11 Affordability and financing our Plan

This chapter covers the financing and affordability of our Plan. We have followed Ofgem's guidelines for assessing financeability, including the regulator's working assumptions for expected returns. We set out our own estimate of the cost of capital.

This chapter is structured as follows:

Key messages

- We have analysed our financeability, on an actual and a notional company basis, using the assumptions that Ofgem has prescribed.
- The notional company is financeable based on Ofgem's working assumption (of 4.8% expected return on equity), but will face reduced financial headroom and a significant deterioration in the risk-return balance.
- The full transition to CPIH indexation masks underlying financial pressures in RIIO-2. This raises concerns about the sustainability of equity finance and the ability to maintain credit ratings.
- Being financeable is not a reflection of earning fair returns. We disagree with Ofgem's methodology for calculating allowed cost of equity. Our central estimate for cost of equity is 5.6% (CPI Real), around a 30% reduction compared to RIIO-1. We see no evidence to support Ofgem's downward adjustment of 50 bps reflecting a wedge between allowed versus expected returns to shareholders.
- Our shareholders have taken actions which have contributed to our financial resilience and sector-leading financial position. As a result, we are confident we will be able to ensure financeability for our actual company in RIIO-2.
- At this stage we do not foresee using depreciation rates or capitalisation rates as a tool to address financeability concerns.
- Our Base Plan shows domestic bills are expected to reduce by more than 10% compared to current charges. There remains uncertainty over our bill projections which will evolve once we have agreed totex and other parameters such as Cost of Capital with Ofgem at Final Determination.
- The Cadent Foundation, which is funded by shareholders, will divert cash from shareholders to the communities we serve. It is a long-term output commitment funded in part through our sector-leading financial performance.

Affordability and financing our Plan continued

11.1 Overview of our RIIO-2 Business Plan financeability

Financeability is a cornerstone of any regulatory framework and a key enabler that provides networks stability to deliver ambitious plans for our customers. To achieve the right outcome for customers, companies must have access to competitively priced finance now and in the future. Regulatory settlements should strike the right balance between the lowest costs for current and future customers while allowing regulated companies to recover sufficient revenue to remunerate providers of debt and equity capital. It is not in the interests of customers that network companies face challenges in raising necessary financing, experience capital rationing or become non-financeable.

Our ambition is to deliver a Business Plan that drives value for present and future customers, ensuring the fair allocation of costs between generations, and offering all of our customers the performance standards that they expect at a level of cost that is more efficient than ever before. **Our Plan for RIIO-2 is based on our most efficient ever operating model**, and this will result in lasting long-term savings for customers. Furthermore, our Plan ensures that both debt and equity holders continue to be able to support the business, today and in the future. This will allow us to drive the ambitious outcomes and investment programme outlined in this plan including 1,705km of mains replacement per year, 36,500 fuel poor interventions and distribution of 3 million CO alarms among many more.

In our engagement with customers, we extensively tested the bill impact of our Business Plan. This included assessing the impact of more than 20 of our output commitments with over 5,000 customers, stakeholders and industry experts, along with consideration of alternative options. We then tested the overall Business Plan for acceptability of its content and its affordability with a further 5,300 customers (across segments) and stakeholders, in our acceptability testing. **Over 75% of customers confirmed that they believed our Plan was affordable** with only 2% stating that it was not considered affordable. We worked with Britain Thinks to advise on engaging customers on critical decisions such as target credit rating. We also consulted with our investor community who supported a number of the key assumptions in our Plan.

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 basis.** We agree with Ofgem's focus on ensuring that the notional company is financeable, while placing the responsibility on companies to demonstrate financeability based on the actual capital structure.

In determining key regulatory parameters, including cost of capital allowances, **it is critical that Ofgem allows for the notional company to be financeable at least at a solid investment-grade rating, and provides for the required expected level of equity returns.** This will ensure that the notional company can continue to borrow the money required to fund the business at an efficient and sustainable cost of capital and risk margin, and for us to be able to retain and attract equity capital for the benefit of current and future customers.

We have used the business planning assumptions required by Ofgem, and subject to a fair and balanced Final Determination by Ofgem on totex, outputs and incentives conclude that, overall, **our Plan is financeable despite reduced financial headroom** and a significant deterioration in the risk-return balance.

We are confident that we will be able to raise the new debt our Plan requires, despite the reduction in key credit metrics driven by a significant reduction in the allowed rate of return. Our confidence in the financeability of our actual structure is driven by the mitigations already put in place by our shareholders, to achieve a competitive cost of debt while maintaining a solid investment-grade credit rating. KPMG has independently assessed the financeability of our plan and confirmed that we are projected to remain financeable in both notional and actual structures under the base case, but with reduced headroom. KPMG noted that for the notional company the significant reduction in the allowed cost of equity, along with a fundamental change in the risk-return balance, is projected to result in a materially reduced RORE (on expected basis) and lower dividend yield, with reduced scope for outperformance, based on the current working assumptions.

A solid investment-grade credit rating position is necessary for a utility business, to ensure we can continue to access the significant amounts of capital we require to fund our extensive investment programme. At the same time, despite strong commitment from existing shareholders and the long-term nature of the equity already invested in the business, we expect our attractiveness to new equity investors to deteriorate significantly as a result of Ofgem's proposed framework. Increased risk for equity investors could have an adverse impact on customers in the longer term. The scale of change appears to contradict Ofgem's objective to ensure the sector's strong financial resilience.

Ofgem has halved the allowed regulatory cost of equity, on a like-for-like RPI basis. Alongside a historically low cost of capital allowance, **the proposed incentive package for RIIO-2 will be tougher than ever, pushing companies to achieve increasingly stretching levels of performance alongside significant cost reductions.** We have significant concerns over Ofgem's approach to establishing the underlying cost of capital parameters, including the introduction of a 50bps outperformance wedge (for which we see no evidence to support). The current assumptions do not represent the best estimate of the key parameters and instead repeatedly tend to the low end.

The proposed RIIO-2 incentive package appears to be negatively skewed for the average company or multiple network operators, and **the low returns proposed by Ofgem are not commensurate with the level of risk inherent in RIIO-2.** While Ofgem's approach to a full transition to CPIH from RPI is effective in partially mitigating the significant negative cashflow impact of reduction in cost of equity in the near term, this only brings forward revenues which masks the underlying financeability constraints created by the lower cost of equity.

The margin of headroom for the notional company to absorb downside risk is critical for financeability assessment. **The risk of headroom being eroded below the levels that capital providers (debt and equity) consider reasonable is significant.** This poses a challenge to the notional company with returns on equity not commensurate with the increased downside risks, and not in line with the market benchmarks. The reduced headroom for key credit metrics for the notional company will create financeability concerns where there is no protection against downside shocks. Capital providers may permanently reset the risk profile of the sector, resulting in increased risk premium expectations and higher customer bills in the future.

We have completed detailed stochastic risk modeling as part of our cost and incentive analysis. The analysis concludes that **there is no evidence to support Ofgem's assumption that we will be able to achieve a 50bps outperformance**. In our view the approach taken by Ofgem is internally inconsistent and our analysis suggests that there is limited probability that investors will be able to achieve an incentive bias. As such we believe the focus should be on setting an accurate price control for a notionally efficient company.

The results of our analysis is consistent with our earlier submission on RIIO-2 risk-return balance, based on a KPMG report to Cadent, noting the overall asymmetric downward bias on returns of the RIIO-2 mechanisms[1].

The negative skew in the proposed incentive package is driven by the potential penalties for low-confidence costs that are based on Ofgem's judgement, removal of the stakeholder engagement incentive and the discretionary reward scheme, both of which offered some upside potential in RIIO-1. There is also considerable uncertainty over other incentives in terms of target setting and scope – for example, on the NTS exit capacity incentive where a decision has not yet been made. Our stochastic risk analysis focused on totex costs and other uncertainty mechanisms. There are a number of other risks that we are exposed to outside of this modeling including the actual form of the final determinations (i.e. totex allowances, incentive targets, uncertainty mechanisms) and other external factors which are all likely to be negatively skewed. We will review this analysis in detail when we have more clarity on these key elements of the framework.

Sustainable investment is critical at a time when the energy sector is going through fundamental changes, such as decarbonisation, decentralisation and digitisation, all acting to reshape the future energy landscape. We have a large capital programme across RIIO-2, with planned totex in excess of £5bn to ensure security of supply, reliability and safety of our network for our customers. Availability of financing at an efficient cost is key in enabling the delivery of investment, innovation and change required to unlock the UK's Net Zero ambition.

We believe that **Ofgem's framework should aim to optimise bills for both existing and future energy customers whilst also demonstrating that long-term risks to capital providers are stable.** Despite the challenges, our Plan aims to achieve a real terms bill reduction of more than 10% by the end of the RIIO-2 period, driven by ambitious transformation plans that will reduce our costs whilst providing more of the services that our customers value.

