RIIO-ED2 cost of debt and financeability assessment

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1 Introduction

Scottish & Southern Electricity Networks (SSEN) Distribution has asked Oxera Consulting LLP (Oxera) to undertake modelling of the allowed cost of debt mechanism and financeability of the notional and actual company in RIIO-ED2 ('ED2') under different scenarios as specified in Ofgem's business plan guidance.[1] The analysis will be submitted to Ofgem alongside the SSEN business plans due to Ofgem in December 2021.[2]

As SSEN Distribution owns two networks, Scottish Hydro Electric Power Distribution plc (SHEPD) and Southern Electric Power Distribution plc (SEPD), the analysis presented in this report has been undertaken for both of these networks individually.

The report is structured as follows.

- Section 2 provides our assessment of the allowed cost of debt index against the forecast cost of debt for SSEN in RIIO-2.
- Section 3 provides our review of the financeability of the SSEN business plan on a notional and actual company basis.
- Appendix A1 presents supplementary data relating to the cost of debt analysis.
- Appendix A2 provides supplementary data relating to the financeability analysis.

[1] Ofgem (2021), 'RIIO-ED2 Business Plan Guidance', 30 September.
[2] SSEN Distribution owns two networks—Scottish Hydro Electric Power Distribution plc and Southern Electric Power Distribution plc. The analysis presented in this report will be undertaken for both of these networks individually.

2 Cost of debt assessment

This section provides scenario analysis for the cost of debt index against the forecast cost of debt for both of SSEN's networks in RIIO-ED2.

2.1 Summary

Ofgem estimates the allowed cost of debt as the 17-year trailing average of the iBoxx £ Utilities 10+ index. It proposes base case, high- and low-interest-rate scenarios in its Sector Specific Methodology Decision (SSMD) document.[3]

We compare Ofgem's allowance to a forecast cost of debt for a notional electricity distribution company. We assume that its embedded debt book in ED2 has an interest rate equal to Ofgem's allowance (i.e. the 17-year trailing average) and any amount that matures is refinanced at the same rate. We assume that any new debt to fund RAV growth is raised at the average Utilities index of that year. The separation of embedded and new debt costs is akin to Ofwat's cost of debt methodology. In this way, we test whether Ofgem's proposed allowance ('allowed cost of debt') is sufficient to fund embedded and new debt for a notional electricity distribution company ('notional cost of debt') under Ofgem's proposed interest-rate scenarios.

We also compare the allowed and notional cost of debt using different estimates of transaction costs. Ofgem proposes a 25bp allowance,[4] while SSEN's own estimates of transaction costs are 25–45bps.

We find that the notional company may be underfunded by Ofgem's allowed cost of debt when transaction costs are higher than Ofgem's assumption of 25bps (Table 2.2). This is the case for both networks under the high-interest scenario, and for SEPD under the base case scenario as well.

Additionally, our analysis for the actual cost of debt of SHEPD and SEPD indicates that Ofgem's allowance is sufficient to allow for the recovery of their efficient debt costs.[5] However, if interest rates increase by 1%, there is minimal headroom to accommodate any financing cost shocks.

Both the notional and actual cost of debt analyses suggest that Ofgem's allowed cost of debt broadly provides sufficient funding for RIIO-ED2. However, it is possible that SHEPD and SEPD are underfunded when interest rates rise and/or transactions costs exceed Ofgem's proposed allowance.

We would thus recommend that the cost of debt allowance is increased either through a recalibration of the indexation mechanism—for example, by extending the trailing average period—or by allowing for additional costs of borrowing, such as small company premiums.

This increase in allowance would also give headroom to accommodate the increase in interest rates that is expected from the Bank of England.[6]

[3] Ofgem (2021), 'RIIO-ED2 Sector Specific Methodology Decision: Annex 3 Finance', 11 March, para. 2.45 and Table 2.
[4] Ibid.
[5] The results of this analysis are presented in Appendix A1.
[6] Bank of England (2021), 'Monetary Policy Report - November 2021', https://www.bankofengland.co.uk/monetary-policy-report/2021/november-2021, accessed on 24 November 2021.

2.2 Methodology

Ofgem proposes an allowed cost of debt based on the 17-year trailing average of yields on the iBoxx £ Utilities 10+ index. We use Ofgem's allowance as calculated at the SSMD.

We then forecast two further cost of debt profiles: a notional cost of debt (as described in section 2.1 above) and the actual cost of debt for SHEPD and SEPD.[7,8]

In order to forecast the notional and actual cost of debt, we undertake the four steps below. We understand that Ofgem used a similar approach to forecast the allowance at the SSMD. Our own analysis of the allowed cost of debt using the four steps indicates that our estimates are in line with the SSMD.[9,10]

1. We calculate the forward curve for 10-year UK gilts, with a cut-off date of 29 January 2021.[11] We note that using an end-of-October date does not have a material impact on the analysis, as discussed in section 2.4.
2. We calculate the spreads of the iBoxx 10-year+ Utilities index over 10-year UK gilts for the past three years.[12] The average tenor of the bonds in this index is 20 years, based on remaining time to maturity.
3. We combine the spread from step 2 with the forward curve from step 1 to estimate the future cost of new debt.
4. We use this forecast of the cost of new debt—and, where possible, the actual outturn data of the iBoxx 10-year+ Utilities index—to forecast the notional and actual cost of debt for SHEPD and SEPD.
5. To estimate the low- and high-case interest scenarios, we assume a ±1% change in the forward curve in each year. This feeds through into the forecast cost of new debt, which affects the forecast notional and actual cost of debt.

2.3 Additional costs of borrowing

In the SSMD, Ofgem proposed an allowance of 25bps for additional costs of borrowing.[13] However, in this section, we undertake an assessment of additional costs of borrowing, taking into account the following costs associated with issuing debt.

1. **New issue premium**—the iBoxx indices are based on yields derived from bonds trading in the secondary market, whereas investors in new issues may require a premium over the prevailing secondary market rates.

[7] For the cost of debt assessment, SSEN provided Oxera with the business plan for SEPD and SHEPD, which included the embedded cost of debt and the planned profile of refinancing and issuance of new debt to finance CAPEX in RIIO-ED2.
[8] We assumed that the notional company funds its opening RAV in RIIO-2 with an embedded debt book that has an interest rate equal to the 17-year trailing average of the iBoxx £ Utilities 10+ index. The opening notional debt is subsequently partially refinanced in each year of RIIO-2 to track the 17-year trailing average. We assumed that any changes in RAV in a given year of RIIO-2 are financed at a rate equal to the average Utilities index in that specific year.
[9] Ofgem (2021), 'RIIO-ED2 Sector Specific Methodology Decision – Annex 3 Finance', 11 March, Table 3.
[10] The interest rate on cash and cash equivalents is assumed to be zero.
[11] This is in line with Ofgem's cut-off date for the SSMD. See Ofgem (2021), 'RIIO-ED2 Sector Specific Methodology Decision – Annex 3 Finance', 11 March, para. 2.39.
[12] Ofgem typically calculates a three-year average spread of the iBoxx index over gilt rates to be used for forecasting the iBoxx index. For example, see Ofgem (2020), 'Final Determinations - WACC Allowance Model for RIIO-T2/GD2'.
[13] Ofgem (2021), 'RIIO-ED2 Sector Specific Methodology Decision: Annex 3 Finance', 11 March, para. 2.45.

2. **Cost of carry**—debt is typically raised in tranches, with cash held on deposit until needed for CAPEX. This creates a cost of carrying the debt on the balance sheet until the cost of debt allowance is increased in line with RAV growth.
3. **CPI/CPIH indexation costs**—we understand from SSEN that the cost of debt allowance does not fully compensate for the transition of the price control from RPI to CPI/CPIH indexation.
4. **Transaction costs**—these costs include underwriting fees, bond advisory fees, auditor fees, rating agency fees, and the like, which are incurred upfront as well as on an ongoing basis.
5. **Liquidity/RCF cost**—this measures the cost of maintaining a revolving credit facility (RCF), including the commitment fee, as well as the cost to draw down on these facilities.

The estimates provided by SSEN for these costs are shown in Table 2.1.

Table 2.1 Costs associated with issuing debt

Costs of issuing debt	Basis points (bp)
New issue premium	7
Cost of carry	9–19
CPI/CPIH indexation costs	6
Transaction costs	7
Liquidity/RCF cost	9
Total	38–48

Source: SSEN.

This indicates borrowing costs of 25–45bps. As Ofgem has proposed an allowance of 25bps, this means that there are between 0bps and 20bps of additional costs that remain unfunded.

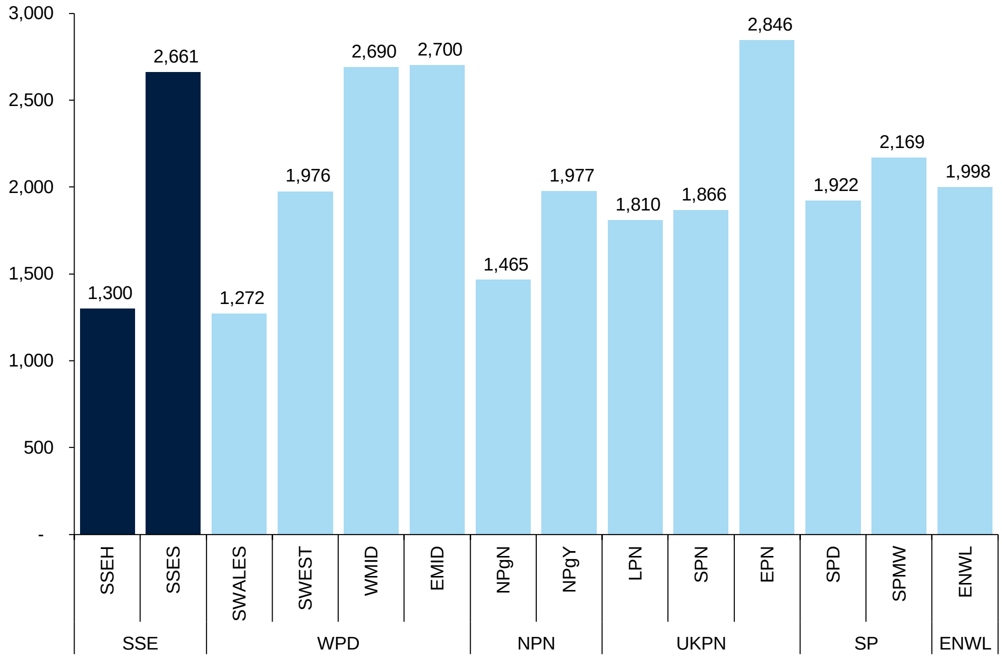
2.3.1 Small company premium

Both SSEN distribution networks are likely to qualify for additional borrowing costs as less frequent debt issuers and smaller-than-average networks (in terms of RAV).

