# **RIIO GD2 Business Plan Appendix** SGN's Alternative Cost of Capital Assumptions December 2019





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# **Document outline**

This document consists of the appendices to Chapter 18: Financing information that cover SGN's alternative cost of capital assumptions. The table below outlines the main topics discussed in each appendix.

Appendix	Summary
A. Business Plan Summary Chapter – Alternative Working Assumptions Analysis	This appendix provides an analysis of alternative working assumptions that we have been asked by Ofgem to separate from the main Business Plan Financeability chapter. The subsequent appendices below go into further detail.
B. Alternative Assumptions - Cost of Capital	This appendix provides evidence on why we believe Ofgem's working assumptions for the cost of capital are flawed. We provide robust evidence for alternative assumptions.
C. Financeability Assessment – Alternative Assumptions	This appendix sets out our financeability assessment under our proposed alternative assumptions.
D. Allowed Revenue and Costs to customers	This appendix provides a breakdown of SGN's projected allowed revenues for the GD2 period.



# A: Business Plan Summary Chapter – Alternative Working Assumptions Analysis

#### Summary

- This appendix provides an analysis of alternative working assumptions that we have been asked by Ofgem to separate from the main Business Plan Financeability chapter. The subsequent appendices below go into further detail.
- It provides an assessment of the financeability position at the end of GD1.
- It critiques how Ofgem's working assumptions have provided a significant financeability aid without thorough justification and evidence.
- We believe no justification has been provided for the reduction in notional gearing which boosts the financeability position of the notional company.
- We also believe the cost of debt under-estimates the funding required by the sector and artificially boosts the credit ratios of the notional company.
- The immediate move to CPIH also provides a significant financeability boost to the notional company from GD1.
- Finally, we conclude that an independently evidenced cost of equity provides all stakeholders with the most appropriate long term financially stable option whilst still delivering meaningful bill reductions in GD2.

## A.i Financeability Assessment at the end of GD1 under Ofgem's Proposed Cost of Equity - Summary

Summarised below is the notional company based on the current level of notional gearing at GD1, an assessment of the sector's cost of debt and Ofgem's proposed cost of equity.

	Table A1: The starting	g point for	financeability	assessments	in GD2
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courd-flat-d	888 / 888-	Ofgems A	Ofgems Assumptions						
CPIH denated	Thresholds	pre mitigati	ons from GD1						
Notional Gearing		6	5%						
Cost of Equity		4.7	70%						
Cost of Debt Trailing Av.		15 -	20 Yrs						
Cost of Debt		2.4	16%						
WACC		3.	2%						
		SO	SC						
	BBB+/Baa1								
Base Case AICR	> 1.4	1.25x	1.25x						
Base Case PMICR	> 1.6	1.29x	1.32x						
Base Case FFO:Net Debt	> 9%	8.5%	9.0%						
Alternative combined stress	BBB-								
Stress Test AICR	> 1.1	1.12x	1.11x						
Stress Test PMICR	> 1.3	1.17x	1.19x						
Stress Test FFO:Net Debt	> 5%	8.5%	8.6%						

Note – Green represent top half of appropriate credit rating band, Amber is bottom half of appropriate credit rating band and red represent falling short of appropriate band.

Given our assessment of the notional company under Ofgem's working assumptions shows a weak BBB+ / Baa1 rating assessment, the Baa2 / BBB rating for the primary metrics in Table 1 above



indicates the mitigations Ofgem has already applied versus its approach in GD1, in its other GD2 working assumptions, to improve financeability in GD2. Given that Ofgem has asked companies not to change the GD2 cost of equity working assumption, we consider that any changes to other assumptions also require full justification by Ofgem in the interests of regulatory consistency. Table 1, clearly shows that, were Ofgem to adopt the same approach as at GD1, then under its proposed lower cost of equity, the notional company would struggle to achieve a weak BBB/Baa2 credit rating under the base case and sub investment grade when stress tests are applied. This is inconsistent with the minimum rating required for the notional company of the top end of BBB+/ Baa and despite a significant metric boost from the immediate switch to CPIH.

In RIIO-GD2, Ofgem are proposing to halve the cost of equity from GD1 levels (in RPI deflated terms). Referring to the matrix in section 18.1 of our main Business Plan, we believe that Ofgem are using unjustified parameters to mitigate the debt financeability issues caused by an uneconomic cost of capital instead of addressing these issues through a higher and more justifiable cost of equity. Most importantly, we observe that:

- Ofgem's 5% reduction in notional gearing is unrealistic to assume as it implicitly assumes the
  availability of a £300m equity injection (across both our Networks) when the return to equity
  investors has halved since GD1. Notably, financial stakeholders stated that the UK energy sector
  is not currently an attractive investment opportunity. Some cited the proposed regulatory
  changes and low cost of capital as the main factors, whereas others mentioned the risk that there
  could be value losses if the industry is renationalised. Taking these factors and the views of
  investors into account, we consider that obtaining a significant equity injection for GD2 would be
  extremely challenging.
- the trailing average cost of debt allowance is below the sector average cost of debt and does not cover the significant volume of debt raised efficiently prior to Ofgem's 11 year starting point;
- the dividend yield of 3.0% is significantly lower than GD1 assumptions; and
- the immediate move to CPIH has provided a significant cashflow boost in the near term and therefore has enhanced credit rating metrics (approx. 0.5x on interest coverage ratios) versus a managed transition to CPIH.

Therefore, while we have used these assumptions for our financeability assessment in Section 18.5 of our main Business Plan as instructed under Business Plan Guidance (i.e. taking them at face value), we consider that Ofgem's notional company for GD2 provides significantly greater financeability challenges for actual companies compared to GD1 with inadequate justification for Ofgem's change in approach. This greatly threatens the stability of the regulatory regime, which is the main consideration for investors allocating capital to the sector as well as the principles of regulatory consistency and proportionality.

The remainder of this Appendix 004i considers SGN's alternative cost of capital assumptions which have been independently derived and justified. We also show the financeability assessments under these alternative assumptions and finally the customer bill impact.



### A.ii SGN's Alternative Cost of capital Assumptions - Summary

In consultation responses and earlier iterations of this plan, we have consistently challenged the appropriateness of Ofgem's cost of capital working assumptions. We believe the cost of capital is set at a level which is too low and will lead to:

- Mitigating options which are extreme, unjustified and, in some cases, very costly / uneconomic and entail risk as set out in the previous section.
- Low returns and increased risk leading to an unattractive environment for new / existing equity investors. As part of our stakeholder engagement, this risk was highlighted by financial stakeholders, with the majority considering that Ofgem's proposed allowed return on equity (4.3% real, CPIH) is too low to compensate investors for the risk associated with investment in energy networks.
- Regulatory instability given the magnitude of the reduction in the cost of capital and new regulatory mechanisms. Financial stakeholders generally agreed that these changes have made the regulatory regime for UK energy networks less predictable and stable.
- Intergenerational concerns with stakeholders commenting that the lower WACC forced companies to focus on short-term financial targets to meet strict financing criteria, making it harder for companies to make long-term plans and passing the risk and expense of investing in new assets onto future generations.

We have put forward independent evidence to support a higher cost of capital:

- Cost of debt conceptually the average tenor of gas network issuances, the fact that GDNs have been issuing debt since 2005 and the ED1 trombone which dates back to 2004 all support a 15year trailing average tromboning to 20 years. Notwithstanding this, assessing the trailing average against forecast industry costs, when including derivatives and the additional costs of borrowing, supports at least a 15-20 year trailing average. The rationale for these assumptions is detailed further in Financeability appendix 4iBi. Additionally, the working assumption proposed by Ofgem does not reflect a small company premium, however Ofgem has encouraged companies to put forward evidence to support this. Scotland is the smallest gas network and we have also put forward evidence in Financeability appendix 4iBi. Ofgem have also not recognised other premiums and costs not being picked up within the cost of debt benchmark such as new issuance premiums, cost of switching to CPI and transaction costs.
- Cost of equity the ENA, on behalf of the energy networks, commissioned Oxera to conduct independent analysis of the RIIO-2 Cost of Equity. Based on the Oxera report, we have proposed a cost of equity of 6.0% (60% gearing) / 6.9% (65% gearing). The reasons for the difference between these figures and Ofgem's working assumptions are due to fundamental differences in the calculation of Total Market Returns, betas (debt, asset and equity) and the exclusion of Ofgem's expected outperformance deduction. The rationale for these assumptions is detailed further in Financeability appendix 4iBii.
- Notional gearing no justification has been given by Ofgem for the reduction from the current level of sector notional and actual gearing in GD1 (65%)<sup>1</sup>. The decrease implies significant equity injection at a time of proposed unprecedentedly low cost of equity and low allowances for the cost of debt, with interest rates forecasted to remain low into GD2. The sector has successfully financed itself at 65% notional gearing, and low interest rates mean that it is economically rational to take advantage of expected low borrowing costs over GD2 by maintaining the 65% notional gearing threshold. The rationale for these assumptions is detailed further in Financeability appendix 4iBiii.



<sup>&</sup>lt;sup>1</sup> Ofgem (2019), 'Regulatory Finance Performance Annex to RIIo-1 Annual Reports – 2017-18', para 1.30

#### **Notional company**

#### Table A2: Notional Company Financeability assessment under SGN's working assumptions

CPIH deflated	BBB / BBB- Thresholds	SGN Proposal									
Notional Gearing		65	5%								
Cost of Equity		6.9	9%								
Cost of Debt Trailing Av.		15-2	0 Yrs								
Cost of Debt		2.46%									
WACC 4.0%											
	BBB+/Baa1										
Base Case AICR	> 1.4	1.54x	1.54x								
Base Case PMICR	> 1.6	1.59x	1.61x								
Base Case FFO:Net Debt	> 9%	> 9% 10.0%									
	BBB-										
Stress Test AICR	> 1.1	1.41x	1.40x								
Stress Test PMICR	> 1.3	1.46x	1.47x								
Stress Test FFO:Net Debt	> 5%	9.6%	9.7%								

Under what we consider to be more appropriate alternative assumptions, the notional company with a 6% cost of equity (6.9% when re-geared to 65%) achieves FFO/Debt within the range consistent with a BBB+ credit rating under S&P's metric guidance and lands below mid-range BBB+. For AICR, metrics are within the range consistent with a Baa1 credit rating under Moody's metric guidance and lands at the top end of Baa1. Finally, for PMICR, metrics are below the range consistent with a BBB+ credit rating under Fitch's metric guidance for Southern and just above the BBB+ level for Scotland.

The notional company also maintains an investment grade rating in a stress test scenario, and therefore does not need any mitigating actions. It addresses the concerns highlighted earlier in this section and in Chapter 18 of the main business plan and still delivers bill reductions. It is also consistent with our customer research which suggested that a company that is lowering gas bills and performing well should receive a fair return.

Financeability appendix 4iCi details the notional company financeability assessment of SGN's alternative assumptions for all Ofgem's stated financial ratios and each year of GD2 and shows the impact for all Ofgem's scenario tests.



#### **Actual company**

#### Table A3: Actual Company Financeability assessment under SGN's working assumptions

CPIH deflated	BBB / BBB- Thresholds	SGN P	roposal								
Notional Gearing / Actual Gearing	65%	/ 73%									
Cost of Equity		6.	9%								
Cost of Debt Trailing Av.		15-2	0 Yrs								
Cost of Debt		2.4	16%								
WACC 4.0%											
		SO	SC								
Customer Bill Change -		-6%	-10%								
GD1 last 3 Yrs Avg. to GD2 Avg.		070	1070								
	BBB / Baa2										
Base Case AICR	> 1.2	1.43x	1.47x								
Base Case PMICR	> 1.4	1.48x	1.51x								
Base Case FFO:Net Debt	> 6%	8.4%	8.4%								
	BBB-										
Stress Test AICR	> 1.1	1.34x	1.40x								
Stress Test PMICR	> 1.3	1.36x	1.41x								
Stress Test FFO:Net Debt	> 5%	8.3%	8.4%								

Under what we consider to be more appropriate alternative assumptions, the actual company on SGN's proposal of 6% cost of equity (6.9% when re-geared to 65%) achieves:

- FFO/Debt within the upper range consistent with a BBB credit rating under S&P's metric guidance;
- AICR within the range consistent with the bottom end of the Baa1 credit rating under Moody's metric guidance;
- PMICR below the range consistent with a BBB+ credit rating under Fitch's metric guidance
- The actual company also maintains an investment grade rating in a stress test scenario, and therefore does not need any mitigating actions. It addresses the concerns highlighted in section 18 of the main business plan and still delivers bill reductions. It is also consistent with our customer research which suggested that a company that is lowering gas bills and performing well should receive a fair return.