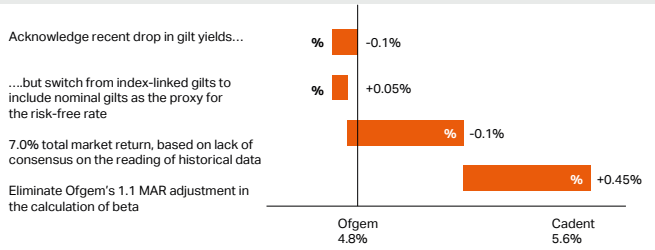
Cost of capital: a central estimate

Ofgem Business Plan guidance has promoted the inclusion of alternative views on cost of capital to be submitted in a separate document. We refer to **Appendix 11.03 (Our view on cost of capital)** which provides additional detail. We provide a summary below and **confirm that financials presented in this document are based on Ofgem's working assumptions. Our central estimate cost of capital is consistent with our empirical evidence submitted as part of our Sector Specific Consultation Response.**

We recognise that a legitimate cost of equity within price controls is important, and the efforts Ofgem has made to provide stakeholders with a considered and objective 'early assessment' of the cost of equity for RIIO-2. We agree with Ofgem that the return that shareholders require has fallen since RIIO-1 returns were set in 2012. However, when calculating its baseline cost of equity of 4.8% (CPI-stripped), we consider that Ofgem has repeatedly tended towards the low end of possible parameter values rather than identify best central estimates. This can be seen most clearly in the specific items noted below and summarised in **Figure 11.01**:

- Ofgem's proposal to focus only on index-linked gilt yields in its estimation of the risk-free rate, to the exclusion of contradictory evidence from nominal gilts;
- Making a contentious adjustment to published estimates of the real return that investors earn when they invest their money in the stock market
- The use of a novel overlay within Ofgem's beta computations

Figure 11.01: Cost of equity: comparison to Ofgem assumptions



Source: Management analysis

In addition to these points we strongly disagree with making an allowance for the "outperformance wedge" that Ofgem believe necessitates a further downward adjustment to returns of 50 bps. This is commented on elsewhere in this chapter.

We agree the indexation of allowed cost of debt in line with market interest rates has worked very well during the RIIO-1 period, delivering significant savings for customers. To avoid the regional customer bill impacts that would arise from setting debt allowances at network level, we remain supportive of Ofgem's approach of setting the cost of debt based on sector-level expectations. Our analysis suggests that Ofgem's working assumption for allowed cost of debt is not going to match the sector average interest costs, and we therefore propose an alternative assumption of 14 to 18 year 'trombone' index which captures market average cost of debt demonstrably more accurately.

Furthermore, analysis by NERA of the network companies' recent actual additional costs of issuing debt, including credit rating agency fees, bond issuance fees and the costs of maintaining essential liquidity, reveals a figure of 0.68%, notably higher than the regulator's typical assumption of c.0.2%.

Our central estimate is a cost of equity of 5.6% (CPI real) and an extending 'trombone' index (14-18 years), with appropriate adjustment to reflect the costs associated with financing that are not factored into the index.

These assumptions provide a better outcome for customers as they provide greater resilience, are internally consistent with the framework, reduce risk, and support a sustainable robust framework in the long term. We intend on engaging on this and related issues with our customers and stakeholders ahead of Final Determination (when we have more clarity on the final outcome) around the overall framework including the cost of capital and overall financability.

1 KPMG report "Risk-return balance under RIIO-GD2" submitted by Cadent, and Ofgem comments "RIIO-2 Sector Specific Methodology Decision – Finance" page 137. Ofgem noted, inter alia, that the "analysis is a positive attempt to understand the RIIO-2 framework, and in places we agree with KPMG's assessment." **See Appendix 11.10**.

Affordability and financing our Plan continued

11.2 How we are financing the business

During the course of RIIO-1, we are working hard to improve our quality of service and have achieved competitive financing of our activities to the benefit of consumers. Since the reorganisation of the company following the separation from National Grid, **we have demonstrated a sector-leading commitment to financial resilience. We have maintained a solid investment-grade credit rating (of Baa1 by Moody's and BBB+ by Fitch and Standard and Poors).**

With support from its equity providers, we refinanced our high cost debt in 2016, taking advantage of the prevalent lower cost of debt. The refinancing included a part-novation and part-repayment of expensive pre-existing debt as well as raising new debt, and was achieved through significant one-off cash costs incurred at the time of refinancing. **KPMG estimated the true economic cost of this refinancing at circa £842m, based on a comparison of the cash flows with estimated costs if the refinancing activity had not occurred**. This amount has been acknowledged by Ofgem (through our Regulatory Financial Performance Report submissions). This is equivalent of the cost of existing debt increasing by about 120 bps.

As a result of the equity support and investments that enabled refinancing, **we now have sector-leading cost of debt and headroom on key financial metrics under the actual structure, creating strong medium-term, financial resilience.**

Moreover, we continuously work to secure debt financing in the most optimal way. We have proactively sought opportunities to raise well-priced new debt and diversify our funding sources, including from insurance companies in Japan (Japanese Yen denominated 15 years debt) and private placements in the United States. We have targeted the most efficient markets and products and diversified our issuances across maturities, to balance our debt maturities against the existing asset base. Our sterling and Euro issuances in the last few years are across maturities of up to 30 years. In 2019 we issued in USPP format 12, 15 and 20 year GB debt as well as 12 year USD debt. **The competitive rates achieved in our new debt issuances are reflective of the long-term solid investment-grade financial standing maintained by the company.** However, during our more recent engagements with capital providers, we have been challenged over the threats of nationalisation and regulatory uncertainty.

While our performance and relatively low cost of debt will allow us to better withstand some shocks compared to a notional company (such as a moderate increase in construction costs for the iron mains replacement programme and higher near-term interest rates), there are other challenges we face that should be considered in Ofgem's determination. **We have a greater operational efficiency gap relative to other gas distribution networks as well as a greater risk of downside performance on the proposed incentive package as a result of the scale of transformation we are aiming for, to address our historical underperformance.** Hence our comparative financial efficiency should be seen in the context of a larger operational challenge, and hence potentially higher operational risks.

Against this backdrop, we have set out a financing strategy for RIIO-2 based on the financing requirements implied by the RIIO-2 Plan. To achieve this, a steady flow of private capital for debt is a fundamental requirement. **We and our investors have taken a number of steps to preserve our low cost debt, diversified pool of capital, solid credit rating (currently Baa1/BBB+), and robust levels of liquidity.** For example, we recently renewed our existing bank facilities that were due to expire in 2021, including a £500m revolving credit facility and £300m of floating rate term debt that will now have a tenor up to 2024. This is in addition to the £675m of USPP issuances mentioned above. These are long-term measures that provide sustained benefit to customers, but which can only be achieved through maintaining a solid investment-grade credit rating.

Our dividend policy balances the distribution of available surplus funds to shareholders, after having considered the forward committed cash requirements of the business to support our investment programmes and managing to an appropriate level of gearing. As we continue to invest in excess of £1bn each year in totex, a significant portion of which is capitalised, our RAV is forecast to increase by circa 1% p.a. over the RIIO-2 period. This requires the existing investors to take a longer term view and forfeit some of the cash yield in return for longer term returns. The higher the growth in RAV, the lower is the cash yield is for investors. This is a key consideration for long-term investors, especially where the allowed returns are already forecast to reduce to all-time lows.

The increased risk of downside performance associated with the proposed incentive package, reduced dividend yield and a skewed risk-return balance mean the attractiveness of network companies to equity investors will be significantly reduced in RIIO-2. In the long term this can increase our cost of equity capital.

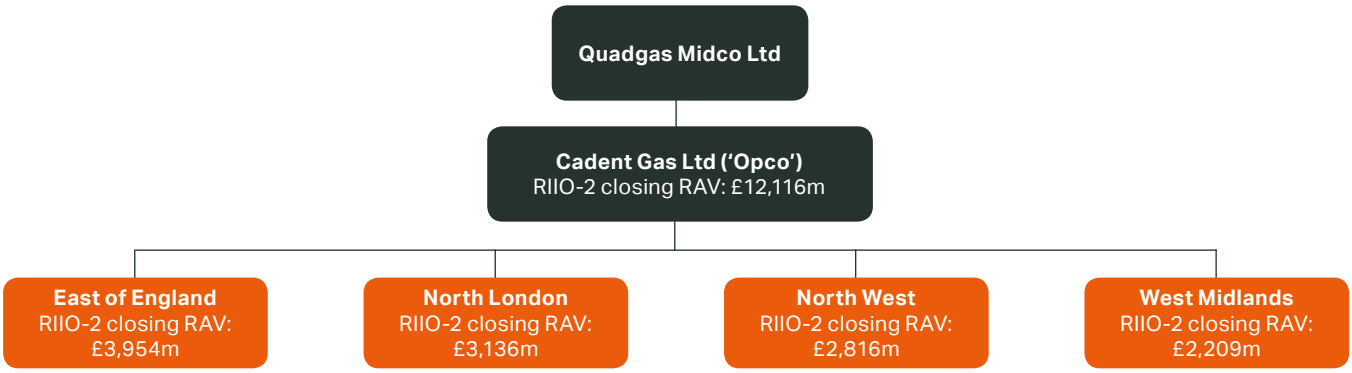
Our historical dividends are summarised in **Chapter 4, Learning from past performance**. Looking forward to the end of RIIO-1 and into RIIO-2, dividends are forecast to be significantly lower than the average paid in RIIO-1 to date, as the cost of delivering our eight year RIIO-1 output commitments increases and allowed returns significantly reduce. **We are also committed to investing over 1% of our profits every year in the Cadent Foundation, diverting cash from our investors to the communities we serve.**

Despite our sector-leading financial resilience, the signalled reduction in the allowed cost of equity for RIIO-2 and other changes in the regulatory regime pose a significant challenge. **The cash dividend yield in the notional company will be materially lower than long-term investors' expectations in this sector.** While we are implementing a robust and efficient approach to financing our operations, it is very important that Ofgem's assumptions and stress tests for the notional company are properly calibrated and include measures to address the risk-return imbalance and hence ensure the financeability of both debt and equity. It is essential that through the remainder of the price review process Ofgem fairly assesses the business risks on the notional company profile and takes a fair and balanced approach to financial and operational risks faced by companies.

