Cadent
Your Gas Network

Appendix 11.01 Affordability and Financing: Financeability

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Please Note

The source documents for the analysis and contents of this appendix are primarily from:

- Appendix 11.07 LiMo model: Cadent adjustments
- Appendix 11.09 Cadent Regulatory Financial model

1. Our Financeability Assessment

Financeability relates to an efficient company's ability to raise finance readily and at reasonable cost in order to deliver services and improvements expected by customers, as well as continuing a sustainable capital investment.

Financeability is a cornerstone of energy networks' ability to deliver on their plans and hence of the RIIO regulatory framework. In considering financeability for RIIO-2 we have adopted a robust, transparent and reliable methodology for testing and ensuring financeability both on a notional and actual company basis.

Being financeable is not a reflection of earning fair returns and we discuss our view on Ofgem's CAPM parameters in Appendix 11.03. We will continue to work on assessing the robustness of the overall determination including the underlying cost of capital parameters as we move towards Final Determination.

Our debt financeability tests are based on the Moody's rating approach. We have included in our analysis the financial ratios requested by Ofgem for the base case. The enclosed financial models include a number of additional financial ratios across scenarios.

Our tests include the effect of qualitative assessment factors weighted in line with the Moody's methodology as follows.

Notional structure	RIIO-GD2					
Qualitative Factor Assumptions	2022	2023	2024	2025	2026	RIIO-2 AVERAGE
Stability and predictability of regulatory regime	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa
Asset ownership model	Aa	Aa	Aa	Aa	Aa	Aa
Cost and investment recovery	A	A	A	A	A	A
Revenue risk	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa
Financial policy	Baa	Baa	Baa	Baa	Baa	Baa
Scale and complexity of capital programme	A	A	A	A	A	A

Source: Cadent Regulatory Financial model

40%	**Regulatory Environment and Asset Ownership Model**	
	15%	Stability and Predictability of Regulatory Regime
	5%	Asset Ownership Model
	15%	Cost and Investment Recovery (Ability and Timeliness)
	5%	Revenue risk
10%	**Scale and Complexity of Capital Program**	
10%	**Financial Policy**	
40%	**Leverage and Coverage**	
	10%	AICR
	12.5%	Net Debt / RAV
	12.5%	FFO / Net Debt
	5%	RCF / Net Debt

Source: Moody's Investors Service, Regulated Electric and Gas Networks, Rating Methodology 16 March 2017.

We explain the four credit metrics used by Moody's below:

- **AICR** is a cash flow-based measure used by Moody's. It measures how well real returns generated by a company cover its net cash interest payable.
- **Net Debt/RAV** is commonly used in regulated networks where RAV serves as a proxy for the long-term average enterprise value of a regulated business.
- **FFO / Net Debt** is a dynamic leverage measure to assess cash flow in comparison to its indebtedness. A higher level of FFO / net debt may not be a sign of financial strength when it is driven by a higher level of regulatory depreciation.
- **RCF/Net Debt** is an indicator for financial leverage as well as an indicator of the strength of a network's cash flow after dividend payments are made and this ratio can also provide insight into the network companies' financial policies.

Of the four credit metrics assessed by Moody's in their rating grid, AICR and RAV gearing are the key metrics for financeability. As per Moody's Regulated Electric and Gas Networks – UK Sector Comment May 2018, the overall modelled credit rating is subject to an Adjusted Interest Cover Ratio (AICR) check such that the maximum rating where AICR falls between 1.2 and 1.4 is Baa2, and where AICR falls between 1.4 and 1.6 is Baa1.

As such, in our stress test analysis below, we show just the numerical ratio implied and exclude the impact of the qualitative factors.

In accordance with Moody's approach to assessing the sector, weighted credit rating scores are inclusive of a 0.5 "Rating Lift"

We have employed the visual approach below to demonstrate the strength of the modelled credit rating assessment and assist in the interpretation of the analysis. The key metrics and thresholds set out by Moody's in its sector guidance are presented in the table below. We are targeting a solid, Baa1 credit rating. The rationale for targeting Baa1 is covered in detail in chapter 11 of our Business Plan.

<table>
<tr><th></th><th>Rating</th><th>Our Assessment</th><th>AICR</th><th>Net Debt / RAV</th><th>FFO / Net Debt</th><th>RCF / Net Debt</th></tr>
<tr><td rowspan="10">Investment grade ratings</td><td>Aaa</td><td rowspan="7">Strong Investment Grade</td><td>≥ 5.5x</td><td>< 30%</td><td>≥ 35%</td><td>≥ 30%</td></tr>
<tr><td>Aa1</td><td rowspan="3">3.5 - 5.5x</td><td rowspan="3">30-45%</td><td rowspan="3">26 - 35%</td><td rowspan="3">21 - 30%</td></tr>
<tr><td>Aa2</td></tr>
<tr><td>Aa3</td></tr>
<tr><td>A1</td><td rowspan="3">2 – 3.5x</td><td rowspan="3">45-60%</td><td rowspan="3">18 - 26%</td><td rowspan="3">14 - 21%</td></tr>
<tr><td>A2</td></tr>
<tr><td>A3</td></tr>
<tr><td>Baa1</td><td>Solid</td><td rowspan="3">1.4 - 2x*</td><td rowspan="3">60-75%</td><td rowspan="3">11 - 18%</td><td rowspan="3">7 - 14%</td></tr>
<tr><td>Baa2</td><td>Weak</td></tr>
<tr><td>Baa3</td><td>Marginal</td></tr>
<tr><td rowspan="9">Ratings fall below investment grade</td><td>Ba1</td><td rowspan="9">Below Investment Grade</td><td rowspan="3">1.1 – 1.4x</td><td rowspan="3">75-90%</td><td rowspan="3">5 - 11%</td><td rowspan="3">1 - 7%</td></tr>
<tr><td>Ba2</td></tr>
<tr><td>Ba3</td></tr>
<tr><td>B1</td><td rowspan="3">0.9 – 1.1x</td><td rowspan="3">90-100%</td><td rowspan="3">0 - 5%</td><td rowspan="3">(4) - 1%</td></tr>
<tr><td>B2</td></tr>
<tr><td>B3</td></tr>
<tr><td>Caa1</td><td rowspan="3">< 0.9</td><td rowspan="3">≥ 100%</td><td rowspan="3">< 0%</td><td rowspan="3">< (4)%</td></tr>
<tr><td>Caa2</td></tr>
<tr><td>Caa3</td></tr>
</table>

Source: Moody's Investors Service, Regulated Electric and Gas Networks, Rating Methodology 16 March 2017.
** Please note that the overall rating is subject to an Adjusted Interest Cover Ratio (AICR) check, as per 'Moody's Investor Service, Regulated electric and gas networks – UK Sector Comment.*

Other rating agencies focus on different quantitative metrics. Standard and Poor's focus on FFO to Net Debt with 9% being the key threshold to achieve equivalent to Baa1.

A financeability assessment cannot be solely focused on credit metrics and sufficient coverage implied by financial ratios for debt cannot on their own be assumed to imply that returns to equity will be adequate. We agree with Ofgem's view that "*financeability should refer to the licence holder being able to finance activities that are the subject of obligations imposed under relevant legislation and hence is applicable to both equity and debt".*

In our stress test results below, we present the RORE, Dividend Yield and Dividend Cover to show the equity financeability. In addition, a suite of additional ratios are included based on Ofgem guidance.

2. Stakeholder engagement on financing decisions

We have consulted with numerous stakeholders in support of our key decisions influencing our Plan. Key stakeholders include equity investors, debt investors, and consumer groups. We have also reviewed external evidence for policy decisions made by rating agencies, and Ofgem which have guided our thinking.

Equity investors

Cadent's ownership structure, where the ultimate equity is held by a relatively small consortium of specialist infrastructure and sovereign wealth funds, ensures that we have a very direct and regular engagement with its shareholders.

