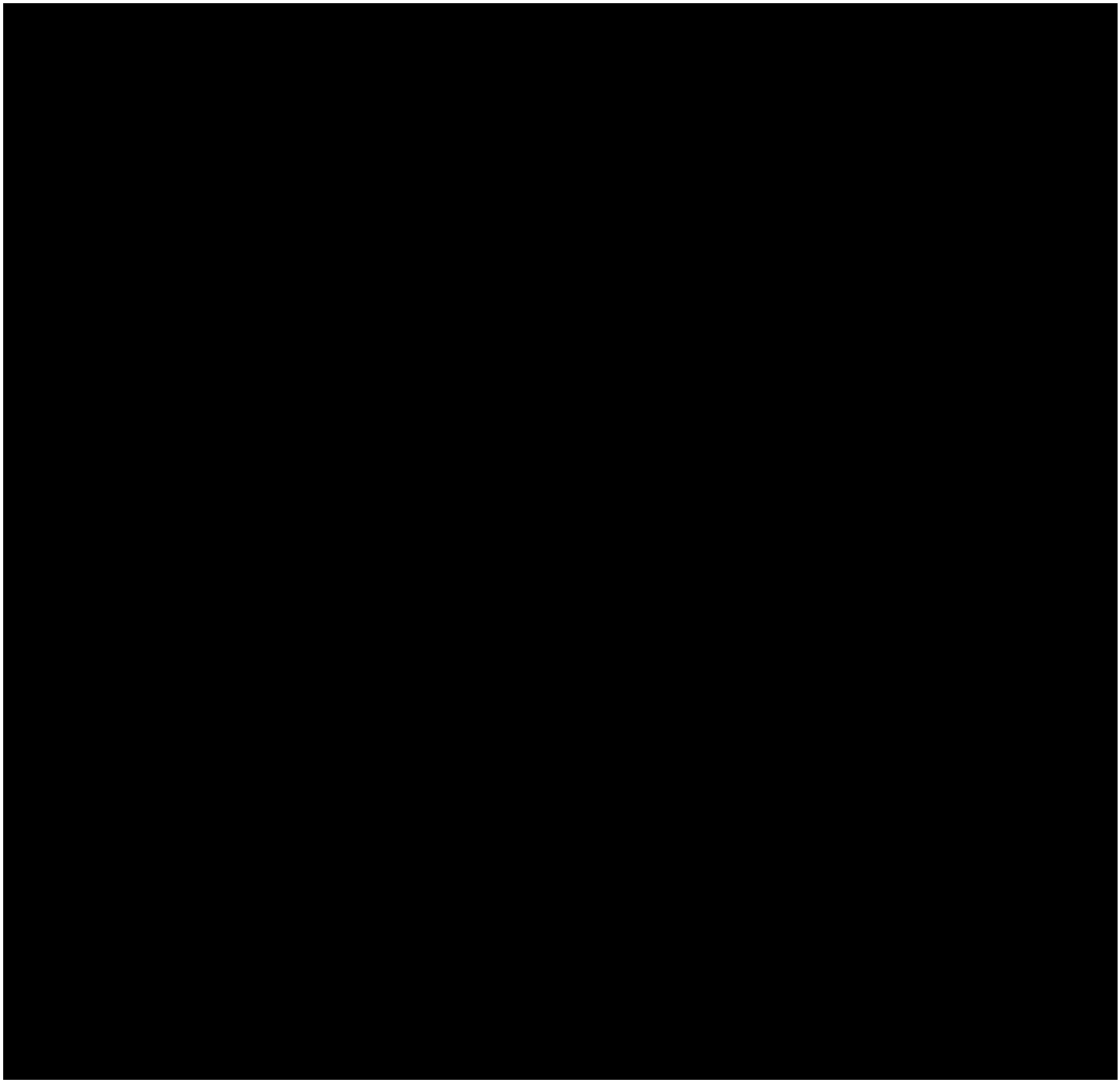
d. [redacted]

[redacted]

161 [redacted]

162 [redacted]





Summary of our Cost of debt in GD3

163 We recommend Ofgem sets an ex-ante allowance for the GDNs that incorporates an estimated cost of debt premium for new debt (including refinancing) vs. allowance to the electricity sector (e.g. an uplift versus a given iBoxx Utilities index). We estimate that this is likely to be 30 to 50bps, based on analysis completed to date, but this should be updated closer to final determination.

164 At the end of the price control period, we would support an end-of-period reconciliation mechanism (a true-up) that corrects for the actual risk premium experienced in GD3 by comparing the difference in the iBoxx Utilities spreads on public bonds issued by gas and electricity networks during GD3. For example, by taking a spread to iBoxx Utilities index for electricity issuance over GD3 and comparing it with the spread for GDN issuance.

165 When completing this analysis, the following factors need to be taken into account:

- Allowances should also incorporate average cost of embedded debt for the sector, recognising the fact that new issuance is becoming increasingly more expensive during GD2 due to the stranding risk;
- Cadent's cost of embedded debt should be adjusted upwards to remove the benefits associated with the legacy debt raised by National Grid when Cadent was sold;

- The end of period true-up should eliminate the full impact of the asset stranding / cost recovery risk on the financing cost, so that shareholders are not exposed to value erosion. The risk premium should be isolated from all other factors impacting the outturn cost of debt and trued up; and
- The ex-ante allowance is required to help financeability by ensuring cash flows service the more expensive debt.

166 Notwithstanding the above, we also propose that the use of the iBoxx Utilities index more generally for the gas sector should be reviewed to ensure the index better matches the gas sector costs.

C.4 Additional Borrowing Costs

167 Ofgem have incorporated a working assumption of 25bps in their Cost of Debt Allowance. We submitted two reports by NERA for energy networks and GDNs as part of our SSMC response recommending additional borrowing costs (ABCs) of 57bps for energy networks and 67 bps for GDNs, with a small company uplift of 14bps. These reports, along with our review of these costs in compiling our business plan, are detailed below. We are proposing a central case of 48bps (upper end 58bps) with a small company premium for Scotland of 12 bps:

NERA - Additional Cost of Borrowing for the RIIO-3 Price Control (SGN-GD3-ECR-17)[18]

168 As set out in table 10C below, NERA estimate ABCs of 57bps p.a. for energy networks in RIIO-3, with a range of 54 to 59 bps, compared to Ofgem's RIIO-2 allowance of 25 bps. They estimate an infrequent issuer premia of 14 bps p.a. We understand that the data and modelling used has been shared with Ofgem by NERA.

Table 10C:Energy Networks Additional Borrowing Costs for RIIO-3 (NERA)

Units: bps p.a.	Ofgem RIIO GD/T2 & ED2	NERA (Feb 2024)	Comment
Transaction Costs	6	6	• Based on updated companies' data
Liquidity/RCF Costs	4	13	• Both Ofgem and NERA draw on companies' assumptions on RCF size and cost, but we assume 15% of RCF drawn to fund working capital/ operational needs • Increased liquidity cost also reflects higher short-term borrowing rates at RIIO-3
Cost of Carry	10	12	• Two approaches: i) companies' cash and debt in latest RFPRs (12 bps), consistent with Ofgem's approach at RIIO-2, and ii) assume 12–24-month pre-financing, half met by RCF (range 8-16 bps)
CPIH Premium	5	18-23 (21)	• Ofgem recognised CPI switching costs of 5 bps p.a. (30 bps for new CPI debt, and 15bps for switching RPI-CPI, weighted by ILD%) • We estimate 30-50 bps p.a. for new CPI issuance using latest nominal-CPI swap costs, and 15 bps p.a. for manging RPI-CPI basis risk. Ofgem does not recognise CPI-CPIH basis risk cost, which we estimate to be 40-50 bps p.a. based on 1 st. dev. • We estimate the total cost for CPIH basis risk mitigation to be 18-23 bps p.a., by weighting the above estimate with 30% ILD, and new/embedded debt respectively
New Issue Premium (NIP)	0	5	• Latest market evidence supports a 15bps NIP, consistent with CAA for HAL. Multiplying 15bps with 35% assumed new debt% results in ca 5 bps p.a. of NIP
Additional Cost of Borrowing	25	54-59 (57)	
Small Company/Infrequent Issuer Premia	6	10-18 (14)	• Lower bound based on the CMS-implied premium, since CMS does not provide risk hedging for credit risk (Ofgem approach) • Upper bound based on illiquidity premium estimated using the bid-ask spread differential between sub-benchmark issues and issues at and above £250m
Total	31	64-77 (71)	

Source: NERA

NERA - Impact of GDNs Reduced Debt Tenor on Additional Cost of Borrowing at RIIO-3 (SGN-GD3-ECR-07)[19]

169 As set out in table 11C below NERA estimate a higher cost of 67 bps p.a. for GDNs, assuming GDNs issue debt with tenor of around 10-years as per current market evidence. The shorter tenors, driven by investors' preference given increasing risks around future role of gas networks, will reduce the time period by which these fixed costs can be spread across, thus pushing up the ABCs in several areas compared to the sector as a whole which has longer average tenors.