11.2.1 Cadent MidCo structure

Cadent comprises a simple structure where all of our four networks are operated through a single company that is currently geared slightly below the RIIO-1 regulatory assumption of 65% of RAV.

Figure 11.02: Organisation structure: KPIs reflect RIIO-2 (notional company)



Amounts in nominal terms based on the notional company at 4.8% Return to Equity

Notional average RIIO-2 credit metrics at 4.8% Return to Equity	East of England	North London	North West	West Midlands	Cadent
Net Debt/RAV	59%	62%	60%	60%	60%
FFO (Funds From Operations)/ Net Debt	10.2%	9.3%	10.2%	9.9%	9.9%
AICR	1.51	1.41	1.51	1.49	1.48
RCF (Retained Cash Flow)/Net Debt	8.2%	7.3%	8.2%	7.9%	7.9%

Source: LiMo model and management information

Our immediate parent company, Quadgas Midco Limited has a further level of debt within the overall capital structure which means that a proportion of the dividends paid by Cadent Gas Ltd. are used to service this debt before dividends are paid to ultimate equity shareholders. **The financing agreements at Quadgas Midco provide additional benefits to customers** in the form of additional protection to business activities and formalise good treasury practice within the consolidated Group.

11.3 Our approach to 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 its customers, as well as continuing sustainable capital investment.

It is critical that notional financeability tests are meaningful and robust as a cross-check on the calibration of the RIIO-2 package. The implied financial headroom will need to be consistent with the risks to which the business is exposed. A notional company's inability to pass such tests post any mitigations available would indicate that the allowed returns set by the regulator are not commensurate with the risks that the efficient licensee is exposed to.

Whilst the focus of the financeability assessment, as a check to the price control financial package, is on the notional company, licensees are required to provide assurance that they are financeable on both a notional and actual basis. Companies remain responsible for their financing decisions and choice of actual capital structure, with the risks associated with these decisions remaining with shareholders.

Financeability needs to be assessed 'in the round' in order to capture its multi-dimensional nature. In practice this means that the assessment needs to cover (1) all sources of capital that the company would use to raise finance; (2) both short-term and longer time horizons to ensure that a short-term focus does not create risk in the long run; and (3) consider the liquidity position of the company to overcome unexpected cash shortfalls or downside shocks. Financeability analysis over multiple time horizons is key as large capital investment in the short term delivers outcomes for customers over the long term. This requires longer term capital solutions with capital providers needing to take a long-term perspective.

In this chapter we use key metrics and thresholds as per Moody's Rating Methodology for Regulated Electricity and Gas Networks. We do this as these are well defined and support a mechanistic application of the quantitative factors. Moody's uses four key financial metrics as set out in the table above. Together, the four ratios carry 40% weighting in Moody's rating grid. Further details on these key metrics and thresholds are set out in **Appendix 11.01**. This chapter along with **Appendix 11.01** also includes all the Ofgem specified ratios.

Credit rating methodologies are based on a number of constituent sub-factors – quantitative and qualitative – which are holistically assessed to determine the overall creditworthiness of regulated companies. Qualitative factors are as significant as quantitative factors (based on key credit metrics). Qualitative factors (including factors such as stability and predictability of regulatory regime, revenue risk, and financial policy) carry 60% weighting of the overall rating for Moody's. Stability of regulatory regimes will play a major role in rating agencies' overall assessment. In our analysis we have focused mainly on the quantitative factors due to the subjective nature of the qualitative factors.

Affordability and financing our Plan continued

Financeability assessment cannot be solely focused on debt metrics. Sufficient coverage implied by financial ratios for debt cannot on their own be assumed to imply that returns on 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'.

Any conclusions on financeability are subject to change in the key parameters of the Final Determination to be proposed by Ofgem in 2020 relative to the working assumptions.

11.3.1 Approach to the financeability assessment of debt

A company's ability to raise debt finance at a reasonable cost depends on its ability to remain financially healthy and maintain solid investment-grade credit rating. The rating represents forward-looking judgements from the rating agencies about the creditworthiness and credit risk of an issuer (or a security) and determines a utility company's access to debt capital markets.

A solid investment-grade credit rating in particular is necessary for the company to be able to comfortably meet its liabilities and be able to access financial markets and liquidity even in tougher macro-economic conditions. A key aspect of the financeability test is therefore the review of the projected levels of key financial ratios against threshold levels that are consistent with the target credit rating and a 'stable' rating outlook.

The target credit rating we have adopted for RIIO-2 for the notional company is Baa1/BBB+, two notches above the minimum investment-grade rating. A number of factors inform the choice of the target credit rating and the underlying trade-offs:

- Targeting a solid investment-grade credit rating provides companies with the financial headroom and flexibility to manage challenges and risks of RIIO-2 (and beyond) and deal with downside shocks (leading to a downgrade from the target rating).
- The benchmarks and the weighting of the proposed indices to be adopted by Ofgem in setting the allowed cost of debt, imply a solid investment-grade credit rating. Ofgem set the cost of new debt using an average of the iBoxx 'A' and 'BBB' rated GBP non-financials indices for bonds with ten years or more to maturity. The combination of the 'A' and 'BBB' indices suggests a rating of Baa1/BBB+ or A3/A-. In order to achieve the regulator's allowance, companies need to ensure that they can maintain the key financial ratios at levels commensurate with this implied rating.
- The financeability test is in part designed to check that the notional company is able to achieve the credit rating of the index used to set the cost of debt allowance. Where this is not the case, cost of debt allowance set by the regulator underestimates the cost of debt achievable in practice for an efficient licensee and the allowed returns based on the regulator's financing assumptions are not consistent with the cost of capital.
- Historical precedence indicates a long-term investor preference for a solid investment-grade credit rating of Baa1/BBB+ or higher in UK regulation. The target credit rating of Baa1/BBB+ is at the lower end of the historical precedence.

Stakeholder engagement on credit rating

The maintenance of solid investment-grade credit rating is in the customers' interests as it reduces bills and enables delivery of key outcomes through securing sustainable solutions in and for the sector. Targeting a lower credit rating (e.g. marginal investment-grade rating of Baa3/BBB-) would result in both a higher cost of debt (and higher bills) and lower headroom leaving customers exposed.

We consulted with our consumer engagement specialists Britain Thinks specifically on this issue. Their views are provided in **Appendix 11.01**, but in summary they conclude that customers cannot be reasonably expected to comment on highly technical / abstract subjects such as target credit rating.

We engage regularly with the three main credit rating agencies, who act as a proxy for debt investors' interests. We also meet directly with the main institutional debt providers in the UK and internationally. This open dialogue ensures we are well aligned with the concerns and views of these important stakeholders, on which the energy sector is dependent for continued funding of new and refinanced debt requirements.

Appendix 11.01 provides a snapshot of discussions held with over 10 institutional investors.

It is critical that the financeability assessment is undertaken on the market-based tests that reflect the approach taken by the rating agencies as their assessments are key in determining whether or not the companies meet their licence requirements in this regard.

The Moody's grid-simulated rating is not necessarily applied mechanistically and it is likely that the relevant rating agency will override the grid-implied rating based on the importance they apply to certain key credit metrics. Moody's grid-implied rating is likely to be constrained to the rating indicated by the level of its preferred key metric – Adjusted Interest Coverage Ratio ('AICR').

Moody's ratio guidance: Baa1

Moody's has, in its UK Regulated electric and gas networks sector comments, issued in May 2018, reconfirmed its ratio guidance for energy companies with a minimum AICR of 1.4x for a Baa1 rating. Commentary from the major UK rating agencies is provided in **Appendix 11.01** in summary format. Key to note is that overall, **rating agencies point to RIIO-2 being credit negative, the risk-return balance is skewed to higher risk and lower returns, and changing depreciation rates and capitalisation will not benefit credit rating**.

11.3.2 Approach to the financeability assessment of equity

Equity financeability is focused on the availability and sustainability of returns for equity investors and is intended by Ofgem to act as a cross-check to ensure that the regulator's cost of equity assessment is robust and hence sufficient for the equity financeability of the notional company.

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

Investors in UK infrastructure are by their very nature long-term holders. Investors typically comprise pension funds, sovereign wealth funds, insurance companies and infrastructure investment funds (who in turn may have pension funds as their ultimate investors). This is reflected in the mix of ultimate investors in Cadent.

The underlying sources of capital for these investors are the savings and retirement vehicles which typically seek out stable and predictable income streams with moderate to low levels of risk.

However, this low-cost source of capital has its limits, and nil or **low yield with levels of returns below the required returns, compared to the changing risk profile of the sector could drive down available investment and innovation appetite in the long term.**

We have analysed the metrics identified by Ofgem to inform the assessment of equity financeability including Dividend/ Regulatory Equity, Dividend Cover and RORE. These are shown in **Appendix 11.01**.