Debt investors and rating agencies – summary of engagement

Date	Organisation(s)	Main feedback and concerns
3/5/19	**Standard & Poor's**	Clarified expectations to review credit ratings after business plan submission and not await until final determination as with previous price reviews
26/7/19	**Moody's Investors' Service**	Stressed that qualitative factors are insufficient to off-set weak financial metrics below rating guidance levels, notably Adjusted Interest Cover Ratio <1.4x and that accelerating depreciation is not a solution.
6/8/19	**Fitch Rating Services**	Observed weaker financial profiles across sector would see credit ratings under pressure. PMICR remains key ratio in assessment
9/10/19	**Blackrock**	Concerns about potential credit ratings reducing below BBB+ and uncertainty regarding gas networks
9/10/19	**MetLife** **New York Life** **Athene**	Likely financial profile for RIIO-2, risk of downgrades below BBB+ and impact on existing debt positions. Nationalisation and uncertainty regarding gas networks
10/10/19	**Aberdeen Standard Life**	Feedback that uncertainty regarding the future of gas means ASL will not invest in new debt maturities over 10-years.
21/11/19	**Insight Investments** **JP Morgan Asset Management**	Concerns about weaker financial profile and potential pressure from shareholders given lower dividend yield
21/11/19	**PMICO** **PGIM** **AIG**	Seeking clarity about how the reduced scope for out-performance and incentive earnings compared to RIIO-1 will impact financial profile. Sought assurance about future credit rating profile and policy.
21/11/19	**HSBC Global Asset Mgt** **Loomis Sayles**	Concerns about potential asset stranding following a previous discussion with Ofgem when response considered ambiguous. Seeking clarity about future energy policy implications for gas distribution credit risk.

Rating agency – summary of views on RIIO-2

Key points to note: RIIO-2 measures are considered credit negative. Risk return balance has been skewed to higher risk and lower return.

	S&P Global	Moody's	FitchRatings
Overview	▪ Lower remuneration, a change in indexation, and a shorter regulatory period are credit-dilutive ▪ Anticipate regulated gas and electricity networks to find the reduction in allowed cost of capital as challenging ▪ Too early to assess the credit impact on each company individually and expect to be in a better position in Q1 2020	▪ Credit quality likely to weaken in the RIIO-GD2 regulatory period ▪ Interest coverage metrics are likely to weaken if Ofgems draft proposal is made final ▪ UK regulators appear to be willing to accept lower Credit Ratings as the price to pay for ensuring lower customer bills	▪ Proposed RIIO-2 draft methodology will put significant pressure on the credit profiles of network companies ▪ New Ofgem mechanisms aimed at reducing downside risks only partially offset the negative impact of lower returns ▪ Likely to revisit the credit impact of each company once the regulator publishes its RIIO-GD2 draft price determinations, expected in June 2020
Commentary on the sector	***U.K. Utilities are feeling the heat: 14/06/2019*** • "The main element of the new methodology is the reduction in the allowed cost of capital […] we expect this would reduce revenues, eventually eroding the limited headroom on the networks' credit ratios and increase pressure on the ratings on some networks." • "Another important element in the new methodology is the proposal to use CPIH rather than the RPI […]. The risk of change in the index, especially with no transition period being suggested by the regulator, would be a mismatch between the indexation of the company's revenues and RAV and that of its financial liabilities." • "As RIIO-2 will not begin until April 2021, it is too early to assess the credit impact on each company individually. Although all of our ratings on U.K. energy networks carry stable outlooks at this point, we see a high likelihood that they could change once we reach the final stages for the review process for the next regulatory period and specifically once the networks submit their business plans and receive the regulator's initial assessment in the first quarter of 2020."	***Rock of low returns meets hard place of covenants: 08/10/2019*** • "Regulators have now largely put the onus on companies to address pressure on credit metrics, and highly leveraged companies with expensive long-dated debt may struggle to do so." • "Although current draft proposals by UK water and energy regulators point towards increasing risks, things may yet improve because (1) the decisions are not final; (2) companies have the ability to appeal to the CMA for a redetermination." ***Credit quality likely to weaken in RIIO-GD2 regulatory period: 14/02/2019*** • "Although the cut in allowed returns largely reflects the persistent low yield environment and companies will continue to benefit from low rates as they refinance, we expect interest cover metrics to decline." • "Ofgem proposes to adjust the cost of equity allowance annually, the first time a UK regulator has done so. The mechanism will make returns more sensitive to changes in interest rates, but will be positive if rates rise as we expect."	***Wales & West ratings report: 15/08/2019*** • "Fitch expects RIIO-GD2 to be more challenging than the current price control based on Ofgem's proposal for a drastically reduced allowed RoRe […]. We also expect reduced scope for operational and financing outperformance, and greater regulatory dividend scrutiny at operating companies." ***Ofgem's credit-enhancing mechanisms unlikely to benefit ratings: 28/02/2019*** • "In our view, the proposed reduction in allowed and expected returns would result in credit rating pressure for most of the issuers, since it has a direct negative impact on EBITDA and free cash flows." • "We view the proposal to index the allowed cost of equity to risk-free rate as credit positive […]. We expect this feature to result in greater resilience of credit ratios versus the current approach of fixed cost of equity." • "The ultimate rating impact for all issuers, however, may not be appropriately evaluated until draft and final determinations are published in 2020, given the high number of moving parts and the complexity of the regulatory model."

Public

Rating agency – treatment of financeability levers

Key points to note: changing capitalisation rates and depreciation run off will not benefit credit rating

Moody's	FitchRatings
▪ Moody's **does not provide the benefit of excess fast money** in the AICR calculation ▪ In principle shifting revenues from one period to another does not constitute an improvement in credit quality for Moody's ▪ If the company uses a lower capitalisation rate than the actual rate (higher opex / fast money than the actual), **then Moody's reduces FFO for this "excess" opex amount which weakens AICR** ▪ Equally a higher capitalisation rate than the actual would lead to a positive adjustment to AICR ▪ Moody's adjusts AICR to reflect the fact that a choice of lower capitalisation rate will drive higher FFO to the detriment of RCV, which distorts comparability across companies and over time	▪ Fitch **does not provide the benefit of excess fast money for its cash and nominal PMICR ratio** ▪ In principle shifting revenues from one period to another does not constitute an improvement in credit quality for Fitch ▪ If the company uses a lower capitalisation rate than the actual rate (higher opex / fast money than the actual), **then Fitch reduces EBITDA for this "excess" opex amount which weakens PMICR ratio** ▪ Equally a higher capitalisation rate than the actual would lead to a positive adjustment to PMICR
Rock of Low Returns Meets Hard Place of Covenants: 08/10/2019 • "Regulators may provide options for companies to choose a different allocation of fast and slow money to address financeability issues if they are persuaded it would aid the financeability of the notional company. This means that companies can, with the regulator's consent, advance an element of future revenue to receive more cash in a given regulatory period, but this cash will no longer be available in future periods. We aim to disregard these individual adjustments for the purpose of calculating our AICR metrics." ***Ofwat Tightens the Screws Further: 26/07/2019*** • "The regulator views the adjustment of PAYG and run-off rates as economically equivalent to the change in indexation measures, because they involve a trade-off between fast money (received through revenue through the detriment of RCV growth) and slow money (increased RCV growth with lower short-term revenue). However, we believe that there is a key difference: […] PAYG and run-off rates are partly within companies' control and can change between periods, distorting comparability between companies and over time. We will continue to remove the regulatory depreciation as well as excess PAYG to calculate company-specific AICR ratios." ***Rating methodology: Regulated Electric and Gas Networks: 16/03/2017*** • "[…] the adjusted ICR seeks to normalize for different regulatory approaches to the capitalization and depreciation of networks' expenditure, which affects the timing of their cash flow. The adjusted ICR therefore adjusts funds from operations (FFO) by an amount of money (Capital Charges) that the regulator provides as current revenues at the expense or benefit of future revenues. Capital Charges include elements such as regulatory depreciation, the timing of cost recovery (the so called 'speed of money') or a profiling of the company's revenues over a regulatory period resulting in a potential volatility that we seek to adjust." ***Ofwat's Methodology for PR14 Likely to be Credit Neutral: 27/02/2013*** • "[…] companies may be able to improve their headroom against financial covenants given that metrics based on EBITDA or Funds from Operations (FFO) can be enhanced by excess fast money. However, credit metrics as calculated by Moody's, in particular the Adjusted Interest Cover Ratio, will be unaffected by the pace of money received."	***The Importance of PMICR for Credit Analysis of UK Regulated Networks: 08/01/2019*** • "PMICRs Insensitive to Financeability Adjustments: As PMICRs use the economic asset maintenance concept, which focuses on the RAV rather than an engineering asset valuation, they should not be affected by the common regulatory financeability adjustments. For example, accelerated regulatory depreciation will not boost post-maintenance cash flows, as our maintenance capex would reflect the accelerated regulatory depreciation. We would also try to strip out the impact of a lower totex capitalisation rate from the reported EBITDA, if appropriate information is available. As a rule, forecast EBITDA would be based on the regulatory totex expense rate." • "We would do our best to strip off the impact of the reduced totex capitalisation rate on PMICRs. In the forecasts we assume that actual opex is the same as the regulatory allowance, less expected totex out/(under) performance. We do not provide any cash flow benefit related to a change in the capitalisation rate. For the historical ratios, we adjust the accounting opex if additional information from the companies is available on the accounting percentage of totex capitalisation."