[18] Additional Cost of Borrowing for the RIIO-3 Price Control (Nera, February 2024)

[19] Nera 'Impact of GDN's Reduced Debt Tenor on Additional Cost of Borrowing at RIIO-3', (Nera, March 2024)

Table 11C: GDN's Additional Borrowing Costs Alowances for RIIO-GD3 (NERA)

Units: bps p.a.	Ofgem RIIO -2	NERA (Feb 2024, all networks)	NERA (Feb 2024, GDNs/ reduced tenor of 10 years)	Comment on GDN specific cost relative to NERA industry-wide estimate
Transaction Costs	6	6	8.5	• Analysis of GDN data shows reduced tenor increases costs from 6 to 8.5 bps, given amortisation of up-front fees over shorter life
Liquidity/RCF Costs	4	13	13	• No change to industry wide estimate
Cost of Carry	10	12	12-27 (19)	• Cost-of-carry increases as pre-financing costs amortised over shorter bond tenor
CPIH Premium	5	18-23 (21)	18-23 (21)	• No change to industry wide-estimate
New Issue Premium (NIP)	0	5	5*	• Not addressed as part of this report, although we would expect concerns around future use of gas networks to impact NIP
Additional Cost of Borrowing	25	54-59 (57)	57-77* (67)	• Excludes any increase in NIP to reflect heightened risk from decarbonisation of heat
Small Company/Infrequent Issuer Premia	6	10-18 (14)	10-18 (14)	• Assuming tenor of 10 years, Scotland, NGN, WWU, and three Cadent networks (London, North West, West Midlands) qualify, whereas Southern and Cadent East do not
Total	31	64-77 (71)	67-95 (81)	

Source: NERA

SGN Additional Borrowing Cost Analysis

170 As set out in table 12C below we have carefully reviewed the ABCs in compiling our business plan and are proposing 48bps with a small company premium for Scotland of 12 bps:

Table 12C: SGN's Additional Borrowing Costs for RIIO-GD3

	Cost (in bps) on ALL debt			
ABC	Low	Medium	High	Chosen
Transaction costs	6	8	9	**8**
Liquidity/RCF costs	8	11	13	**10**
Cost of carry	12	16	19	**14**
RPI / CPIH / Premium	12	12	12	**12**
New issue premium	5	5	5	**5**
Total ABC (pre small co.)	**43**	**51**	**58**	**48**
Small co. premium	10	12	14	**12**
Total ABC (inc. small co.)	**53**	**63**	**72**	**60**

Source: SGN analysis[20]

171 The variances from the NERA's ABCs for GDNs, with rationale, is shown in table 13C below:

[20] High end of SGN range primarily driven by the impact of shorter tenors in the future reducing amortising periods.

Table 13C:Variances Between SGN's and NERA's Additional Borrowing Costs for RIIO-GD3

ABC	Cost (in bps) on ALL debt			Rationale for Decrease
	SGN Central	Nera GDN	Variance	
Transaction costs	8	9	(1)	SGN transaction costs estimates
Liquidity/RCF costs	10	13	(4)	[redacted]
Cost of carry	14	19	(5)	Assumes 12 month cost of carry vs 12-24 month in Nera's analysis
RPI / CPIH / Premium	12	21	(9)	Top end of Nera cost of CPI issuance on new debt (5bps on all debt) plus additional cost of RPI transition (7bp), but excluding Nera's CPI-CPIH or RPI-CPI basis risk
New issue premium	5	5	0	Based on Nera's analysis
Total ABC (pre small co.)	**48**	**67**	**(19)**	
Small co. premium	12	14	(2)	Based on SGN analysis of market data
Total ABC (inc. small co.)	**60**	**81**	**(21)**	

Source: SGN Analysis

172 Further detail of the methodology used for each component of our proposed ABC allowance is shown below:

Transaction costs

173 SGN have considered the following actual costs associated with the following:

- Bank bookrunner / agent and Rating Agency fees;
- Issuer legal council;
- Dealer / noteholder counsel / Scottish law opinion; and
- Bond / note listing and roadshow fees.

174 [redacted]

Liquidity / RCF Costs

175 In GD3, we have assumed a [redacted] drawing requirement (which is over and above the interest charges already accounted for – this is to provide an additional liquidity buffer for example shorter term working capital requirements). Based on an RCF size of [redacted] across our two networks, this equates to an annual uplift on average debt of [redacted]

Cost of Carry

176 We have assessed cost of carry based on a 12-month pre financing requirement. We have applied a net interest cost after recognising the fact that we will be able to achieve partial offset against the iBoxx cost by recovering the SONIA rate as income. If liquidity requirements increase as a result of rating guidance or financial resilience requirements, this figure could easily rise to the top end of NERA's range.

New Issue Premium

177 We assume a 15bps new issue premium (5bps on all debt) consistent with the NERA report.

Small Company Premium

178 We remain supportive of the range identified in the NERA report.

RPI / CPIH Convergence

179 On top of the 5bps borrowing costs we're proposing for the RPI/CPIH premium, we also believe the cost of updating documentation in relation to RPI / CPIH convergence on our RPI indexed linked debt will incur costs equivalent to 7 bps on the total debt.

180 For the purposes of populating the BPDT with forecast additional borrowing costs we excluded the following elements shown in table 14C below:

Table 14C Difference Between SGN's RIIO_GD3 Additional Borrowing Costs Allowance and BPDT Input

ABC	Cost (in bps) on ALL debt		
	SGN Central	BPDT cost input	Variance
Transaction costs	8	8	0
Liquidity/RCF costs	10	10	0
Cost of carry	14	14	0
RPI / CPIH / Premium	12	5	7
New issue premium	5	5	0
Total ABC (pre small co.)	**48**	**41**	**7**
Small co. premium	12	0	12
Total ABC (inc. small co.)	**60**	**41**	**19**

Source: SGN Analysis

181 We have excluded the cost of RPI / CPI convergence, from the BPDTs, due to uncertainty as to what the actual cost will be though we believe they will be incurred. We believe an ex-ante allowance of 7bps is required with an ex-post true up of actual efficient costs.

182 We have also excluded the small company premium from the BPDTs, but we support this uplift to the final ABC allowance for Scotland Gas Networks.

183 As the BPDT/BPFM only had functionality to apply ABCs to new debt in the BPDT, the 41bps on all debt needed to be converted to a cost on new debt to capture their impact on overall debt costs.