Financial resilience as a cornerstone of our Plan

Financial resilience addresses the extent to which an organisation's financial arrangements enable it to avoid, cope with and recover from disruption. This is measured through the headroom available on credit rating and key metrics to withstand plausible downside shocks.

In order to deliver sustainable outcomes to customers and the environment, companies need to be able to maintain sufficient financial headroom and flexibility to preserve liquidity and investment-grade rating in the face of plausible downside shocks. We have modelled a range of scenarios prescribed by Ofgem as well as identifying other key plausible risk exposures for the company during RIIO-2 period and scenarios to assess the company's ability to withstand individual or combined shocks, taking into account all available mitigations.

11.3.3 Assumptions underlying our financeability assessment

The assumptions underlying our financeability assessment are in line with Ofgem's requirements set out in the table below.

Table 11.01: Notional Company Financeability base case: key assumptions

Key assumptions		2022	2023	2024	2025	2026
CPIH		2.00%	2.00%	2.00%	2.00%	2.00%
Cost of debt	real, CPIH	2.03%	1.96%	1.91%	1.88%	1.86%
Expected return on Equity*	real, CPIH	4.77%	4.79%	4.80%	4.81%	4.82%
Gearing		60.00%	60.00%	60.00%	60.00%	60.00%
Capitalisation rates						
Capex and opex		27.68%	27.70%	27.70%	27.69%	27.68%
Repex		100%	100%	100%	100%	100%
Notional						
Dividend yield		3.00%	3.00%	3.00%	3.00%	3.00%
Index linked proportion		25.00%	25.00%	25.00%	25.00%	25.00%
Equity issuance costs		5.00%	5.00%	5.00%	5.00%	5.00%

* Expected return on equity of 4.8% modelled in line with Ofgem working assumptions.
Source: Ofgem LiMO model and BP Guidance.

Our cost of capital assumptions are consistent with Ofgem's working assumptions.

We have complied with the financeability guidance and tested financeability against an expected return to equity of 4.8% (CPIH, real). We have used Ofgem's assumptions on cost of capital in line with the Business Plan Guidance Document requirement which prescribed an allowed cost of equity of 4.3% on a CPIH stripped basis and an incentive bias of 50 bps of equity portion of RAV. We set out above our view on cost of capital on page 177.

Allowed vs expected returns adjustment

As part of the RIIO-2 price control, Ofgem has adopted a working assumption that there will be expected outperformance of 0.5% of the allowed cost of equity.

Ofgem proposes to implement an adjustment to allowed equity returns to reflect this expectation, i.e. the working assumption involves setting an allowed cost of equity at 0.5% lower than the estimated cost of equity. The working assumption we have used is in line with Ofgem's guidance (4.3% allowed cost of equity converting to 4.8% expected returns to equity assuming an incentive bias).

This is a significant issue for Cadent and, ultimately, for our customers. It requires material outperformance before companies earn their cost of equity. We disagree with including an outperformance wedge due to a number of points of principle as well as detail. Incentive based regulation has been a success in delivering value for consumers. The building block approach (i.e. correct calibration of totex allowances, output delivery incentives, etc.) has provided transparency to each price control parameter. There is a risk that this transparency will be eroded by the way that Ofgem has imposed a high level adjustment to returns.

Ofgem has noted that if a performance is calibrated above zero then there should be sufficient evidence to provide comfort that the additional return will be earned and should be included in the base case. However, if the wedge is calibrated at zero or below, then the allowed return could be expected to be set at the middle or upper end of the cost of equity range respectively (i.e. 4.8% or above). A poorly calibrated adjustment could have negative implication for financeability, is likely to be imprecise, result in inefficiency and reduce incentives on performance.

Based on our analysis and information provided by Ofgem, we have not seen evidence supporting the 50 bps incentive adjustment, which equates to a cash flow of c.£25m p.a. over the RIIO-2 period. This is partly driven by the downward skewed incentives, significant stretch in our totex plans (through ongoing efficiency and risk included), and low sharing factor, but also other cash flow risks including reaching materiality levels to trigger Uncertainty Mechanism cost re-openers.

Repex in RIIO-1 is forecast to outperform allowances but proposed new mechanisms such as Price Control Deliverables and increased cost pressures means this level of outperformance is unlikely in RIIO-2.

The detailed stochastic risk modelling presented below demonstrates that there is no evidence that we will be able to achieve a 50 bps outperformance incentive. We have tested the variability across specific cost categories across totex costs and uncertainty mechanisms. **None of the simulated iterations achieve the 50 bps outperformance, suggesting Ofgem's framework is internally inconsistent.**

It is also unlikely that rating agencies will take into consideration any ex ante incentive bias in their rating analysis, and hence any such incentive bias is not expected to benefit the credit rating.

We firmly believe that if the RIIO-2 framework is appropriately calibrated then the proposed 50bps allowed versus expected return adjustment should not be required.

For equity we have assumed the notional structure an initial target level of gearing of 60% and a dividend yield of 3%, as proposed by Ofgem. This assumption relies on continued liquidity in the market for new equity, which is uncertain given the low level of returns proposed at RIIO-2. The dividend yield is lower than the required level expected by a typical utility investor. The consequences of such low dividend yield is analysed further in following sections. For our actual company financial profile we have assumed gearing of 63.75% for RIIO-2 which is consistent with our current levels.

Affordability and financing our Plan continued

11.4 Our financeability analysis

11.4.1 Results of our financeability analysis: notional company

The notional company is financeable, but with increased risks and unsustainable low levels of return to equity.

Under the notional financial structure with a return on equity of 4.8% and in the current market conditions, we expect to be able to raise necessary debt and equity to finance our Plan. However, we believe Capital Asset Pricing Model ('CAPM') related assumptions assumed by Ofgem are incorrect. Long-term equity financeability will be dependent on the correct calibration of the CAPM parameters in Final Determination.

Our analysis is based on Ofgem working assumptions, and analysis of key credit metrics and stress testing scenarios are as set out by Ofgem. Outputs of stress testing are included in **Appendix 11.01**.

Table 11.02 shows credit metrics are forecast lower than the thresholds for target credit rating in FY2022 due to the impact of disposal proceeds pertaining to RIIO-1 period. Excluding the impact of this will result in a higher AICR of 1.48x and a higher FFO to Net Debt of 9.7% in FY 2022, broadly similar to FY2023.

The resilience of the financial ratios is likely to bear weight on a rating agency's perception of the qualitative assessment which places further emphasis on the simulated numerical rating assessment.

Table 11.02: Key metrics: base financeability case: notional company[2]

Notional 4.8% return to equity	RIIO-2					
	2022	2023	2024	2025	2026	RIIO-2
Net Debt/RAV	60.3%	60.3%	60.2%	60.0%	59.7%	60.1%
FFO/Net debt	9.4%	9.8%	9.9%	10.1%	10.3%	9.9%
AICR	1.39	1.49	1.50	1.51	1.52	1.48
RCF/Net Debt	7.4%	7.8%	8.0%	8.1%	8.3%	7.9%
Numerical assessment	**Ba1**	**Baa3**	**Baa3**	**Baa3**	**Baa3**	**Baa3**

Source: Ofgem LiMO model. FY2022 includes the impact of disposal proceeds pertaining to RIIO-1 period.

* 4.8% returns to equity modelled as 4.3% allowed return on equity plus 50 bps outperformance resulting in additional return to equity in line with Ofgem guidance.

** The FFO/Net Debt is below threshold at individual ratio level with no headroom in the base case.

*** AICR is the preferred metric used by Moody's. For Baa1, minimum required AICR is 1.4x. AICR is expected to constrain the overall implied credit rating.

Our projected metrics under the notional financial structure are consistent with the target credit rating of Baa1/BBB+, but with little headroom over the minimum requirements for key financial ratios.

The overall credit rating is based on financial metrics and qualitative factors. The qualitative factors, which primarily reflect the characteristics of the regulatory regime, would move in line with rating agencies' assessment of the regime. For example, Moody's in May 2018 lowered their assessment of the UK water regulatory regime following changes proposed under PR19. **Our notional company rating expectations are on the assumption that there is no change to the regime which would trigger such a reassessment of the RIIO-2 regime by rating agencies.**

Table 11.03: Headroom on key metrics: base financeability case: notional company

Key Metrics	RIIO-GD2 Average	Baa1/BBB+ Threshold	FFO Headroom £m	FFO Headroom %
FFO / Net Debt	9.9%	11%	(73.1)	(10.3%)
Adjusted Interest Coverage Ratio ('AICR')	1.48	1.4	18.9	2.7%

Source: Ofgem LiMO model and Management information.

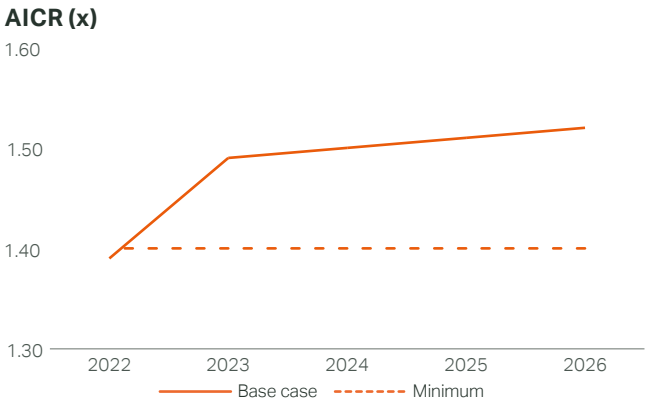
In addition to the retention of existing equity through a competitive yield we require the ability to issue further debt of over £2bn to finance our plan in RIIO-2. It is critical that the notional regulatory framework is sufficiently able to withstand downside risk, in order to remain an attractive prospect to both debt and equity holders.