Public

Consumer Group's consultation on financial parameters

Consulting on credit rating

We consulted with Britain Thinks (our customer engagement consultant) regarding some key feedback we received in our Draft plans on **target credit rating**. Their comments are included below:

"We provide some comments [regarding asking consumers about technical issues such as credit ratings] about this in light of the experience of engaging Cadent customers on financial issues, and the views expressed in the stakeholder roundtable.

- *Returning to the principles of deliberative engagement, it is not usually appropriate to engage members of the public about highly technical decisions, or decisions where there is unlikely to be much tangible impact on them. There is a balance to be struck in terms of the need to engage customers in decisions, and what members of the public can reasonably [be] expected to comment on.*
- *Based on roundtable discussions with stakeholders (including Citizens' Advice), there was a question raised about the suitability of engaging customers on the detail of decisions that are unlikely to have a clear, tangible impact on them.*
- *Based on our wider experience of research with the public, investment ratings are likely to be an issue about which the public knows very little, requiring a great deal of research time to build this knowledge, such that consumers could give a considered response. We suggest that it would be extremely challenging to have a meaningful discussion about the difference between BBB/BBB+ given the abstract nature of the implications (i.e. the difficulty for consumers to see how this would affect the services provided by Cadent, or their experience as customers, given their current interest in delivering a safe and reliable service).*
- *Further, we know that in conversations about appropriate and acceptable levels of risk and security, consumers are rarely able to meaningfully comment at this degree of granularity. In other words, the differences between BBB/BBB+ would need to be fairly significant and meaningful to the consumer, for this to be a topic that would benefit from consumer engagement.*
- *Based on our conversations with Cadent customers about ownership structures, investment and profit, which is arguably a topic where consumers may be expected to have strong opinions, we saw that these conversations were still difficult and required a lot of time and explanation. "*

Consulting on depreciation of assets

When we designed our enhanced engagement programme we did not intend to directly engage customers over our approach to depreciation of assets and the impact on the bill.

However, the R2CG challenged us to reconsider our approach to engagement in October following their review of our second draft business plan submission. We are aware that other organisations from other industries have attempted to engage on this and have noted the inherent complexity of such engagement. Given the added complexity that the high degree of uncertainty over future decarbonisation pathways on heat and transport and hence the precise impact this may have on the asset base, we do not believe that engaging on this now will add reliable insight to inform our decisions at this time.

However, we plan to do so at the appropriate time in the future as part of our ongoing engagement strategy. We have included this intent within our ongoing Stakeholder Engagement Strategy (see appendix 05.02). Our Appendix 11.00 provides scenarios for different depreciation levels to indicate the impact on customer bills if changed in RIIO-2.

3. Stress Test Analysis

For our Business Plan submission, we have undertaken a number of "stress test" scenarios on the financeability of the notional and actual company as requested by Ofgem. We also present results for the Actual company where the true economic cost (all-in cost) of debt is reflected, this is described as the 'Actual adjusted for

financing' company.

Background to the 'Actual adjusted for financing' company case

Cadent benefits from a low cost of debt compared to the sector average as our debt was raised and refinanced largely in a single financial year when interest rates were low. As a result, we outperform the 10-year average iBoxx index used by Ofgem for allowance setting in RIIO-1.

To achieve this comparative low cost of debt, sizeable one-off cash costs were incurred in FY16/17. The refinancing included a part-novation and part-repayment of relatively expensive existing debt as well as raising of new debt at lower rates. There were significant costs associated with this process to enable a new financing structure to be put in place.

As a result of the refinancing, Cadent now pays materially lower coupons on its existing debt, which do not reflect the all-in economic costs incurred to enable this.

Work completed to date and impact on calculating all-in cost of debt

Cadent commissioned KPMG to analyse the true economic cost of our debt for the purposes of providing independent analysis to Ofgem. This calculated the effect of the refinancing at c. £842m. This reflects the additional cost (above our reported cost of debt) to derive the all-in Economic cost. It is based on a comparison of what the cashflows would have been if the refinancing activity had not occurred (the counter-factual scenario).

Ofgem has noted that it has "*some sympathy with the suggestion that Cadent's current debt coupon costs may not accurately reflect the all-in cost of debt and may distort the analysis of sector debt costs if not adjusted".* Ofgem has also estimated our all-in cost of debt by completing a cross check on our estimate based on public information which resulted in an estimate of £845m.

List of stress test scenarios

Scenarios have been requested via various documents and we reference below the sources and cross reference to the tables below.

A: Ofgem suggested six sensitivities to be tested with positive and negative shifts to the core assumption (May 2019 RIIO-2 Sector Specific Methodology Decision – Finance, Table 19).

Table 19: Ofgem suggested scenarios

Factor	Ofgem Proposed Level (relative to working assumption level)
Macro Scenarios	
Interest rate scenarios	±1% compared to forward implied rates as per the base case in each year (for RFR, Libor and iBoxx inputs)
CPIH scenarios	±1% in each year
RPI-CPIH divergence scenarios	±0.5% from assumed wedge
Performance Scenarios	
Totex performance	±10%
RoRE	±2% compared to base assumption
Other Scenarios	
Proportion of inflation linked debt	±5%[87]

B: Ofgem have also requested additional scenarios with the notional company amended to assume debt remains RPI-linked (October 2019 RIIO-2 Business Plan Guidance, Appendix 3) ;

C: a scenario with no outperformance allowance (October 2019 RIIO-2 Business Plan Guidance, Page 41, footnote 30).

D: R2CG feedback on the October BP requested the analysis of different gearing levels beyond Ofgem assumption of 60%. As such we have included two further scenarios to illustrate the impact of 55% and 65% gearing in our analysis, which are also discussed in Appendix 11.00

E: Cadent has also included additional stress tests to model other plausible scenarios including an illustrative financier stress test of 5% opex overspend with 1% RORE penalty.

Ofgem also has requested via instructions for the LiMo model for additional scenarios to be run. These are included as outputs in the LiMo model which is provided as an appendix to Chapter 11 along with Cadent scenarios.

Key definitions and assumptions

In our modelling, the relevant company structures have the following definitions and key assumptions:

	Notional	Actual	Actual adjusted for financing
RIIO-1 Gearing	65%	63.75%	
RIIO-2 Gearing	Opening RIIO-2 gearing set to 60%, assumed to be achieved by equity injection	Gearing reset to 63.75% each year through dividends	
Dividend yield	Fixed 3.0% dividend yield	Determined to fix annual closing gearing at 63.75%	
Debt costs	Based on Ofgem BP guidance with no incentive	Based on actual company cost of debt	Adjusted to reflect the all-in cost of debt
CPIH transition	Immediate transition to CPIH on 1st April 2021		
Lagged revenues	Excluded in notional	Included in actual	
Totex allowance	Assumed equal to Totex forecasts for RIIO-2		
Capitalisation rates and asset lives	Repex and Capex at 100%. Opex at 0% No Change to Regulated Asset Lives (45 years, sum-of-years digit depreciation)		

Source: Ofgem RIIO-2 Business Plan Guidance, 31 October 2019

Ofgem's updated Business Plan Guidance published in September 2019 provides details of the Base Case to test Notional and Actual company performance for financeability, which defines returns to equity at 4.8%.

In response to our July Draft Business Plan submission, the RIIO-2 Challenge Group requested *"to see the full sensitivity analysis required by Ofgem for both the notional and the actual company and that this will include a sensitivity based on an allowed return on equity of 4.3% (without an outperformance allowance)".* This report focuses on the Financeability Base Case which demonstrates scenarios against a return to equity of 4.8% (see sections 3.1 – 3.3 below).