Financeability appendix 4iC details the actual company financeability assessment of SGN's alternative assumptions for all Ofgem's stated financial ratios and each year of GD2 and shows the impact for all Ofgem's scenario tests.

Under the alternative working assumptions, the actual company achieves credit metrics within the range commensurate with BBB / Baa2 credit ratings under both base case and stress test cases and therefore does not need any mitigating actions (and associated negative costs outlined previously). It addresses the concerns highlighted earlier in this section and still delivers bill reductions.

Finally, Table 4 below still shows that under SGN's alternative assumptions for cost of capital, there are still meaningful bill reductions. Note, the changes detailed below represent SGN's share of the overall customer bill.



	SGN's Ass	sumptions					
Notional Gearing	6	5%					
Cost of Equity (CPIH deflated)	6.	9%					
Cost of Debt Trailing Avg	15-20 Yrs						
Cost of Debt (CPIH deflated)	2.	2.5%					
WACC	4.	0%					
Customer Bill Change	So	Sc					
GD1 last 3 Yrs Avg to GD2 Avg	-6%	-10%					
Average Bill in GD1 last 3 years	£147	£146					
Average Bill in GD2 *	£138	£132					

#### Table A4: Customer Bill analysis under SGN's alternative cost of capital assumptions

\* Excludes NTS Exit and Innovation, includes SIU's

Calculation based on the actual company

Financeability Appendix 004iB analyses our critique of Ofgem's Cost of Capital proposals. Financeability Appendix 004iC provides further details of the financeability analysis and Financeability Appendix 004iD provides further detail on the bill impact of these alternative assumptions.



# B. SGN's Alternative Cost of Capital Assumptions -Appendix

#### Summary

- This appendix provides additional evidence on why we view Ofgem's working assumptions for the cost of capital as insufficient to cover interest obligations on efficient debt issuance (including associated costs) and provide a fair return to equity investors across RIIO-GD2.
- We have strong reservations about the 11-15 year trailing average proposed by Ofgem in RIIO-GD2 for the cost of debt.
- We propose a 15-20 year trailing average as 20 years reflects the tenor of debt issued efficiently by network companies since company establishment in 2005, but taking account that companies will have only been in existence for just over 15 years at the start of GD2.
- Additionally, a NERA report<sup>2</sup> illustrates that a 11-15 year trailing average will not provide a sufficient allowance to cover the cost of debt of the GDNs in GD2. This cost of debt includes existing debt, derivatives, forecast debt issuance and additional costs of borrowing.
- NERA<sup>3</sup> estimate the additional costs of borrowing of transaction, liquidity, cost of carry, new issuance premium and CPI premium costs to total 55-82bps.
- Smaller companies also face the risk of having a higher cost of debt due to lower frequency of issuance compared with larger companies. Given Scotland's relatively small size, we view that a 33-35 bps small company premium to the cost of debt is required to compensate for this risk.
- On the cost of equity, we agree with the evidence presented by Oxera on the RIIO-2 cost of equity<sup>4</sup>. Specific points include:
  - the 50 bps outperformance assumption is calculated using historical evidence before any outperformance has materialised. This is wrong from a conceptual standpoint. This viewpoint was also supported by the financial stakeholders that we engaged.
  - the proposed equity beta of 0.75 is not supported by market data and has been calculated using a flawed methodology.
  - the proposed TMR range of 6.25% to 6.75% is too low due to the significant flaws in Ofgem's methodology for deflating the TMR in CPIH terms, which are likely to provide an upwardly bias estimate of CPI inflation, its TMR averaging technique and use of TMR/Cost of Equity cross checks
- Ofgem's proposed overall cost of equity does not adequately compensate equity investors for investment in the industry given the evolving landscape and the growing asset stranding risks and based on the Oxera Report, we propose a cost of equity of 6% (at 60% notional gearing) re-leveraged to 6.9% (at 65% notional gearing).



<sup>&</sup>lt;sup>2</sup> 'Cost of debt at RIIO-2' (NERA, September 2019)

<sup>&</sup>lt;sup>3</sup> 'Halo Effect & Additional Costs of Borrowing at RIIO-2' (NERA, September 2019)

<sup>&</sup>lt;sup>4</sup> 'The cost of equity for RIIO-2 – Q4 2019 Update' (Oxera, November 2019)

Having conducted extensive analysis on Ofgem's working assumptions for the cost of capital for RIIO-2, we find that these assumptions are insufficient to cover interest obligations on efficient debt issuance (including associated costs) and provide a fair return to equity investors across RIIO-GD2

In this appendix, we outline our analysis on the cost of debt, the cost of equity and gearing and provide evidence to support our conclusions.

### B.i Cost of Debt

In this section we outline the evidence underpinning our proposed changes to Ofgem's cost of debt assumptions. Specifically, we consider the trailing average length, a small company premium, financing costs, the CPIH premium, and the halo effect.

#### Trailing average length

Ofgem is advocating a cost of debt benchmark for GD2 based on indexation. SGN is in support of indexation, on the basis that it incentivises companies to manage debt prudently and efficiently via an independent proxy (deflated iBoxx). However, the criteria applied to the indexation needs to be carefully selected to take account of the credit rating level of the notional company and to reflect the debt issuance dynamics that the network companies have been subject to since company establishment.

Ofgem currently has a working assumption of 11-15 years for the index trailing average. SGN considers this to be too short and a longer trailing average of 20 years reflects the tenor of debt issued efficiently by network companies since company establishment in 2005. However, since the company will have only been in existence for just over 15 years at the start of GD2, SGN proposes a trailing average should start at 15 years, tromboning to 20 years.

#### **Historical debt issuance**

A 15-20 year trombone for RIIO-GD2 would mean roughly the same starting point as the ED1 trombone and would incorporate the efficiently issued debt between 2005-2011, which would otherwise fall out of the 11-15 year trailing average in RIIO-GD2. It's worth noting that the CMA ED1 determination on the trombone recognised the need for the cost of debt issued pre-2004, i.e. before the start of the ED1 trombone, to be recognised but determined that the high coupons achieved on the debt issued during this period was comparable to the rates prevailing in 2008-10. Thus, the ED1 trombone appeared to be a reasonable proxy for the embedded debt costs of DNO's.<sup>5</sup>

Furthermore, a NERA report<sup>6</sup> (on behalf of the GDNs) illustrates that an 11-15 year trailing average of the iBoxx will not provide a sufficient allowance to cover the cost of debt of the GDNs in GD2 (existing debt, derivatives, forecast debt issuance and additional costs of borrowing), with a 20 year trailing average allowance providing closer alignment (although still resulting in a forecast underperformance for GDNs).

### Debt issued at company establishment

At company establishment in 2005 a substantial amount of debt was required to fund the capital structure of the four new distribution networks.

Issuing a volume of debt of this size efficiently within GBP debt markets required companies to diversify across available maturities at the time (2005). Southern and Scotland issued debt totalling c£2.2bn across the following maturities: 5yrs, 10yrs, 12yrs, 15yrs, 17yrs, 20yrs, 23yrs, 29yrs and 30yrs (shown below in figure B1); with a weighted average life of 16.5yrs. In order to ensure efficient issuance of debt on this scale, monoline wraps were used to enhance the credit ratings on



<sup>&</sup>lt;sup>5</sup> CMA (2015), "British Gas Limited Vs the Gas and electricity Markets Authority – Final Determination'. Para 8.32

<sup>&</sup>lt;sup>6</sup> 'Cost of debt at RIIO-2' (NERA, September 2019)

the bond issues. The issuers therefore incurred fees in order to establish this rating enhancement.





#### Source: SGN analysis of debt issuance

#### Debt issued during GDPCR1

During GDPCR1, post network establishment, debt issuance within the sector spanned a large range of maturities. Southern and Scotland issued debt totalling c£1.3bn across the following maturities: 8yrs, 9yrs, 11yrs, 20yrs, 30yrs, 32yrs and 35yrs (shown below in figure B2); with a weighted average life of 17.3yrs. The shorter dated maturities were supported by the availability of European Investment Bank (EIB) loan funding.



#### Figure B2: Maturity and amount of Scotland and Southern debt issued during GDPCR1



Source: SGN analysis of debt issuance

#### Debt issued during GD1

Given the total volume of issuance during the price control networks have had to continue to be mindful of capacity constraints in maturity buckets, as was the case at company establishment and during GDPCR1. Furthermore, companies have looked to diversify across tenors as it is not practical or efficient to issue in concentrated tenors. Southern and Scotland have issued debt totalling c£1.8bn during GD1 so far across the following maturities: 10yrs, 11yrs, 12yr, 15yrs and 18yrs (shown below in figure B3); with a weighted average life of 12.8yrs. The shorter dated maturities have been supported by the availability of EIB loan funding, which is not anticipated to be available in GD2, particularly in the post Brexit climate.





Source: SGN analysis of debt issuance

#### Debt issued during GD2

Assuming no early repayment of existing debt, at the start of GD2 network companies<sup>7</sup> will have circa £4.6bn of debt (pre indexation) outstanding issued prior to GD1. Furthermore, network companies will have circa £3.8bn of debt issued prior to 1 April 2010 (the starting point for the trailing average proposed in the sector specific methodology decision). Southern and Scotland will have £1.9bn outstanding issued prior to GD1 and £1.6bn issued prior to 1 April 2010.

SGN considers assessing the weighted average life of debt in place at network companies to be a key indicator of the trailing average period required for the cost of debt index benchmark, as this illustrates the average period of time the debt instruments are outstanding for. The below graph illustrates how this has evolved for Southern and Scotland since network establishment through to the end of GD2, based on outstanding debt and assuming no further debt issuance.

The tenor of debt issued by Southern and Scotland is broadly consistent with the average tenor of debt within the sector. Analysis by NERA<sup>8</sup> illustrates that the average tenor of issuance of GDNs bonds is 17yrs, with energy networks more widely at 19yrs. As noted by NERA, these average tenors include shorter dated EIB loans which are unlikely to be available in GD2.



<sup>&</sup>lt;sup>7</sup> Cadent do not have any debt that was issued prior to 2016, due to the date that the company was established, however the bonds that National Grid repurchased - as part of the liability management exercise undertaken to put in place debt in Cadent - targeted bonds that were issued as early as 1995.

<sup>&</sup>lt;sup>8</sup> 'Cost of debt at RIIO-2' (NERA, September 2019)

This evidence suggests that the cost of debt allowance needs to be based on a trailing average period longer than the 11-15 years currently proposed, and that a 15-20 year trailing average would be more suitable.

Figure B4: Weighted average life of Southern and Scotland debt across GDPCR1, GD1 and GD2



Source: SGN analysis of debt issuance

#### Asset liability matching

GDN Assets typically have long lives (some are depreciated in the statutory accounts in excess of 60 years) and as a matter of principle should most logically be financed in the long-term markets as an appropriate asset/liability matching strategy.

#### Small company premium

#### Exposure created by infrequent issuance

One of the challenges with the cost of debt benchmark proposed by Ofgem, is that the chosen proxy implicitly assumes an issuance approach that cannot be replicated efficiently by companies within debt markets or interest rate derivative markets, i.e. index-linked issuance on a daily basis. Investor preference for benchmark size issuance and bank preference for reasonable size when transacting interest rate derivatives means daily issuance or hedging of interest rates is not practical.

As a result, network companies receive a cost of debt allowance based on a period average that incorporates daily yields & credit spreads; and pay interest based on the timing and frequency of issuance.

The mis-match causes companies to carry interest rate risk & credit spread exposure. This means that they may issue at a high point within a period and will only receive a return based on the average rate & credit spread, although equally they could also issue at a level that represents a low point. The graphs below (figures B5 & B6) illustrate, on a 12-monthly basis (1 October to 30 September), the size of the differential in bps between high, low and average. For the period shown this has a range of +108bps/132bps.



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The risk that companies bear as a result of this basis mis-match is inversely correlated to their size, i.e. the smaller the company RAV the smaller the amount of debt they carry and therefore the less frequently they are likely to issue (assuming benchmark size<sup>9</sup> issuance).

#### Impact of exposure to infrequent issuance

To highlight the exposure that frequency of issuance creates for companies, we have provided an analysis on Southern and Scotland below based on benchmark issuance size within the GBP public markets (£250m) for both notional and actual gearing. Assuming gearing at the notional level for GD1 (65%), Scotland would issue a benchmark sized issuance every 1,190 days and Southern would issue every 542 days for systematic 15yr issuance. For systematic 20yr issuance, the period would be 1,587 days and 723 days respectively (see below in table B1).