- SSES and SHEPD's average debt issuances per year in ED2 are forecast at £121m and £128m respectively.[14] Ofgem defines less frequent debt issuers as those notional networks that are expected to issue less than £150m per year on average.[15] Both SSES and SHEPD therefore comfortably qualify as less frequent debt issuers.
- SSEH also has the second smallest forecast opening RAV relative to other ED networks in ED2, as shown in Figure 2.1.

[14] Calculated as the average yearly difference between closing net debt and opening net debt, net of principal inflation accretion on CPIH index-linked debt.
[15] Ofgem (2021), 'RIIO-2 Final Determinations – Finance Annex (REVISED)', February, para. 2.62.

Figure 2.1 Opening ED2 RAV based on Ofgem's BPFM in £m



Note: All numbers in 2018/19 prices.

Source: Oxera analysis of Ofgem's business plan financial model (BPFM).

- Ofgem recently used these criteria to provide a small company premium of **6bps** to Northern Gas Networks (NGN) and Scottish Gas Networks (SGN) in RIIO-GD2. The size of the premium was based on two different methodological approaches put forward by NGN and SGN, both of which yielded 6bps. We therefore consider this to be a reasonable estimate of the small company premium for SSES and SHEPD in ED2.

2.4 Results

We present the comparisons of Ofgem's allowance and our estimated notional cost of debt under different interest rate scenarios below (Table 2.2). This includes the impact of the additional borrowing costs.

Positive values indicate that the allowance is forecast to be above the cost of debt; negative values indicate that SSEN is forecast to be underfunded. The results show that prior to making any adjustments for additional borrowing costs, the allowance is forecast to be above the cost of debt in all interest rate scenarios modelled, albeit with minimal headroom in the high-interest-rate scenarios.

The results show that the current proposal for calibration by Ofgem is the minimum requirement to ensure that the allowance covers the cost of debt, subject to any interest rate changes at the Final Determinations in December 2022.

Table 2.2 Average annual funding impact with additional costs of 0–20bps (CPIH-real %), notional

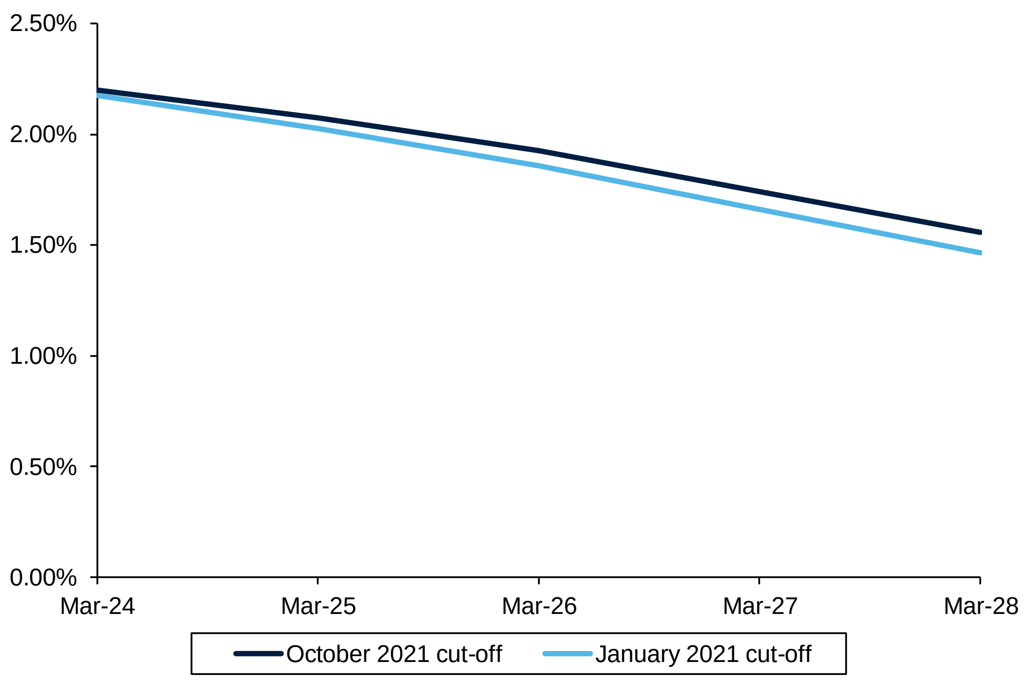
	SEPD			SHEPD		
	Base case	High-interest rate	Low-interest rate	Base case	High-interest rate	Low-interest rate
CoD allowance (excl. additional costs)	1.84%	2.02%	1.65%	1.84%	2.02%	1.65%
Notional CoD	1.65%	1.98%	1.32%	1.60%	1.98%	1.23%
Outperformance prior to additional costs	0.19%	0.04%	0.33%	0.23%	0.05%	0.42%
Additional borrowing costs not covered by Ofgem allowance	0–0.2%	0–0.2%	0–0.2%	0–0.2%	0–0.2%	0–0.2%
Outperformance/ underperformance	**(0.01)–0.19%**	**(0.16)–0.04%**	**0.13–0.33%**	**0.03–0.23%**	**(0.15)–0.05%**	**0.22– 0.42%**

Note: The impact on funding is reported on a CPIH-real % basis. The low- and high-interest-rate scenarios reflect the annual funding impact in RIIO-2, subject to a ±100bps deviation from the nominal forward curve.

Source: Oxera analysis.

We have also looked at how the cost of debt evolves using more recent data than the 29 January 2021 cut-off date in Ofgem's SSMD analysis. Using end-of-October yields, the **allowed cost of debt increases by 6bps** relative to the SSMD (Figure 2.2). However, the increase in underlying yields also increases the notional cost of debt for SEPD and SHEPD, such that financing performance stays relatively constant for each network.

Figure 2.2 Cost of debt allowance in RIIO-ED2 in the base case



Source: Oxera analysis.

3 Financeability assessment

This section provides our review of the financeability of the SSEN business plan and Ofgem's approach to financeability assessment, as described in the RIIO-2 business plan guidance of 30 September[16] and the SSMD document of 11 March.[17]

This section is structured as follows.

- Section 3.1 outlines our approach to modelling financeability.
- Section 3.2 summarises the main findings.
- Section 3.3 explains the assumptions underlying the notional and the actual company.
- Section 3.4 discusses our analysis of the financeability of the notional company using the Ofgem financial models.
- Section 3.5 presents additional sensitivity analysis for the notional company.
- Section 3.6 discusses our analysis of the financeability of the actual company using the Ofgem financial models.
- Appendix A2 provides further details of our financeability metrics analysis.

3.1 Approach

We assess the financeability of both the **notional** and the **actual** company.[18]

- The **notional** company is assessed by using Ofgem's proposed 17-year trailing average and assuming that 25% of the company's debt is CPIH-linked, as set out in the cost of debt working assumption in the SSMD.
- The **actual** company is assessed based on SSEN's expected actual cost of debt in RIIO-ED2, which includes embedded and new debt. As set out in section 2, the cost of new debt raised during ED2 is modelled based on the projected one-year average interest rates on Utilities iBoxx instead of the allowed 17-year trailing average.[19] The net debt to RAV remains constant at 60% throughout ED2 for the actual company.

3.2 Main findings

- The main findings from our financeability analysis for the notional and the actual company, assuming 0.25% outperformance (i.e. 4.65% CPIH-real equity return) and assuming no outperformance (i.e. 4.40% CPIH-real equity return), are as follows. We understand that if 0.25% outperformance is not realised in ED2, Ofgem will reimburse companies up to 0.25% on equity allowance. As such, the main impact of achieving zero outperformance will be on cash flows within ED2. Following the CMA decision to remove the

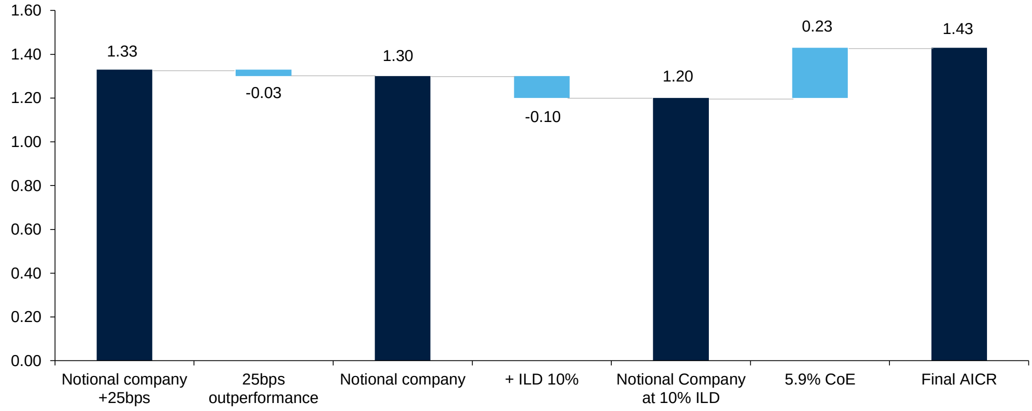
[16] Ofgem (2021), 'RIIO-ED2 Business Plan Guidance', 30 September.
[17] Ofgem (2021), 'RIIO-ED2 Sector Specific Methodology Decision: Annex 3 Finance', 11 March.
[18] We have considered the credit metrics analysis using accounting form ratios consistent with the credit rating agencies' methodologies, as well as Ofgem's financeability guidance. Our analysis focuses on the accounting form of the metrics based on actual business plan information provided by SSEN for both SEPD and SHEPD.
[19] We understand that Ofgem's PCFM assumes that new debt, as well as any embedded debt that needs to be refinanced, is raised at the average of the Utilities index in the year such that the overall debt book carries an interest cost equal to the 17-year trailing average. We note that our disaggregated all-in cost of debt approach better approximates the actual cost of raising new debt in the RIIO-2 period.

outperformance wedge for GD2 and T2,[20] it is not clear whether Ofgem intends to keep the outperformance wedge for ED2 or if it will be excluded. As a result, our financeability analysis begins by including the wedge in line with the SSMD.