Section D Customer Bill Impact

184 Table 1D below sets out forecast GD3 and long-term customer bills under Ofgem's working assumptions (in 23/24 prices):

Table 1D: Historical and Forecast Customer Bills Under Ofgem's Working Assumptions

		Historical		Future Price Controls				
		GD1 ('13-21)	GD2 ('21-26)	GD3 ('26-31)	GD4 ('31-36)	GD5 ('36-41)	GD6 ('41-46)	GD7 (46-51)
Holistic	Customer numbers (millions)		6.0	5.7	4.8	3.0	1.2	0.2
Counter factual	Customer numbers (millions)		6.0	6.0	6.0	5.6	4.6	3.5
Scotland								
Holistic Profile	Domestic Bill – Pre policy (£/yr)	175	147	177	227	358	831	5,210
	Impact of semi-nominal WACC		0	9	5	(2)	(19)	(185)
	Impact of accelerated depreciation		0	32	36	43	61	(392)
	Domestic Bill – Post Policy (£/yr)	**175**	**147**	**218**	**268**	**400**	**872**	**4,633**
Counterfactual	Domestic Bill – Pre policy (£/yr)	175	147	170	187	215	263	312
	Impact of semi-nominal WACC		0	8	4	1	(3)	(9)
	Impact of accelerated depreciation		0	31	33	41	47	(58)
	Domestic Bill – Post Policy (£/yr)	**175**	**147**	**209**	**225**	**257**	**308**	**245**
Southern								
Holistic Profile	Domestic Bill – Pre policy (£/yr)	178	153	190	240	369	822	4,991
	Impact of semi-nominal WACC		0	9	6	(2)	(23)	(216)
	Impact of accelerated depreciation		0	36	43	41	26	(631)
	Domestic Bill – Post Policy (£/yr)	**178**	**153**	**235**	**289**	**408**	**825**	**4,143**
Counterfactual	Domestic Bill – Pre-policy (£/yr)	178	153	183	201	227	275	350
	Impact of semi-nominal WACC		0	9	5	1	(3)	(8)
	Impact of accelerated depreciation		0	34	41	45	52	16
	Domestic Bill – Post-Policy (£/yr)	**178**	**153**	**226**	**247**	**273**	**324**	**358**

Source: BPFM

185 We have assumed Ofgem's working assumption of accelerated depreciation (Option 2 depreciating all assets by 2050) with an acceleration factor of 1. The key conclusions are:

- Ofgem polices of accelerated depreciation (option 2) and semi-nominal WACC have a significant weighting on the upward pressures on GD3 bills;
- under the holistic pathway bills start to become unsustainably high after GD3;
- as noted in the accelerated depreciation section C.1 the current accelerated depreciation options on their own do not greatly mitigate the affordability issues shown above in the 2040's, under the holistic pathway, and will require more fundamental regulatory and policy reform to address these. However, we believe our proposal for accelerated depreciation is likely to avoid the c. £35 p.a. bill increases in GD3. A more detailed assessment of the GD3 bill is provided in SGN-GD3-SD-08 -Cost assessment and Benchmarking Approach, section D.2.

Section E Other Finance Issues

186 This section covers various items in Ofgem's business plan guidance not specifically covered already.

E.1 Company's Proposed Capitalisation Rates

187 We believe natural capitalisation rates should be derived from the ex-ante allowances, in line with accounting standards (Opex fast and Capex / Repex capitalised). This means that ex ante, there are no differences between regulatory and natural capitalisation rates. However, to maintain this alignment between regulatory and natural capitalisation rates throughout GD3 an outturn capitalisation rate should be adopted otherwise this could cause quite significant forecast cashflow and credit rating impacts. Based on our GD3 plan, ex-ante capitalisation rates are as shown in table 1E below (totex costs in £ms 2023/24 prices):

Table 1E: Proposed Ex Ante Natural Capitalisation Rates

SCOTLAND	2026/27	2027/28	2028/29	2029/30	2030/31	GD3 Average
Opex	111	113	115	116	113	114
Capex	73	88	92	72	63	78
Repex	90	95	91	89	89	91
Totex	275	296	298	278	265	282
Opex and Capex Capitalisation Rate	**40%**	**44%**	**45%**	**38%**	**36%**	**40%**
Repex Capitalisation Rate	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Overall Natural Capitalisation Rate	**60%**	**62%**	**61%**	**58%**	**57%**	**60%**
SOUTHERN	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**GD3 Average**
Opex	212	210	212	211	203	210
Capex	139	132	139	106	94	122
Repex	332	334	335	330	330	332
Totex	683	676	687	647	627	664
Opex and Capex Capitalisation Rate	**40%**	**39%**	**40%**	**34%**	**32%**	**37%**
Repex Capitalisation Rate	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Overall Natural Capitalisation Rate	**69%**	**69%**	**69%**	**67%**	**68%**	**68%**

Source: SGN Analysis

188 Within the RIIO-2 price control, a fixed capitalisation rate for a varied set of re-openers was not flexible enough to manage differing capex/opex splits that occurred within each re-opener. This has caused a difference in the natural capitalisation rate and the accounting treatment which led to timing differences in cash flow impacting on credit rating metrics.

E.2 Depreciation Rates

189 We have set out our proposed depreciation policy (and rates), and the reasons justifying this approach, in section C.1.

E.3 Sharing Factors

190 We believe the calibration of sharing factors should be aligned to the less controllable risks facing companies in the Totex allowances. In RIIO-2 gas networks, particularly in the South of England, have been exposed to labour cost pressures that were not sufficiently provided for in allowances or corrected by real price effect indices. The Totex allowance proposals in the draft determination need to be carefully considered in light of these (or any other) uncontrollable risk and sharing factors calibrated accordingly. For example, companies are left exposed to the risks present in RIIO-2, the sharing factor should be adjusted to protect companies and consumers to cost variance in these areas.

E.4 Tax

191 It is important that methodologies and definitions used to calculate tax and tax adjustments are consistent with other areas of the price control and achieve their desired outcomes accurately. Where Ofgem have proposed policy changes such as accelerated depreciation, tax methodologies need to be consistent with both policy and HRMC rules wherever possible. Any disconnects, such as capital allowance write down periods need to be assessed.

192 Companies have recently submitted a Board assured tax review as part of the RIIO-2 guidelines, and it is too early to assess the impact of these reviews.

193 As tax is a complex area, we recommend time is spent constructively between business plan submission and draft determination to achieve objectives are met.

E.5 Pensions

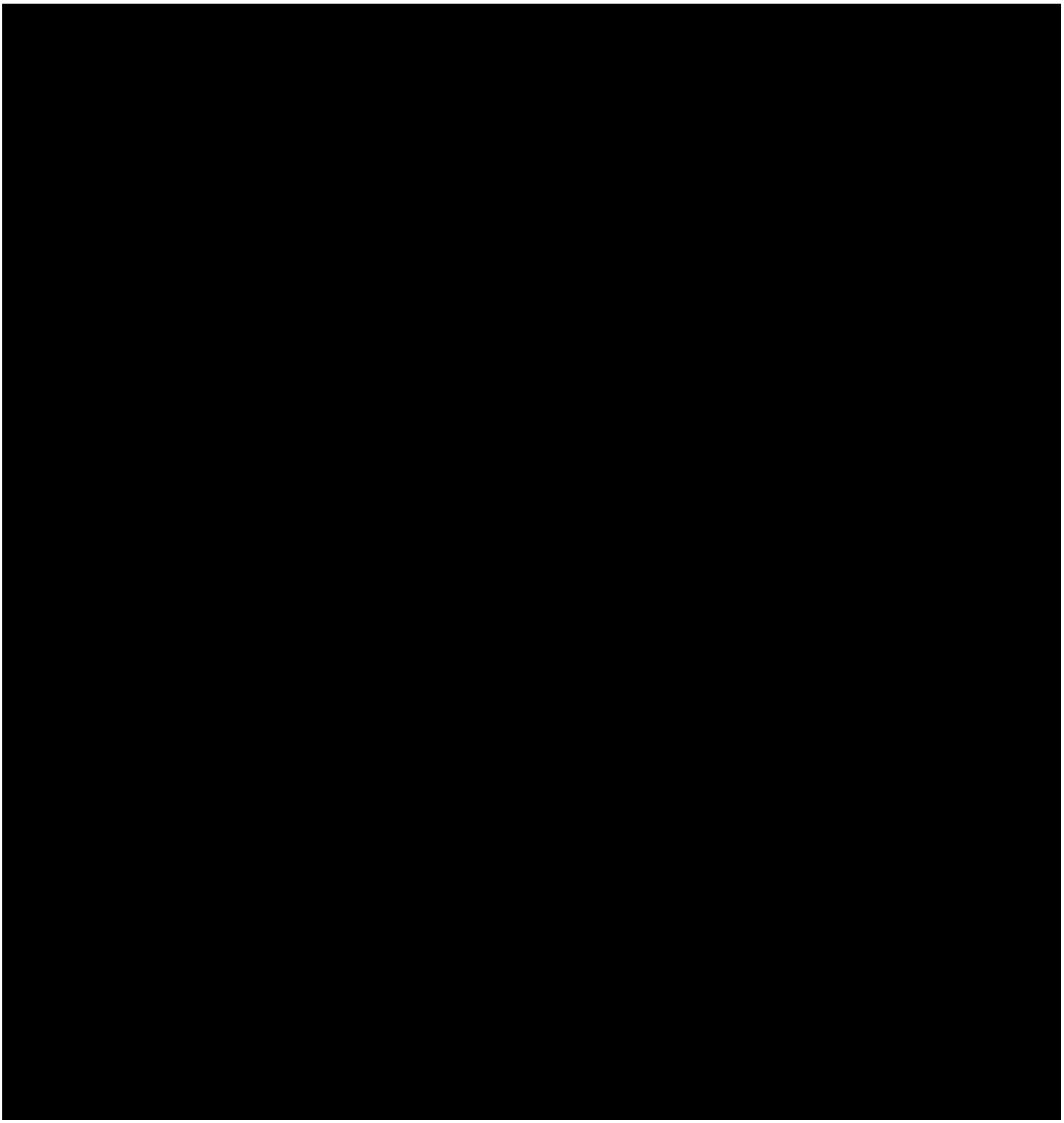
194 We acknowledge that future Pension Policy may be subject to a consultation following the 'Call for Input' earlier in 2024. We have no further issues to raise in this Business Plan submission.