The target credit rating allows us limited headroom for the allowed "guaranteed" return on equity of 4.8%. Even at 4.8% there is also limited headroom to withstand downside shocks. **At a totex overspend of about 10%, the notional company would lose its ability to maintain its target credit rating.**

Figure 11.03 below shows the lack of headroom over minimum threshold for key credit metrics.

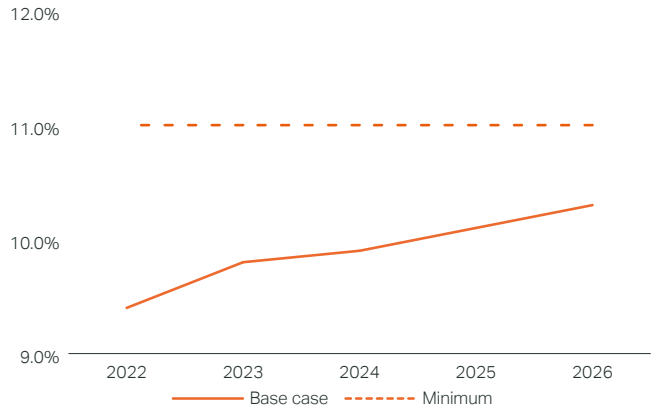
We have also considered the scenario of cost of equity at 4.3% without any incentive bias. The results of this scenario along with a number of sensitivities on this scenario are included in **Appendix 11.01**. **The AICR in this scenario shows an average 1.37x over RIIO-2, lower than required by Moody's for Baa1 rating implying a significant risk Cadent (notional company) would suffer an implied rating downgrade.** The key metrics for the notional company are stressed in most of the downside cases with AICR as low as 0.95x. This scenario, along with the associated sensitivities, demonstrates that the allowed cost of debt based on average of A/BBB iBoxx indices will be inconsistent with the forecast financial strength of the notional company, creating potential long term financeability challenge.

Figure 11.03: Base financeability case: notional company: RIIO-2 key financial ratios

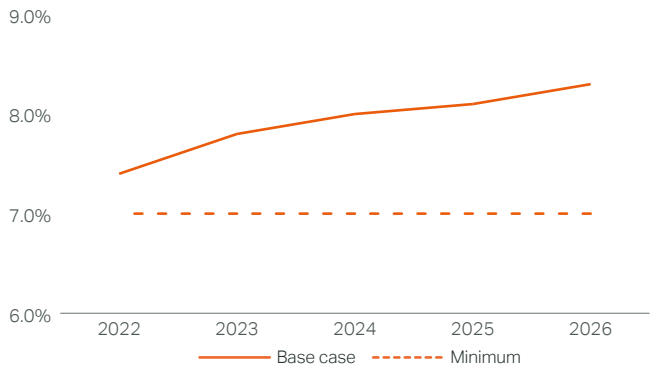


Based on Moody's thresholds. Red denotes individual metric is in the Ba range as per Moody's for this sub factor. Green indicates the key metric is in the A range and amber indicates the key metric is in the Baa range.

FFO/Net Debt



RCF/Net Debt



Source: LiMO model. FY2022 metrics impacted by disposal proceeds pertaining to RIIO-1 period.

Assuming 4.3% cost of equity is set ex ante, totex outperformance will need to be in the range of 4% to 12% (i.e. an outperformance of £200m to £650m) in order to benefit from the 0.5% incentive bias. This is on an already stretching totex forecast set against the upper quartile – confirming the low probability of being able to benefit from any incentive bias.

Table 11.04: Outperformance required to achieve a 0.5% incentive bias via totex incentive mechanism

	Outperformance Required		
Cost Category	15% Sharing Factor	32.5% Sharing Factor	50% Sharing Factor
Totex	12.2%	5.7%	3.7%
Opex only	31.0%	14.3%	9.4%
Repex only	26.9%	12.5%	8.3%
RIIO-2 Totex (Pre-sharing, 2018/2019)	**£649m**	**£302m**	**£198m**

Source: management analysis

Based on our risk analysis, it is not reasonable to assume we will earn an additional return of 50 bps. As such we would expect rating agencies to exclude the 50 bps assumption in their assessments.

The results of the financeability test as prescribed should be treated with caution as the evidence does not support the working assumptions. With AICR below 1.4x as an adjusted base case, downside scenarios show an implied notional company rating at risk of downgrade. These scenarios are presented in the **Appendix 11.01** as requested by the RIIO-2 Challenge Group.

The following section shows that due to the actions taken by shareholders, our **actual** company position is more resilient.

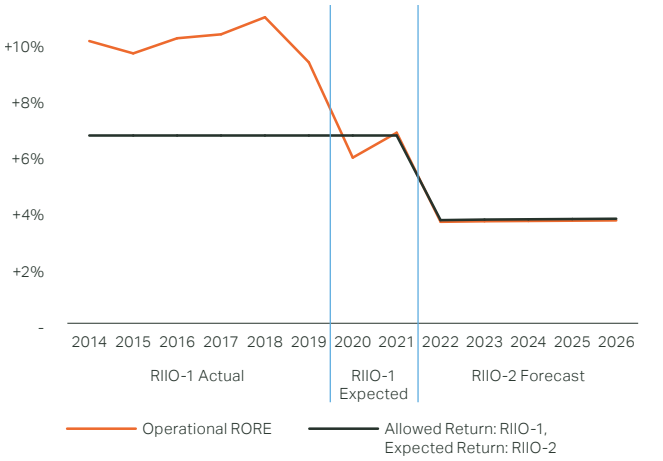
11.4.2 Results of financeability analysis: actual company

Our actual company is resilient as a result of shareholder actions to refinance debt in 2016; however, the allowed level of equity returns are not sustainable.

Our primary focus on financeability is on the notional structure. In addition, we have analysed the actual company financeability and conclude that we should remain financeable as a result of the actions taken by shareholders in the past, as set out in section **11.2 (How we finance our business)**. We have confidence in our financing policy and our ability to raise required new debt on an actual company basis. At the same time, we expect our attractiveness to equity investors to deteriorate significantly based on Ofgem's proposed returns.

Equity returns have halved on a like-for-like basis from RIIO-1 to RIIO-2 which does not support sustainability of equity finance and our ability to maintain credit ratings. The chart below shows the movement in operational RoRE from RIIO-1 based on actual performance / forecast performance, and the expected RoRE during RIIO-2.

Figure 11.04: Illustrative RORE (RPI basis)



Source: Cadent Regulatory Model

As noted earlier, our shareholders have invested an implied equity premium of £842m in order to support refinancing of pre-transaction expensive debt. This has enabled a saving of about 1.2% in the cost of existing debt. In order to ensure the analysis is comparable to a typical company using market based rates for cost of debt, we have adjusted (increased) our actual cost of debt by this amount, similar to the approach we have taken in our Regulatory Financial Performance Reporting. Our projections indicate that we would remain financeable under the actual company, after adjusting to reflect the all in economic cost of our debt and associated benefits of refinancing in 2016. The key forecast metrics, based on Moody's thresholds (**Table 11.05**), are broadly consistent with a Baa rating, and while FFO/Net Debt measure is forecast marginally below the thresholds for Baa rating, AICR has a comfortable headroom over the Baa requirements.

Table 11.05: Actual 4.8% Allowed Return to Equity with cost of debt adjusted for refinancing