- Key financeability metrics for the notional SEPD and SHEPD fall below the BBB+/Baa1 threshold guidance of the credit rating agencies in the base scenario (see Figure 3.1 and Figure 3.2 below). Moreover, the financeability metrics further deteriorate under the Ofgem downside scenarios.
- With a 4.65% CPIH-real equity return (i.e. inclusive of the outperformance wedge), AICR is 1.33x for SEPD and SHEPD, which is below Moody's recent guidance on the threshold range for a Baa1 rating (i.e. above 1.4x).[21] Moreover, this is below Fitch's guidance thresholds of 1.5x and 1.75x for BBB and A ratings respectively.[22]
- If zero outperformance is assumed—i.e. the CPIH-real equity return is 4.40%—then the AICR for a notional SEPD declines to 1.30x while the one for the notional SHEPD declines to 1.29x, which is significantly below Moody's credit rating threshold for a Baa1 rating.
- Further, if 10% index-linked debt is assumed for the notional company, in line with the evidence in section 3.4.2, then the AICR falls to 1.20x and 1.19x for SEPD and SHEPD respectively, below Moody's Baa1 rating.
- As a result of these realities, the notional AICR is 1.20x and 1.19x for SEPD and SHEPD respectively. This is much lower than the 1.5x average AICR that Ofgem required of gas and transmission networks to undertake the scale of investment required for RIIO-2.[23]
- A cost of equity of 5.9% (CPIH-real) would be the minimum return required to improve the financeability of SEPD and SHEPD. We note that an AICR of 1.50x (as for gas and transmission networks in RIIO-2) is achievable using a cost of equity of 6.3% (CPIH-real, in line with the midpoint of our June 2021 cost of equity report).[24] There are legitimate reasons as to why investors require aiming up on the cost of equity, which suggests estimates above 6.3% are also reasonable to ensure companies are financeable from a debt and equity perspective.

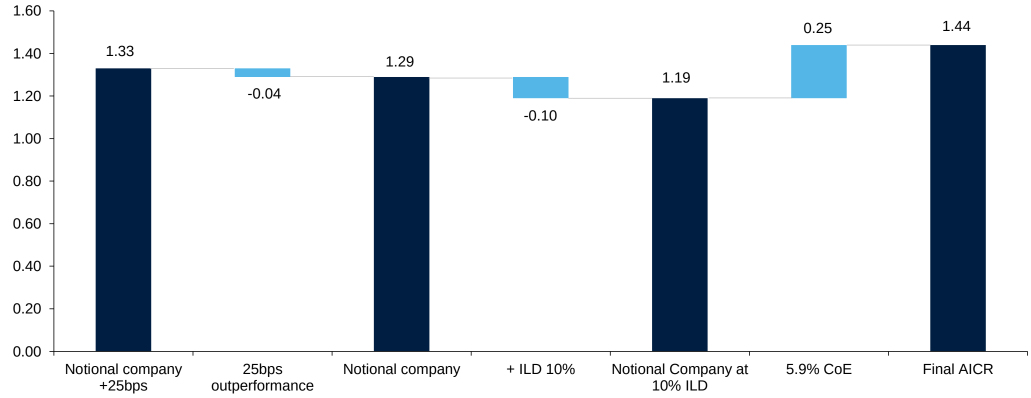
[20] CMA (2021), 'Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited vs the Gas and Electricity Markets Authority Final determination Volume 2B: Joined Grounds B, C and D', 28 October.
[21] Moody's (2018), 'Regulated electric and gas networks – UK. Risks are rising, but regulatory fundamentals still intact', 29 May, p. 4.
[22] Fitch (2018), 'Corporate rating criteria Sector Navigators', p. 165.
[23] The average AICRs for ET, GT, and GD companies were 1.53x and 1.50x at Ofgem's Final and Draft determinations respectively.
[24] Oxera (2021), 'The cost of equity for RIIO-ED2', 4 June, p. 5.

Figure 3.1 AICR for SEPD



Source: Oxera analysis, based on Ofgem's model.

Figure 3.2 AICR for SHEPD



Source: Oxera analysis, based on Ofgem's model.

- Under the upside and downside scenarios that Ofgem proposes in its business plan guidance, the AICR lies between 0.98x and 1.70x for SEPD, and between 0.98x and 1.71x for SHEPD. The details are presented in Table 3.2–Table 3.9 below. The downside scenarios have credit metrics significantly below the Baa rating thresholds.

- While Ofgem requires companies to model a 3% dividend yield assumption, this is not feasible without significant equity issuance; moreover, this is below current market evidence (see section 3.4.3). Companies need to de-gear to achieve a notional gearing of 60% in RIIO-2 (from 65% in RIIO-1). The net equity issuance required to maintain a notional dividend yield of around 3% and a gearing of 60% would be around £338m and £291m for SEPD and SHEPD respectively under the base case.[25] This is in excess of 5% and 7% of the current equity value[26] for SEPD and SHEPD respectively. In effect, SEPD and SHEPD have a negative implied dividend yield as equity issuances exceed dividends.[27]

[25] Note that reducing gearing from 65% in RIIO-1 to 60% in RIIO-2 implies that the company would need to inject equity to de-gear in the last year of RIIO-1.
[26] Estimated as £338m divided by £6841m of equity for SEPD. Estimated as £291m divided by £3586m of equity for SHEPD.
[27] Implied dividend yield = (dividends minus equity issuances) / regulated equity.

- For the actual company financeability assessment, the credit ratios for SHEPD and SEPD meet the BBB+/Baa1 threshold guidance. The details are available in Appendix A2.

3.3 Assumptions for notional and actual assessment

In the SSMD, Ofgem reiterated that it would primarily rely on the notional company to assess the financeability of the RIIO-2 control. However, it has also asked companies to present an actual financeability assessment of their business plans.

We have used Ofgem's BPFM as the basis for the financeability assessments.[28] Our assumptions have been informed by the latest working assumptions used in Ofgem's own modelling of the notional company, as discussed in Annex 5 of the RIIO-ED2 business plan guidance (see also Appendix A2).[29]

Table 3.1 Main assumptions for notional and actual company

Parameter	Notional company assumption	Actual company assumption
Allowed equity return (CPIH-real)	Baseline estimate of 4.4% (i.e. exclusive of 25bp outperformance wedge) and a high return scenario of 4.65% (i.e. inclusive of wedge)	
Allowed cost of debt	RIIO-ED2 17-year trailing average in the base case scenario (same as Ofgem)	
Index-linked debt	Comprises 25% of total debt, indexed to CPIH in the base case	Based on the actual level of index-linked debt used by each company, which is 7% for SEPD and 19% for SHEPD
Interest expense	Equal to the cost of debt (17-year trailing average)	Based on the forecast actual cost of debt in RIIO-ED2
Gearing	60%. Gearing maintained in line with notional assumption through equity injection(s)[1]	
Inflation	CPIH of 2.0%	CPIH of 2.0%
Dividend yield	3.0%, in line with Ofgem's allowance for the notional company in RIIO-2	
Capitalisation rate	65%. Corresponds to the SSEN rate in RIIO-1, consistent with Ofgem SSMD guidance	
Depreciation	Asset life phased increase to 45 years through RIIO-ED2 for post-vesting assets	
Incentives (TOTEX, business plan, outcomes)	No under- or over-performance. This is consistent with the approach in RIIO-1. Only base revenues were considered in Ofgem's financeability assessment then	
Equity issuance transaction costs	5.0%, in line with Ofgem's working assumption	

Notes: [1] Net debt is assumed to be at the notional level at the start of RIIO-ED2.

Source: Ofgem (2021), 'RIIO-ED2 Business Plan Guidance', 30 September; (2021), 'RIIO-ED2 Sector Specific Methodology Decision: Annex 3 Finance', 11 March.

3.4 Notional financeability assessment

3.4.1 Base case

The ED2 averages of the notional company credit metrics are evidenced alongside credit rating guidance in Table 3.2 below. These are presented on

[28] We used Ofgem ED2 PCFM Final BP v2.2 – Scenario 1 Base Totex £3.99bn v2. We have not undertaken a full audit of the model.
[29] Ofgem (2021), 'RIIO-ED2 Business plan guidance: Annex 5 Financial Modelling of Notional and Actual Company Financeability Assessment', 30 September.

the basis that 0.25% outperformance will not materialise over ED2 and that there will therefore be an equivalent cash flow gap throughout ED2.