E.6 Return Adjustment Mechanisms

195 In principle we support the protections given to both Companies and Consumers in the RIIO-2 mechanism, but this will need to be calibrated as part of the draft determination.

E.6 Revenue Profiling

196 We are currently not proposing any changes to the profiling of revenue across GD3, but we will keep this under review throughout the price control process.



[redacted]

Section G Financing Strategy

208 GDNs and many other regulated utilities have historically financed themselves on the basis of an 'in perpetuity' asset where there is an ongoing need for the asset, and either an increasing or near-constant RAV. The requirement to submit a business plan against the holistic transition pathway, where there are no customers beyond 2050, and the introduction of accelerated depreciation brings into question the validity of this style of financing strategy, [redacted]

209 Notwithstanding our accelerated depreciation proposals in section C.1, not knowing how much accelerated depreciation will be introduced for GD3 makes it challenging to estimate exactly how much debt refinancing is required for the next price control. By introducing accelerated depreciation and semi-nominal WACC, the CRAs are having to re-think how they need to adapt their ratings frameworks. [redacted]

210 The SGN group funding strategy has historically been put in place to achieve an appropriate investment grade rating through an efficient capital structure. We define this as one which achieves sufficient investor demand whilst also managing financing risk such as inflation / interest rate exposure and maintaining sufficient liquidity. In delivering this strategy, we look to maintain access to a diversified source of funds.

211 Historically, the aim of treasury when considering maturities was to maintain both a smooth profile and target tenors that best matches asset profiles and regulatory assumptions. With the introduction of Accelerated Depreciation, a high degree of uncertainty is introduced meaning treasury have to be very mindful of maturity concentrations in the future, especially in future price controls when RAV could be much lower than it is today.

212 As such Treasury must now take a cautious approach to tenors and maturity concentration. [redacted]

213 During GD2 Southern and Scotland have had to refinance a very significant portion of their debt (£1.4bn and £0.4bn, respectively), at a time of historically high rates. Across the two regulated businesses, SGN has a material refinancing requirement in GD3 of c1.4bn in total, which represents c24% of existing debt, aggregated across the two companies. This section provides further details on our financing strategy including:

- An explanation of corporate structure;
- Our financing & risk management approach;
- Current debt profile (by type) and maturity;

- Our current track record of raising debt; and
- A summary of our debt issuance programme, including debt maturing during GD3 and anticipated financing requirements (including future sources of finance).

214 This section should be read in conjunction with SGN's alternative working assumptions (cost of debt – section C.3), where we expand on our proposals in this area.

215 The current SGN group funding structure has been put in place to achieve the following objectives:

- Efficient overall capital structure – solid investment grade credit ratings at the operating companies;
- Sufficient investor demand to finance the business;
- Manage exposure to interest rate risk and inflation risk; and
- Positive liquidity in line with working capital and funding requirements.

216 The group's primary funding entities as outlined in the Figure 1G and Table 1G below:

Figure 1G: SGN organisational and ownership structure

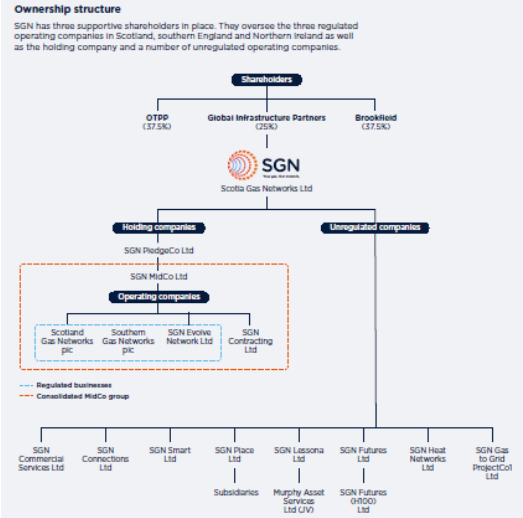


Table 1G: Amounts outstanding across Scotland / Southern entities as at 30th September 2024[21]

Southern Gas Networks PLC	£2,519m fixed public notes
	£658m index-linked public notes
	£693m fixed private placement (PP) notes
	£450m bank RCF
Scotland Gas Networks PLC	£475m fixed public notes
	£80m floating public notes
	£342m index-linked public notes
	£509m fixed PP notes
	£35m fixed EIB loans
	£150m bank RCF (undrawn)

Source: SGN analysis

G.1 Financing & Risk Management Approach

217 In the normal course of business, the Group is exposed to financial risks including, but not limited to, market, credit and liquidity risk. The Group operates a centralised treasury function which is responsible for the management of financial risks of the Group as a whole and each of the regulated entities on a standalone basis. Financial risks comprise exposure to funding risk, liquidity risk, counterparty credit risk, interest rate risk, inflation risk, credit spread risk and foreign exchange risk. The treasury function does not operate as a profit centre, nor does it enter into speculative transactions.

218 The current financing and risk management approach for both Southern and Scotland is to:

- Maintain capital structure supporting credit metrics commensurate with solid investment grade rating;
- Target issuance tenors and issuance sizes that create a smooth maturity profile, whilst also monitoring maturity concentrations in the future;
- Access a diversified range of funding sources to prevent over-reliance on any one market. This should support the refinancing of existing debt;
- Manage exposure to floating interest rate debt to be substantially less than 25% of total debt; and
- Maintain positive committed funding headroom to cover forecast cash flows and ensure that regulatory sufficiency of resources requirements and credit rating agency liquidity requirements are met.