<sup>9</sup> £250m in GBP public markets



	RAV FY19	Notional Debt/RAV	Notional Debt	Debt/Benchmark size	Frequency of issuance (based on target maturity)						
					10yr	15yr	20yr				
Scotland	£1,764m	65%	£1,147m	4.6x	793 days	1,190 days	1,587 days				
Southern	£3,919m	65%	£2,547m	10.1x	361 days	542 days	723 days				

#### Table B1: Scotland and Southern frequency of issuance based on target maturity, notional basis

Source: SGN analysis

As actual leverage in Southern and Scotland is above the notional level, actual issuance under the same analysis would therefore be more frequent: Scotland every 1,074 days and Southern every 480 days for systematic 15yr issuance; and for systematic 20yr issuance the period would be 1,431 days and 640 days respectively (see below in table B2).

#### Table B2: Scotland and Southern frequency of issuance based on target maturity, actual basis

	RAV FY19	Actual Debt/RAV	Actual Debt	Debt/Benchmark size	Frequency of issuance (based on target maturity)							
					10yr	15yr	20yr					
Scotland	£1,764m	71.6%	£1,264m	5.1x	716 days	1,074 days	1,431 days					
Southern	£3,919m	72.9%	£2,858m	11.4x	329 days	480 days	640 days					

Source: SGN analysis

During GD1, to date, the risk created by frequency of issuance has been mitigated across Southern and Scotland as a result of diversifying markets and focusing on funding through EIB loans and private placements. The result has been an actual issuance frequency of every 365 days for Scotland and every 274 days for Southern (see below in table B3).

#### Table B3: Actual issuance frequency for Scotland and Southern

	Number of debt instruments issued	Notional amount issued	Average issuance size	Frequency of issuance
Scotland	6	£500m	£83m	365 days
Southern	8	£1,200m	£150m	274 days

#### Source: SGN analysis

Going forward, there are severe challenges to the availability of tools for mitigating this risk, in particular:

- Markets that permit debt issuance at sizes below GBP public issuance benchmark sizes are unlikely to have the capacity to meet the full debt issuance requirements at Southern and Scotland;
- EIB loans to UK companies are likely to be under threat as a consequence of the UK exiting the European Union, 'Brexit'.

As a result, SGN believes that an allowance should be provided to cover the risks of infrequent issue that the companies bear.



SGN has discussed the most appropriate method for mitigating this risk with its relationship banks and understands that a comprehensive hedge of this risk would require the issuing entities to enter into daily European style swaptions<sup>10</sup> in order to achieve a blended rate and provide insurance against locking in an iBoxx high point at issuance. As mentioned above, this does not represent a practical solution and therefore SGN has considered a partial hedge of the risk by entering into quarterly European style swaptions. One of SGN's banks has provided indicative pricing<sup>11</sup> (see below table B4) for entering into four options at the end of each quarterly period, maturing over 1yr to 5yrs. This provides an indication of the cost to hedge assumed 15yr tenor of issuance and 20yr tenor of issuance.

15yr tenor	Yr1 (bps)					Yr2 (bps)				Yr3 (bps)				Yr4 (bps)				Yr5 (	Average (bps)		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1yr Hedge	15	20	24	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
2yr Hedge	15	20	24	27	31	33	36	38	-	-	-	-	-	-	-	-	-	-	-	-	28
3yr Hedge	15	20	24	27	31	33	36	38	40	42	44	46	-	-	-	-	-	-	-	-	33
4yr Hedge	15	20	24	27	31	33	36	38	40	42	44	46	47	49	51	52	-	-	-	-	33
5yr Hedge	15	20	24	27	31	33	36	38	40	42	44	46	47	49	51	52	24	55	56	58	39

#### Table B4: Indicative hedging costs for SGN based on 15 and 20 year tenor of issuance

20yr tenor	Yr1 (bps)					Yr2 (	bps)			Yr3 (	bps)		Yr4 (bps)					Yr5 (	Average (bps)		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1yr Hedge	15	20	24	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
2yr Hedge	15	20	24	27	30	33	35	37	-	-	-	-	-	-	-	-	-	-	-	-	28
3yr Hedge	15	20	24	27	30	33	35	37	39	41	43	44	-	-	-	-	-	-	-	-	32
4yr Hedge	15	20	24	27	30	33	35	37	39	41	43	44	46	47	49	50	-	-	-	-	32
5yr Hedge	15	20	24	27	30	33	35	37	39	41	43	44	46	47	49	50	52	53	54	55	40

Source: SGN analysis of data from UK corporate bank

Based on 15yr issuance, SGN anticipates Scotland having requirement for benchmark size issuance broadly every 3 years. Based on 20yr issuance, SGN anticipates Scotland having requirement for benchmark size issuance broadly every 4.3 years.

Therefore, based on the averaging of those periods and interpolation above, we propose an infrequent issuer premium of 33bps and 35 bps for 15 year and 20 year debt, respectively to be added to the index for new debt.

#### Ofgem's proposed approach to mitigate infrequent issuer risk

Ofgem have asked whether the infrequent issuer risk, or 'small company premium', can be mitigated through an alternative approach - targeting sub-benchmark sized issuance<sup>12</sup> in public debt markets. We have considered this approach, based on analysis provided by our relationship banks and consultants, and do not view this as an appropriate alternative to the proposal outlined above, for the following reasons:

• Capacity: genuine sub-benchmark issuance<sup>13</sup> rarely occurs in the GBP public markets and there

<sup>12</sup> Issuance of a notional amount lower than £250m which is the benchmark size in GBP public markets. Note this is higher in other markets, e.g. in EUR public markets benchmark size is €500m.

<sup>13</sup> Genuine sub-benchmark issuance is issuance below £250m that carries a premium to compensate investors



<sup>&</sup>lt;sup>10</sup> 'Swaptions' refers to options to transact interest rate swaps to lock in fixed interest rates for an assumed tenor of issuance.

<sup>&</sup>lt;sup>11</sup> Based on SGN purchasing a European style option to pay fixed for 15yrs and 20yrs from the exercise date of the swaption. Each swaption is based on a strike price of 0.951% for the 15yr rate and 0.981% for the 20yr rate, as at 24 October 2019).

is typically low single digit instances of this type of issuance annually. This makes it inappropriate as the basis for a funding strategy for debt issuers with £1.3bn (Scotland) and £2.9bn (Southern) debt outstanding<sup>14</sup>;

- Premium: the very low number of transactions that qualify as 'sub-benchmark' makes the dataset hard to rely on as a guide to future premiums. Furthermore, as issuers are not consistently revisiting this market it is challenging to place reliance on the premium staying consistent, as investors are likely to lose appetite when repeatedly asked to take illiquidity risk; and
- Notional: sub-benchmark issuance most commonly has a notional range of £150m £250m. At the bottom end of this range (£150m), a company with RAV the size of Scotland's (£1,764m) operating with notional debt (£1,147m), would only be accessing the markets every 2 3yr (assuming 15 20yr tenor of issuance), which still represents a significant mis-match with the cost of debt allowance (based on a period average that incorporates daily yields & credit spreads).

#### **Financing costs**

Network companies are required to ensure that they maintain minimum levels of financial liquidity in order to ensure that they are not in breach of their license conditions, and that they are able to maintain investment grade credit ratings. Specifically:

- License requirement: under standard special condition A37 of the license, network companies have an obligation to ensure that they have financial resources looking out 12 months and must provide directors certificates confirming this on an annual basis at minimum;
- Credit rating agency liquidity methodology (for example S&P<sup>15</sup>): for a corporate issuer to receive a standalone credit profile of BBB- or higher S&P must assess its liquidity as adequate or stronger. To achieve an 'adequate' assessment, amongst other criteria, sources of liquidity must be at least 1.2x the uses of liquidity over the next 12 month period; to achieve a strong assessment, amongst other criteria, sources of liquidity over the next 12 month period; to achieve a strong assessment, amongst other criteria, sources of liquidity over the next 12 month period; to achieve a strong assessment, amongst other criteria, sources of liquidity must be at least 1.5x the uses of liquidity over the next 12 months (i.e. 0-12 months) with at least 1.0x for the subsequent 12 months (i.e. 12-24 months).

To meet these obligations, network companies need to forecast expected cash flows looking out for 12-24 months and take into consideration the impact of operational working capital requirements, investment cash flows, and financing maturities, as well as ensuring that committed funding is put in place at the appropriate time. SGN considers that:

- Operational working capital requirements, because of their short-term nature, are most efficiently addressed by putting in place a revolving credit facility (liquidity facility) provided by banks (provided there is sufficient appetite and support); and
- Investment cash flows and financing maturities, because of their long-term nature, need to be addressed with long-term funding sourced from loan or capital markets.

Each solution attracts costs which need to be included in the cost of debt allowance to ensure companies are adequately compensated for these costs. The costs fall into four categories outlined in table B5 below:

<sup>&</sup>lt;sup>15</sup> 'Methodology and Assumptions: Liquidity Descriptors for Global Corporate Issuers' (Standard & Poor's Rating Services, 19 November 2013)



for illiquidity as a result of the outstanding notional. Importantly this does not include: a tap of an existing benchmark size bond; or a retained bond with a commitment (explicit or implicit) to issue further notional to get to benchmark size.

<sup>&</sup>lt;sup>14</sup> As at 31 March 2019

#### Table B5: Financing costs associated with raising debt capital

Financing cost	Components
Liquidity costs	<ul> <li>Upfront variable costs: arrangement fees and rating agency fees.</li> <li>Upfront fixed costs: coordination fees and legal fees.</li> <li>Ongoing variable costs: commitment fees and extension fees.</li> </ul>
Capital markets transaction costs	<ul> <li>Upfront variable costs: underwriting fees and rating agency fees.</li> <li>Upfront fixed costs: legal fees, auditors fees and listing fees.</li> <li>Ongoing fixed costs: trustee and paying agency fees.</li> </ul>
New issuance premium (NIP)	The incremental premium that a debt issuer typically has to pay on a new public debt issuance, over and above the fair credit spread <sup>16</sup> , to encourage investors to buy the new issuance in preference of existing bonds in secondary markets. This premium is not compensated for in the cost of debt benchmark allowance, as the premium is traded out of the yields in the days immediately after the bond is issued <sup>17</sup> .
Cost of carry	The cost incurred by putting in place drawn funding in advance of the forecast cash flow that it is due to finance. It is calculated by netting the interest paid on the new financing against the interest received by investing the cash over the time-period between issuance and the cash flow utilising the funding.

#### Source: SGN analysis

In the next section, we propose a methodology for calculating each of these costs and propose a mechanism with indicative levels to apply these costs. NERA have also conducted analysis and published a report for the ENA, on behalf of the energy networks<sup>18</sup>, which illustrates the additional costs of borrowing and evidence on the existence of a Halo Effect. We use this report as a cross check for our analysis as well as further evidence.

#### Liquidity costs

#### Methodology:

- Assume existing revolving credit facility is sized to cover working capital requirements (for SGN this is consistent with Ofgem's approach of 10% of total debt);
- Divide aggregate upfront costs by initial duration before refinancing of the facility (after 3.5yrs on a 5yr facility) and company notional debt;
- Divide ongoing annual costs by company notional debt.

Mechanism: Incremental bps applied to the cost of debt benchmark (i.e. applied to the notional level of debt);

#### Level: 3bps across notional debt.

By way of comparison, the NERA report estimates liquidity costs to be 3.5-4.5bps for the sector.

#### Capital markets transaction costs

#### Methodology:

• Assume companies issue a linear percentage of their debt annually (SGN assumes company

<sup>&</sup>lt;sup>16</sup> Usually interpolated from credit spread secondary trading levels of existing bonds (or from benchmark peers)

<sup>&</sup>lt;sup>17</sup> iBoxx updates its index baskets at the beginning of each month. As a result of cut-off times. this means that on average, new issues are admitted to the index c3 weeks after they are priced. Consequently, new issuance premiums are not effectively captured by index levels/movements.

<sup>&</sup>lt;sup>18</sup> 'Halo Effect and Additional Cost of Borrowing at RIIO-2' (NERA, September 2019)

notional debt divided by 15yrs to 20yrs);

- Divide upfront aggregate costs by company notional debt;
- Divide ongoing costs by anticipated tenor of issuance (SGN assumes 15yrs to 20yrs) and company notional debt.

**Mechanism:** Incremental bps applied to the cost of debt benchmark (i.e. applied to the notional level of debt);

#### Level: 5-6bps.

By way of comparison, the NERA report estimates Capital Markets Transaction Costs to be 7bps for the sector.