Table 3.2 Notional credit metrics over ED2 using a 4.4% (CPIH-real) return relative indicative investment grade ratio guidance from the credit rating agencies

Ratio	Fitch[2]		Moody's		Standard & Poor's[3]		Notional company base case (SEPD)	Notional company base case (SHEPD)
Debt metrics	A	BBB	A	Baa	A	BBB		
Net debt/RAV (%)	60	70	45–60	60–75	<70	>70	**62.9%[1]**	**64.2%[1]**
FFO interest cover, including accretion (i.e. total interest expense) (x)	4.5	3.5	4–5.5	2.8–4			**3.59**	**3.45**
FFO interest cover, excluding accretion (i.e. cash interest) (x)					>3.5	2.5–3.5	**4.10**	**3.93**
AICR (x)[4]	1.75	1.5	1.6–1.84	1.2–1.44			**1.30**	**1.29**
Nominal PMICR (x)[5]							**2.00**	**1.99**
FFO (cash interest)/ net debt (%)			18–26	11–18	>12	8–12	**10.28%**	**9.62%**
RCF/net debt (%)			14– 21	7–14			**8.37%**	**7.74%**

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Fitch also considers other financial ratios, including lease-adjusted FFO/debt and lease-adjusted FFO/net debt. These measures have not been explicitly highlighted by Ofgem as measures of interest when assessing financeability. [3] Unlike Moody's and Fitch, S&P does not provide indicative ranges. The ranges interact with additional considerations, such as the business risk profile and industry risk. See Standard & Poor's (2013), 'Criteria | Corporates | General: Corporate Methodology', Tables 3 and 17–19. We have reported the indicative ranges provided by Ofgem during the RIIO-1 period. See Ofgem (2011), 'Decision on strategy for the next transmission and gas distribution price controls – RIIO-T1 and GD1 Financial issues', 31 March, p. 40. [4] Moody's guidance minimum rating for a Baa2 rating (1.2), Baa1 rating (1.4), A3 rating (1.6), and A2 rating (1.8) from 29 May 2019 commentary. Moody's does not provide a guidance figure for a Baa3 rating. [5] Nominal PMICR is a metric estimated by Ofgem and is not used by the credit rating agencies.

Source: Fitch (2018), 'Corporate rating criteria Sector Navigators', p. 165; Moody's (2017), 'Rating Methodology Regulated Electric and Gas Networks, 16 March, p. 19; Moody's (2018), 'Regulated electric and gas networks – UK. Risks are rising, but regulatory fundamentals still intact', 29 May, p. 4; Ofgem (2011), 'Decision on strategy for the next transmission and gas distribution price controls – RIIO-T1 and GD1 Financial issues', 31 March, p. 40.

As shown in Table 3.2, for the notional SEPD and SHEPD during RIIO-ED2, the AICR (or PMICR) is below Moody's guidance[30] of 1.4x–1.6x for a Baa1 rating. Moreover, the AICR for both companies is below Fitch's guidance of 1.5x for a BBB rating.

FFO interest cover, including inflation accretion, is in line with Fitch's guidance of 3.5x–4.5x for an A/BBB rating for SEPD while SHEPD falls slightly below. FFO/net debt (including and excluding accretion) is below Moody's guidance for a Baa rating of 11–18% for both SEPD and SHEPD. However, the FFO/net debt ratios deteriorate towards the end of RIIO-2 trending towards going below the Baa1 threshold. Similarly, in the downside scenarios, credit metrics are below the credit rating agencies' Baa1/BBB+ thresholds on a notional company basis, as shown in Table 3.4–Table 3.10 below.

3.4.2 Ofgem's 25% index-linked debt assumption

In its modelling of the notional company, Ofgem assumes that 25% of debt is index-linked to inflation.

The evidence shows that a 10% index-linked debt assumption is more appropriate for the electricity distribution sector. The median index-linked debt in the electricity distribution sector is 8% and the mean is 11.7% based on Ofgem's data in Figure 3.3. This is the best possible estimate based on the industry data that Ofgem has disclosed.

Moreover, a 10% index-linked debt assumption is in line with the actual levels used by SEPD and SHEPD in financing their business plans (7% and 19% respectively). The effect on notional company financeability is to reduce the AICR to 1.20x and 1.19x for SEPD and SHEPD respectively (from 1.30x and 1.29x). These levels are in line with Moody's guidance for a Baa2 credit rating.[31]

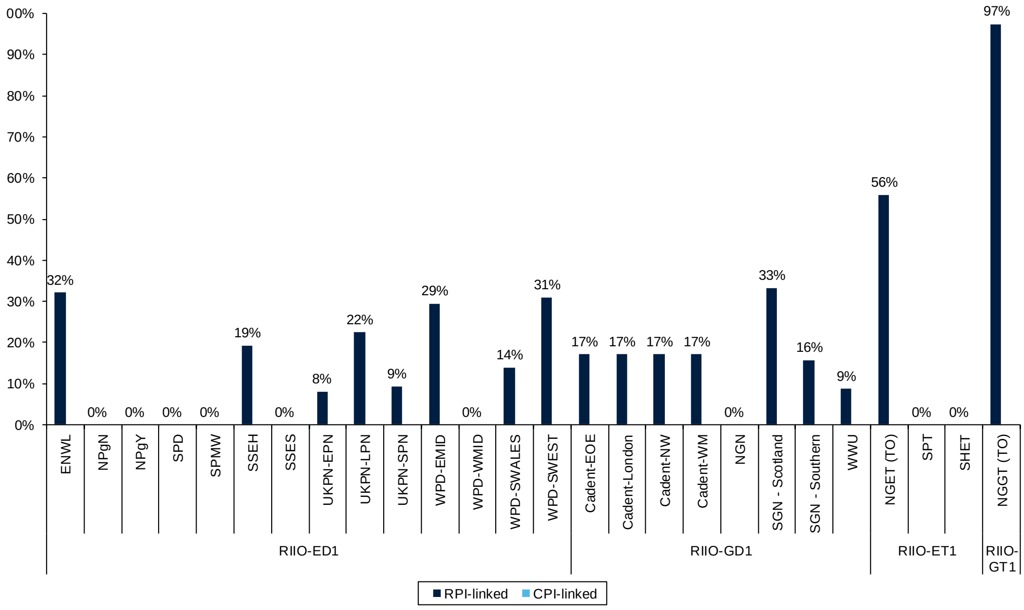
To justify the 25% index-linked debt assumption, Ofgem relies on three data points:

- 37% index-linked debt on average for gas distribution and transmission in 2018/19, based on data from business plan submissions that has not been published by Ofgem;
- a 33% index-linked debt assumption by Ofwat in PR19;
- 25% index-linked debt on average for distribution and transmission in 2017/18 (see Figure 3.3 below) based on the Regulatory Financial Performance Reporting (RFPR) data.

While Figure 3.3 shows that the average index-linked debt in the industry is around 25%, there is a wide range of index-linked debt between companies, and the assumption of 25% index-linked debt is distorted by the inclusion of National Grid Gas Transmission (NGGT), which has a particularly high proportion of index-linked debt (97% in 2017/18).

[30] Moody's (2018), 'Regulated electric and gas networks – UK. Risks are rising, but regulatory fundamentals still intact', 29 May, p. 4, Moody's (2021), 'Moody's changes outlook on Electricity North West to stable', 31 March.
[31] The AICR metric declines when reducing the proportion of index-linked debt due to FFO increasing (cash interest expense, which is deducted from FFO, is higher).

Figure 3.3 Companies' index-linked debt for RIIO-1



Source: Oxera analysis, based on RFPR data.

3.4.3 Implications for equity investors

Our analysis so far has shown that the notional company AICR begins at 1.33x (inclusive of 25bps outperformance cash flows) and declines to approximately 1.20x and 1.19x for SEPD and SHEPD respectively when outperformance does not materialise and the correct level of index-linked debt is assumed. This indicates the notional company can only achieve a Baa2 credit rating.

On top of this, there are concerns around equity financeability of the notional company. Ofgem assumes a notional dividend yield of 3%, which is below the 5-year and 10-year FTSE All-Share dividend yield of approximately 4%.[32]

In practice, equity investors are expected to make equity injections over ED2 in order to de-gear the notional company to 60%. In total, £338m and £291m in notional equity issuance is required for SEPD and SHEPD respectively (Table 3.3).[33]

Table 3.3 Notional equity issuance over ED2 (£m)

	2023/24	2024/25	2025/26	2026/27	2027/28	Total
SEPD	145	-	-	194	-	338
SHEPD	71	-	-	220	-	291

Note: Prices are in nominal terms.

Source: Oxera analysis.

It is not clear that equity investors would accept the relatively low notional dividend yield and make sizeable equity injections without sufficient incentives. An increase in the cost of equity would provide such an incentive.