[21] Amounts outstanding including accrued inflation

219 As described above, our existing approach to financing and risk management may need to be adapted depending on the accelerated depreciation profile adopted by Ofgem and/or on how the CRAs change their approach to ratings GDNs

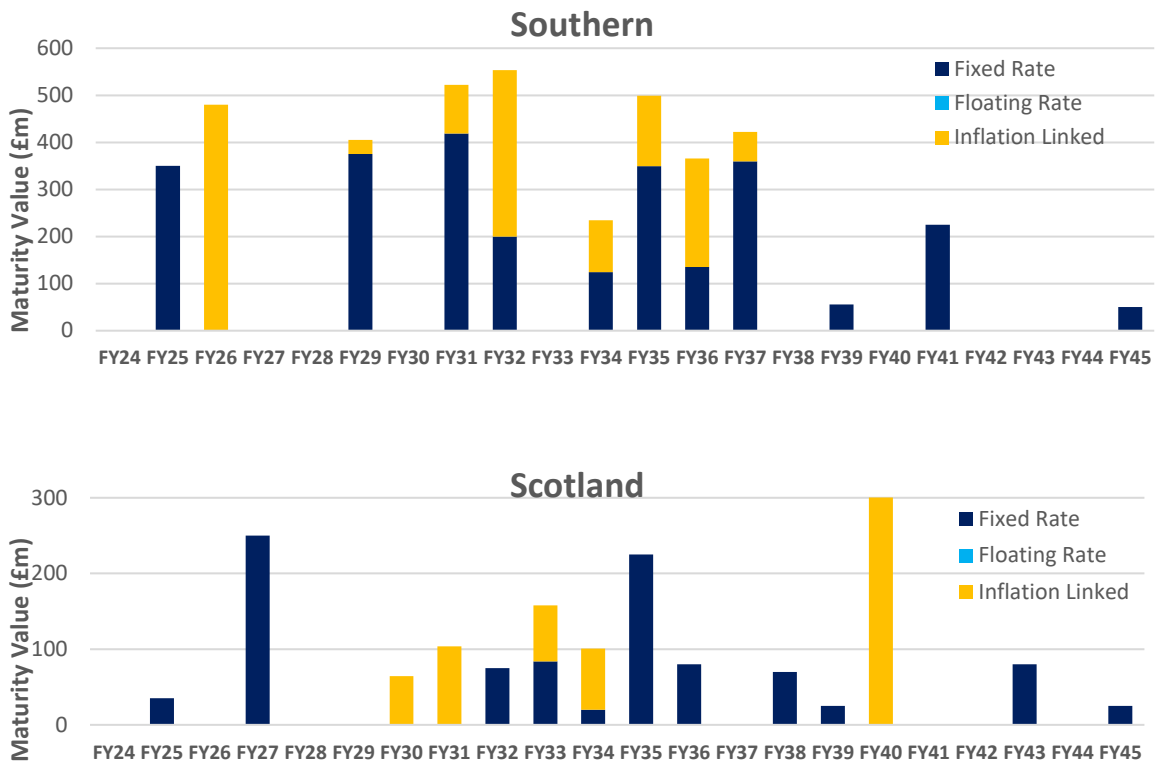
220 As of October 2024, Southern and Scotland maintained the following positions in table 2G, and maturity profiles in figure 2G:

Table 2G: Current performance against SGN's financing strategy

Financing Strategy	Southern	Scotland
Floating interest rate debt	0%	0%
[redacted]	[redacted]	[redacted]
Committed funding headroom: 12 months	£450m	£150m
Capital structure: leverage	65%	62%

Source: SGN analysis

Figure 2G: Maturity profile by financial year



Source: SGN analysis

221 Historically, the debt issuance approach taken by Southern and Scotland has been to manage debt issuance size and target tenors to allow the company to issue as frequently as possible and spread debt maturities across years where there is low concentration of existing debt maturing. The approach taken is always subject to internal and external influences, and historically, this has included the following factors:

Company establishment in 2005

222 As a result of creating an efficient capital structure, there was a large quantum of debt issuance and concentrated interest rate risk. We managed these risks by targeting capital markets debt issuance across a range of tenors (5 years to 30 years) and diversified markets including, GBP fixed rate notes, GBP index-linked notes, GBP floating rate notes, EUR floating rate notes and GBP committed bank loans. This approach sought to minimise refinancing risk and interest rate risk in the future.

Global financial crisis

223 The global financial crisis drove increased credit spreads, caused uncertainty around funding capacity and created interest rate volatility. Southern and Scotland managed the impact of this by further diversifying funding sources to include committed European Investment Bank (EIB) loan funding, which was available at competitive pricing, and in flexible notional amounts and tenors not available in the GBP capital markets.

Brexit

224 The exit of the UK from the EU made securing new funding from the EIB a more challenging process in terms of both pricing and process. Southern and Scotland managed the impact of this by diversifying funding sources to include US private placement investors. Similar to the EIB loans, funding has been achieved but only as a supplement to the GBP capital markets, and the tenor is limited to sub 15 years due to the risk of asset stranding.

Increased Market Volatility Over Last 4-5 Years

225 We have seen many instances of increased market volatility over the last 4-5 years, for example as a result of Covid, high inflation, political developments in the UK/Europe, market responses to budgets and a swathe of small bank defaults in the US. Recent market responses to the UK budget and the US election reiterate our view that this heightened level of volatility is likely to remain. This can have huge consequences for network companies, especially given financing requirements.

Market dynamics

226 [redacted]

227 The financing approach historically taken by Southern and Scotland has enabled efficient debt issuance against the benchmark for several reasons, as outlined below:

- Maturities and issuance targeted: At company establishment, SGN issued debt across a range of tenors to mitigate any refinancing and interest rate concentration risk on maturity. For subsequent long-term financing, SGN has targeted issuance sizes and tenors, whilst navigating market preference, to where possible align with open maturity buckets to further mitigate exposure to these risks
- EIB Issuance: at the time of issuance, credit spreads in this market were tighter than credit spreads available in public markets and tenors which were shorter than those available in GBP public issuance were available to SGN. The EIB loans range from 8-10 years in maturity and carry a lower weighted average life (WAL) than the WAL of the iBoxx. However, it should be noted that most debt of this type has / or will be maturing in GD2.

228 Going forward, EIB funding is no longer available, but we maintain access to multiple benchmark markets now, including GBP public, PP and EUR public. This is to make sure we can take advantage of the most efficient market to price in, and also to ensure we have access to the liquidity in a timely way. This is especially important given the need of UK water and electricity networks to fund significantly increased capex programmes.

229 SGN intends to maintain an efficient approach to its funding strategy despite the challenges set out in this section that are putting upward pressure on financing costs. This will be achieved through continuing to focus on diversified funding sources, in addition to targeting issuance tenors that maintain the appropriate mix of financing risk and pricing. It is likely that in the future, GDN's may need to revisit the types of debt instruments they choose. For example, a greater focus on amortising debt may be required. [redacted] SGN will continue to evolve its financing and risk management strategy to appropriately manage the outcome as these are finalised.

230 Across the two regulated businesses SGN has a material refinancing requirement in GD3, c£1.4bn in total which represents c24% of existing debt (aggregated across the two companies):

- Southern: £0.93bn over the 5yr period (22% of existing debt); and
- Scotland: £0.42bn over the 5yr period (25% of existing debt).

231 Maintaining solid investment grade credit ratings across both companies is a key driver in raising debt efficiently.

232 [redacted]

233 [redacted]

Section H Financial Projections

More detailed financial projections (including revenue, RAV, P&L and Cashflows), as required from the BPFM 'FBPOutputs' tab, can be found in Appendices 2&3. Please note, as per correspondence with Ofgem, the output from this tab is on a notional basis only.

Section I Dividends and Equity Issuance Policy

I.1 Dividend Policy

234 The Board of Directors for Scotland Gas Networks plc and Southern Gas Networks plc separately take dividend decisions on behalf of the respective entities. For each entity, two independent directors sit on the Board and therefore are part of the decision-making process. In deciding whether to pay a dividend, a paper is presented initially to the finance committee with an assessment of the financial resilience of the regulated entity over the long-term taking into consideration future investment requirements and the performance of the regulated entity. Any dividend paid must have accompanying certificates signed by the Board stating, amongst other things, that the company has sufficient financial and operational resources for the next 12 months as per Special Standard Condition A37: Availability of Resources

235 Dividend decisions for Southern and Scotland take into account the levels of committed funding available to the Licensees as well as their financial covenants, credit metrics and targets set by the Board, as well as fulfilling the Credit Rating Obligations in Special Standard Condition A38: Credit Rating of the Licensee and Related Obligations. Each licensee will also take into consideration the Gas Transporters License Conditions so far as they are applicable to Southern or Scotland. The inherent risk in the businesses and wider economy along with the performance of each Licensee against its respective standards of service is considered when determining the timing and quantum of any distribution from the Licensees. The Board also considers dividends in the context of the Wates principles [22].