#### New issuance premium (NIP)

#### Methodology:

The level of NIP required to ensure that a new issuance transaction is successful depends on a number of factors, including: frequency of issuance, macro-economic climate, and size of issuance. To determine an appropriate allowance, SGN has asked one of its relationship banks to provide analysis of NIP on new GBP public debt issuance over the last nine years (see table B6 below). The analysis shows the following:

Bps	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 (YTD)	Average
Max	+40	+50	+60	+23	+30	+25	+30	+45	+40	+50	+44
Min	-10	+5	0	-2	-5	0	-5	-12	-5	-2	-4
Average	+12	+19	+13	+7	+8	+11	+8	+6	+13	+9	+12

#### Table B6: Analysis of NIP on GBP public debt issuance

Source: SGN analysis of data from a UK corporate bank

**Mechanism:** Incremental bps applied to the cost of debt benchmark (i.e. applied to the notional level of debt);

Level: 12bps

By way of comparison, the NERA report estimates the NIP to be 13bps.

#### Cost of carry

#### Methodology:

- Assume companies issue a linear percentage of their debt annually (SGN assumes company notional debt divided by 15yrs and 20yrs);
- Divide company notional debt by average tenor of issuance (SGN assumes company notional debt divided by 15yrs and 20yrs) to get average annual issuance;
- Calculate a proxy for interest rates on issuance vs investment rate SGN proposes observing the average historic iBoxx (SGN have assumed A/BBB blend) vs 3month libor (for the last 15 yrs and 20 yrs);
- Multiply average annual issuance by the proxy for gross-up and divide by the company notional debt;

**Mechanism:** Incremental bps applied to the cost of debt benchmark (i.e. applied to the notional level of debt);

**Level:** 19-38bps (12-24 months) across notional debt for 15yrs and 13-26bps across notional debt for 20yrs.



By way of comparison, the NERA report estimates the Cost of Carry to be within a range of 21-45bps.

In summary, the table below presents our estimates of the financing costs faced by SGN when raising debt and NERA's estimates of the financing costs faced by the sector, supporting an overall financing costs range of between 33-69.5 bps.

Financing cost	SGN estimate of cost	NERA estimate of cost
Liquidity costs	• 3 bps across notional debt.	• 3.5-4.5 bps for the sector
Capital markets transaction costs	• 5-6 bps.	• 7 bps for the sector
New issuance premium (NIP)	• 12 bps	• 13 bps.
Cost of carry	<ul> <li>19-38 bps (12-24 months) across notional debt for 15 years and 13- 26 bps across notional debt for 20 years.</li> </ul>	• 21-45 bps
Total financing costs range	<ul> <li>39–59 bps (cost of carry across notional debt for 15 years)</li> <li>33–47 bps (cost of carry across notional debt for 20 years)</li> </ul>	• 44.5 – 69.5 bps

#### Table B7: Summary of financing costs faced by SGN

Source: SGN, NERA

#### **CPIH (or CPI as proxy) premium**

Ofgem has proposed to replace RPI with CPIH as the inflation measure for the next price control. Network companies including SGN have historically partially hedged the exposure to RPI by issuing direct and synthetic RPI linked debt. SGN has the following existing RPI debt instruments:

Company	RPI debt instruments
Scotland	<ul> <li>£165m 2.127% RPI-linked notes due 21 October 2022;</li> <li>£125m 2.317% RPI-linked notes due 2 November 2039;</li> </ul>
Southern	<ul> <li>£150m 2.066% RPI-linked notes due 21 October 2025;</li> <li>£83m 2.013% RPI-linked notes due 21 October 2025;</li> <li>£15m 2.580% RPI-linked loan due 17 July 2028;</li> <li>£83m 2.013% RPI-linked notes due 21 October 2035.</li> </ul>

#### Table B8: RPI debt instruments

#### Source: SGN

Switching the inflation mechanism to CPIH creates an inflation basis risk for network companies and to hedge this risk network companies will need to consider:

- Refinancing maturing RPI-linked debt by issuing CPIH-linked debt upon maturity; and
- Converting existing RPI-linked debt into CPIH-linked debt for the remainder of their duration.

As there is no immediate prospect for a liquid CPIH index-linked debt market, additional financing costs should be recognised by Ofgem to compensate companies for the costs incurred in hedging the basis risk associated with switching from RPI to CPIH and issuing CPIH index-linked debt. We



consider CPI-linked debt alongside RPI-linked debt to assess this.

The below graph (figure B7) illustrates the volume of debt issued across nominal, RPI-linked, and CPIlinked in the GBP public markets, which gives an indication of relatively small capacity in the CPIlinked market in comparison to capacity across each of nominal and RPI-linked markets. This suggests that companies will face additional costs when issuing CPI-linked debt.

# Commercial Confidentiality, 3rd Party Data Provider

The NERA report suggests that a CPIH corporate index-linked debt market is unlikely to develop absent a decision by the debt management office (DMO) to develop a CPIH index-linked debt gilt market, given the central role of sovereign debt in creating liquidity and a pricing benchmark. In September 2019, the government announced it would continue to issue RPI indexed gilts until at least 2025. Furthermore, it's worth noting that:

- Existing stock in RPI-linked gilts will not fully mature until 2068, so CPI-linked debt would have to compete with the alternative RPI-linked investment vehicles for decades; and
- Development of CPI-linked assets would fragment the ILD market, create potential illiquidity in both CPI and RPI markets and increase costs.

NERA estimate in their report that it could take 20yrs for a CPI gilt market to fully develop.

NERA's analysis of RPI and CPI direct issuance and inflation swaps suggests a premium of 15-80 bps for achieving a basis closer to CPIH, based on the relatively higher bid-ask spreads for CPI products. Evidence from the RPI index-linked debt market shows that the illiquidity premium increased to around 80 bps during the financial crisis (see graph below), when market liquidity declined, which may be reflective of a premium for an illiquid CPIH index-linked debt market.



# Commercial Confidentiality, 3rd Party Data Provider

The proposed cost of debt allowance benchmark does not include any allowance for these premiums and SGN proposes that an incremental allowance is established to compensate network companies. SGN differentiates between the level of allowance required to convert existing RPI-linked debt to CPI-linked and to issue new CPI-linked debt.

#### **Issuing CPI-linked debt**

SGN has considered two alternative approaches to putting in place CPI-linked debt to provide indicative costs of the impact of the switch from RPI to CPIH:

- Issue CPI-linked debt directly in the capital markets; and
- Issue nominal debt and transact a derivative to convert nominal debt into CPI-linked debt.

#### **Direct CPI-linked issuance premium**

SGN considers that an incremental 10-20bps represents the current illiquidity premium for issuing a CPI-linked transaction vs an RPI-linked transaction, based on assessment provided by one of SGN's relationship banks for comparison of recent utility issuance that involved a nominal and CPI linked issuance of similar tenor (14yrs and 15yrs). This level broadly aligns to the most recent levels noted by NERA for RPI linked gilt illiquidity premium. The same transaction indicates that there is a 70bps premium to issuing CPI-Linked transaction vs a nominal transaction.

#### **CPI-linked derivative premium**

SGN considers that an incremental 70 - 99bps represents the current premium for transacting a nominal fixed rate to CPI-linked derivative, based on indicative pricing levels provided by one of SGN's relationship banks for a transaction of this nature with a 15yr – 20yr tenor.

SGN considers that given the low current lack of liquidity in CPI-linked debt markets, both of the above approaches will be required to achieve issuance capacity for the next price control and proposes the following mechanism with indicative level to apply these costs.

<sup>&</sup>lt;sup>19</sup> Note: The figure shows the liquidity premium of nominal gilts over ILD, hence negative.

#### Methodology:

- Use of illiquidity premium for conversion of existing RPI-linked debt to CPI-linked debt;
- Equal weighting of issuance premium and derivative premium for new index-linked debt;
- Premium applied to 25% of company notional debt to reflect current levels of index-linked debt and issuance levels going forward;

**Mechanism:** Incremental bps applied to the cost of debt benchmark (i.e. applied to the notional level of debt);

#### Level: 11bps across notional debt

NERA<sup>20</sup> estimate the CPI derivative premium using the same methodology to be 12bps.

# In summary, this evidence suggests that an uplift of between 11 – 12 bps is required to the cost of debt to compensate companies for issuing CPI-linked debt.

#### Halo effect

In RIIO-GD1, Ofgem concluded that energy companies were able to issue debt at a cost below iBoxx benchmark levels due to beneficial impact of regulatory regime on credit risk, also known as the "halo effect". Ofgem used the perceived halo effect as an argument to justify not including a specific allowance for financing costs.

NERA<sup>21</sup> analysed the approach taken by Ofgem in RIIO-GD1 to estimate the halo effect and concluded that their analysis failed to compare the bonds on a like-for-like basis i.e. did not control for tenor and/or rating. NERA revisited the analysis and updated to the end of 2018. They found a marginal negative halo effect for the sector of -3bps.

In its Sector Specific Methodology Decision, Ofgem proposed an alternative method for measuring the halo effect, based on examining the difference between companies' bond spreads and iBoxx indices spreads, to better control for tenor. Ofgem concluded that the halo effect is 7bps when rating at issue is controlled for.

In another report commissioned by the ENA, NERA<sup>22</sup> conducted further analysis to replicate the Ofgem results. NERA found that the supposed halo effect under the Ofgem analysis reflects the tenor mismatch that exists between the companies' bonds and the relevant benchmark gilt that they are issued over. To resolve this mismatch NERA calculated credit spreads that match the tenor more precisely by drawing on the bank of England nominal spot curve. The result is that they estimate an average halo effect of -13bps after also controlling for rating.

NERA conclude that there is no reason to believe that regulated companies can outperform the benchmark index and a negative halo of this magnitude should not be surprising given the new issuance premium that issuers are required to offer (above secondary traded yields) to incentivise investors to participate in the new issuance.

SGN therefore considers that halo effect should not be used as an approach to reduce the impact of other costs associated with financing (detailed above). We have included an estimation of new issuance premium to reflect this.



<sup>&</sup>lt;sup>20</sup> 'Halo Effect and Additional Cost of Borrowing at RIIO-2' (NERA, September 2019)

<sup>&</sup>lt;sup>21</sup> Cost of Debt at RIIO-2, 13 March 2019

<sup>&</sup>lt;sup>22</sup> 'Halo Effect and Additional Cost of Borrowing at RIIO-2' (NERA, September 2019)

#### Conclusion

We find evidence of sizeable costs faced by companies when raising debt finance and managing liquidity, which are not included within the cost of debt benchmark index (iBoxx). NERA<sup>23</sup> estimate that liquidity costs, capital market transaction costs, cost of carry and new issuance premium costs total to 44.5 - 69.5 bps. Our analysis across the same components produces an estimate of 33 - 59 bps, depending on the time period considered.

We also highlight that the cost of debt benchmark index (iBoxx) does not take into account that the regulator assumes a level of debt issuance (25%) that is inflation-linked, to hedge the inflation component on networks' underlying assets (and consequently hedges the credit metrics used in financeability assessments). Inflation linked debt (direct or synthetic) carries a premium for issuance compared to nominal debt issuance and NERA<sup>24</sup> estimate this to be 11-12bps. Our own analysis produces an estimate of 11bps.

Overall this gives a Nera estimate of 55-82bps for financing costs and the CPIH premium which is fairly closely aligned with our estimate of 44-70bps.

Additionally, as flagged by Ofgem, their working assumptions do not incorporate a small company premium. We therefore provide evidence that small companies face additional interest rate risk due to infrequent debt issuance. Our analysis indicates that the additional risk should be compensated by an incremental allowance of 33-35 bps for Scotland, the smallest gas network.

We consider that an 11-15 year trailing average will significantly fall short of the efficient cost of debt for the gas distribution sector in GD2. We have presented market evidence in this Appendix that suggests that conceptually a trailing average closer to 20 years better reflects the average tenor of gas networks issuances, and more logically matches the longer term nature of many of our assets. Notwithstanding this point, NERA's analysis<sup>25</sup> shows that a 11-15 year trailing average will significantly fall short of the efficient cost of debt of the gas distribution sector in GD2, and a trailing average of 20 years is needed to get closer to covering the forecast cost of debt across the sector in GD2. Given that networks have been in existence since 2005, we consider that a more accurate working assumption is using a 15 year trailing average at the beginning of GD2, tromboning to 20 years. This is also consistent with RIIO-ED1, with a trailing average that dates back to 2004.

### B.ii Cost of Equity

In this section we outline the evidence underpinning our proposed changes to Ofgem's cost of equity assumptions. Specifically, we provide a comparison between Oxera's cost of equity assumptions and Ofgem's, as well as an overview of the asset stranding risks facing the sector.