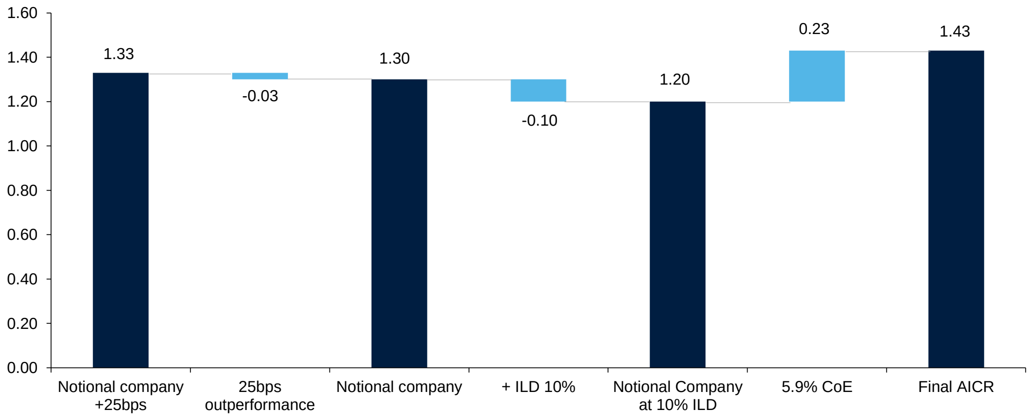
As the following two charts indicate, an increase in the cost of equity to 5.9% (CPIH-real) would also alleviate debt financeability pressure. The AICR

32 As of 9 November 2021, based on Bloomberg data.
33 Note that reducing gearing from 65% in RIIO-1 to 60% in RIIO-2 implies that the company would need to inject equity to de-gear in the last year of RIIO-1.

increases to 1.43x and 1.44x for SEPD and SHEPD respectively. The required equity issuance decreases to £145m and £260m respectively, although the implied divided yield is still well below the 3% notional level assumed by Ofgem (at 0.73% and -3.56% for SEPD and SHEPD respectively).

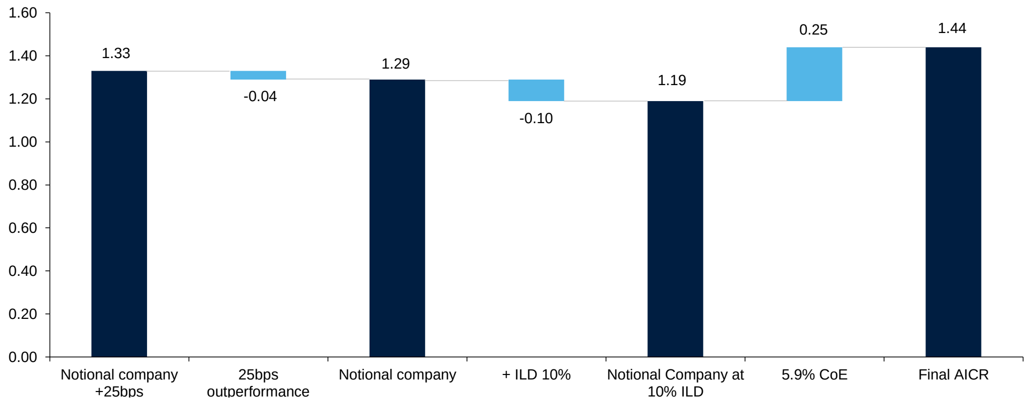
The outcome of Ofgem's recent final determination for gas and transmission companies indicates an AICR target of 1.50x. Given the scale of investment required for RIIO-2, a cost of equity of 6.3% (CPIH-real, in line with the midpoint of our June 2021 cost of equity report)[34] ensures that SEPD and SHEPD are able to achieve a notional AICR of 1.50x. In fact, it could be higher than 6.3% (CPIH-real) as there are legitimate reasons to suggest investors require aiming up on returns.

Figure 3.4 AICR for SEPD



Source: Oxera analysis.

Figure 3.5 AICR for SHEPD



Source: Oxera analysis.

3.4.4 Scenario analysis

Our notional financeability assessment also looks at sensitivities prescribed by Ofgem and additional scenarios requested by SSEN. These are evidenced and discussed in this section. All scenarios assume an equity return in line with the base case assumption for the notional company (i.e. 4.40%, CPIH-real, exclusive of the outperformance wedge).[35]

[34] Oxera (2021), 'The cost of equity for RIIO-ED2', 4 June, p. 5.
[35] We have also undertaken the financeability analysis for both the actual and the notional company at a 4.65% CPIH-real cost of equity assumption i.e. inclusive of the 25bp outperformance wedge. The results from these scenarios are presented in A2.2 and 3.6A2.3 below.

Ofgem sensitivities

The Ofgem-prescribed sensitivities include:

- a change in CPIH of +/- 1%;
- a change in the RPI/CPIH wedge of +/-0.5%;
- a change in interest rate of +/-1%;
- a change in TOTEX performance of +/-10%;
- a change in RORE of +/- 2%;
- a change in inflation-linked debt assumption of +/-5% (i.e. inflation-linked debt assumption of 20% and 30%).

The results shown in Table 3.4–Table 3.9 indicate that the notional company ratios deteriorate significantly under downside scenarios and a Baa1 credit rating is achievable under the upside TOTEX and RORE scenarios. In particular, we observe that:

- an increase (decline) in interest rates will slightly improve (worsen) the AICR;
- an increase in inflation will increase the AICR due to the increase in allowed revenues and inflation accretion relative to the cash interest—the opposite will be true for a decrease in inflation (i.e. AICR will decrease);
- TOTEX outperformance of 10% will increase the AICR to 1.46x for SEPD and 1.47x for SHEPD, while TOTEX overspend of 10% will put pressure on the AICR, pushing it to 1.15x for SEPD and 1.13x for SHEPD;
- 2% outperformance on the RORE will increase the AICR to around 1.70x for SEPD and 1.71x for SHEPD, whereas a 2% underperformance will reduce the AICR to 0.98x for SEPD and SHEPD.

Table 3.4 Notional financeability metrics under Ofgem scenarios (interest rates and inflation) for SEPD

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPI	Wedge -0.5% due to CPI	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI
Net debt/RAV (%)[1]	62.9%	63.4%	63.0%	62.7%	63.6%	63.2%	63.2%	62.8%	63.0%
FFO interest cover (interest expense) (x)	3.59	3.48	3.68	3.40	3.78	3.69	3.47	3.60	3.59
FFO interest cover (cash interest) (x)	4.10	3.95	4.23	4.11	4.05	4.08	4.08	4.10	4.09
AICR (or PMICR) (x)	1.30	1.31	1.27	1.30	1.28	1.29	1.29	1.30	1.30
Nominal PMICR	2.00	1.97	2.01	2.26	1.69	1.87	2.10	2.02	1.98
FFO (cash interest)/net debt (%)	10.28%	10.32%	10.11%	10.10%	10.35%	10.33%	10.10%	10.30%	10.26%
RCF/net debt (%)	8.37%	8.42%	8.20%	8.18%	8.46%	8.43%	8.20%	8.39%	8.36%
EBITDA/RAV (x)	9.97%	10.19%	9.74%	9.97%	9.96%	9.97%	9.95%	9.98%	9.96%
RORE (%)	4.21%	4.46%	3.97%	4.21%	4.21%	4.21%	4.21%	4.21%	4.21%
Dividend cover (x)	3.80	3.85	3.72	3.73	3.85	3.83	3.74	3.81	3.79
Dividend/ regulated equity (%)[2]	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%
Net cash to shareholders[3]	-1.81%	-2.39%	-1.94%	-1.71%	-2.48%	-2.07%	-2.19%	-1.75%	-1.88%
Required equity buyback/ (issuance) (£m)	(338)	(399)	(348)	(360)	(373)	(354)	(388)	(336)	(340)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 3.5 Notional financeability metrics under Ofgem scenarios (interest rates and inflation) for SHEPD

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPI	Wedge -0.5% due to CPI	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI
Net debt/RAV (%)[1]	64.2%	64.1%	64.4%	63.5%	65.0%	64.5%	64.0%	64.2%	64.3%
FFO interest cover (interest expense) (x)	3.45	3.38	3.52	3.29	3.63	3.54	3.36	3.45	3.44
FFO interest cover (cash interest) (x)	3.93	3.84	4.05	3.98	3.89	3.92	3.95	3.94	3.93
AICR (or PMICR) (x)	1.29	1.31	1.26	1.30	1.27	1.28	1.29	1.29	1.28
Nominal PMICR	1.99	1.98	2.00	2.26	1.68	1.86	2.11	2.01	1.97
FFO (cash interest)/net debt (%)	9.62%	9.78%	9.45%	9.53%	9.70%	9.68%	9.56%	9.63%	9.60%
RCF/net debt (%)	7.74%	7.90%	7.59%	7.64%	7.85%	7.81%	7.68%	7.76%	7.73%
EBITDA/RAV (x)	8.96%	9.19%	8.74%	8.96%	8.97%	8.97%	8.95%	8.97%	8.96%
RORE (%)	4.22%	4.47%	3.98%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%
Dividend cover (x)	3.45	3.53	3.38	3.40	3.51	3.49	3.42	3.47	3.44
Dividend/ regulated equity (%)[2]	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%
Net cash to shareholders[3]	-4.27%	-4.17%	-4.38%	-3.71%	-4.87%	-4.51%	-4.04%	-4.22%	-4.33%
Required equity buyback/ (issuance) (£m)	(291)	(286)	(296)	(279)	(303)	(297)	(285)	(291)	(291)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 3.6 Notional financeability metrics under Ofgem scenarios (TOTEX performance and RORE) for SEPD

	Base case	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%)[1]	62.9%	61.6%	63.8%	62.4%	64.1%
FFO interest cover (interest expense) (x)	3.59	3.79	3.42	3.95	3.27
FFO interest cover (cash interest) (x)	4.10	4.32	3.91	4.50	3.74
AICR (or PMICR) (x)	1.30	1.46	1.15	1.70	0.98
Nominal PMICR	2.00	2.15	1.87	2.35	1.70
FFO (cash interest)/net debt (%)	10.28%	11.18%	9.52%	11.77%	8.99%
RCF/net debt (%)	8.37%	9.23%	7.64%	9.85%	7.12%
EBITDA/RAV (x)	9.97%	10.47%	9.49%	11.10%	9.07%
RORE (%)	4.21%	5.02%	3.42%	6.46%	2.46%
Dividend cover (x)	3.80	4.18	3.44	4.52	3.21
Dividend/ regulated equity (%)[2]	3.13%	3.12%	3.14%	3.13%	3.13%
Net cash to shareholders[3]	-1.81%	0.71%	-4.74%	0.72%	-2.77%
Required equity buyback/ (issuance) (£m)	(338)	(145)	(570)	(145)	(411)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 3.7 Notional financeability metrics under Ofgem scenarios (TOTEX performance and RORE) for SHEPD