236 The quantum and frequency of underlying dividends and accelerated return of capital over GD3 remains very uncertain, due to the uncertainty over the amount of Accelerated Depreciation, which presents investability challenges for our shareholders. Distributions in GD3 will take into account the fact that no significant capital growth is forecast, and the return of capital if there is significant acceleration of depreciation (see assessment of Ofgem's Notional Dividend Yield Working Assumption below). Notwithstanding these points, dividends will only be made after robust financeability, and long-term financial resilience testing demonstrates the ability to afford these distributions.

237 The flexibility of our dividend policy has been clearly shown in previous price controls, when the company issued no dividends in certain years, due to factors such as low inflation, Covid and standards of service.

I.2 Assessment of Notional Dividend Yield Working Assumption

238 Ofgem's dividend yield assumption of 3% is significantly too low (excluding accelerated return of capital). It should be between 5%-7% reflecting a business with no significant capital growth supported by Oxera benchmarking of European gas networks, as detailed in section C.2. This is before the consideration of the return of capital due mainly to Ofgem's working assumption of accelerating depreciation to achieve a RAV of zero in 2050, and also a semi nominal WACC. Without an appropriate dividend yield, Networks would not be investable.

I.3 Equity Issuance

239 Our equity issuance policy, like our dividend policy, takes into consideration the expected cashflows and investment plans of the business, as well maintaining minimum credit rating metrics and gearing covenants and longer-term financial resilience. Our policy prioritises dividend reductions over equity issuance as a more cost-effective way of increasing the financial resources available to the company. Injecting equity from private capital is extremely difficult as funding into an

[22] A full copy can be viewed on its website under www.frc.org.uk/directors/corporate-governance-and-stewardship/governance-of-large-private-companies

uncertain recovery of capital makes raising capital challenging and this would need to be sufficiently addressed before new equity capital would consider this an investible proposition The cost of equity would need to be at an investible level and there would need to be greater certainty on either the longevity of the asset, or the certain recovery of this investment, and the associated risks/ returns within a reasonable timeframe. This is not clear today.

240 In the Actual company, we do not forecast the requirement for equity issuance. In section B.4 we set out the tools available to mitigate credit ratios if necessary. If equity were required, the cost of equity would need to be at an investable level.

I.4 Financing / Dividend policy and Actual Company Working Assumptions

241 In the BPFM, for the actual company, we have held gearing constant at the closing GD2 levels (c. 65% Scotland and c. 67% Southern). We have assumed accelerated return of capital is in addition to the underlying dividend yield and we have allocated the return on capital proportionately between debt and equity in line with gearing. We have not reduced gearing levels below closing GD2 levels because underlying dividend yields are well below an appropriate cost of equity and any de-gearing will erode this yield further. In addition, we believe our proposed GD3 gearing levels sit comfortably within the BBB+/Baa1 target thresholds.

I.5 Board Assurance

242 Our Licensee Board assurance considering whether the Board is satisfied that the licensee is financeable on both a notional and actual capital structure basis is provided separately in SGN-GD3-SD-17 - Assurance Statement.

Section J Commentary on BPFM

243 Please refer to SGN-GD3-BPF-01 – BPFM Commentary.

Section K Appendices

K.1 Appendix One – Ofgem Stress Tests

244 We have included the BBB+/Baa1 downgrade thresholds in the attached tables – it should be noted that sub investment downgrade thresholds are:

- Fitch Cash PMICR: 1.1x (1.4x with adjusted rating thresholds)
- Moody's AICR: 1.0x (1.3 adjusted)
- Fitch Nominal PMICR 1.4x, S&P FFO/Debt 3% (9% adjusted)

Notional Company (BPFM)

Tables 1K: Ofgem Low Stress Tests

SCOTLAND RIIO-GD3 AVERAGE	CREDIT METRICS					LIQUIDITY
	Fitch		Moody's	S&P		Dividend Yield inc. Return of Capital
	Cash PMICR	Nominal PMICR	AICR	FFO/Debt	Gearing	
CURRENT THRESHOLD	1.5x - 1.7x	1.8x - 2.0x	1.4x - 1.6x	9% - 12%	73% - 60%	
ADJUSTED THRESHOLD	1.8x - 2.0x	1.8x - 2.0x	1.7x - 1.9x	15% - 18%	73% - 60%	
BASE CASE	*1.77x*	*1.94x*	*1.77x*	*18.1%*	*60.0%*	*7.6%*
LOW INFLATION	1.78x	1.78x	1.78x	18.4%	60.0%	*6.7%*
LOW CPIH DIVERGENCE	1.77x	1.97x	1.77x	18.1%	60.0%	*7.8%*
LOW RPI DIVERGENCE	1.77x	1.94x	1.77x	18.1%	60.0%	*7.6%*
LOW INTEREST RATE	1.82x	2.00x	1.82x	17.8%	60.0%	*7.2%*
LOW INDEX LINKED DEBT	1.73x	1.93x	1.73x	18.1%	60.0%	*7.7%*
TOTEX UNDERPERFORMANCE	1.67x	1.85x	1.67x	17.6%	60.0%	*5.7%*
LOW RORE	1.47x	1.67x	1.47x	16.8%	60.0%	*5.6%*

SOUTHERN RIIO-GD3 AVERAGE	CREDIT METRICS					LIQUIDITY
	Fitch		Moody's	S&P		Dividend Yield inc. Return of Capital
	Cash PMICR	Nominal PMICR	AICR	FFO/Debt	Gearing	
CURRENT THRESHOLD	1.5x - 1.7x	1.8x - 2.0x	1.4x - 1.6x	9% - 12%	73% - 60%	
ADJUSTED THRESHOLD	1.8x - 2.0x	1.8x - 2.0x	1.7x - 1.9x	15% - 18%	73% - 60%	
BASE CASE	*1.77x*	*1.94x*	*1.77x*	*17.8%*	*60.0%*	*6.0%*
LOW INFLATION	1.79x	1.79x	1.79x	18.0%	60.0%	*5.2%*
LOW CPIH DIVERGENCE	1.77x	1.97x	1.77x	17.7%	60.0%	*6.3%*
LOW RPI DIVERGENCE	1.77x	1.94x	1.77x	17.8%	60.0%	*6.0%*
LOW INTEREST RATE	1.82x	2.00x	1.82x	17.5%	60.0%	*5.5%*
LOW INDEX LINKED DEBT	1.74x	1.93x	1.74x	17.8%	60.0%	*6.1%*
TOTEX UNDERPERFORMANCE	1.69x	1.86x	1.69x	17.4%	60.1%	*4.0%*
LOW RORE	1.47x	1.67x	1.47x	16.5%	60.0%	*4.1%*

Table 2K: Ofgem High Stress Tests

SCOTLAND RIIO-GD3 AVERAGE	CREDIT METRICS					LIQUIDITY
	Fitch		Moody's	S&P		Dividend Yield inc. Return of
	Cash PMICR	Nominal PMICR	AICR	FFO/Debt	Gearing	
CURRENT THRESHOLD	1.5x - 1.7x	1.8x - 2.0x	1.4x - 1.6x	9% - 12%	73% - 60%	
ADJUSTED THRESHOLD	1.8x - 2.0x	1.8x - 2.0x	1.7x - 1.9x	15% - 18%	73% - 60%	
BASE CASE	*1.77x*	*1.94x*	*1.77x*	*18.1%*	*60.0%*	*7.6%*
HIGH INFLATION	1.76x	2.05x	1.76x	17.9%	60.0%	*8.5%*
HIGH CPIH DIVERGENCE	1.77x	1.90x	1.77x	18.1%	60.0%	*7.4%*
HIGH RPI DIVERGENCE	1.77x	1.94x	1.77x	18.1%	60.0%	*7.6%*
HIGH INTEREST RATE	1.73x	1.89x	1.73x	18.4%	60.0%	*8.1%*
HIGH INDEX LINKED DEBT	1.81x	1.94x	1.81x	18.1%	60.0%	*7.5%*
TOTEX OUTPERFORMANCE	1.87x	2.02x	1.87x	18.6%	60.0%	*9.6%*
HIGH RORE	2.07x	2.20x	2.07x	19.4%	60.1%	*9.6%*