We also provide scenarios against an allowed return on equity of 4.3% (without an outperformance allowance) in section 3.4 as requested by the RIIO-2 Challenge Group (R2CG). At this low level of returns, the key AICR ratio is below the level required to maintain a solid investment grade rating in all negative sensitivities and as such the notional company would likely not attain a solid investment grade credit rating.

As we are financeable (subject to the conditions stated in Chapter 11 on the actual and notional company basis; at 4.8% returns to equity); and our starting point for regulatory depreciation and capitalisation rates are in line with Ofgem guidance / operational practice to date, we have not included details of mitigations we would need to support financeability in this Appendix.

The analysis and sensitives below show the Ofgem requested sensitivities, and a select set of stress tests that demonstrate that we are able to maintain a solid investment grade for the 'Actual adjusted for financing' company and Actual company due to extensive equity support and mitigations, but at the notional company there is limited headroom with some of the target credit metrics being breached. The below stress tests are not cumulative and each scenario is an individual change from the Financeability Base Case. We provide analysis of the key metrics under the Moody's methodology in the sections.

3.1. Notional Company Financeability

In Ofgem's *Financeability Assessment for RIIO-2: Further Information document, 26 March 2019* a suite of financial ratios are listed to assess financeability alongside qualitative factors. Below we present these ratios for RIIO-2 for the Notional Company. We have focused scenario analysis using the Moody's methodology and used visual representation based on the criteria detailed above. We also include additional ratios requested by Ofgem for the Base Case in a subsequent table.

We have included key financial metrics in the output tables below. Additional financial metrics including those set out in Ofgem's 'Financeability Assessment for RIIO-2: Further Information, 26th March 2019' are included within appendices 11.07 and 11.09.

Table 1: Notional Company – Financeability Base Case: Moody's Ratios and key Equity Financeability Ratios

In three of the Ofgem (negative) sensitivities in the notional base case, the minimum AICR requirement of 1.4x for a solid investment grade rating is not achieved. Importantly, one of these scenarios is the 4.3% return on equity with no outperformance allowance where the average AICR is 1.37x, suggesting a high risk of Cadent not maintaining its solid investment grade credit rating (in the theoretical notional structure).

The gearing scenario of 65% (consistent with RIIO-1) show average RIIO-2 AICR of 1.30x and therefore would likely lead to a rating downgrade. Conversely, the gearing scenario of 55% suggests significant headroom on key metrics on solid investment grade rating, although as noted previously this level of change between regulatory periods is hard to justify especially in the environment of low returns and liquidity in the market.

Four of Cadent's additional scenarios show significant financeability concerns if they were to materialise, aside from the illustrative financier scenario, these are limited to extreme cases where the maximum downside is modelled or the lowest bill case is projected.

In almost all scenarios, FFO to Net Debt is below the target levels for solid credit rating, whilst this metric is a focus for S&P, we understand that this is less critical than AICR in Moody's assessment of utilities and can be overridden with strong AICR.

Ref	Ref	Notional structure, 4.8%	Average values for RIIO-2						
		Scenario	Net Debt / RAV	FFO / Net Debt	AICR	RCF / Net Debt	RORE	Dividend Cover	Dividend Yield
A	N1	Base case	60.11%	9.92%	1.48	7.92%	4.55%	0.56	3.0%
		Ofgem Scenarios: as per LiMo							
A	N16	Ofgem 20% index linked debt	60.11%	9.92%	1.44	7.92%	4.55%	0.56	3.0%
A	N15	Ofgem 30% index linked debt	60.11%	9.92%	1.53	7.92%	4.55%	0.56	3.0%
A	N14	Ofgem 2% RORE penalty	62.52%	8.16%	1.06	6.24%	2.64%	- 0.15	3.2%
A	N13	Ofgem 2% RORE award	57.70%	11.83%	1.94	9.75%	6.25%	1.28	2.8%
A	N11	Ofgem 10% Totex overspend	61.66%	9.32%	1.38	7.37%	4.30%	0.41	3.1%
A	N10	Ofgem 10% Totex underspend	58.51%	10.57%	1.59	8.52%	4.80%	0.72	2.9%
C	N12	Ofgem No outperformance	60.71%	9.46%	1.37	7.49%	4.10%	0.38	3.1%
A	N4	Ofgem inflation +1%	58.79%	9.99%	1.52	7.95%	4.47%	0.49	2.9%
A	N5	Ofgem inflation -1%	61.47%	9.85%	1.45	7.89%	4.65%	0.64	3.1%
A	N6	Ofgem +0.5% RPI-CPIH wedge	60.78%	9.88%	1.46	7.91%	4.60%	0.60	3.1%
A	N7	Ofgem -0.5% RPI-CPIH wedge	59.44%	9.95%	1.50	7.93%	4.51%	0.53	3.0%
A	N2	Ofgem +1% interest rate	59.81%	10.15%	1.50	8.14%	4.76%	0.65	3.0%
A	N3	Ofgem -1% interest rate	60.40%	9.69%	1.46	7.70%	4.34%	0.48	3.0%
B	R1	Ofgem RPI linked debt	60.10%	9.92%	1.61	7.92%	4.55%	0.56	3.0%
		R2CG Scenarios: as per CRFM							
D		CG 55% gearing	55.10%	11.42%	1.69	8.97%	4.57%	0.75	3.0%
D		CG 65% gearing	65.11%	8.65%	1.30	7.03%	4.53%	0.33	3.0%
		Additional Scenarios: as per CRFM							
E		High bill case	56.60%	12.68%	2.03	10.55%	7.11%	1.62	2.8%
E		Low bill case	63.66%	7.61%	0.88	5.72%	1.81%	- 0.40	3.3%
E		Financier +5% Opex, -1% RORE	61.57%	8.88%	1.24	6.93%	3.51%	0.16	3.1%
E		1% increase to corporation tax	60.10%	9.92%	1.48	7.92%	4.55%	0.56	3.0%
E		1% decrease to corporation tax	60.11%	9.92%	1.48	7.92%	4.55%	0.56	3.0%
E		Maximum business plan penalty	61.03%	9.42%	1.37	7.45%	4.15%	0.39	3.1%
E		Maximum business plan award	59.18%	10.43%	1.59	8.40%	4.94%	0.74	2.9%
E		Maximum UMs	60.50%	9.79%	1.47	7.81%	4.57%	0.55	3.0%
E		No uncertainty mechanisms	59.63%	10.07%	1.49	8.06%	4.53%	0.58	3.0%

Source: LiMo; Cadent Regulatory Financial model
References A to E refer to which "stress test" scenario this table includes and the second reference eg. N1 references the tab in the LiMo model with the results from this scenario included.

Table 2: Notional Company – Financeability Base Case

Table 2.1 Financial ratios: Scenario N1 in LiMo model

Notional Company	RIIO-2 Financial Ratios					
Financeability Base Case	2022	2023	2024	2025	2026	AVERAGE
FFO interest cover ratio (including accretions)	3.40	3.54	3.61	3.67	3.74	3.59
FFO interest cover ratio (cash interest only)	3.87	4.05	4.14	4.21	4.29	4.11
AICR	1.39	1.49	1.50	1.51	1.52	1.48
FFO / Net Debt	9.37%	9.80%	9.94%	10.13%	10.34%	9.92%
RCF / Net Debt	7.38%	7.81%	7.95%	8.13%	8.33%	7.92%
Net Debt / Closing RAV	60.29%	60.29%	60.22%	60.02%	59.71%	60.11%
RCF / Capex	0.68	0.72	0.75	0.79	0.82	0.75
Regulated equity / EBITDA	4.47	4.35	4.34	4.34	4.35	4.37
Regulated equity / PAT	76.04	56.62	56.17	55.64	54.98	59.89
EBITDA / RAV	8.89%	9.12%	9.17%	9.21%	9.25%	9.13%
RoRE (based on NPV neutral values)	4.32%	4.79%	4.80%	4.81%	4.82%	4.71%
RoRE (based on closing values)	4.16%	4.64%	4.65%	4.66%	4.66%	4.55%
Dividend cover ratio	0.44	0.58	0.59	0.60	0.61	0.56
Dividend / regulated equity (NPV neutral)	3.07%	3.07%	3.07%	3.06%	3.06%	3.07%
Dividend / regulated equity (closing)	3.02%	3.02%	3.02%	3.00%	2.98%	3.01%

Source: LiMo

Table 2.2 RIIO-2 Allowed Revenue, £m 18/19 prices

	RIIO-2 Allowed Revenue					
Financeability Base Case	2022	2023	2024	2025	2026	AVERAGE
Fast pot expenditure	464	473	475	441	422	455
Non-controllable Opex	319	320	310	306	303	312
RAV depreciation	504	520	536	551	565	535
Return	281	282	285	287	290	285
Equity issuance cost	24	-	-	-	-	5
Outperformance revenue (pre-tax)	19	20	20	20	20	20
Core DARTs	28	43	-	-	-	14
Recalculated base revenue (except tax allowance)	**1,638**	**1,657**	**1,625**	**1,605**	**1,599**	**1,625**
Tax allowance	90	90	90	88	85	89
Recalculated base revenue	**1,728**	**1,747**	**1,716**	**1,693**	**1,684**	**1,714**

Source: LiMo

In RIIO-2, average depreciation is £535m (in 2018/2019 price base) and in RIIO-1 it averaged £493m. The effect of increasing repex capitalisation rates from 75% (RIIO-1 average) to 100% increases the RAV and therefore increases the quantum of depreciation using the existing depreciation methods from £524m to £535m.