	Base case	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%)[1]	64.2%	62.1%	65.2%	62.7%	64.5%
FFO interest cover (interest expense) (x)	3.45	3.69	3.27	3.86	3.18
FFO interest cover (cash interest) (x)	3.93	4.22	3.73	4.40	3.62
AICR (or PMICR) (x)	1.29	1.47	1.13	1.71	0.98
Nominal PMICR	1.99	2.17	1.85	2.37	1.72
FFO (cash interest)/net debt (%)	9.62%	10.69%	8.81%	11.26%	8.52%
RCF/net debt (%)	7.74%	8.75%	6.96%	9.34%	6.65%
EBITDA/RAV (x)	8.96%	9.58%	8.44%	10.10%	8.17%
RORE (%)	4.22%	5.10%	3.37%	6.47%	2.47%
Dividend cover (x)	3.45	3.88	3.08	4.20	2.91
Dividend/ regulated equity (%)[2]	3.18%	3.17%	3.19%	3.18%	3.18%
Net cash to shareholders[3]	-4.27%	-2.32%	-6.44%	-3.19%	-5.36%
Required equity buyback/ (issuance) (£m)	(291)	(202)	(375)	(244)	(324)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 3.8 Financeability metrics for the notional company under Ofgem scenarios (index-linked debt) for SEPD

	Base case (25% inflation-linked debt)	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%)[1]	62.9%	62.9%	62.9%
FFO interest cover (interest expense) (x)	3.59	3.59	3.59
FFO interest cover (cash interest) (x)	4.10	4.22	3.99
AICR (or PMICR) (x)	1.30	1.34	1.27
Nominal PMICR	2.00	2.00	2.00
FFO (cash interest)/net debt (%)	10.28%	10.28%	10.29%
RCF/net debt (%)	8.37%	8.37%	8.38%
EBITDA/RAV (x)	9.97%	9.97%	9.97%
RORE (%)	4.21%	4.21%	4.21%
Dividend cover (x)	3.80	3.80	3.80
Dividend/ regulated equity (%)[2]	3.13%	3.13%	3.13%
Net cash to shareholders[3]	-1.81%	-1.82%	-1.81%
Required equity buyback/ (issuance) (£m)	(338)	(339)	(338)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 3.9 Financeability metrics for the notional company under Ofgem scenarios (index-linked debt) for SHEPD

	Base case (25% inflation-linked debt)	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%)[1]	64.2%	64.2%	64.2%
FFO interest cover (interest expense) (x)	3.45	3.44	3.45
FFO interest cover (cash interest) (x)	3.93	4.05	3.83
AICR (or PMICR) (x)	1.29	1.32	1.25
Nominal PMICR	1.99	1.99	1.99
FFO (cash interest)/net debt (%)	9.62%	9.61%	9.62%
RCF/net debt (%)	7.74%	7.74%	7.75%
EBITDA/RAV (x)	8.96%	8.96%	8.96%
RORE (%)	4.22%	4.22%	4.22%
Dividend cover (x)	3.45	3.45	3.46
Dividend/ regulated equity (%)[2]	3.18%	3.18%	3.18%
Net cash to shareholders[3]	-4.27%	-4.28%	-4.27%
Required equity buyback/ (issuance) (£m)	(291)	(291)	(291)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

3.5 Additional sensitivities

We provide some additional sensitivities requested by SSEN in the following tables.

- Changing the assumption that 25% of debt is inflation-linked to 10% index-linked debt results in a decrease of the AICR to 1.20x (from 1.30x in the base case), below Moody's guidance threshold for a Baa1 rating (of 1.4x) for SEPD. For SHEPD, this will result in a decrease of the AICR from 1.29x to 1.19x (see Table 3.10 and Table 3.11). The AICR metric declines with a reduction in the proportion of index-linked debt due to the decrease in the FFO (cash interest expense, which is deducted from FFO, is higher). We further discuss the basis of Ofgem's assumption on index-linked debt in section 3.4.2.
- Moreover, we are testing the ratios using the CoD computed at the end of October 2021 instead of using the one modelled by Ofgem that has a cut-off date at the end of January 2021. The AICR for SEPD will be 1.29x and the one for SHEPD will be 1.28x—both fall below Moody's guidance threshold for a Baa1 rating (of 1.4x).
- Finally, we have tested the effect of assuming 0% of equity issuance costs, which leave the ratios almost unchanged and below Moody's guidance.

Table 3.10 Additional sensitivity analysis for the notional company (SEPD)

	10% inflation-linked debt	CoD at October 2021	0% equity issuance threshold
Net debt/RAV (%)[1]	62.9%	62.9%	61.7%
FFO interest cover (interest expense) (x)	3.60	3.55	3.66
FFO interest cover (cash interest) (x)	3.79	4.04	4.18
AICR (or PMICR) (x)	1.20	1.29	1.33
Nominal PMICR	2.00	1.98	2.04
FFO (cash interest)/net debt (%)	10.30%	10.28%	10.55%
RCF/net debt (%)	8.39%	8.37%	8.60%
EBITDA/RAV (x)	9.97%	10.00%	9.99%
RORE (%)	4.21%	4.21%	4.21%
Dividend cover (x)	3.80	3.80	3.84
Dividend/ regulated equity (%)[2]	3.13%	3.13%	3.13%
Net cash to shareholders[3]	-1.80%	-1.82%	-2.70%
Required equity buyback/ (issuance) (£m)	(337)	(338)	(398)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. We also model a 0% equity issuance threshold, but gearing still exceeds 60%. This is because Ofgem measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 3.11 Additional sensitivity analysis for the notional company (SHEPD)

	10% inflation-linked debt	CoD at October 2021	0% equity issuance threshold
Net debt/RAV (%)[1]	64.2%	64.2%	62.9%
FFO interest cover (interest expense) (x)	3.45	3.41	3.52
FFO interest cover (cash interest) (x)	3.63	3.88	4.01
AICR (or PMICR) (x)	1.19	1.28	1.31
Nominal PMICR	1.99	1.97	2.03
FFO (cash interest)/net debt (%)	9.63%	9.61%	9.87%
RCF/net debt (%)	7.76%	7.74%	7.96%
EBITDA/RAV (x)	8.96%	9.00%	8.99%
RORE (%)	4.22%	4.22%	4.22%
Dividend cover (x)	3.46	3.45	3.50
Dividend/ regulated equity (%)[2]	3.18%	3.18%	3.18%
Net cash to shareholders[3]	-4.27%	-4.28%	-5.43%
Required equity buyback/ (issuance) (£m)	(291)	(291)	(329)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. We also model a 0% equity issuance threshold, but gearing still exceeds 60%. This is because Ofgem measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

3.6 Financeability analysis of the actual company in RIIO-2

In line with Ofgem's requirement, we have tested the financeability of the actual company based on the working assumptions proposed by Ofgem and those included in each company's business plan.

The main difference between the actual and the notional company pertains to the cost of debt assumption, as indicated in Table 3.1. As the actual cost of debt is lower than Ofgem's allowance, the credit ratios improve under the actual company assessment. SHEPD and SEPD actual companies are financeable at a Baa1 rating in the base scenario.

Detailed results for the actual company are presented in Appendix A2.

A1 Actual cost of debt assessment

The actual cost of debt is based on the cost of embedded debt and the projected cost of new debt raised in RIIO-ED2.[36] It is estimated as follows:

$$\text{Actual CoD} = \frac{\text{embedded interest} + \text{interest on new debt}}{\text{total net debt}}$$

The interest rate on cash and cash equivalents is assumed to be zero.[37]

As explained in section 2, the allowed cost of debt stems from Ofgem's SSMD. The results in Table A1.1 show that Ofgem's allowed cost of debt is sufficient to allow for the recovery of the efficient actual debt costs for SEPD and SHEPD. However, in the high-interest-rate scenario, there is minimal headroom available to accommodate any further increases in interest rates than those assumed in the scenario.

Table A1.1 Actual financing performance in RIIO-ED2 (CPIH-real %)

	SEPD			**SHEPD**		
	Base	High	Low	Base	High	Low
CoD Allowance (excl. additional costs)	1.84%	2.02%	1.65%	1.84%	2.02%	1.65%
Actual CoD	1.29%	1.67%	0.91%	0.50%	1.07%	-0.06%
Outperformance	0.55%	0.35%	0.74%	1.33%	0.96%	1.71%
Additional borrowing costs not covered by Ofgem allowance	0–0.2%	0–0.2%	0–0.2%	0–0.2%	0–0.2%	0–0.2%
Outperformance/ underperformance	**0.35–0.55%**	**0.15–0.35%**	**0.54–0.74%**	**1.13–1.33%**	**0.76–0.96%**	**1.51–1.71%**

Note: The actual CoD is quoted as the simple average over RIIO-2, rather than a RAV-weighted average. The low- and high-interest-rate scenarios reflect the annual funding impact in RIIO-2, subject to a ±100bp deviation from the nominal forward curve. The RIIO-ED2 proposed allowance does not include any allowance by Ofgem for additional costs (set at 25bps).

Source: Oxera analysis.

[36] The issuance profile of new debt is based on data provided to Oxera by SSEN. We assume that the new debt will be issued at the prevailing market rate based on our forward curve analysis described above. New debt is assumed to be issued at a rate that is equal to the average of the Utilities index in the year of issuance.
[37] This is in line with the SSEN business plan assumption for RIIO-ED2.