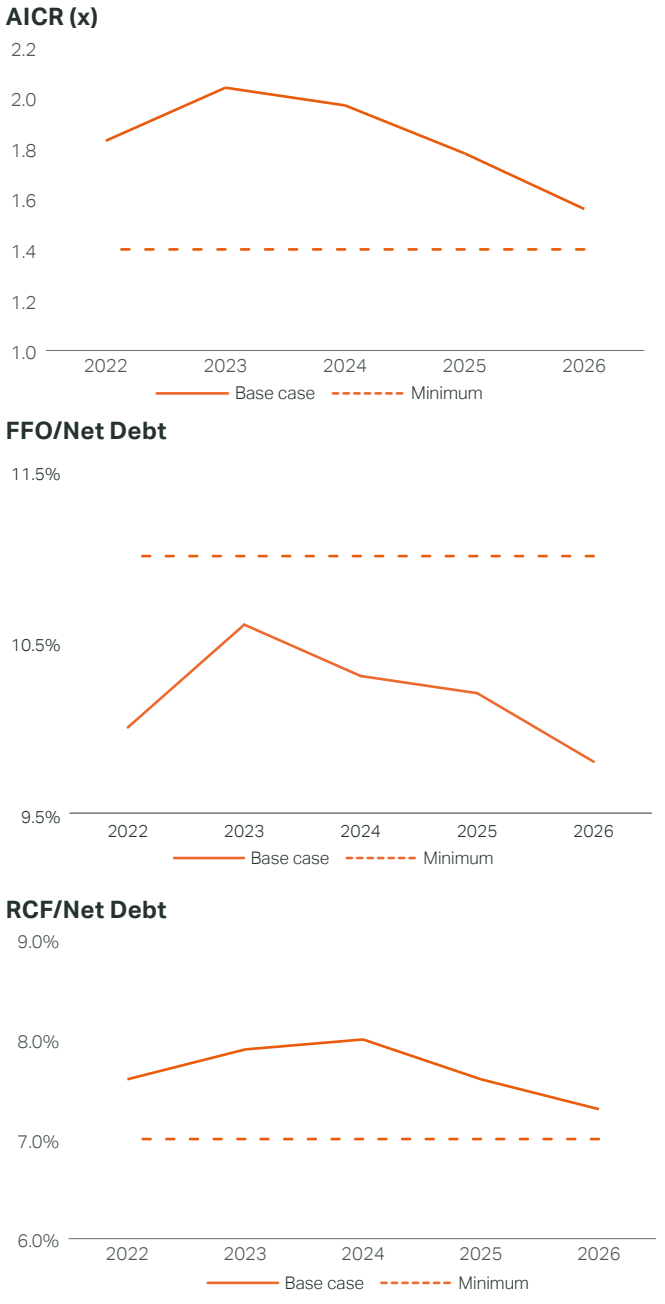
'Actual adjusted for financing', 4.8%	RIIO-2					
	2022	2023	2024	2025	2026	Average
Net Debt / RAV	63.75%	63.75%	63.75%	63.75%	63.75%	63.75%
FFO / Net Debt	10.00%	10.62%	10.34%	10.18%	9.79%	10.19%
AICR	1.83	2.04	1.97	1.78	1.56	1.83
RCF / Net Debt	7.62%	7.91%	7.95%	7.63%	7.28%	7.68%
Numerical assessment	Baa3	Baa3	Baa3	Baa3	Baa3	Baa3

Source: Cadent Regulatory Model

Affordability and financing our Plan continued

Gearing is assumed to be kept constant in the actual company at around 63.75% throughout the RIIO-2 period (in line with our current gearing). We note Ofgem's intention to review notional gearing in light of the risk level included in the price control settlement and the ability of the notionally efficient company to sustain downsides, and that Ofgem will decide on the level of notional gearing after Business Plans have been assessed and the overall price control package is known.

Figure 11.05: Base financeability case: actual company: RIIO-2 key financial ratios



Source: Cadent Regulatory Model

Our analysis of the actual structure assumes that we are performance-neutral. Given the scale of transformation we are committing to on both efficiency and service levels within our RIIO-2 Plan we believe that there are significantly more downside risks for our business than other networks.

To reflect this, we summarise a sensitivity with 5% opex and 1% incentive underperformance which reflects a plausible base case for potential debt and equity financiers. This shows that the implied credit rating is challenged in later years of RIIO-2. This does not include an adjustment to the cost of debt for refinancing, reflecting the approach that would have typically been taken by a rating agency. However, we consider it likely that rating agencies will form their views on the basis of an 4.3% cost of equity, excluding the incentive bias. This scenario is presented in **Appendix 11.01**.

Overall, our simulated rating assessment suggests that under the actual company structure we are expected to maintain our current Baa1 rating including qualitative factors, albeit without any significant headroom. For the purpose of actual company analysis we used the expected profile for non controllable costs and the reimbursements expected from RIIO-1, to make our exposure neutral, in line with Ofgem guidance.

Table 11.06: Actual company: 4.8% returns on equity: alternative base case

Actual structure, 4.8%: Financier +5% Opex, -1% RORE	RIIO-2					
	2022	2023	2024	2025	2026	RIIO-2 average
Net Debt / RAV	63.75%	63.75%	63.75%	63.75%	63.75%	63.75%
FFO / Net Debt	10.53%	11.03%	10.19%	9.90%	9.49%	10.23%
AICR	2.60	2.78	2.26	1.87	1.56	2.21
RCF / Net Debt	7.58%	7.86%	7.91%	7.59%	7.24%	7.63%
Numerical assessment	Baa3	Baa1	Baa3	Baa3	Baa3	Baa3

Source: Cadent Regulatory Model

11.5 Further observations

11.5.1 Equity returns and dividend yield

Although our Plan appears financeable for debt on both a notional and actual basis, **more than halving the returns on equity from 6.7% to 3.7% (RPI basis) significantly reduces cash returns on equity.** Equity capital would be severely exposed and returns would not be consistent with the risk profile implied by the regulatory regime and the macro conditions.

In the notional company, there is a significant challenge to equity returns (at 4.8% CPI real) due to a low cash dividend yield. A low dividend yield (at 3% for notional company as per Ofgem working assumption) would result in deferring benefit to shareholders into the longer term which adds risk to equity.

An appropriate dividend yield

In addition to a wide range of financial literature and empirical evidence that shows that dividend policy matters to investors, **utilities are generally considered as income or dividend-paying stocks**. Utilities pay out a dividend yield that is at the top end of the range compared to other sectors. For example, Ofwat has noted that the 'water utilities are typically considered to be income stocks' and assume a dividend payout ratio in the upper end of the European market average payout range. As shown in **Appendix 11.01**, the dividend yield for the majority of the listed UK water and energy companies has generally been in the range of 4–6% and averaged around 5% for the past ten years.

There are a number of regulatory precedents supporting a dividend yield of around 5%. At PR19, Ofwat expressed a view that 'the maximum level reasonable for the base dividend was equivalent to a nominal base dividend yield of 5%'. At RIIO-1, Ofgem assumed a dividend yield of 5% of regulatory equity for the notional company.

The UK energy sector relies on equity, and has done so since privatisation. The characteristics of investors in the sector mean that they expect utility investments to deliver long-term, stable cash flows that match their liabilities. This is the essence of private capital investments in regulated utilities and underpins one of the lowest costs of capital when compared to all other industries. The UK energy sector relies on this low cost of capital to help keep bills to acceptable levels. It is the ability of the energy sector to attract such long-term equity holders that has enabled large amounts of investment to be financed. A lower dividend yield has the effect of reducing the appeal of the sector to long-term investors.
Details of key equity metrics under different scenarios are included in the **Appendix 11.01**.

Targeting a notional dividend yield of 5% has the effect of materially reducing the headroom on various key credit metrics. This will have the effect of increasing gearing that cannot be sustained over time as shown in **Table 11.07**.

Table 11.07: Notional company: 4.8% returns on equity: 5% dividend yield

Notional 4.8% return to equity with dividend yield fixed at 5%	RIIO-2					
	2022	2023	2024	2025	2026	RIIO-2 average
Net Debt / RAV	61.10%	61.92%	62.68%	63.31%	63.85%	62.57%
FFO / Net Debt	9.22%	9.46%	9.43%	9.43%	9.45%	9.40%
AICR	1.38	1.46	1.45	1.44	1.43	1.43
RCF / Net Debt	5.95%	6.23%	6.24%	6.27%	6.32%	6.20%
Numerical assessment	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1

Source: LiMo

On an actual company basis, we are able to achieve a relatively high dividend yield relative to the notional company assumptions, mainly due to the significant actions supported by equity in the past. However equity has incurred a significant cost which is not remunerated via the framework. Equity support in the past that enabled the refinancing of relatively expensive debt in 2016 results in improved cash flow available to equity.

While customers have benefitted through improved debt metrics and lower cost of debt it will take several years for equity to achieve payback of the upfront investment made (via the implied premium), effectively creating a long-term dividend holiday for the equity.

As discussed above, our shareholders have contributed £842m to support our refinancing. It will take a dividend holiday of four years to recover these costs.

Customers have benefitted from low-cost equity attracted to the sector for its reliability and stable, predictable cash flows. However, the increasing regulatory changes impacting cash flows have resulted in a change in sector outlook, which is evidenced through lower liquidity in recent transactions within the sector. In the short term, the misalignment could result in additional capital providers favouring other sectors, thus **reducing the available funds for companies to finance their capital requirements.**

While it is unlikely that existing investors will exit immediately, a reduction in discretionary investment, unobservable effort, or a delay in deployment of capital could ensue. Over time this could lead to a **change in investor profile with a more passive asset management approach that does not align closely with the needs of networks for innovation, efficiency and transition to Net Zero.**

11.5.2 CPIH indexation

Immediate transition to full CPIH indexation increases customer bills but supports short-term financeability. We support the long-term transition to CPIH as we believe there are valid concerns over the validity of RPI as a measure of inflation. However Ofgem's approach of a full and immediate transition to CPIH has the effect of significantly accelerating revenues from future periods, such that current customers will pay more to the benefit of future generations.

Short-term benefits to cash flow which solve financeability constraints mask underlying sustainability issues. By not implementing a phased transition, more revenues are accelerated from future price control periods implying long-term vulnerability from RIIO-3 onwards.

To illustrate the impact, in **Table 11.08** we have produced a counterfactual scenario of our RIIO-2 forecast under 65% gearing and RPI-indexed cost of capital. The performance metrics show a drastic decline in our implied credit rating.