Table 2.3 Income statement: key financial stats, £m 18/19 prices

Notional Company Financeability Base Case	RIIO-2 Key Financial Stats					
	2022	2023	2024	2025	2026	AVERAGE
EBITDA	873	912	930	946	960	924
EBIT	369	392	395	395	395	389
Less net interest paid (excluding principal inflation accretion)	(203)	(203)	(203)	(204)	(204)	(203)
Less net interest paid (principal inflation accretion)	(28)	(29)	(29)	(30)	(30)	(29)
Profit before tax	138	160	162	162	161	157
Tax paid	(87)	(90)	(90)	(88)	(85)	(88)
Profit after tax	51	70	72	74	76	69

Source: LiMo

Table 2.4 Balance sheet: key financial stats, £m 18/19 prices

Notional Company Financeability Base Case	RIIO-2 Key Balance sheet Stats					
	2022	2023	2024	2025	2026	AVERAGE
Opening RAV	9,637	9,823	9,991	10,145	10,270	9,973
Closing RAV	9,823	9,991	10,145	10,270	10,371	10,120
NPV Neutral Closing RAV	9,590	9,766	9,926	10,065	10,177	9,905
Opening Net Debt (after Equity Issuance)	(5,670)	(5,806)	(5,905)	(5,990)	(6,043)	(5,883)
Closing Net Debt	(5,922)	(6,023)	(6,109)	(6,164)	(6,193)	(6,082)
FFO	583	619	637	654	670	633
Dividends	(118)	(120)	(122)	(123)	(124)	(121)
RCF	465	499	515	531	546	511

Source: LiMo

3.2. ‘Actual Adjusted for Financing’ Company Financeability

Table 3: ‘Actual Adjusted for Financing’ Company – Financeability Base Case: Moody’s Ratios and key Equity Financeability Ratios

Cadent’s key financial metrics under the counterfactual debt refinance case remain relatively strong when considering average RIIO-2 AICR where it is shown that only one Ofgem scenario (at 2% RORE penalty) shows a high risk of rating downgrade. 9.92%. High/low ILD and RPI linked debt are not modelled for actual company as these are notional Ofgem scenarios only. We would like to continue to work with Ofgem to ensure that when setting the cost of debt allowance the true economic cost of our debt is considered.

'Actual adjusted for financing' structure, 4.8%	Average values for RIIO-2						
Scenario	Net Debt / RAV	FFO / Net Debt	AICR	RCF / Net Debt	RORE	Dividend Cover	Dividend Yield
Base case	63.75%	10.19%	1.83	7.68%	10.54%	2.00	4.0%
Ofgem Scenarios: as per CRFM							
Ofgem 2% RORE penalty	63.75%	9.37%	1.55	7.68%	9.31%	2.60	2.7%
Ofgem 2% RORE award	63.75%	11.00%	2.12	7.68%	11.75%	1.77	5.3%
Ofgem 10% Totex overspend	63.75%	9.82%	1.72	8.17%	9.94%	2.88	2.6%
Ofgem 10% Totex underspend	63.75%	10.56%	1.95	7.18%	11.16%	1.59	5.4%
Ofgem inflation +1%	63.75%	10.21%	1.84	6.74%	10.28%	1.45	5.4%
Ofgem inflation -1%	63.75%	10.16%	1.82	8.64%	10.84%	3.30	2.5%
Ofgem +0.5% RPI-CPIH wedge	63.75%	10.21%	1.84	8.16%	10.73%	2.46	3.3%
Ofgem -0.5% RPI-CPIH wedge	63.75%	10.17%	1.83	7.21%	10.37%	1.69	4.6%
Ofgem +1% interest rate	63.75%	10.31%	1.81	7.68%	10.79%	1.95	4.2%
Ofgem -1% interest rate	63.75%	10.06%	1.86	7.68%	10.30%	2.05	3.8%
Additional Scenarios: as per CRFM							
High bill case	63.75%	12.80%	2.77	8.96%	13.73%	1.99	6.1%
Low bill case	63.75%	8.68%	1.29	7.36%	8.39%	2.94	2.2%
Financier +5% Opex, -1% RORE	63.75%	9.57%	1.62	7.63%	9.60%	2.28	3.1%
1% increase to corporation tax	63.75%	10.18%	1.83	7.68%	10.54%	2.00	4.0%
1% decrease to corporation tax	63.75%	10.19%	1.84	7.68%	10.55%	2.00	4.0%
Maximum business plan penalty	63.75%	9.91%	1.74	7.68%	10.09%	2.31	3.6%
Maximum business plan award	63.75%	10.46%	1.93	7.68%	10.99%	1.92	4.5%
Maximum UMs	63.75%	10.97%	2.12	8.66%	11.72%	2.49	3.7%
No uncertainty mechanisms	63.75%	9.76%	1.67	7.03%	9.88%	1.68	4.4%
Maximum performance downside	63.75%	9.30%	1.56	9.13%	9.45%	- 11.14	0.3%
Maximum performance upside	63.75%	11.39%	2.23	6.89%	12.45%	1.39	7.2%

Source: Cadent Regulatory Financial model

The RORE in the above tables are based on statutory depreciation, as compared to a significantly lower RORE forecast using regulatory depreciation. We include this ratio as required by Ofgem, but believe the approach to calculation that uses regulatory measures that are internally consistent and more aligned to regulatory reporting is more appropriate.

The ratios under the base case and sensitivities indicate that Cadent will be able to maintain its solid investment grade credit rating in almost all of the scenarios, mainly due to its sector leading low cost of debt, achieved through refinancing supported by its shareholders. The rating agencies would however rate the actual company without adjusting for refinancing costs.

3.3. Actual Company Financeability

The actual company pays significantly lower coupons on its existing debt as a result of the refinancing in 2016/17. Our reported cost of debt does not reflect the all-in economic costs incurred to enable this. This means that the results for the actual company are more positive than for the notional and 'actual adjusted for financing' company.

Table 5: Actual Company – Financeability Base Case: Moody's Ratios and key Equity Financeability Ratios

The minimum AICR requirement of 1.4x for a solid investment grade rating is achieved in all sensitivities modelled. Due to the low cost of debt, the credit rating metrics are forecast to be favourable with Cadent able to maintain its solid investment grade rating. However, the equity metrics are more challenging with dividend yield below 3.5% in a number of downside scenarios. Under the maximum performance downside stress test, dividend yield is modelled to be 1.4% which would create a significant risk to raising equity finance.