SOUTHERN RIIO-GD3 AVERAGE	CREDIT METRICS					LIQUIDITY
	Fitch		Moody's	S&P		Dividend Yield inc. Return of
	Cash PMICR	Nominal PMICR	AICR	FFO/Debt	Gearing	
CURRENT THRESHOLD	1.5x - 1.7x	1.8x - 2.0x	1.4x - 1.6x	9% - 12%	73% - 60%	
ADJUSTED THRESHOLD	1.8x - 2.0x	1.8x - 2.0x	1.7x - 1.9x	15% - 18%	73% - 60%	
BASE CASE	*1.77x*	*1.94x*	*1.77x*	*17.8%*	*60.0%*	*6.0%*
HIGH INFLATION	1.76x	2.04x	1.76x	17.6%	60.0%	*6.9%*
HIGH CPIH DIVERGENCE	1.77x	1.90x	1.77x	17.8%	60.0%	*5.8%*
HIGH RPI DIVERGENCE	1.77x	1.94x	1.77x	17.8%	60.0%	*6.0%*
HIGH INTEREST RATE	1.74x	1.89x	1.74x	18.1%	60.0%	*6.5%*
HIGH INDEX LINKED DEBT	1.81x	1.94x	1.81x	17.8%	60.0%	*5.9%*
TOTEX OUTPERFORMANCE	1.85x	2.01x	1.85x	18.2%	60.1%	*8.1%*
HIGH RORE	2.07x	2.20x	2.07x	19.1%	60.1%	*8.0%*

Actual Company (BPFM)

245 Further to the inclusion of SGN forecast cash and nominal PMICRs, in section B.2, please note all actual company PMICRs in this section are from the BPFM.

Table 3K: Ofgem Low Stress Tests

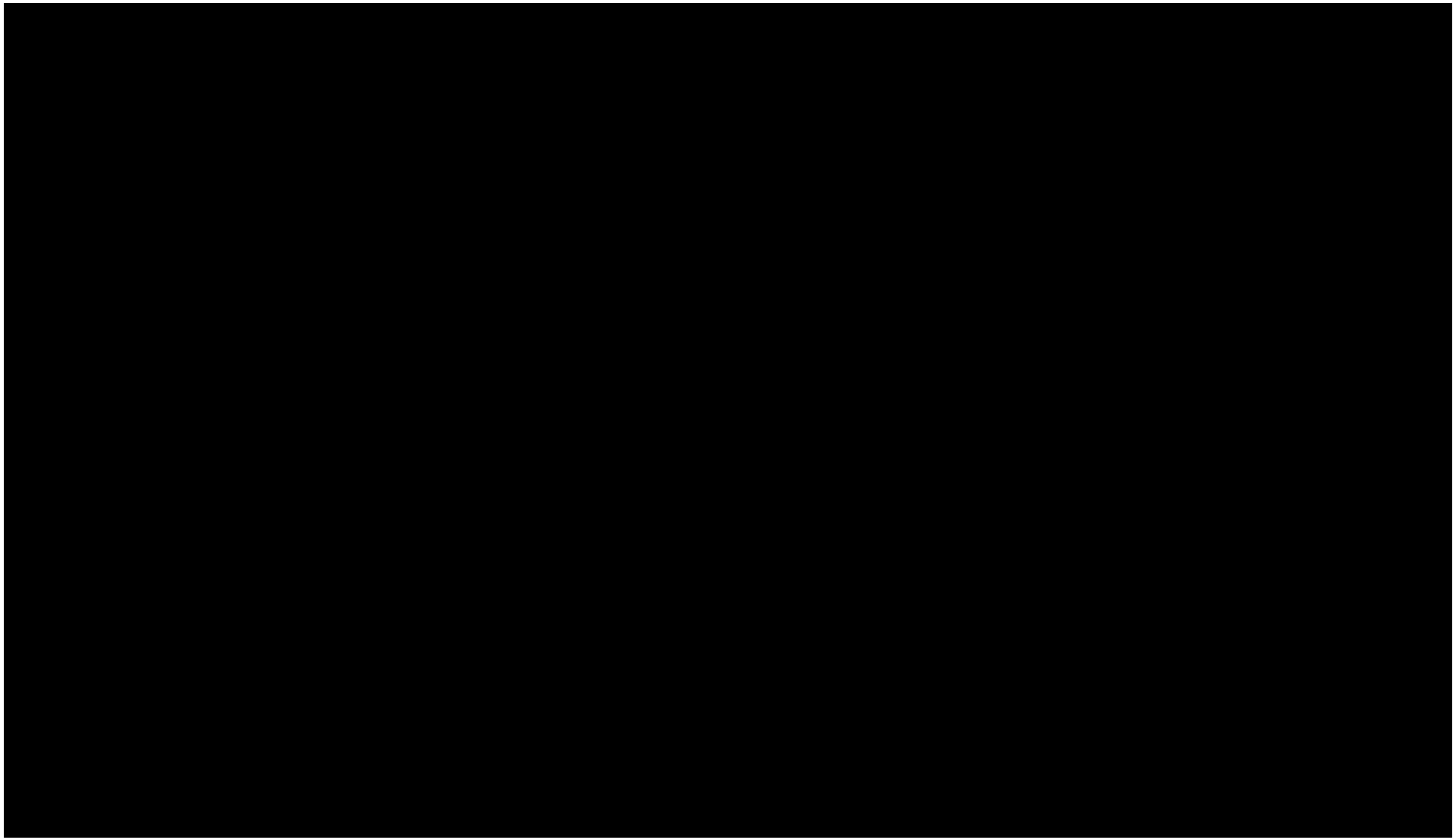
SCOTLAND RIIO-GD3 AVERAGE	CREDIT METRICS					LIQUIDITY
	Fitch		Moody's	S&P		Dividend Yield inc. Return of Capital
	Cash PMICR	Nominal PMICR	AICR	FFO/Debt	Gearing	
CURRENT THRESHOLD	1.5x - 1.7x	1.8x - 2.0x	1.4x - 1.6x	9% - 12%	73% - 60%	
ADJUSTED THRESHOLD	1.8x - 2.0x	1.8x - 2.0x	1.7x - 1.9x	15% - 18%	73% - 60%	
BASE CASE	*1.73x*	*1.77x*	*1.73x*	*15.5%*	*66.2%*	*7.7%*
LOW INFLATION	1.74x	1.68x	1.74x	16.5%	65.7%	*6.3%*
LOW CPIH DIVERGENCE	1.76x	1.85x	1.76x	15.7%	65.0%	*7.4%*
LOW RPI DIVERGENCE	1.76x	1.83x	1.76x	15.9%	65.1%	*7.3%*
LOW INTEREST RATE	1.65x	1.72x	1.65x	15.2%	65.1%	*6.0%*
LOW INDEX LINKED DEBT	1.81x	1.81x	1.81x	16.0%	65.1%	*7.2%*
TOTEX UNDERPERFORMANCE	1.64x	1.71x	1.64x	15.3%	65.1%	*4.9%*
LOW RORE	1.45x	1.55x	1.45x	14.6%	65.1%	*4.7%*