Table 11.08: Counterfactual RPI scenario

		RIIO-2 AVERAGE		
Return to equity ('RPI')	3.7%	Notional	Actual	Actual adjusted for refinancing
Net Debt / RAV		64.25%	63.75%	63.75%
FFO / Net Debt		8.24%	8.87%	8.23%
AICR		1.22	1.72	1.26
RCF / Net Debt		6.61%	6.68%	6.68%
Numerical assessment		Ba1	Ba1	Ba1

Source: Cadent Regulatory Model

We don't believe the immediate switch to CPIH represents the optimal solution for our customers given the resulting increase in bills. Notwithstanding our concerns, our working assumption is a full transition to CPIH, consistent with Ofgem's requirements.

11.5.3 Financeability enhancements are likely to be reversed by rating agencies.

In RIIO-1 Ofgem increased the capitalisation rates for repex, from 75% (RIIO-1 average) to 100%. This created financeability concerns which could only be resolved by increasing depreciation. In RIIO-2 we have assumed repex and all of our capex will be treated as 'slow money', and all opex as 'fast money'. This will result in the share of 'slow money' increasing from 50% of our cost base in FY2019 to 60% of our cost base in FY2026. We are only able to support this increase due to the strong resilience driven by equity support over the last three years. This ensures costs are appropriately allocated between current and future customers.

We have avoided any adjustment of asset lives to address financeability concerns. This ensures consistency between RIIO periods and networks, and supports sustainability and longer term financial resilience. We continue to consider it is appropriate to adopt a "sum of digits" approach to calculating depreciation which accelerates depreciation of the RAV in the short term, mitigating asset stranding risk.

We are monitoring the risks associated with the future of gas and the potential implication of this for asset lives and depreciation. Based on our assessment of the future of gas pathways, we do not believe now is the right time to make any such adjustment to asset lives. We have analysed and included the impact of changing asset lives in **Appendix 11.00**.

Affordability and financing our Plan continued

Rating agency views on financeability levers

Rating agencies will 'see through' or disregard the benefit of any financeability enhancements (e.g. changes to capitalisation rates and depreciation periods) which negates the benefit of such measures.

Fitch in its note on the 'Importance of Post-Maintenance Interest Coverage Ratios 'PMICRs' for Credit Analysis of UK Regulated Networks' in January 2019 observed that 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 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.'

A similar view has been expressed by Moody's in its Rating Methodology where it notes that a regulator has significant ability to alter the timing of a network's cost recovery by changing specific parts of the regulatory formula. The adjusted ICR attempts to normalize for these 'regulatory levers' by adjusting FFO by an amount of money that can be influenced by regulatory decision-making in the allowed revenue calculation.

When we designed our enhanced engagement programme with customers we did not originally intend to directly engage customers over our approach to depreciation of assets or capitalisation rates and their impact on the bill. The sum of digits methodology already accelerates cost to current customers and we consider it unfair to charge current customers even more to the advantage of future customers, when the useful economic life of the assets potentially extends to these future customers. However, we have noted RIIO-2 Challenge Group feedback on our October draft Plan asking us to reconsider our approach to engagement on this issue. We are also aware that other organisations have attempted to engage on this. We plan to engage with customers on these issues in 2020, including in response to decisions made by Ofgem. This is detailed further in **Appendix 05.01 Stakeholder Engagement Strategy**.

Customer feedback based on current engagement has been such that we should be targeting lower bills as long as safety is not compromised. We believe our current approach achieves this whilst maintaining a sold investment-grade credit rating.

11.6 Risk exposure and resilience

We have completed detailed risk analysis and applied the Ofgem and RIIO-2 Challenge Group guidance on sensitivities. This includes a detailed assessment and careful analysis of risk exposure at the company level due to the continued underlying exposure of the business to risk and the introduction of new regulatory mechanisms that increase risks. **We believe that there is strong evidence demonstrating the balance of risk and return is significantly negatively skewed.**

The regulatory framework should be designed to fairly reward the risk taken by companies while balancing the cost to consumers. The framework should provide the financial capacity and headroom to enable companies to invest in the network, without which customer bills will increase over the longer term. In addition to this, RIIO-2 needs to be underpinned by an effective incentive framework to ensure companies' interests are aligned to the effective and efficient operation and investment in the network.

Through our detailed assessment, we have identified the impact of a number of new regulatory mechanisms introduced by Ofgem which can have a skewed incentive impact.

- Allowed returns outperformance wedge: changing of the allowed returns from 4.8% to 4.3% resulting in an ex ante assumption of an incentive bias of 50 bps
- Return Adjustment Mechanisms
- Cost of equity indexation
- Business Plan incentives (with asymmetric penalty only calibration for most of the stages)
- Changes to sharing factors with outperformance: implications for risk exposure
- Acceleration of cash flows resulting from (non-phased) introduction of CPIH

Our analysis is supported by extensive stress testing including the prescribed Ofgem scenarios. We have analysed a select set of stress tests against the proposed cost of equity including the outperformance wedge (4.3% CPIH-stripped). These can be found in **Appendix 11.01**.

In downside scenarios, we have carefully considered and tested Ofgem's suggested remedies as well as applying our own permissible remedies. The requirement for additional mitigations is limited as equity has already provided extensive mitigations. Set out below in **Table 11.09** are the various mitigations we have considered and the impact of those mitigations.

Table 11.09: Mitigations considered and impact analysis

Ofgem's suggested levers for ensuring financeability	Impact analysis
Restriction of dividend	The notional company working assumption is to fix a dividend yield of 3%. Sustained disruption to a steady dividend yield or resetting the dividend yield to a lower level will impact this class of investors who rely on a steady stream of cash flow. The resultant impact on the cost of equity will lead to higher bills for both current and future customers.
Equity injection	The premium paid to refinance the debt at segmentation has the effect of a dividend holiday for equity so a form of equity injection has already been made to provide us with the sector-leading cost of debt and related financial resilience.
Refinancing of expensive debt (using equity injection or dividend restriction)	As noted above, at significant cost to equity, expensive debt was refinanced and replaced with low cost debt at the point of separation from National Grid. We have a sector-leading financial profile. In 2016, there was an equity support estimated at £842m to enable refinancing of our higher cost of debt, taking advantage of the prevalent lower cost of debt.
Adjust capitalisation rates	We have revisited and decided to maintain the current policy in the interests of intergenerational fairness. We have assumed all investment spend (capex and repex) is slow money and all operating costs are funded via fast money.
Adjust depreciation rates	We do not believe this is required for RIIO-2 at a minimum return on equity at 4.8%. As government policy to decarbonise heat becomes clearer there may be more compelling arguments for the sector to adjust the asset lives of existing and new network assets to ensure intergenerational affordability. We will continue to review this ahead of final proposals for RIIO-2 alongside Ofgem's final view on the cost of capital and any updated financeability analysis.
Adjust notional gearing	We have maintained the notional gearing at the level of Ofgem's working assumptions. Our analysis shows that the notional company cannot confidently be assumed to achieve the 0.5% outperformance and therefore the base cost of equity needs to be a minimum of 4.8% to ensure a resilient financial profile at 60% gearing. We have modelled scenarios at 60% gearing and other scenarios and results are presented in **Appendix 11.01**.

Source: Financeability Assessment for RIIO-2: Further Information, p11 (26 March 2019).

Our analysis highlights the fact that further mitigations will not address the most pervasive challenge of financeability to equity because **the problem is rooted in the low cost of capital proposed**.

Detailed stochastic risk modelling demonstrates that there is no evidence that we will be able to achieve a 50 bps outperformance incentive. We have tested the variability across specific cost categories across totex costs and uncertainty mechanisms. None of the simulated iterations achieve the 50 bps outperformance suggesting Ofgem's framework is internally inconsistent. Also, AICR has a significant risk of fallings below the threshold 1.4x for Moody's Baa range.

A key mitigation we considered was adjustments to the capitalisation and depreciation rates. As part of our Plan we have adjusted the capitalisation rates as set out earlier in this chapter to reflect the mix of work forecast in RIIO-2. We consider that it is difficult to rationalise any justifications for moving away from our assumed fast/slow money split and depreciation rates, which reflect our Business Plan expenditure and investment plans. We aim to balance affordability and financeability, the resulting implication for RAV growth and dividend yield, and the trade-off between current and future customers.

As part of our scenario analysis we have included in **Appendix 11.00** the bill impact of alternative asset lives. In addition to revenues already brought forward to the extent of 8.4% during RIIO-2, following the change from straight line method to sum of digits method, a reduction in asset life by five and ten years will further bring forward revenues to the extent of 1.7% and 3.4%, creating significant additional intergenerational issues.

The reduced allowed cost of equity will lead to significant reductions in overall cash flows. Reduced cash flows imply a major challenge to equity and reduced headroom to accommodate shocks and downsides. Projected equity metrics are also contingent on a number of assumptions, which if they do not hold mean a significant negative impact on equity.

11.7 Achieving a balance between delivering compelling bill reductions and maintaining financeability

Our approach to financeability of the RIIO-2 package has been to consider it in tandem with customer bill impacts, given that both are directly influenced by the regulatory framework, economic conditions, and cost and revenue levels. Based on the current estimates of costs and workload, we have set out our assessment of the key drivers to changes in customer bills from the current (FY18/19) RIIO-1 bill levels to closing (FY25/26) RIIO-2 levels.

We have applied our standard methodology for calculating customer bills that is recognised across the sector. Further details are provided in **Appendix 11.00**. All charts are presented in today's prices (2018/19).