Actual Structure; 4.8% Returns			Average values for RIIO-2					
Scenario	Ref	Ref	Net Debt / RAV	FFO / Net Debt	AICR	RCF / Net Debt	RORE	Dividend Cover
Base case	A	A1	63.62%	10.98%	2.56	7.75%	10.27%	1.79
Ofgem Scenarios: as per LiMo								
Ofgem 20% index linked debt	A	A16	63.62%	10.98%	2.56	7.75%	10.27%	1.79
Ofgem 30% index linked debt	A	A15	63.62%	10.98%	2.56	7.75%	10.27%	1.79
Ofgem 2% RORE penalty	A	A14	64.00%	10.17%	2.21	7.53%	9.52%	1.98
Ofgem 2% RORE award	A	A13	63.24%	11.80%	2.92	7.97%	10.91%	1.75
Ofgem 10% Totex overspend	A	A11	63.61%	10.50%	2.35	8.20%	9.76%	2.40
Ofgem 10% Totex underspend	A	A10	63.64%	11.46%	2.78	7.28%	10.77%	1.51
Ofgem No outperformance	C	A12	63.71%	10.78%	2.47	7.70%	10.09%	1.82
Ofgem inflation +1%	A	A4	63.35%	11.10%	2.69	6.65%	10.00%	1.36
Ofgem inflation -1%	A	A5	63.88%	10.86%	2.45	8.90%	10.58%	7.13
Ofgem +0.5% RPI-CPIH wedge	A	A6	63.76%	10.96%	2.54	8.12%	10.46%	2.04
Ofgem -0.5% RPI-CPIH wedge	A	A7	63.48%	11.00%	2.59	7.38%	10.09%	1.60
Ofgem +1% interest rate	A	A2	63.62%	11.13%	2.50	7.74%	10.45%	1.76
Ofgem -1% interest rate	A	A3	63.62%	10.82%	2.64	7.75%	10.10%	1.84
Additional Scenarios: as per CRFM								
High bill case	E		63.75%	13.41%	3.76	8.96%	13.45%	1.85
Low bill case	E		63.75%	9.36%	1.78	7.36%	8.14%	2.20
Financier +5% Opex, -1% RORE	E		63.75%	10.23%	2.21	7.63%	9.37%	1.96
1% increase to corporation tax	E		63.75%	10.83%	2.50	7.68%	10.29%	1.79
1% decrease to corporation tax	E		63.75%	10.85%	2.51	7.68%	10.33%	1.79
Maximum business plan penalty	E		63.75%	10.56%	2.36	7.68%	9.86%	1.90
Maximum business plan award	E		63.75%	11.12%	2.65	7.68%	10.76%	1.75
Maximum UMs	E		63.75%	11.62%	2.89	8.66%	11.49%	2.16
No uncertainty mechanisms	E		63.75%	10.42%	2.28	7.03%	9.65%	1.55
Maximum performance downside	E		63.75%	9.94%	2.10	9.13%	9.21%	8.02
Maximum performance upside	E		63.75%	12.05%	3.08	6.89%	12.22%	1.34

Source: LiMo; Cadent Regulatory Financial model
References A to E refer to which "stress test" scenario this table includes and the second reference eg. N1 references the tab in the LiMo model with the results from this scenario included.

Table 6: Actual Company – Financeability Base Case

Table 6.1 Financial ratios

Actual Company Financeability Base Case	RIIO-2 Financial Ratios					
	2022	2023	2024	2025	2026	AVERAGE
FFO interest cover ratio (including accretions)	5.68	5.79	5.60	5.51	4.72	5.46
FFO interest cover ratio (cash interest only)	7.07	7.27	7.02	6.48	5.52	6.67
AICR	2.81	3.00	2.69	2.38	1.94	2.56
FFO / Net Debt	11.01%	11.51%	11.07%	10.91%	10.39%	10.98%
RCF / Net Debt	7.76%	7.99%	8.01%	7.67%	7.31%	7.75%
Net Debt / Closing RAV	63.67%	63.63%	63.61%	63.60%	63.60%	63.62%
RCF / Capex	0.72	0.73	0.74	0.74	0.75	0.74
Regulated equity / EBITDA	3.80	3.66	3.80	3.85	3.92	3.81
Regulated equity / PAT	9.70	9.03	9.77	10.04	11.09	9.93
EBITDA / RAV	9.57%	9.95%	9.58%	9.45%	9.28%	9.57%
RoRE (based on NPV neutral values)	10.38%	11.27%	10.56%	10.35%	10.10%	10.53%
RoRE (based on closing values)	10.12%	11.01%	10.32%	10.10%	9.80%	10.27%
Dividend cover ratio	1.81	1.80	1.92	1.76	1.67	1.79
Dividend / regulated equity (NPV neutral)	5.30%	5.73%	4.96%	5.26%	5.00%	5.25%
Dividend / regulated equity (closing)	5.21%	5.64%	4.88%	5.16%	4.87%	5.15%

Source: LiMo

Table 6.2 Balance sheet: key stats, £m 18/19 prices

Actual Company Financeability Base Case	RIIO-2 Key Balance sheet Stats					
	2,022	2,023	2,024	2,025	2,026	AVERAGE
Opening RAV	9,637	9,823	9,991	10,145	10,270	9,973
Closing RAV	9,823	9,991	10,145	10,270	10,371	10,120
NPV Neutral Closing RAV	9,590	9,766	9,926	10,065	10,177	9,905
Opening Net Debt (after Equity Issuance)	(6,024)	(6,132)	(6,241)	(6,341)	(6,424)	(5,883)
Closing Net Debt	(6,254)	(6,366)	(6,467)	(6,552)	(6,623)	(6,082)
FFO	718	763	745	736	712	735
Dividends	(203)	(224)	(197)	(212)	(203)	(208)
RCF	514	539	549	524	509	527

Source: LiMo

3.4. RIIO-2 Challenge Group Sensitivity

In response to our July Draft Business Plan submission, the RIIO-2 Challenge Group requested *“to see the full sensitivity analysis required by Ofgem for both the notional and the actual company and that this will include a sensitivity based on an allowed return on equity of 4.3% (without an outperformance allowance)”*. This request has been met above, however we have also applied all the stress-tests under a base case of allowed return on equity of 4.3% without an outperformance allowance in the analysis below.

Table 7: Notional Company – R2CG: Moody's Ratios and key Equity Financeability Ratios

At 4.3% return on equity with no outperformance, all of the negative stress tests proposed by Ofgem show that Cadent, would not be able to achieve greater than 1.4x AICR and therefore at significant risk of not obtaining an investment grade rating.

The AICR is below 1x in a number of downside sensitivities along with a number of other Moody's credit metrics not being met, which would materially impact the financeability of Cadent under this notional scenario.

As this is not the "Base Case" from which we need to identify mitigating actions (the Base Case level of return to equity is 4.8%), we have not provided details of actions we would need to take at this level of return to be financeable.

Notional structure, 4.3%	Average values for RIIO-2						
Scenario	Net Debt / RAV	FFO / Net Debt	AICR	RCF / Net Debt	RORE	Dividend Cover	Dividend Yield
Base case	60.71%	9.46%	1.37	7.49%	4.10%	0.38	3.1%
Ofgem Scenarios: as per CRFM							
Ofgem 20% index linked debt	60.71%	9.46%	1.33	7.49%	4.10%	0.38	3.1%
Ofgem 30% index linked debt	60.71%	9.46%	1.41	7.49%	4.10%	0.38	3.1%
Ofgem 2% RORE penalty	63.12%	7.74%	0.95	5.84%	2.12%	- 0.33	3.3%
Ofgem 2% RORE award	58.30%	11.34%	1.82	9.28%	5.85%	1.10	2.9%
Ofgem 10% Totex overspend	62.26%	8.88%	1.28	6.96%	3.82%	0.23	3.2%
Ofgem 10% Totex underspend	59.11%	10.09%	1.47	8.06%	4.36%	0.54	2.9%
Ofgem inflation +1%	59.39%	9.53%	1.40	7.51%	4.02%	0.31	3.0%
Ofgem inflation -1%	62.08%	9.41%	1.34	7.47%	4.18%	0.46	3.2%
Ofgem +0.5% RPI-CPIH wedge	61.39%	9.43%	1.36	7.48%	4.14%	0.42	3.1%
Ofgem -0.5% RPI-CPIH wedge	60.04%	9.49%	1.39	7.49%	4.06%	0.35	3.0%
Ofgem +1% interest rate	60.41%	9.69%	1.40	7.70%	4.31%	0.47	3.0%
Ofgem -1% interest rate	61.01%	9.24%	1.34	7.28%	3.88%	0.30	3.1%
Ofgem RPI linked debt	60.71%	9.46%	1.49	7.49%	4.10%	0.38	3.1%
R2CG Scenarios: as per CRFM							
CG 55% gearing	55.78%	10.84%	1.56	8.42%	4.11%	0.57	3.1%
CG 65% gearing	65.64%	8.29%	1.22	6.69%	4.07%	0.15	3.1%
Additional Scenarios: as per CRFM							
High bill case	56.60%	12.68%	2.03	10.55%	7.11%	1.62	2.8%
Low bill case	63.66%	7.61%	0.88	5.72%	1.81%	- 0.40	3.3%
Financier +5% Opex, -1% RORE	62.17%	8.45%	1.13	6.52%	3.02%	- 0.02	3.2%
1% increase to corporation tax	60.71%	9.46%	1.37	7.49%	4.10%	0.39	3.1%
1% decrease to corporation tax	60.71%	9.46%	1.37	7.48%	4.10%	0.38	3.1%
Maximum business plan penalty	61.64%	8.97%	1.27	7.03%	3.68%	0.21	3.1%
Maximum business plan award	59.78%	9.97%	1.48	7.96%	4.49%	0.56	3.0%
Maximum UMs	61.09%	9.34%	1.37	7.38%	4.11%	0.37	3.1%
No uncertainty mechanisms	60.23%	9.61%	1.38	7.62%	4.08%	0.40	3.0%
Maximum performance downside	65.91%	6.72%	0.77	4.89%	1.25%	- 0.67	3.5%
Maximum performance upside	55.22%	12.92%	2.11	10.74%	6.50%	1.51	2.7%