#### Comparison between Oxera's cost of equity proposals and Ofgem's working assumptions

We consider that Ofgem's working assumptions should be based on robust market evidence. The ENA, on behalf of the energy networks, commissioned Oxera to conduct an independent analysis of the RIIO-2 cost of equity. Oxera concludes that an appropriate cost of equity range is 6.0%-6.9%<sup>26</sup>.

The reasons for the difference between the Oxera figure and the Ofgem Working Assumption of 4.3% are set out below.



<sup>&</sup>lt;sup>23</sup> 'Halo Effect & Additional Costs of Borrowing at RIIO-2' (NERA, September 2019)

<sup>&</sup>lt;sup>24</sup> 'Halo Effect & Additional Costs of Borrowing at RIIO-2' (NERA, September 2019)

<sup>&</sup>lt;sup>25</sup> 'Cost of debt at RIIO-2' (NERA, September 2019)

<sup>&</sup>lt;sup>26</sup> 'The cost of equity for RIIO-2 – Q4 2019 Update' (Oxera, November 2019)

#### **Allowed Vs Expected Returns**

Ofgem have proposed a number of measures to significantly constrain the potential for outperformance in RIIO-2. These include indexation, dynamic and relative targets, tightened minimum standards, a lower outperformance sharing factor, and a failsafe return adjustment mechanism and a shorter price control. Ofgem also has more data from the prior price control to assess changes in approach in RIIO-GD2, as it currently has six years data on the previous price control whereas at the equivalent point in the GD1 process it only had three. There is also greater scrutiny by Consumer Engagement groups, User Groups, the RIIO-2 challenge group and the Open Hearings of the RIIO-GD2 Business Plans. In addition to these measures, Ofgem have also made an outperformance assumption of 50bps and deducted it for allowed return calculation purposes. This assumption of expected outperformance is made before any outperformance has even materialised and has been devised based on performance in some of the previous price controls.

It is important to recognise that outperformance in a previous control period is no guarantee of outperformance in the next price control and, indeed, the RIIO-2 price control will be recalibrated and will be markedly different to RIIO-1. We therefore view that any potential upward performance expectation in incentive mechanisms that might exist in the framework should be addressed through careful cost and output incentive calibration.

Furthermore, the assumption of outperformance is a significant departure from academic and practical regulatory practice and is also counter to how ratings agencies assess financeability. They require a track record of out-performance in the current regulatory period and demonstration that this can be sustained. SGN will not have an initial view of RIIO-2 performance until 2022 at the earliest, so it is premature to include expectations of out-performance at this stage of the regulatory cycle.

Finally, notwithstanding the points above, the potential impact on the behaviour of network companies and regulators needs to be considered. If energy networks believe that outperformance is going to be clawed back in the future then this may deter companies from striving to improve performance and customer outcomes, to the detriment of consumers. Furthermore, the measure may deter investor interest in the sector, as highlighted in the financial stakeholder engagement, as well as discouraging companies from being involved in discretionary activities that are not directly funded. Also, if regulators are aware that any outperformance may be clawed back in a future price control then this questions the need for them to strive to improve their assessment process, again to the detriment of consumers.

#### **Total Market Return**

Oxera use a range of 7.0 to 7.5% for total market returns compared to Ofgem's Working Assumption of 6.25% to 6.75%. There have been a number of points made regarding the significant flaws in Ofgem's methodology for deflating the TMR in CPIH terms, which are likely to provide an upwardly bias estimate of CPI inflation, its TMR averaging technique and use of TMR/Cost of Equity cross checks which are highlighted in the report.

#### Debt beta

Oxera use a debt beta of 0.05, backed by analysis in their report, whereas Ofgem use a range of 0.1 to 0.15. This is outside the range of virtually all UK regulatory precedents quoted by Ofgem<sup>27</sup> and is not supported by any empirical evidence.

#### Asset beta

Oxera use an estimate of 0.38 to 0.41, which is based upon empirical measures of energy network betas. They use high frequency data over recent time periods, which is in line with CMA precedent.

<sup>&</sup>lt;sup>27</sup> Ofgem 2019 "RIIO-2 Sector Specific Methodology Decision – Finance Annex", Figure 12

Due to the paucity of data on betas for energy networks, i.e. only NG and SSE are listed (the latter only became relevant after announcing it would dispose of its energy supply and services businesses in May 2018), Oxera also consider international comparators. Ofgem's Working Assumptions use a range of 0.35 to 0.4. At the low end of its range, the Oxera estimate is thus within Ofgem's range and Oxera's range is further justified by the elevated external risk environment, for example nationalisation and the significant risk of asset stranding for GDNs.

#### **Equity Beta**

Ofgem's working assumption for equity beta of 0.75 is significantly below the RIIO-GD1 level and we do not believe the market data supports this reduction. Additionally, there have been a number of points made regarding the flawed methodology Ofgem have applied to convert the raw asset beta into equity beta, for example the double count of the Allowed Vs Expected Returns concept through applying an Enterprise Value to RAV ratio adjustment. The incorrect application of this ratio significantly uplifts the gearing of the raw equity beta, before it is recalculated at Ofgem's working assumption of 60% notional gearing, thus suppressing the working assumption for equity beta. As highlighted in Oxera's report there is also the issue that the CAPM does not capture all the risks faced by networks that investors consider when assessing the level of returns required, for example regulatory and political risk as set out in Financeability Appendix 004B.

#### **Future of Gas Uncertainty**

We view that Ofgem's proposed cost of equity fails to account of the substantial risks to equity over the next price control. In particular, there is significant uncertainty over the decarbonisation of energy networks and the potential for rapid technology change. Indeed, this was highlighted by financial stakeholders as one of the most significant risks to the sector in our Financial Stakeholder Engagement<sup>28</sup>. Ofgem recognise that the energy sector is "undergoing fundamental change" and due to the need to decarbonise energy there is uncertainty as to "what direction that will take and to what degree it will impact networks"<sup>29</sup>.

This uncertainty has only been heightened by the UK and Scottish governments enshrining in law commitments to reach net-zero greenhouse gas emissions by 2050 and 2045 respectively. This followed a recommendation from the Committee on Climate Change that these targets were feasible. Previously, both the UK and Scotland targets had been to reduce emissions by 80% compared with 1990 levels by 2050. Currently almost half of the final energy consumed in the UK is to provide heat, generating 1/3 of emissions. The UK net-zero emissions target for 2050 will require close to no emissions from the energy used to heat buildings by 2050. The method chosen to achieve this will impact on the demand on our network and its value and utilisation over the long term.

The UK Government are currently developing the evidence base to set up key policy decisions around 2024/25 on how they plan to decarbonise heating. This is developing the evidence base on the role lower carbon alternatives to natural gas, such as biomethane and hydrogen, could play to support the ability of the gas networks to play a central role as part of a future lower carbon energy mix. The government are also looking at the potential to meet future heat demand through electrification, the role for district heating, hybrid solutions and the potential for a mix of options in different areas of the country. A recent paper published by BEIS<sup>30</sup> highlighted hydrogen and electrification as the two main routes compatible with delivering the level of decarbonisation



<sup>&</sup>lt;sup>28</sup> PWC (November 2019) 'Financial Stakeholder Engagement – For SGN's RIIO-GD2 Business Plan'

<sup>&</sup>lt;sup>29</sup> Ofgem (2017) 'Our Strategy for regulating the Future Energy System'

<sup>30</sup> BEIS (2018), 'Clean Growth - Transforming Heating, Overview of Current Evidence'

#### needed by 2050.

Investors in gas networks face a significant risk that policy thinking on heat decarbonisation could default to electrification as, despite the potentially large costs, there are currently fewer uncertainties on issues such as safety and cost associated with electrification than a hydrogen-based route. Gas investors therefore face vastly different utilisation risks compared to investors in electricity transmission and distribution networks. This is because the future level of demand on their networks will either be broadly at current levels, due to hydrogen playing a key role in meeting heat demand, or significantly higher due to the electrification of heat.

One of the major risks faced by energy networks as a result of these changes is the elevated level of stranded asset risk, which is particularly high when compared to other networks. In fact, the Chancellor's 2019 Spring Statement announced plans that, from 2025, new homes will not be connected to gas or other forms or fossil fuelled heating. The intention is that new homes will be built with world leading levels of energy efficiency, resulting in a very small demand for heat which could be met affordably using electric heat pumps. While the proposal as it stands will likely decrease the number of new connections to our network from 2025, it also creates further uncertainty for investors over the future of gas networks in general beyond the supply of gas to new homes. Therefore, as a direct result of the policy goal of decarbonisation, there is a significant risk that the number of customers demanding gas will decrease, in turn reducing the usefulness, or need for, assets in the industry. When these assets and investments are no longer able to earn an economic return, this will have significant implications for GDNs, their customers and investors.

Even if the future heat demand is met through low carbon alternatives to natural gas, the decarbonisation of gas will require the utilisation of a number of technologies which are in their innovation development and testing stage. This causes more risk to investors than owning and operating a network which transports natural gas which has been carried out for many decades.

This evolving landscape will force investors to demand a higher return on equity to make investing in gas distribution networks less risky. As noted by NERA<sup>31</sup> in recent years, European regulators in France, Sweden and Finland have allowed for an asset beta of around 0.06 for gas networks relative to electricity networks due to stranding risk. NERA note that some other European regulators compensate for gas network stranding risk by allowing for a premium on top of the CAPM-based cost of equity. For example, in Austria the regulator set a higher cost of equity for gas transmission than electricity because of the additional capacity risk gas operators are exposed to.

Without a public policy statement of how this asset stranding risk will be dealt with there remains uncertainty and risk. Given these risks, as well as others mentioned elsewhere in this document, we view that Ofgem's proposed cost of equity does not adequately compensate equity investors for investment in the industry. Equity investors require a higher rate of return in order to invest capital in an industry that is undergoing fundamental change.

#### **B.iii65% Notional Gearing Assumption**

We strongly believe that a notional gearing assumption of 65% is more appropriate for the energy sector than the 60% assumption currently proposed by Ofgem. Specifically, we observe that the average gearing level for utility companies is 66% and with the vast majority of companies having maintained a strong credit rating at this level, this indicates that it is an appropriate notional

<sup>&</sup>lt;sup>31</sup> NERA (2018) 'Regulatory Finance Issues – Response to RIIO-2 Framework Document, A Report for SGN'



standard for the industry.

In addition, the cost of debt has declined significantly across the RIIO-1 period, which implies that debt has become a more efficient cost of financing. Given low debt costs and the market expectation that interest rates will remain low over the next 3 years, there appears to be limited evidence or justification to support a downward adjustment to the RIIO-1 notional gearing assumption of 65%.

#### **RIIO-1** notional gearing assumption

During the GD1 period, Ofgem used a notional gearing level of 65%. This assumption has proved valid, with the sector able to finance itself efficiently. Indeed, the whole sector has maintained strong credit ratings across this time period, with 4 companies rated at Baa and 1 at Baa2. Across this period, SGN had a relatively high level of actual gearing at 73%, however it was able to retain its credit rating of BBB+/Baa1.

When assessed specifically on their actual gearing levels, all network companies achieve a rating from Moody's of Baa as shown in the table below, which indicates that the notional gearing assumption was set at the correct level for the sector.

#### Table B10: Moody's assessment of network companies, actual rating and gearing rating

	SGN	Cadent	Northern Gas Networks	Electricity North West	Wales & West Utilities					
Factor 4: Leverage and Coverage (40% weighting)										
Moody's current rating for Net debt / RAB (3-year average) 12.5% weighting	Baa (72.7%)	Baa (66.3%)	Baa (65.8%)	Baa (61.0%)	No recent rating available.					
Actual rating assigned	Baa1 / Negative	Baa1 / Stable	Baa1 / Stable	Baa1 / Negative	Baa2 / Negative (Class A)					

Source: SGN analysis of Moody's data

#### Gearing in the the UK water sector

Ofwat's analysis of water company actual gearing levels at PR19 draft determinations found that the average gearing level across 2017-18 was 69.95%. The majority of companies have maintained a strong credit rating of Baa2 or above throughout PR14, indicating that higher gearing levels are compatible with strong ratings.



	<u> </u>		
Company name	2017 – 18 (%)	2020 – 21 (%)	2024 – 25 (%)
Anglian Water	78.54	77.88	76.23
Dwr Cymru	57.05	59.86	58.53
Hafren Dyfrdwy	67.16	61.38	63.13
Northumbrian Water	66.02	68.85	69.66
Severn Trent Water	61.50	62.88	65.07
South West Water	60.36	63.74	62.06
Southern Water	79.22	69.96	69.08
Thames Water	82.93	81.78	78.69
United Utilities	64.69	62.14	59.95
Wessex Water	63.85	68.85	69.08
Yorkshire Water	74.32	70.35	69.89
Affinity Water	79.67	79.86	79.40
Bristol Water	63.96	67.00	67.19
Portsmouth Water	63.58	55.33	62.21
South East Water	77.74	75.32	75.04
South Staffs water	71.51	67.55	69.55
SES Water	77.07	69.05	69.82
Sector Average	69.95	68.34	68.51

#### Table B11: Water company actual gearing levels – 2017/18 and forecast

Source: Ofwat PR19 draft determinations

Furthermore, the PR19 draft determinations indicate that water companies are not intending to reduce their actual gearing much by 2025.