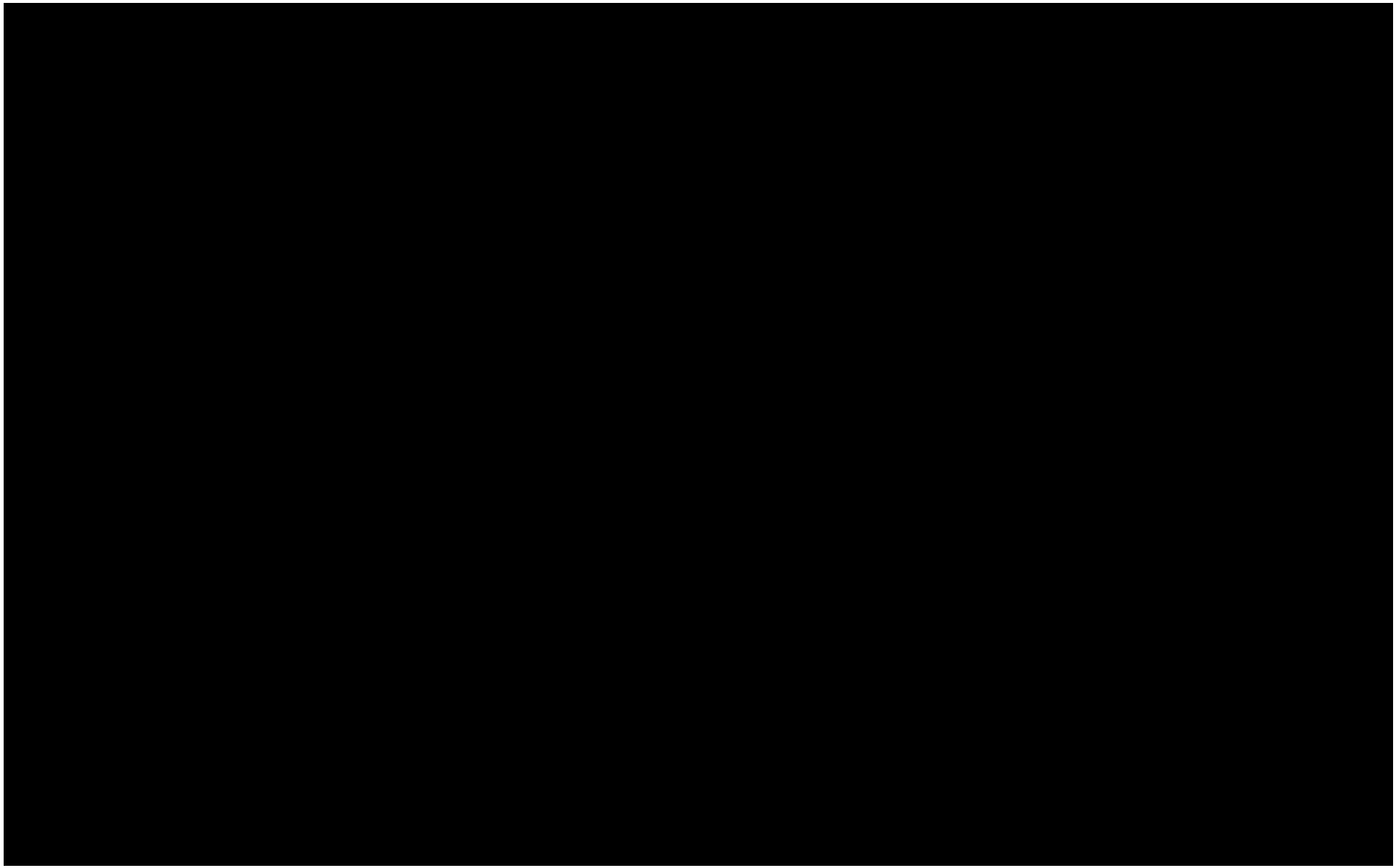
SOUTHERN RIIO-GD3 AVERAGE	CREDIT METRICS					LIQUIDITY
	Fitch		Moody's	S&P		Dividend Yield inc. Return of Capital
	Cash PMICR	Nominal PMICR	AICR	FFO/Debt	Gearing	
CURRENT THRESHOLD	1.5x - 1.7x	1.8x - 2.0x	1.4x - 1.6x	9% - 12%	73% - 60%	
ADJUSTED THRESHOLD	1.8x - 2.0x	1.8x - 2.0x	1.7x - 1.9x	15% - 18%	73% - 60%	
BASE CASE	*1.66x*	*1.75x*	*1.66x*	*14.8%*	*67.8%*	*6.9%*
LOW INFLATION	1.67x	1.65x	1.67x	15.7%	67.6%	*5.6%*
LOW CPIH DIVERGENCE	1.68x	1.81x	1.68x	14.9%	66.8%	*6.7%*
LOW RPI DIVERGENCE	1.68x	1.79x	1.68x	15.1%	66.9%	*6.5%*
LOW INTEREST RATE	1.54x	1.66x	1.54x	14.4%	66.9%	*5.2%*
LOW INDEX LINKED DEBT	1.72x	1.78x	1.72x	15.2%	66.9%	*6.6%*
TOTEX UNDERPERFORMANCE	1.59x	1.69x	1.59x	14.6%	66.9%	*4.0%*
LOW RORE	1.39x	1.52x	1.39x	13.9%	66.9%	*4.0%*

Table 4K: Ofgem High Stress Tests

SCOTLAND RIIO-GD3 AVERAGE	CREDIT METRICS					LIQUIDITY
	Fitch		Moody's	S&P		Dividend Yield inc. Return of
	Cash PMICR	Nominal PMICR	AICR	FFO/Debt	Gearing	
CURRENT THRESHOLD	1.5x - 1.7x	1.8x - 2.0x	1.4x - 1.6x	9% - 12%	73% - 60%	
ADJUSTED THRESHOLD	1.8x - 2.0x	1.8x - 2.0x	1.7x - 1.9x	15% - 18%	73% - 60%	
BASE CASE	*1.73x*	*1.77x*	*1.73x*	*15.5%*	*66.2%*	*7.7%*
HIGH INFLATION	1.78x	1.88x	1.78x	15.1%	64.5%	*7.8%*
HIGH CPIH DIVERGENCE	1.76x	1.75x	1.76x	15.9%	65.3%	*6.8%*
HIGH RPI DIVERGENCE	1.76x	1.78x	1.76x	15.7%	65.1%	*7.0%*
HIGH INTEREST RATE	1.85x	1.88x	1.85x	16.4%	65.1%	*8.2%*
HIGH INDEX LINKED DEBT	1.71x	1.80x	1.71x	15.6%	65.1%	*7.0%*
TOTEX OUTPERFORMANCE	1.88x	1.90x	1.88x	16.3%	65.1%	*9.4%*
HIGH RORE	2.07x	2.06x	2.07x	17.0%	65.1%	*9.5%*

SOUTHERN RIIO-GD3 AVERAGE	CREDIT METRICS					LIQUIDITY
	Fitch		Moody's	S&P		Dividend Yield inc. Return of
	Cash PMICR	Nominal PMICR	AICR	FFO/Debt	Gearing	
CURRENT THRESHOLD	1.5x - 1.7x	1.8x - 2.0x	1.4x - 1.6x	9% - 12%	73% - 60%	
ADJUSTED THRESHOLD	1.8x - 2.0x	1.8x - 2.0x	1.7x - 1.9x	15% - 18%	73% - 60%	
BASE CASE	*1.66x*	*1.75x*	*1.66x*	*14.8%*	*67.8%*	*6.9%*
HIGH INFLATION	1.70x	1.85x	1.70x	14.4%	66.3%	*7.2%*
HIGH CPIH DIVERGENCE	1.68x	1.74x	1.68x	15.2%	67.1%	*6.2%*
HIGH RPI DIVERGENCE	1.68x	1.77x	1.68x	15.0%	66.9%	*6.4%*
HIGH INTEREST RATE	1.81x	1.89x	1.81x	15.7%	66.9%	*7.8%*
HIGH INDEX LINKED DEBT	1.64x	1.77x	1.64x	14.9%	66.9%	*6.4%*
TOTEX OUTPERFORMANCE	1.77x	1.86x	1.77x	15.4%	66.9%	*9.0%*
HIGH RORE	1.98x	2.03x	1.98x	16.2%	66.9%	*9.0%*





Finance Annex