Source: Cadent Regulatory Financial model

Table 8: 'Actual Adjusted for Financing' Company – R2CG: Moody's Ratios and key Equity Financeability Ratios

At 4.3% return on equity with no outperformance and counterfactual refinancing case, Cadent would still be able to achieve at least 1.4x AICR necessary for a solid investment grade rating except for the extreme downside scenario (Low bill case). The Ofgem prescribed scenario of 2% RORE penalty would imply a significant risk to financeability for both debt and equity.

'Actual adjusted for financing' structure, 4.3%	Average values for RIIO-2						
Scenario	Net Debt / RAV	FFO / Net Debt	AICR	RCF / Net Debt	RORE	Dividend Cover	Dividend Yield
Base case	63.75%	9.98%	1.76	7.68%	10.24%	2.09	3.7%
Ofgem Scenarios: as per CRFM							
Ofgem 2% RORE penalty	63.75%	9.17%	1.48	7.68%	9.00%	2.98	2.4%
Ofgem 2% RORE award	63.75%	10.79%	2.05	7.68%	11.45%	1.82	4.9%
Ofgem 10% Totex overspend	63.75%	9.61%	1.65	8.17%	9.63%	3.11	2.3%
Ofgem 10% Totex underspend	63.75%	10.36%	1.88	7.18%	10.85%	1.64	5.1%
Ofgem inflation +1%	63.75%	10.01%	1.77	6.74%	9.99%	1.48	5.1%
Ofgem inflation -1%	63.75%	9.96%	1.75	8.64%	10.52%	3.68	2.2%
Ofgem +0.5% RPI-CPIH wedge	63.75%	10.00%	1.77	8.16%	10.41%	2.63	3.0%
Ofgem -0.5% RPI-CPIH wedge	63.75%	9.96%	1.76	7.21%	10.07%	1.74	4.3%
Ofgem +1% interest rate	63.75%	10.10%	1.75	7.68%	10.48%	2.04	3.9%
Ofgem -1% interest rate	63.75%	9.86%	1.78	7.68%	9.99%	2.15	3.5%
Additional Scenarios: as per CRFM							
High bill case	63.75%	12.80%	2.77	8.96%	13.73%	1.99	6.1%
Low bill case	63.75%	8.68%	1.29	7.36%	8.39%	2.94	2.2%
Financier +5% Opex, -1% RORE	63.75%	9.37%	1.55	7.63%	9.29%	2.47	2.8%
1% increase to corporation tax	63.75%	9.98%	1.76	7.68%	10.23%	2.09	3.7%
1% decrease to corporation tax	63.75%	9.99%	1.76	7.68%	10.24%	2.09	3.7%
Maximum business plan penalty	63.75%	9.70%	1.67	7.68%	9.79%	2.42	3.2%
Maximum business plan award	63.75%	10.26%	1.86	7.68%	10.69%	2.01	4.1%
Maximum UMs	63.75%	10.76%	2.05	8.66%	11.42%	2.64	3.4%
No uncertainty mechanisms	63.75%	9.55%	1.60	7.03%	9.57%	1.74	4.0%
Maximum performance downside	63.75%	9.30%	1.56	9.13%	9.45%	- 11.14	0.3%
Maximum performance upside	63.75%	11.39%	2.23	6.89%	12.45%	1.39	7.2%

Source: Cadent Regulatory Financial model

Table 9: Actual Company – R2CG: Moody's Ratios and key Equity Financeability Ratios

At 4.3% return on equity with no outperformance, the actual structure still shows credit metrics in line with a solid investment grade rating; as a result of our sector leading cost of debt (resulting from shareholder action at Segmentation from National Grid), we have a strong balance sheet and significant financial resilience.

This benefit will ultimately unwind as our debt matures and is replaced in line with the index assumptions. We need to raise and refinance nearly £3bn of new debt in RIIO-2 requiring debt investors to support a stable RIIO framework into the long term.

The dividend yield noted in the table is in line sector benchmarks (see section 4 below) despite record low returns. This should be read in the context of the equity premium (quantified at £842m) paid by existing shareholders at segmentation from National Grid to secure a low cost of debt. This one off cost is effectively being repaid via higher yield in RIIO-2.

Actual structure, 4.3%	Average values for RIIO-2						
Scenario	Net Debt / RAV	FFO / Net Debt	AICR	RCF / Net Debt	RORE	Dividend Cover	Dividend Yield
Base case	63.75%	10.64%	2.41	7.68%	10.01%	1.85	4.7%
Ofgem Scenarios: as per CRFM							
Ofgem 20% index linked debt	63.75%	10.64%	2.30	7.68%	10.01%	1.85	4.7%
Ofgem 30% index linked debt	63.75%	10.64%	2.53	7.68%	10.01%	1.85	4.7%
Ofgem 2% RORE penalty	63.75%	9.83%	2.04	7.68%	8.76%	2.31	3.5%
Ofgem 2% RORE award	63.75%	11.45%	2.78	7.68%	11.22%	1.66	6.0%
Ofgem 10% Totex overspend	63.75%	10.27%	2.24	8.17%	9.41%	2.43	3.4%
Ofgem 10% Totex underspend	63.75%	11.02%	2.58	7.18%	10.62%	1.53	6.2%
Ofgem inflation +1%	63.75%	10.64%	2.39	6.74%	9.78%	1.40	6.1%
Ofgem inflation -1%	63.75%	10.65%	2.43	8.64%	10.27%	2.75	3.3%
Ofgem +0.5% RPI-CPIH wedge	63.75%	10.67%	2.43	8.16%	10.18%	2.20	4.1%
Ofgem -0.5% RPI-CPIH wedge	63.75%	10.61%	2.39	7.21%	9.84%	1.60	5.4%
Ofgem +1% interest rate	63.75%	10.76%	2.34	7.68%	10.25%	1.82	4.9%
Ofgem -1% interest rate	63.75%	10.52%	2.50	7.68%	9.76%	1.89	4.5%
Additional Scenarios: as per CRFM							
High bill case	63.75%	13.41%	3.76	8.96%	13.45%	1.85	7.1%
Low bill case	63.75%	9.36%	1.78	7.36%	8.14%	2.20	3.3%
Financier +5% Opex, -1% RORE	63.75%	10.03%	2.12	7.63%	9.06%	2.06	3.8%
1% increase to corporation tax	63.75%	10.63%	2.40	7.68%	9.99%	1.85	4.7%
1% decrease to corporation tax	63.75%	10.65%	2.42	7.68%	10.03%	1.85	4.8%
Maximum business plan penalty	63.75%	10.36%	2.26	7.68%	9.56%	1.97	4.3%
Maximum business plan award	63.75%	10.92%	2.56	7.68%	10.46%	1.80	5.2%
Maximum UMs	63.75%	11.42%	2.80	8.66%	11.19%	2.26	4.4%
No uncertainty mechanisms	63.75%	10.22%	2.19	7.03%	9.34%	1.59	5.1%
Maximum performance downside	63.75%	9.94%	2.10	9.13%	9.21%	8.02	1.4%
Maximum performance upside	63.75%	12.05%	3.08	6.89%	12.22%	1.34	8.2%

Source: Cadent Regulatory Financial model

Source of information and financial models

The below table maps for the Ofgem scenarios initially requested across the various models and outputs. We have extracted in our LiMo model data and compared to our internal models. As example N2 refers to tab N2 in the LiMo model.