When we analyse the gearing levels across the regulated utilities including water, energy and aviation, we find that the average actual gearing level is 66%, which implies that this is the most efficient capital structure for the industry. The majority of companies have maintained strong credit ratings at these gearing levels, which suggest that companies are able to finance their activities efficiently with this capital structure.





Figure B9: 2018 Actual gearing levels for price/revenue control regulated companies

Source: Ofgem<sup>32</sup>, Heathrow<sup>33</sup>, Ofwat<sup>34</sup>

#### **Record low interest rates**

Across the RIIO-1 period, interest rates have come down to record lows, which makes debt a more efficient source of finance for UK utilities. Figure B10 below shows that yields on both the A and B rated non-financial iBoxx indices, and on 10-year government debt, have decreased by around 1.5 percentage points since the start of the price control. This persistent downward trend in interest rates has significantly reduced the cost of debt, making it a more efficient source of financing for network companies. Given this substantial decline in cost, companies should be taking advantage of the low cost of debt instead of increasing the proportion of more expensive equity in their capital structures.

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<sup>33</sup> Hethrow (2018), 'December 2018 investor report'



<sup>&</sup>lt;sup>32</sup> Ofgem (2019), 'Regulatory financial performance annex to RIIO-1 Annual Reports - 2017-18'

<sup>&</sup>lt;sup>34</sup> Ofwat (2019), 'PR19 draft determinations'

Source: Refinitiv, Bank of England

Furthermore, the low interest rate environment in the UK is expected to continue, with the marketimplied path for the UK base interest rate suggesting that it will remain around 0.5% over the next three years.



Figure B11: The market-implied path for UK and international interest rates

Source: Bank of England November inflation report



# C. Financeability Assessment of SGN's Alternative Assumptions – Appendix

#### Appendix C Summary

- This appendix provides financeability assessment of SGN's alternative cost of capital assumptions, using a 15-20 year trailing average, 65% notional gearing and cost of equity re-levered from 6.0% to 6.9% (to account for the increase in gearing). This is henceforth labelled Scenario B.
- When applying our alternative cost of capital assumptions both companies with a notional structure demonstrate primary credit metrics which are consistent with the Moody's and Fitch threshold range for Baa1/BBB+ ratings. The metrics also demonstrate sufficient headroom above the lower threshold to maintain the same credit rating in the event of shocks and downside events.
- The actual company achieves credit metrics with the threshold range consistent with the minimum rating Baa2/BBB across GD2 in Scenario B and avoids the use of mitigation levers (as required in Scenario A1 and Scenario A2) that carry implications.

#### C.i Notional Company

The sections below provide the results of the notional scenarios for SGN's alternative cost of capital assumptions, including Ofgem's upside and downside stress tests.

#### **Notional Base Case**

The tables below show the primary and secondary financial ratios for Scenario B under the notional structure.

	Threshold	GD2	GD2	GD2	2021-22	2022-23	2023-24	2024-25	2025-26
Metric		Average	MIN	MAX					
Primary metrics									
AICR	> 1.4	1.54x	1.48x	1.58x	1.48x	1.56x	1.58x	1.56x	1.51x
PMICR	> 1.6	1.59x	1.53x	1.63x	1.53x	1.61x	1.63x	1.61x	1.56x
FFO/Net Debt	> 9%	10.02%		10.15%	9.70%	9.98%	10.15%	10.15%	10.12%
Gearing	< 65%	65.68%	65.37%	65.92%	65.43%	65.91%	65.92%	65.76%	65.37%
Secondary metrics									
FFO Interest Cover (incl. accretions)		3.32x	3.16x	3.45x	3.16x	3.26x	3.40x	3.45x	3.35x
FFO Interest Cover (cash interest)		3.75x	3.54x	3.90x	3.54x	3.67x	3.83x	3.90x	3.79x
Nominal PMICR		2.24x	2.06x	2.34x	2.06x	2.26x	2.29x	2.34x	2.23x
RCF/Net Debt		7.1%	6.8%	7.2%	6.8%	7.1%	7.2%	7.2%	7.0%
EBITDA/RAV		10.6%	10.4%	10.7%	10.5%	10.6%	10.7%	10.6%	10.4%
RoRE		6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%
Dividend Cover		0.57x	0.48x	0.64x	0.55x	0.62x	0.64x	0.57x	0.48x
Dividend/Reg Equity		5.9%	5.9%	6.0%	6.0%	6.0%	5.9%	5.9%	5.9%

#### Table C1: Scenario B - Southern



#### Table C2: Scenario B - Scotland

	Threshold	GD2	GD2	GD2	2021-22	2022-23	2023-24	2024-25	2025-26
Metric		Average	MIN	MAX					
Primary metrics									
AICR	> 1.4	1.54x	1.42x	1.66x	1.46x	1.57x	1.66x	1.58x	1.42x
PMICR	> 1.6		1.49x	1.73x	1.53x		1.73x		1.49x
FFO/Net Debt	> 9%	10.13%	9.71%	10.56%	9.71%	10.15%	10.56%	10.36%	9.90%
Gearing	< 65%	65.81%	65.45%	66.06%	65.73%	66.06%	66.03%	65.76%	65.45%
Secondary metrics									
FFO Interest Cover (incl. accretions)		3.37x	3.23x	3.47x	3.23x	3.33x	3.47x	3.41x	3.39x
FFO Interest Cover (cash interest)		3.80x	3.63x	3.92x	3.63x	3.75x	3.92x	3.85x	3.84x
Nominal PMICR		2.31x	2.20x	2.46x	2.23x	2.35x	2.46x	2.31x	2.20x
RCF/Net Debt		6.9%	6.5%	7.4%	6.6%	6.9%	7.4%	7.1%	6.5%
EBITDA/RAV		10.7%	10.2%	11.0%	10.6%	10.8%	11.0%	10.7%	10.2%
RoRE		6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%
Dividend Cover		0.53x	0.32x	0.68x	0.50x	0.59x	0.68x	0.55x	0.32x
Dividend/Reg Equity		6.7%	6.5%	6.7%	6.7%	6.7%	6.7%	6.6%	6.5%

Through the application of our own cost of capital assumptions, both companies demonstrate financial ratios which are consistent with primary credit metrics for all credit rating agencies at Baa1/BBB+ ratings. For S&P and Moody's the ratios are mid-range within the thresholds and for Fitch they are at the lower threshold. For example, the average AICR across GD2 is 1.54x, so above the Moody's threshold, but only just above the threshold Moody's now uses for the water sector.

#### **Notional Stress Testing**

The tables below show the primary and secondary ratios for Scenario B under the notional structure for the stress tests requested by Ofgem in their Sector Specific Methodology Decision.

The stress tests are as follows:

#### Downside

- i. -1% change in interest rate (for RFR, Libor and iBoxx inputs)
- ii. -1% change in CPIH from 2% base assumption
- iii. -0.5% change in RPI-CPIH wedge of from 1.049% base assumption<sup>35</sup>
- iv. -10% change in Totex performance from base assumption of no outperformance
- v. -2% change in RoRE from base assumption
- vi. -5% change in the proportion of index-linked debt from 25% base assumption
- vii. Combined downside:
  - +0.75% change in interest rate (for RFR, Libor and iBoxx inputs)
  - -1% change in CPIH from 2% base assumption
  - -1.3% change in RoRE from base assumption (modelled as -6.5% change in Totex performance, Business Plan Incentive at -1.3% of Totex allowance and a -£7m change in Incentive income)

#### Upside

- viii. +1% change in interest rate (for RFR, Libor and iBoxx inputs)
- ix. +1% change in CPIH from 2% base assumption
- x. +0.5% change in RPI-CPIH wedge of from 1.049% base assumption

<sup>&</sup>lt;sup>35</sup> As all index linked debt is assumed to be CPIH based, and the price control is on a CPIH basis, this requested stress test will not have an impact vs. base case. Any movements due to changes in inflation are picked up in the +/- 1% CPIH scenario.



- xi. +10% change in Totex performance from base assumption of no outperformance
- xii. +2% change in RoRE from base assumption
- xiii. +5% change in the proportion of index-linked debt from 25% base assumption

#### Downside stress tests

#### Table C3: Scenario B: Downside stress tests (average over GD2) – Southern

Metric	Threshold	Base case	Downside stress tests						
			i	ï	iii	iv	٧	vi	vii
Primary metrics									
AICR	> 1.1	1.54x	1.53x	1.53x	1.54x	1.50x	1.27x	1.50x	1.41x
PMICR	> 1.3	1.59x	1.58x	1.58x	1.59x	1.54x	1.32x	1.55x	1.46x
FFO/Net Debt	> 5%	10.0%	9.9%	10.2%	10.0%	9.8%	9.0%	10.0%	9.6%
Gearing	< 65%	65.7%	65.7%	65.4%	65.7%	65.7%	65.6%	65.7%	65.7%
Secondary metrics									
FFO Interest Cover (incl. accretions)		3.32x	3.41x	3.53x	3.32x	3.31x	3.11x	3.35x	3.44x
FFO Interest Cover (cash interest)		3.75x	3.86x	3.76x	3.75x	3.73x	3.51x	3.69x	3.66x
Nominal PMICR		2.24x	2.27x	2.01x	2.24x	2.26x	2.01x	2.25x	1.91x
RCF/Net Debt		7.1%	7.1%	8.2%	7.1%	7.6%	7.1%	7.2%	8.5%
EBITDA/RAV		10.6%	10.4%	10.5%	10.6%	10.4%	9.7%	10.6%	10.0%
RoRE		6.9%	6.7%	6.9%	6.9%	6.0%	4.9%	6.9%	5.4%
Dividend Cover		0.57x	0.55x	0.92x	0.57x	0.69x	0.35x	0.59x	1.19x
Dividend/Reg Equity		5.9%	5.7%	4.1%	5.9%	4.5%	3.8%	5.7%	2.3%

#### Table C4: Scenario B: Downside stress tests (average over GD2) – Scotland

Metric	Threshold	Base case	e Downside stress tests						
			i	ï	iii	iv	۷	vi	vii
Primary metrics									
AICR	> 1.1	1.54x	1.53x	1.53x	1.54x	1.49x	1.27x	1.50x	1.40x
PMICR	> 1.3	1.61x	1.61x	1.60x	1.61x	1.56x	1.34x	1.57x	1.47x
FFO/Net Debt	> 5%	10.1%	10.0%	10.4%	10.1%	9.9%	9.1%	10.1%	9.7%
Gearing	< 65%	65.8%	65.8%	65.6%	65.8%	65.8%	65.7%	65.8%	65.8%
Secondary metrics									
FFO Interest Cover (incl. accretions)		3.37x	3.46x	3.58x	3.37x	3.35x	3.15x	3.40x	3.48x
FFO Interest Cover (cash interest)		3.80x	3.92x	3.81x	3.80x	3.78x	3.56x	3.74x	3.70x
Nominal PMICR		2.31x	2.34x	2.09x	2.31x	2.33x	2.08x	2.33x	1.98x
RCF/Net Debt		6.9%	6.9%	8.0%	6.9%	7.4%	6.9%	7.0%	8.4%
EBITDA/RAV		10.7%	10.5%	10.6%	10.7%	10.5%	9.8%	10.7%	10.1%
RoRE		6.9%	6.7%	6.9%	6.9%	5.9%	4.9%	6.9%	5.3%
Dividend Cover		0.53x	0.51x	0.81x	0.53x	0.62x	0.33x	0.54x	0.96x
Dividend/Reg Equity		6.7%	6.4%	4.8%	6.7%	5.1%	4.5%	6.4%	2.9%

Scenario B shows that the notional company is able to retain financial ratios within the credit metric threshold ranges that are consistent with investment grade ratings across the downside stress tests. Scenario B is therefore the only scenario considered to provide sufficient headroom to absorb the risks highlighted by Ofgem's stipulated downside stress tests. The financial ratios are consistent with the credit metric thresholds required for at least a Baa2/BBB credit rating. This headroom is important as it provides comfort that both companies could continue to raise necessary finance efficiently, even under stress from downside scenarios.