A2 Financeability assessment

A2.1 Financeability assessment of the actual company

Table A2.1 SEPD: actual company

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%)[1]	62.9%	63.4%	63.0%	62.7%	63.6%	63.2%	63.2%	62.8%	62.9%	61.6%	63.8%	62.3%	64.1%
FFO interest cover (interest expense) (x)	4.24	3.90	4.61	3.96	4.53	4.38	4.06	4.24	4.23	4.48	4.03	4.68	3.85
FFO interest cover (cash interest) (x)	5.01	4.53	5.59	5.03	4.95	4.99	4.98	5.01	5.00	5.29	4.76	5.53	4.55
AICR (or PMICR) (x)	1.40	1.38	1.41	1.41	1.39	1.40	1.40	1.41	1.40	1.61	1.22	1.92	0.99
Nominal PMICR	2.26	2.15	2.38	2.55	1.89	2.11	2.37	2.28	2.23	2.44	2.09	2.70	1.89
FFO (cash interest)/net debt (%)	10.31%	10.34%	10.15%	10.13%	10.39%	10.37%	10.13%	10.33%	10.29%	11.19%	9.55%	11.80%	9.03%
RCF/net debt (%)	8.40%	8.45%	8.24%	8.21%	8.50%	8.47%	8.23%	8.42%	8.39%	9.24%	7.67%	9.88%	7.16%
EBITDA/RAV (x)	9.52%	9.86%	9.18%	9.52%	9.52%	9.53%	9.51%	9.53%	9.51%	10.02%	9.04%	10.66%	8.62%
RORE (%)	4.21%	4.46%	3.97%	4.21%	4.21%	4.21%	4.21%	4.21%	4.21%	5.02%	3.43%	6.46%	2.46%
Dividend cover (x)	3.81	3.87	3.74	3.74	3.87	3.85	3.76	3.82	3.80	4.19	3.46	4.54	3.23
Dividend/ regulated equity (%)[2]	3.12%	3.13%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.11%	3.13%	3.12%	3.12%
Net cash to shareholders[3]	-1.78%	-2.35%	-1.89%	-1.68%	-2.43%	-2.03%	-2.14%	-1.72%	-1.85%	0.71%	-4.69%	0.72%	-2.72%
Required equity buyback/ (issuance) (£m)	(336)	(396)	(345)	(357)	(370)	(351)	(385)	(334)	(338)	(145)	(567)	(145)	(408)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table A2.2 SHEPD: actual company

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%)[1]	64.2%	64.0%	64.3%	63.5%	64.9%	64.4%	63.9%	64.1%	64.2%	62.0%	65.2%	62.7%	64.5%
FFO interest cover (interest expense) (x)	5.11	4.41	6.23	4.70	5.61	5.35	4.89	5.12	5.10	5.50	4.82	5.77	4.67
FFO interest cover (cash interest) (x)	6.43	5.30	8.45	6.50	6.35	6.40	6.46	6.44	6.42	6.92	6.06	7.26	5.87
AICR (or PMICR) (x)	1.57	1.49	1.72	1.59	1.55	1.57	1.58	1.58	1.57	1.90	1.30	2.32	1.02
Nominal PMICR	2.67	2.41	3.10	3.04	2.23	2.50	2.83	2.71	2.64	2.96	2.45	3.29	2.23
FFO (cash interest)/net debt (%)	9.70%	9.84%	9.56%	9.59%	9.80%	9.76%	9.63%	9.71%	9.68%	10.73%	8.89%	11.32%	8.59%
RCF/net debt (%)	7.82%	7.96%	7.69%	7.70%	7.94%	7.90%	7.75%	7.83%	7.81%	8.79%	7.05%	9.40%	6.73%
EBITDA/RAV (x)	8.09%	8.52%	7.66%	8.08%	8.10%	8.10%	8.08%	8.10%	8.08%	8.69%	7.57%	9.22%	7.29%
RORE (%)	4.22%	4.47%	3.98%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	5.10%	3.38%	6.47%	2.47%
Dividend cover (x)	3.49	3.56	3.43	3.43	3.55	3.53	3.45	3.50	3.48	3.90	3.12	4.23	2.94
Dividend/ regulated equity (%)[2]	3.16%	3.17%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.17%	3.16%	3.16%
Net cash to shareholders[3]	-4.18%	-4.10%	-4.25%	-3.63%	-4.75%	-4.40%	-3.95%	-4.12%	-4.23%	-2.28%	-6.32%	-3.11%	-5.26%
Required equity buyback/ (issuance) (£m)	(288)	(284)	(291)	(276)	(299)	(293)	(282)	(288)	(287)	(200)	(372)	(241)	(322)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

A2.2 Financeability metrics for the notional and the actual company under different assumptions (SEPD)

Table A2.3 SEPD: notional company with 4.65% equity return (i.e. inclusive of 25bp outperformance wedge)

	Base case	10% inflation-linked debt	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%)[1]	63.4%	63.4%	63.2%	62.9%	63.4%	63.5%	63.0%	63.0%	63.3%	62.8%	61.3%	63.7%	62.4%	64.1%	63.4%	63.4%
FFO interest cover (interest expense) (x)	3.60	3.61	3.52	3.73	3.39	3.83	3.73	3.51	3.61	3.63	3.84	3.47	3.95	3.27	3.60	3.60
FFO interest cover (cash interest) (x)	4.11	3.80	4.00	4.29	4.11	4.10	4.13	4.13	4.12	4.15	4.38	3.96	4.50	3.74	4.23	4.00
AICR (or PMICR) (x)	1.33	1.23	1.35	1.32	1.33	1.33	1.34	1.34	1.34	1.35	1.51	1.20	1.70	0.98	1.37	1.30
Nominal PMICR	2.02	2.03	2.01	2.05	2.26	1.73	1.91	2.14	2.04	2.02	2.19	1.91	2.35	1.70	2.02	2.02
FFO (cash interest)/net debt (%)	10.33%	10.35%	10.51%	10.30%	10.11%	10.54%	10.52%	10.29%	10.36%	10.45%	11.40%	9.69%	11.77%	8.99%	10.33%	10.34%
RCF/net debt (%)	8.44%	8.45%	8.61%	8.39%	8.21%	8.64%	8.62%	8.38%	8.46%	8.54%	9.44%	7.81%	9.85%	7.12%	8.43%	8.44%
EBITDA/RAV (x)	10.09%	10.09%	10.32%	9.87%	10.07%	10.09%	10.10%	10.08%	10.10%	10.09%	10.60%	9.61%	11.10%	9.07%	10.09%	10.09%
RORE (%)	4.46%	4.46%	4.71%	4.22%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	5.27%	3.67%	6.46%	2.46%	4.46%	4.46%
Dividend cover (x)	3.86	3.87	3.94	3.81	3.79	3.93	3.92	3.83	3.87	3.87	4.27	3.52	4.52	3.21	3.86	3.86
Dividend/ regulated equity (%)[2]	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.12%	3.14%	3.13%	3.13%	3.13%	3.13%
Net cash to shareholders[3]	-2.37%	-2.36%	-2.21%	-1.80%	0.75%	-2.34%	-1.94%	-2.01%	-2.30%	-1.75%	0.71%	-4.56%	0.72%	-2.77%	-2.37%	-2.36%
Required equity buyback/ (issuance) (£m)	(397)	(396)	(384)	(337)	(146)	(363)	(344)	(373)	(395)	(330)	(145)	(556)	(145)	(411)	(397)	(397)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table A2.4 SEPD: actual company with 4.65% equity return (i.e. inclusive of 25bp outperformance wedge)

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%)[1]	63.3%	63.2%	62.8%	63.4%	63.4%	63.0%	63.0%	63.2%	62.8%	61.3%	63.7%	62.3%	64.1%
FFO interest cover (interest expense) (x)	4.25	3.96	4.68	3.96	4.59	4.44	4.12	4.26	4.29	4.54	4.08	4.68	3.85
FFO interest cover (cash interest) (x)	5.03	4.59	5.66	5.03	5.01	5.05	5.05	5.03	5.07	5.37	4.83	5.53	4.55
AICR (or PMICR) (x)	1.45	1.44	1.48	1.45	1.45	1.46	1.46	1.45	1.46	1.67	1.27	1.92	0.99
Nominal PMICR	2.29	2.19	2.43	2.57	1.95	2.16	2.43	2.32	2.28	2.50	2.14	2.70	1.89
FFO (cash interest)/net debt (%)	10.37%	10.54%	10.33%	10.14%	10.58%	10.55%	10.32%	10.39%	10.48%	11.41%	9.73%	11.80%	9.03%
RCF/net debt (%)	8.47%	8.64%	8.42%	8.25%	8.68%	8.65%	8.42%	8.49%	8.57%	9.45%	7.84%	9.88%	7.16%
EBITDA/RAV (x)	9.65%	9.98%	9.31%	9.62%	9.65%	9.66%	9.64%	9.66%	9.64%	10.15%	9.17%	10.66%	8.62%
RORE (%)	4.46%	4.71%	4.22%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	5.27%	3.68%	6.46%	2.46%
Dividend cover (x)	3.88	3.95	3.82	3.80	3.95	3.93	3.84	3.89	3.88	4.27	3.54	4.54	3.23
Dividend/ regulated equity (%)[2]	3.12%	3.13%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.11%	3.13%	3.12%	3.12%
Net cash to shareholders[3]	-2.32%	-2.17%	-1.76%	0.75%	-2.29%	-1.90%	-1.97%	-2.25%	-1.71%	0.71%	-4.50%	0.72%	-2.72%
Required equity buyback/ (issuance) (£m)	(393)	(381)	(335)	(146)	(360)	(341)	(370)	(392)	(328)	(145)	(553)	(145)	(408)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table A2.5 SEPD: actual company assuming 20bps of transaction costs