Table 10: Mapping scenarios across models

	LiMo Notional Ref tab	LiMo Actual Ref tab	CRFM scenario #
Macro scenarios			
Interest rate scenarios - High	N2	A2	26
Interest rate scenarios - Low	N3	A3	27
Inflation scenarios - High	N4	A4	21
Inflation scenarios - Low	N5	A5	22
RPI-CPIH wedge - high CPIH divergence	N6	A6	23
RPI-CPIH wedge - low CPIH divergence	N7	A7	24
Performance scenarios			
Totex outperformance	N10	A10	17
Totex underperformance	N11	A11	16
RoRE no outperformance	N12	A12	20
RoRE outperformance	N13	A13	13
RoRE underperformance	N14	A14	12
Other scenarios			
ILD - high proportion	N15	A15	7
ILD - low proportion	N16	A16	6

Appendix 11.02 explains the work completed to reconcile between the LiMo model and our internal CRFM. The notional company results are shown to be aligned (once certain minor adjustments were made to the LiMO model).

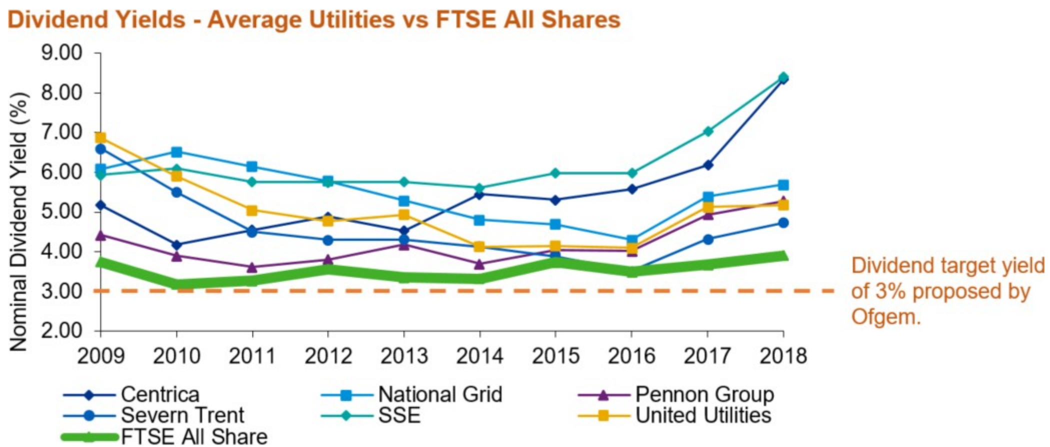
As such, we present in this appendix results from the LiMo model (where this scenario has been requested through LiMo instructions) after the model has been adjusted for items noted in our Appendix 11.02.

Where we present Cadent specific scenarios we use our own regulatory financial model with assurance that results completed (at a notional company level) are aligned to Ofgem's model.

For actual company results, although results differ slightly the sources of variance are not material to cause concerns around conclusions. More details provided in Appendix 11.02.

4. Dividend yield for listed UK water and energy companies

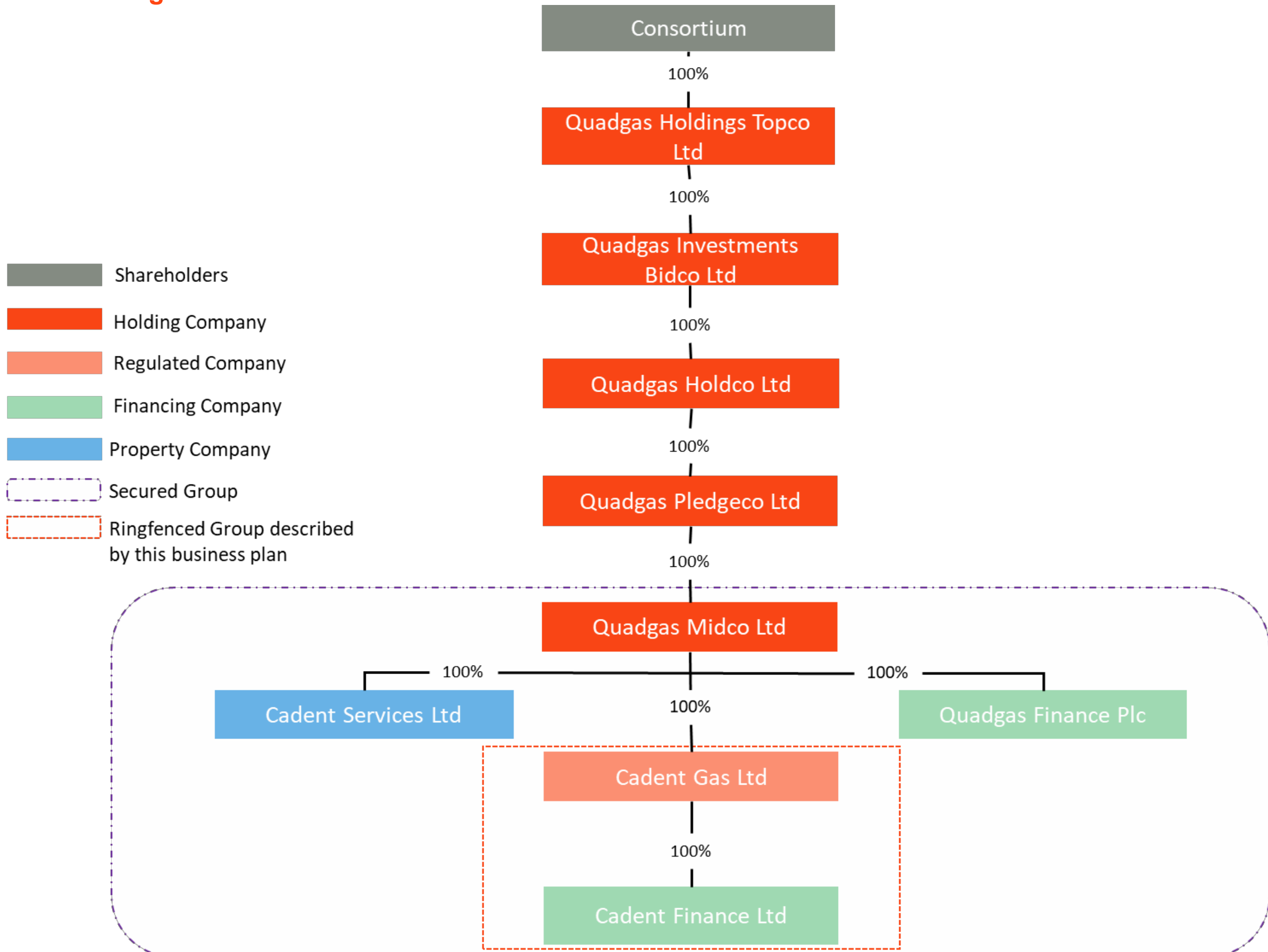
The graph below shows dividend yield for utilities vs FTSE All Shares. It can be seen that the dividend yield for the majority of the listed UK water and energy companies has generally varied in the range of 4-6% and averaged around 5% for the past 10 years. This is above the target dividend yield of 3% proposed by Ofgem. Our concerns around the sustainability of equity capital flows where returns are lowered to this level are explained in detail in Chapter 11 of our Business Plan.



Source: Datastream, KPMG Analysis - Dividend Yields across major UK listed Utility companies and the FTSE All Shares Index from 2009 through to 2018 (yearly average data points).

5. Organisational Structure

Detailed Organisational Structure



Source: Management information

6. Dividend and equity issuance policy

In Chapter 7 (section 7.4), we have committed to transparency on reporting. We also report on our dividends paid in the Regulatory Financial Performance Report.

Our dividend policy aims to balance the distribution of available surplus funds to shareholders, after having considered the forward committed cash requirements of the business (including to support our investment programmes) and managing to an appropriate level of gearing.

Cadent's immediate parent company, Quadgas Midco Limited has a further level of debt, within the overall capital structure. A proportion of the dividends paid by Cadent Gas Ltd are used to service this debt before dividends are paid to the ultimate equity holders.

We see no immediate need to attract new equity. We note in Chapter 11 the impact of low equity returns on the sustainability of attracting equity finance.