#### Upside stress tests

#### Table C5: Scenario B: Upside stress tests (average over GD2) – Southern

Metric	Threshold Base case Upside stress tests							
			viii	ix	X	xi	xii	xiii
Primary metrics								
AICR	> 1.4	1.54x	1.55x	1.55x	1.54x	1.58x	1.81x	1.58x
PMICR	> 1.6	1.59x	1.59x	1.59x	1.59x	1.63x	1.86x	1.63x
FFO/Net Debt	> 9%	10.0%	10.1%	9.8%	10.0%	10.2%	11.1%	10.0%
Gearing	< 65%	65.7%	65.7%	65.9%	65.7%	65.6%	65.8%	65.7%
Secondary metrics								
FFO Interest Cover (incl. accretions)		3.32x	3.30x	3.19x	3.32x	3.40x	3.60x	3.35x
FFO Interest Cover (cash interest)		3.75x	3.71x	3.80x	3.75x	3.83x	4.06x	3.88x
Nominal PMICR		2.24x	2.24x	2.47x	2.24x	2.25x	2.50x	2.25x
RCF/Net Debt		7.1%	7.1%	5.9%	7.1%	6.5%	7.0%	6.9%
EBITDA/RAV		10.6%	10.8%	10.5%	10.6%	10.7%	11.4%	10.6%
RoRE		6.9%	7.2%	6.9%	6.9%	7.9%	8.9%	6.9%
Dividend Cover		0.57x	0.59x	0.38x	0.57x	0.50x	0.68x	0.55x
Dividend/Reg Equity		5.9%	6.2%	7.8%	5.9%	7.4%	8.0%	6.1%

#### Table C6: Scenario B: Upside stress tests (average over GD2) – Scotland

Metric	Threshold	Base case	case Upside stress tests						
			viii	ix	X	Xİ	xii	xiii	
Primary metrics									
AICR	> 1.4	1.54x	1.55x	1.55x	1.54x	1.59x	1.81x	1.58x	
PMICR	> 1.6	1.61x	1.61x	1.62x	1.61x	1.66x	1.88x	1.65x	
FFO/Net Debt	> 9%	10.1%	10.3%	9.9%	10.1%	10.4%	11.2%	10.1%	
Gearing	< 65%	65.8%	65.8%	66.1%	65.8%	65.8%	65.9%	65.8%	
Secondary metrics									
FFO Interest Cover (incl. accretions)		3.37x	3.35x	3.23x	3.37x	3.45x	3.64x	3.40x	
FFO Interest Cover (cash interest)		3.80x	3.76x	3.86x	3.80x	3.89x	4.11x	3.94x	
Nominal PMICR		2.31x	2.31x	2.54x	2.31x	2.33x	2.57x	2.33x	
RCF/Net Debt		6.9%	6.9%	5.7%	6.9%	6.3%	6.8%	6.8%	
EBITDA/RAV		10.7%	10.9%	10.7%	10.7%	10.9%	11.5%	10.7%	
RoRE		6.9%	7.2%	6.9%	6.9%	8.0%	8.9%	6.9%	
Dividend Cover		0.53x	0.55x	0.37x	0.53x	0.47x	0.64x	0.51x	
Dividend/Reg Equity		6.7%	6.9%	8.6%	6.7%	8.2%	8.8%	6.9%	

All upside scenarios show an improvement on the base case position. Scenario xii. (+2% change in RoRE from base assumption) has the most positive impact on the credit metrics.

### C.ii Actual Company

The sections below set out the results of the actual company for SGN's alternative cost of capital assumptions, including Ofgem's upside and downside stress tests.

#### Actual Base Case

The tables below show the primary and secondary ratios, for the actual company under Scenario B. The overall ratios and rating assessment shown are based upon our understanding of the primary ratio thresholds of each rating agency and SGN's assessment of qualitative factors in Appendix 004D and quantitative measures in the tables below.



#### Table C7: Scenario B - Southern

	Threshold	GD2	GD2	GD2	2021-22	2022-23	2023-24	2024-25	2025-26
Metric		Average	MIN	MAX					
Primary metrics									
AICR	> 1.2	1.43x	1.30x	1.55x	1.45x	1.55x	1.50x	1.35x	
PMICR	> 1.4		1.29x	1.63x	1.49x	1.63x			1.29x
FFO/Net Debt	> 6%	8.45%	7.88%	8.85%	8.60%	8.85%	8.52%	8.39%	7.88%
Gearing	< 73%	72.66%	72.53%	72.77%	72.53%	72.60%	72.68%	72.70%	72.77%
Secondary metrics									
FFO Interest Cover (incl. accretions)		3.03x	2.71x	3.26x	3.18x	3.26x	3.00x	3.00x	2.71x
FFO Interest Cover (cash interest)		3.45x	3.10x	3.69x	3.51x	3.69x	3.46x	3.49x	3.10x
Nominal PMICR		2.04x	1.80x	2.26x	2.06x	2.26x	2.02x	2.03x	1.80x
RCF/Net Debt		6.3%	5.7%	7.5%	7.5%	6.2%	6.5%	5.9%	5.7%
EBITDA/RAV		10.3%	10.1%	10.5%	10.2%	10.5%	10.4%	10.3%	10.1%
RoRE		6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%
Dividend Cover		0.62x	0.26x	1.25x	1.25x	0.61x	0.67x	0.32x	0.26x
Dividend/Reg Equity		5.8%	3.3%	7.2%	3.3%	7.2%	5.5%	6.6%	6.1%

### Table C8: Scenario B - Scotland

	Threshold	GD2	GD2	GD2	2021-22	2022-23	2023-24	2024-25	2025-26
Metric		Average	MIN	MAX					
Primary metrics									
AICR	> 1.2	1.47x	1.25x	1.65x	1.51x	1.49x	1.65x	1.43x	1.25x
PMICR	> 1.4	1.51x	1.39x	1.65x	1.61x	1.45x	1.65x	1.46x	1.39x
FFO/Net Debt	> 6%	8.44%	8.03%	8.96%	8.56%	8.20%	8.96%	8.44%	8.03%
Gearing	< 73%	72.75%	72.63%	72.78%	72.63%	72.78%	72.78%	72.77%	72.77%
Secondary metrics									
FFO Interest Cover (incl. accretions)		2.96x	2.69x	3.17x	3.00x	2.69x	3.17x	2.97x	2.97x
FFO Interest Cover (cash interest)		3.51x	3.23x	3.72x	3.67x	3.23x	3.72x	3.46x	3.47x
Nominal PMICR		2.03x	1.90x	2.24x	2.08x	1.90x	2.24x	2.00x	1.92x
RCF/Net Debt		5.9%	5.3%	6.4%	5.5%	6.2%	6.4%	6.3%	5.3%
EBITDA/RAV		10.4%	9.9%	10.7%	10.5%	10.6%	10.7%	10.3%	9.9%
RoRE		6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%
Dividend Cover		0.53x	0.15x	0.74x	0.49x	0.70x	0.74x	0.56x	0.15x
Dividend/Reg Equity		6.9%	5.8%	8.2%	8.2%	5.8%	7.2%	6.1%	7.3%

Under Scenario B the actual company assessment, for both Southern and Scotland, achieves average financial ratios consistent with BBB/Baa2 thresholds for each of the primary credit metrics. For the Moody's AICR, the financial ratios are within the thresholds consistent with Baa1.

#### **Actual Stress Testing**

The tables below show the primary and secondary ratios for scenario B under the actual structure for the stress tests requested by Ofgem in their Sector Specific Methodology Decision.

The stress tests are as follows:

#### Downside

- i. -1% change in interest rate (for RFR, Libor and iBoxx inputs)
- ii. -1% change in CPIH from 2% base assumption
- iii. -0.5% change in RPI-CPIH wedge of from 1.049% base assumption<sup>36</sup>
- iv. -10% change in Totex performance from base assumption of no outperformance
- v. -2% change in RoRE from base assumption
- vi. -5% change in the proportion of index-linked debt from 25% base assumption
- vii. Combined downside:
  - +0.75% change in interest rate (for RFR, Libor and iBoxx inputs)

<sup>&</sup>lt;sup>36</sup> As all index linked debt is assumed to be CPIH based, and the price control is on a CPIH basis, this requested stress test will not have an impact vs. base case. Any movements due to changes in inflation are picked up in the +/- 1% CPIH scenario.



- -1% change in CPIH from 2% base assumption
- -1.3% change in RoRE from base assumption (modelled as -6.5% change in Totex performance, Business Plan Incentive at -1.3% of Totex allowance and a -£7m change in Incentive income)

#### Upside

- viii. +1% change in interest rate (for RFR, Libor and iBoxx inputs)
- ix. +1% change in CPIH from 2% base assumption
- x. +0.5% change in RPI-CPIH wedge of from 1.049% base assumption
- xi. +10% change in Totex performance from base assumption of no outperformance
- xii. +2% change in RoRE from base assumption
- xiii. +5% change in the proportion of index-linked debt from 25% base assumption

#### Downside stress tests

#### Table C9: Scenario B: Downside stress tests (average over GD2) – Southern

Metric	Threshold	Base case	Base case Downside stress tests							
			i	ii	iii	iv	٧	vi	vii	
Primary metrics										
AICR	> 1.1	1.43x	1.45x	1.42x	1.43x	1.37x	1.27x	1.43x	1.34x	
PMICR	> 1.3	1.48x	1.46x	1.46x	1.48x	1.42x	1.32x	1.48x	1.36x	
FFO/Net Debt	> 5%	8.4%	8.4%	8.7%	8.4%	8.2%	7.9%	8.5%	8.3%	
Gearing	< 73%	72.7%	72.7%	72.6%	72.7%	72.7%	72.7%	72.7%	72.6%	
Secondary metrics										
FFO Interest Cover (incl. accretions)		3.03x	3.08x	3.19x	3.03x	2.97x	2.89x	3.03x	3.16x	
FFO Interest Cover (cash interest)		3.45x	3.52x	3.41x	3.45x	3.39x	3.29x	3.46x	3.39x	
Nominal PMICR		2.04x	2.04x	1.81x	2.04x	2.02x	1.90x	2.04x	1.76x	
RCF/Net Debt		6.3%	6.4%	7.4%	6.3%	6.7%	6.3%	6.3%	7.7%	
EBITDA/RAV		10.3%	10.1%	10.4%	10.3%	10.1%	9.8%	10.3%	9.8%	
RoRE		6.9%	6.7%	6.9%	6.9%	6.0%	4.9%	6.9%	5.5%	
Dividend Cover		0.62x	0.68x	1.68x	0.62x	0.89x	0.40x	0.62x	0.85x	
Dividend/Reg Equity		5.8%	5.5%	3.6%	5.8%	4.0%	4.2%	5.7%	1.8%	

#### Table C10: Scenario B: Downside stress tests (average over GD2) – Scotland

Metric	Threshold	Base case			Do	wnside stre	ss tests		
			i	ii	iii	iv	۷	vi	vii
Primary metrics									
AICR	> 1.1	1.47x	1.50x	1.46x	1.47x	1.39x	1.29x	1.40x	1.40x
PMICR	> 1.3	1.51x	1.50x	1.51x	1.51x	1.44x	1.35x	1.47x	1.41x
FFO/Net Debt	> 5%	8.4%	8.4%	8.8%	8.4%	8.1%	7.8%	8.6%	8.4%
Gearing	< 73%	72.7%	72.7%	72.6%	72.7%	72.7%	72.7%	72.5%	72.6%
Secondary metrics									
FFO Interest Cover (incl. accretions)		2.96x	3.00x	3.18x	2.96x	2.90x	2.82x	3.09x	3.19x
FFO Interest Cover (cash interest)		3.51x	3.58x	3.48x	3.51x	3.44x	3.35x	3.43x	3.50x
Nominal PMICR		2.03x	2.04x	1.85x	2.03x	2.01x	1.89x	2.11x	1.82x
RCF/Net Debt		5.9%	6.0%	7.0%	5.9%	6.3%	5.9%	6.0%	7.3%
EBITDA/RAV		10.4%	10.2%	10.4%	10.4%	10.1%	9.9%	10.4%	9.9%
RoRE		6.9%	6.7%	6.9%	6.9%	5.9%	4.9%	6.9%	5.4%
Dividend Cover		0.53x	0.59x	0.93x	0.53x	0.60x	0.35x	0.55x	1.24x
Dividend/Reg Equity		6.9%	6.6%	5.0%	6.9%	5.0%	5.4%	7.1%	3.2%

Scenario B shows that the actual company is able to retain financial ratios within credit metric threshold ranges that are consistent with investment grade ratings across the downside stress tests. Scenario B is therefore the only scenario considered to provide sufficient headroom to absorb the risks highlighted by Ofgem's stipulated downside stress tests.