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%)[1]	62.9%	63.4%	63.0%	62.7%	63.6%	63.2%	63.2%	62.8%	62.9%	61.6%	63.8%	62.3%	64.1%
FFO interest cover (interest expense) (x)	4.05	3.75	4.37	3.79	4.30	4.17	3.89	4.05	4.04	4.27	3.85	4.47	3.68
FFO interest cover (cash interest) (x)	4.73	4.31	5.23	4.75	4.68	4.71	4.71	4.74	4.73	5.00	4.50	5.22	4.30
AICR (or PMICR) (x)	1.37	1.36	1.38	1.38	1.36	1.37	1.36	1.37	1.37	1.56	1.20	1.85	0.99
Nominal PMICR	2.18	2.08	2.28	2.47	1.83	2.04	2.29	2.21	2.16	2.35	2.03	2.60	1.84
FFO (cash interest)/net debt (%)	10.30%	10.33%	10.14%	10.12%	10.38%	10.36%	10.12%	10.32%	10.29%	11.19%	9.54%	11.79%	9.02%
RCF/net debt (%)	8.39%	8.44%	8.24%	8.20%	8.49%	8.46%	8.22%	8.41%	8.38%	9.24%	7.66%	9.87%	7.15%
EBITDA/RAV (x)	9.63%	9.97%	9.29%	9.63%	9.63%	9.64%	9.62%	9.64%	9.62%	10.13%	9.15%	10.77%	8.73%
RORE (%)	4.21%	4.46%	3.97%	4.21%	4.21%	4.21%	4.21%	4.21%	4.21%	5.02%	3.43%	6.46%	2.46%
Dividend cover (x)	3.81	3.86	3.74	3.74	3.86	3.85	3.75	3.82	3.80	4.18	3.45	4.53	3.22
Dividend/ regulated equity (%)[2]	3.12%	3.13%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.13%	3.12%	3.12%
Net cash to shareholders[3]	-1.79%	-2.36%	-1.90%	-1.69%	-2.44%	-2.04%	-2.15%	-1.72%	-1.86%	0.71%	-4.70%	0.72%	-2.73%
Required equity buyback/ (issuance) (£m)	(337)	(397)	(346)	(358)	(371)	(352)	(386)	(334)	(339)	(145)	(568)	(145)	(409)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

A2.3 Financeability metrics for the notional and the actual company under different assumptions (SHEPD)

Table A2.6 SHEPD: notional company with 4.65% equity return (i.e. inclusive of 25bp outperformance wedge)

	Base case	10% inflation-linked debt	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%)[1]	64.1%	64.1%	63.9%	64.2%	63.4%	64.8%	64.3%	63.8%	64.0%	64.1%	61.9%	65.1%	62.7%	64.5%	64.1%	64.1%
FFO interest cover (interest expense) (x)	3.49	3.50	3.42	3.57	3.33	3.67	3.58	3.40	3.50	3.49	3.74	3.31	3.86	3.18	3.49	3.49
FFO interest cover (cash interest) (x)	3.99	3.68	3.88	4.10	4.03	3.94	3.97	4.00	3.99	3.98	4.27	3.78	4.40	3.62	4.10	3.88
AICR (or PMICR) (x)	1.33	1.23	1.35	1.31	1.35	1.32	1.33	1.34	1.33	1.33	1.52	1.18	1.71	0.98	1.37	1.30
Nominal PMICR	2.03	2.03	2.02	2.04	2.30	1.72	1.90	2.15	2.05	2.01	2.22	1.89	2.37	1.72	2.03	2.03
FFO (cash interest)/net debt (%)	9.79%	9.81%	9.96%	9.63%	9.71%	9.88%	9.85%	9.74%	9.81%	9.78%	10.88%	8.97%	11.26%	8.52%	9.79%	9.80%
RCF/net debt (%)	7.92%	7.93%	8.08%	7.76%	7.81%	8.02%	7.98%	7.85%	7.93%	7.90%	8.93%	7.13%	9.34%	6.65%	7.91%	7.92%
EBITDA/RAV (x)	9.09%	9.09%	9.31%	8.87%	9.08%	9.09%	9.10%	9.08%	9.09%	9.08%	9.70%	8.55%	10.10%	8.17%	9.09%	9.09%
RORE (%)	4.47%	4.47%	4.72%	4.23%	4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	5.35%	3.62%	6.47%	2.47%	4.47%	4.47%
Dividend cover (x)	3.54	3.54	3.61	3.46	3.49	3.59	3.57	3.50	3.55	3.53	3.97	3.16	4.20	2.91	3.54	3.54
Dividend/ regulated equity (%)[2]	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.17%	3.19%	3.18%	3.18%	3.18%	3.18%
Net cash to shareholders[3]	-4.15%	-4.14%	-4.05%	-4.26%	-3.59%	-4.75%	-4.39%	-3.92%	-4.09%	-4.21%	-2.20%	-6.31%	-3.19%	-5.36%	-4.16%	-4.15%
Required equity buyback/ (issuance) (£m)	(286)	(285)	(281)	(290)	(273)	(298)	(292)	(280)	(286)	(286)	(197)	(370)	(244)	(324)	(286)	(286)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table A2.7 SHEPD: actual company with 4.65% equity return (i.e. inclusive of 25bp outperformance wedge)

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%)[1]	64.0%	63.9%	64.1%	63.3%	64.7%	64.3%	63.7%	63.9%	64.1%	61.9%	65.1%	62.7%	64.5%
FFO interest cover (interest expense) (x)	5.18	4.47	6.32	4.77	5.69	5.43	4.96	5.19	5.18	5.58	4.89	5.77	4.67
FFO interest cover (cash interest) (x)	6.52	5.38	8.58	6.60	6.44	6.49	6.55	6.53	6.51	7.01	6.15	7.26	5.87
AICR (or PMICR) (x)	1.66	1.56	1.84	1.68	1.64	1.65	1.66	1.66	1.65	1.98	1.38	2.32	1.02
Nominal PMICR	2.74	2.46	3.19	3.10	2.30	2.57	2.90	2.78	2.71	3.03	2.51	3.29	2.23
FFO (cash interest)/net debt (%)	9.87%	10.01%	9.73%	9.77%	9.97%	9.94%	9.81%	9.89%	9.86%	10.91%	9.06%	11.32 %	8.59%
RCF/net debt (%)	7.99%	8.13%	7.86%	7.87%	8.11%	8.07%	7.92%	8.01%	7.98%	8.97%	7.22%	9.40%	6.73%
EBITDA/RAV (x)	8.22%	8.65%	7.78%	8.21%	8.23%	8.23%	8.20%	8.22%	8.21%	8.82%	7.67%	9.22%	7.29%
RORE (%)	4.47%	4.72%	4.23%	4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	5.35%	3.63%	6.47%	2.47%
Dividend cover (x)	3.57	3.64	3.51	3.51	3.63	3.61	3.53	3.58	3.56	3.98	3.20	4.23	2.94
Dividend/ regulated equity (%)[2]	3.16%	3.17%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.17%	3.16%	3.16%
Net cash to shareholders[3]	-4.06%	-3.98%	-4.13%	-3.51%	-4.63%	-4.28%	-3.84%	-4.00%	-4.11%	-2.16%	-6.20%	-3.11%	-5.26%
Required equity buyback/ (issuance) (£m)	(282)	(279)	(286)	(270)	(294)	(288)	(276)	(282)	(282)	(195)	(367)	(241)	(322)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table A2.8 SHEPD: actual company assuming 20bps of transaction costs

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%)[1]	64.2%	64.0%	64.3%	63.5%	64.9%	64.5%	63.9%	64.1%	64.3%	62.0%	65.2%	62.7%	64.5%
FFO interest cover (interest expense) (x)	4.80	4.19	5.73	4.45	5.22	5.01	4.61	4.80	4.79	5.16	4.53	5.41	4.39
FFO interest cover (cash interest) (x)	5.92	4.98	7.52	5.99	5.85	5.89	5.94	5.93	5.91	6.37	5.58	6.67	5.41
AICR (or PMICR) (x)	1.51	1.45	1.62	1.53	1.50	1.51	1.52	1.52	1.51	1.81	1.26	2.20	1.01
Nominal PMICR	2.54	2.32	2.89	2.90	2.12	2.38	2.69	2.58	2.51	2.81	2.33	3.12	2.14
FFO (cash interest)/net debt (%)	9.68%	9.83%	9.55%	9.58%	9.79%	9.75%	9.62%	9.70%	9.67%	10.72%	8.88%	11.31%	8.58%
RCF/net debt (%)	7.81%	7.95%	7.68%	7.69%	7.93%	7.88%	7.74%	7.82%	7.80%	8.78%	7.04%	9.39%	6.72%
EBITDA/RAV (x)	8.20%	8.63%	7.77%	8.19%	8.21%	8.21%	8.19%	8.21%	8.19%	8.81%	7.68%	9.34%	7.40%
RORE (%)	4.22%	4.47%	3.98%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	5.10%	3.38%	6.47%	2.47%
Dividend cover (x)	3.49	3.55	3.42	3.43	3.55	3.53	3.45	3.50	3.48	3.90	3.11	4.22	2.94
Dividend/ regulated equity (%)[2]	3.17%	3.17%	3.16%	3.17%	3.17%	3.17%	3.17%	3.17%	3.17%	3.16%	3.18%	3.17%	3.17%
Net cash to shareholders[3]	-4.19%	-4.11%	-4.26%	-3.64%	-4.77%	-4.42%	-3.97%	-4.13%	-4.24%	-2.28%	-6.34%	-3.12%	-5.27%
Required equity buyback/ (issuance) (£m)	(288)	(284)	(292)	(276)	(299)	(294)	(282)	(288)	(288)	(201)	(372)	(241)	(322)

Note: [1] Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. [2] Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. [3] Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

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