#### Upside stress tests

Metric	Threshold	Threshold Base case Upside stress tests						
			viii	ix	X	Xİ	xii	xiii
Primary metrics								
AICR	> 1.2	1.43x	1.41x	1.43x	1.43x	1.49x	1.59x	1.47x
PMICR	> 1.4	1.48x	1.49x	1.49x	1.48x	1.54x	1.63x	1.50x
FFO/Net Debt	> 6%	8.4%	8.4%	8.2%	8.4%	8.7%	9.0%	8.4%
Gearing	< 73%	72.7%	72.7%	72.8%	72.7%	72.6%	72.7%	72.8%
Secondary metrics								
FFO Interest Cover (incl. accretions)		3.03x	3.00x	2.87x	3.03x	3.09x	3.17x	2.97x
FFO Interest Cover (cash interest)		3.45x	3.40x	3.49x	3.45x	3.51x	3.61x	3.51x
Nominal PMICR		2.04x	2.03x	2.22x	2.04x	2.05x	2.17x	2.00x
RCF/Net Debt		6.3%	6.2%	5.3%	6.3%	5.9%	6.3%	6.3%
EBITDA/RAV		10.3%	10.5%	10.3%	10.3%	10.6%	10.8%	10.3%
RoRE		6.9%	7.2%	6.9%	6.9%	7.9%	8.9%	6.9%
Dividend Cover		0.62x	0.57x	0.34x	0.62x	0.54x	0.73x	0.60x
Dividend/Reg Equity		5.8%	6.0%	7.8%	5.8%	7.6%	7.3%	5.7%

#### Table C11: Scenario B: Upside stress tests (average over GD2) – Southern

#### Table C12: Scenario B: Upside stress tests (average over GD2) – Scotland

Metric	Threshold	Base case	Upside stress tests					
			viii	ix	X	Xi	Xİİ	xiii
Primary metrics								
AICR	> 1.2	1.47x	1.44x	1.46x	1.47x	1.54x	1.64x	1.45x
PMICR	> 1.4	1.51x	1.53x	1.51x	1.51x	1.58x	1.67x	1.50x
FFO/Net Debt	> <mark>6%</mark>	8.4%	8.4%	8.1%	8.4%	8.8%	9.0%	8.5%
Gearing	< 73%	72.7%	72.7%	72.9%	72.7%	72.7%	72.7%	72.7%
Secondary metrics								
FFO Interest Cover (incl. accretions)		2.96x	2.93x	2.77x	2.96x	3.02x	3.10x	2.99x
FFO Interest Cover (cash interest)		3.51x	3.46x	3.53x	3.51x	3.58x	3.67x	3.49x
Nominal PMICR		2.03x	2.02x	2.18x	2.03x	2.05x	2.17x	2.05x
RCF/Net Debt		5.9%	5.8%	4.9%	5.9%	5.5%	5.9%	5.9%
EBITDA/RAV		10.4%	10.6%	10.3%	10.4%	10.7%	10.9%	10.4%
RoRE		6.9%	7.2%	6.9%	6.9%	8.0%	8.9%	6.9%
Dividend Cover		0.53x	0.47x	0.30x	0.53x	0.49x	0.62x	0.52x
Dividend/Reg Equity		6.9%	7.2%	8.8%	6.9%	8.9%	8.5%	7.0%

Under Scenario B, after applying the upside stress tests the actual company assessment, for both Southern and Scotland, achieves average financial ratios consistent with BBB/Baa2 thresholds for each of the primary credit metrics with improved headroom compared to the base case. For the Moody's AICR the financial ratios are within the thresholds consistent with a Baa1 rating.



# D. Allowed Revenue and Costs to Customers - Appendix

#### Appendix D Summary

• This appendix provides a breakdown of SGN's projected revenues and change in customer bills for the GD2 period under SGN's alternative working assumptions.

The RIIO-GD2 process sets our allowed revenue for the period 1<sup>st</sup> April 2021 to 31<sup>st</sup> March 2026. Revenue can be broken down into:

- 1. RAV Revenue: this is revenue associated with capital investment which determines the level of our RAV (regulated asset value) for which we receive revenues for;
  - a. depreciation, to share the cost of the asset across customers during the asset's lifetime.
  - b. allowed return for the investment made, both in terms of shareholder investment (equity) and the cost of borrowing.
- 2. Operational Revenue: this is revenue related to day to day running of the network and pays for a wide variety of items including network operation and maintenance, business rates and corporation tax.

Percentage changes in customer bills quoted in this section, and for the Business Plan as a whole, are based on SGN's share of the overall consumer gas bill only.

#### D.i Customer Bills Under SGN's Alternative Working Assumptions

Below is an annual breakdown of our projected allowed revenues for GD2, based on SGN's proposed cost of capital (6.9% cost of equity, 15-20 year trailing average and 65% notional gearing) and the key assumptions as set out in Financeability Appendix 004H. This analysis uses forecast actual rather than notional revenues, i.e. takes account all the building blocks of allowed revenue and thus represents the revenue that will be used to calculate customer bills.

The analysis has been done on from a local network perspective, excluding network innovation allowance (NIA) but does include our Statutory Independent Undertakings (SIUs) in Scotland. GD2 revenues have been compared to the last 3 years of GD1 in line with the totex analysis in the Business Plan.

£ms 18/19 Ps	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	Av. Last 3 Years GD1	GD2 Av.	% Change
Fast pot expenditure	103.66	85.68	78.03	71.32	77.58	76.59	71.15	65.96	89.12	72.52	-19%
Non-controllable opex	39.57	39.45	39.39	47.49	47.47	46.61	46.52	46.42	39.47	46.90	19%
RAV depreciation	94.70	103.40	113.38	91.85	94.76	97.84	100.95	103.51	103.83	97.78	-6%
Return	62.77	58.14	53.14	70.81	71.18	71.83	72.38	72.70	58.01	71.78	24%
Equity issuance cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Business Plan Incentive	2.75	2.75	2.35	0.00	0.00	0.00	0.00	0.00	2.62	0.00	-100%
Pension Deficit Allowance	9.05	9.05	9.05	4.12	2.82	2.82	1.53	0.00	9.05	2.26	-75%
Incentive Revenue	4.03	3.45	3.51	3.25	3.34	0.00	0.00	0.00	3.67	1.32	-64%
Price Control Adjustments	-4.25	10.04	22.72	0.78	-0.40	-0.14	-1.52	0.37	9.50	-0.18	-102%
Other	-0.34	-2.25	6.25	0.00	0.00	0.00	0.00	0.00	1.22	0.00	-100%
Tax allowance	25.00	23.39	20.61	14.50	13.93	15.09	13.90	12.81	23.00	14.05	-39%
Total Allowed Revenue	336.94	333.08	348.43	304.12	310.68	310.63	304.91	301.77	339.48	306.42	-10%
Annual Customer Bill Changes		-1%	5%	-13%	2%	0%	-2%	-1%			

#### Table D1: Scotland customer bills under SGN's alternative working assumptions

Source: SGN analysis



£ms 18/19 Ps	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	Av. Last 3 Years GD1	GD2 Av.	% Change
Fast pot expenditure	189.39	161.54	140.34	127.65	136.49	137.94	134.21	128.81	163.76	133.02	-19%
Non-controllable opex	94.86	93.21	108.78	121.14	112.69	103.27	102.97	102.68	98.95	108.55	10%
RAV depreciation	206.14	223.74	244.92	206.03	210.11	216.25	221.58	227.31	224.93	216.26	-4%
Return	139.37	129.79	119.87	159.49	158.83	159.20	159.74	160.59	129.68	159.57	23%
Equity issuance cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Business Plan Incentive	5.57	5.57	5.38	0.00	0.00	0.00	0.00	0.00	5.51	0.00	-100%
Pension Deficit Allowance	13.41	13.41	13.41	6.18	4.23	4.23	2.30	0.00	13.41	3.39	-75%
Incentive Revenue	16.37	16.18	20.85	16.74	17.27	0.00	0.00	0.00	17.80	6.80	-62%
Price Control Adjustments	-2.80	9.11	2.19	-17.82	-11.70	1.76	1.89	3.22	2.83	-4.53	-260%
Other	-6.01	-2.29	-2.21	0.00	0.00	0.00	0.00	0.00	-3.51	0.00	-100%
Tax allowance	49.81	52.41	42.45	34.81	36.09	34.92	34.41	30.55	48.22	34.16	-29%
Total Allowed Revenue	706.12	702.67	695.98	654.22	664.02	657.56	657.09	653.17	701.59	657.21	-6%
Annual Customer Bill Changes		0%	-1%	-6%	1%	-1%	0%	-1%			

#### Table D2: Southern customer bills under SGN's alternative working assumptions

#### Source: SGN analysis

The main drivers of a decrease in revenue from RIIO-GD1 to GD2 are the lower totex and tax allowances.

Below is build-up of the average allowed revenue per year, % change in customer bills and £m cost per customer, starting with the case above as a base case. NIA is then overlaid, and plus charges from National transmission (NTS exit capacity) and Network Innovation Competition Funding (NIC).

In the table below we show the build-up of the average allowed revenue per year, % change in customer bills and £s cost per customer, starting with the case above as the base case. NIA is then overlaid, plus charges from National Transmission (NTS exit capacity) and Network Innovation Competition Funding (NIC). As the table shows, there is a sizeable reduction in customer bills projected across GD2 compared with the last three years of GD1, in line with the reduction in revenues highlighted above.

£ms 18/19	Natural	Av Last 3 Yrs	A., CD2	% change in	£ per dom	customer
Ps	Network	GD1	AV GDZ	<b>Customer Bills</b>	GD1	GD2
Paro Caro	Scotland	339	306	-10%	146	132
Dase Case	Southern	702	657	-6%	147	138
Inc MIA	Scotland	341	311	-9%	147	134
IIICINIA	Southern	705	665	-6%	148	139
Inc MTS Evit	Scotland	341	312	-9%	147	134
THE INTS EXIL	Southern	762	715	-6%	160	150
Inc NIC	Scotland	343	319	-7%	147	137
menne	Southern	766	730	-5%	160	153

Table D3: Average allowed revenue per year, % change in customer bills and £s cost per customer

#### Source: SGN analysis

At the date of this submission a decision had not been reached on the NTS charging methodology MOD0678. If approved, this modification would significantly impact SGN's revenues and costs, and thus customer bills. In Scotland it would significantly increase costs (£20m-£30m per year) and on the two year lag basis, ultimately impact revenue and bills. We know Scotland will be heavily impacted as both proposed methodologies, capacity weighted distance and postage stage, appear to penalise offtakes at the periphery of the network.



Due to the lack of data available it is unsure whether Southern would see a positive or negative impact. However, as there are considerably more offtakes in the south of England any impact would not be as material as those seen in Scotland.



# E. Assurance

Our Business Plan, including Appendices, has been subject to a rigorous assurance process which is detailed in Chapter 3 of the Plan and the Board Assurance Statement.

Our Chief Financial Officer was appointed as the Sponsor for the Financeability Appendix and the associated Business Plan Data Templates (BPDTs); which have been through the following levels of review and assurance:

#### **First Line**

This was undertaken at project level by the team producing the document, as a regular self-check or peer review.

#### Second Line

This was undertaken independently within the organisation to review and feedback on product development, including a workshop on Financeability Assumptions. Both Senior Manager and Director sign-off was obtained.

#### **Third Line**

This was undertaken by external advisors and groups providing critical challenge during the development of products within the Business Plan. In addition to the feedback and challenge provided by the Customer Engagement Group (CEG) and Customer Challenge Group (CCG) this Appendix was developed after consultation with and advice from:

Advisor / Group	Contribution
PwC	Expert input and challenge on business plan financeability and financial modelling support.
National Westminster Bank plc	Consultancy to produce a strategic report on mitigation steps to
Evercore	close the infanceability gap.
Oxera, Nera Economics and KPMG	External ENA Reports.

In addition, financeability formed part of the RIIO-GD2 Committee (a sub-Board Committee) discussions since set up in May 2017. During the development of our Business Plan, SGN's Finance Committee (a sub-Board Committee) focussed on financeability, which was an Agenda item on five occasions from March 2019. It was then a particular focus of 11 wider ring-fenced Board discussions which took place between August and November 2019.

#### Fourth Line

This was undertaken by independent and impartial external providers, who provided a detailed and comprehensive report to the Board of Directors:

Advisor / Group	Contribution
PwC ('Clean Team')	Conducted a factual check on the metrics put forward to the Board and on adherence to the Ofgem financeability business plan guidelines.