Our base plan shows a greater than 10% reduction in domestic customer bills compared to current charges, however, there is significant uncertainty which could increase or decrease this central case estimate. This position will ultimately vary as the regulatory framework develops, but even against an upper range scenario, our Plan shows an even greater expected percentage reduction in domestic bills than will be delivered in RIIO-1.

We are delivering customer bill savings through totex efficiencies, control of pension scheme liabilities and equity holders bearing increased risk and lower returns summarised in **Figure 11.06**.

Affordability and financing our Plan continued

Figure 11.06: Annual domestic bill forecast: FY25/26 compared to current (FY18/19) charges (4.8% Return to Equity)

Source: Cadent Regulatory Model. Note: Customer bill analysis excludes the potential upward movement from Real Price Effects, inflation (as based on real prices), performance factors (incentive income / penalty), differences on Uncertain costs and cost of capital relative to the Base Case and other variables as these will not be finalised until Final Determination. These variables are described and quantified in Appendix 11.00 to enable Shippers to understand the range of potential impacts for future price setting.

Key actions taken to support customer bill reductions:

1 Removing the need for sculpted depreciation profiles used in RIIO-1 to address financeability issues, which we believe is not sustainable over multiple price control periods, has resulted in savings of £3 in bills.

2 We will generate savings in pass-through costs driven by improved management of shrinkage (volume of gas leaks as a consequence of strategic repex delivery model) and driving costs and revenues down which has a consequential impact on business rates payable.

3 Our drive for higher efficiencies through totex savings and our transformation programme is estimated to deliver a £6 reduction in consumer bills. **Chapter 9** provides further details of the transformation, innovation and ongoing efficiency assumptions driving these cost reductions.

4 The reduction in bills is expected to be partly offset by a small increase of £2 due to our enhanced commitments on service standards. This is mainly in relation to additional funding to support customers in vulnerable situations.

5 As we do not require incremental funding for the defined benefit pension scheme from FY22/23, customers benefit from a £5 per year reduction in bills. We have worked with the Pension Trustee to take steps to de-risk the assets and this has enabled the assets to more closely match movements in the liabilities and so reduce the need for customer funding. Accordingly the present schedule of deficit repair payments ends four years earlier than the original plan.

6 Ofgem's proposals for more than halving the cost of equity will result in a saving of £7 on bills.

7 Offsetting this reduction is Ofgem's decision to fully transition to CPIH based inflation and a capital structure that includes more equity (at a higher cost to consumers) and less debt.

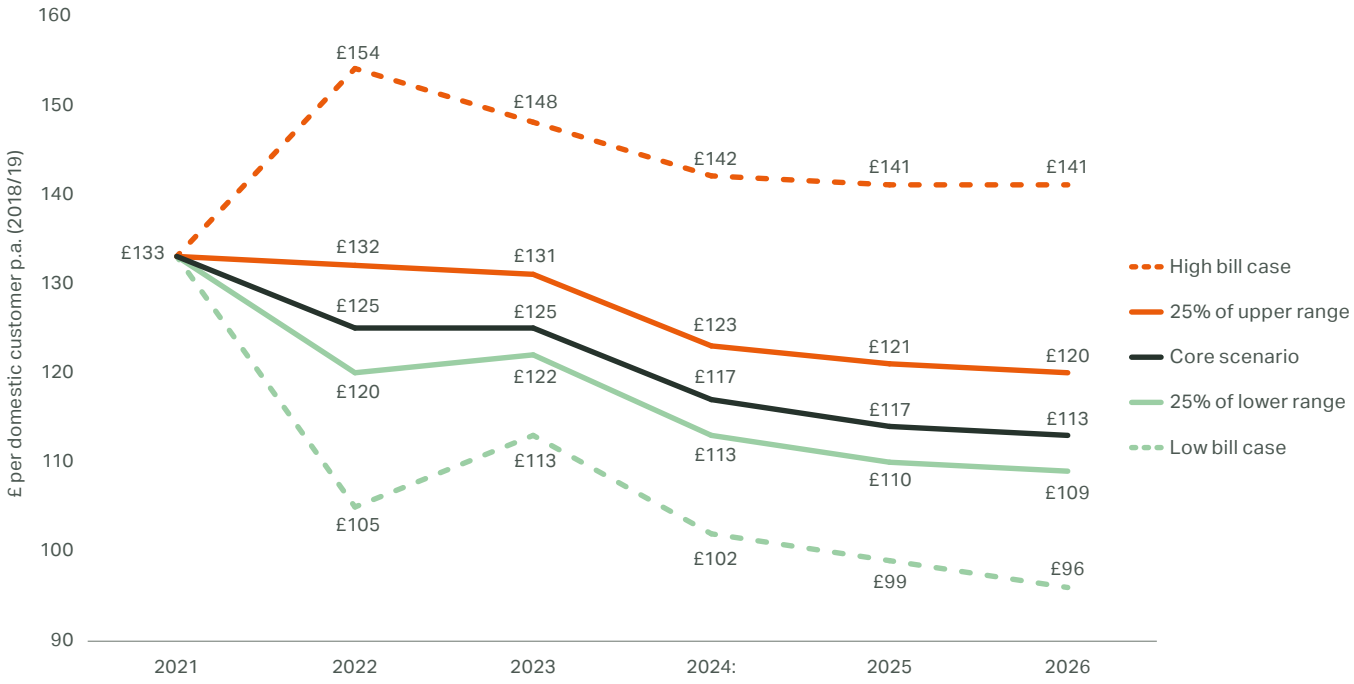
As a result of equity support and our improved financial resilience we do not need to use capitalisation or depreciation levers as additional tools to achieve financeability, beyond the increases in capitalisation rates (driven by a continuation of a 100% capitalisation rate for repex) in our Plan.

The bill in nominal terms in 2026 is estimated at £139, an annual increase of less than 1% relative to current charges; significantly below the inflation assumption.

We have also analysed in **Figure 11.07** two extreme bill scenarios by flexing the cost of capital, economic conditions, uncertainty mechanisms and cost and incentive performance. Naturally, the likelihood of all the positive or negative scenarios happening simultaneously is low, however the range of -£17 to +£28 largely illustrates the effect of incentive performance scenarios and uncertainty mechanism outcomes. The analysis indicates, even in an extreme high bill scenario, the average customer bills are expected to be not more than 5% higher than the 2021 forecast bills.

Appendix 11.00 provides more details on bill impacts including commentary on distributional impacts, and different user groups.

Figure 11.07: Range of potential RIIO-2 domestic bills (2018/19 prices)



Source: Cadent Regulatory Model

11.8 Intergenerational bill assessment and distributional impacts

11.8.1 Intergenerational bills

The depreciation methodology we have proposed (which maintains Ofgem's prescribed RIIO-1 sum of digits profile) results in current customers paying more than future customers and a declining bill profile over time. In a world where we see opportunity for progressively reducing bills in real prices, there is capacity to increase returns to a central case which would support stability and sustainability of the framework, whilst maintaining affordability.

Our strategy on customer bills is to balance affordability between current and future generations. We have sought to avoid making decisions that could increase bills for current customers when the future of gas and UK heat policy decisions have not yet been made. In lieu of these key decisions we see no firm basis to change approach and re-balance the current framework. We aim to deliver reducing bills to current and future customers, by supporting Ofgem to maintain a stable and predictable regulatory framework that enables us to pass on our component of the gas bill to Shippers with confidence and certainty.

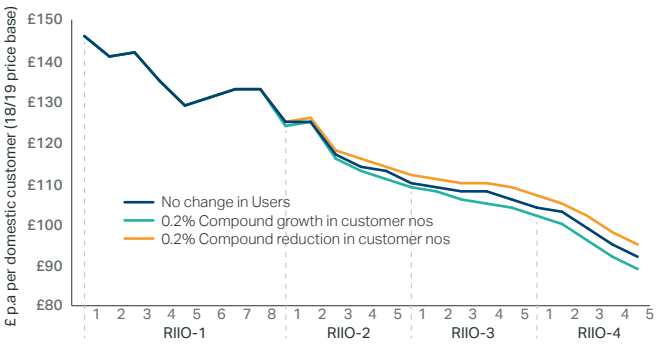
Ofgem's objectives relate to both existing and future customers. Ofgem rightly states: "Our duty to current and future customers is to protect their 'interests taken as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply of gas and electricity to them".

The speed of change in this area is high and the future is uncertain. We continue to review and assess as we move through RIIO-2 with a view to having a clearer pathway to support amending policy for RIIO-3 and beyond if required. We explain in **Chapter 6** that we see no credible scenario where there is no requirement for a gas network. Further details can be found in the Environmental Action Plan – **Appendix 07.04.00** and **Chapter 6** provides further comments on the future of gas and our approach to whole systems solutions. Based on our assessment of the future of gas pathways, we do not believe now is the right time to make adjustment to asset lives.

Initial indicative estimates shown in **Figure 11.08** below show that bills are reducing into RIIO-4 based on two estimates of customer numbers, a base case with no change, and either a 0.2% compound growth or decline that could arise from policy decisions. Should policy decision evolve to accelerate depreciation of the RAV there is room to increase bills above this baseline without increasing bills to customers relative to today's levels.

Any future policy decision will require a whole sector review of charging to consider balance of bills cross-sector and the role of other funding mechanisms (taxation, innovation funds, etc.). This is beyond the scope of what can be covered in this report. However, we analyse in **Appendix 11.00** the impact of changing asset lives and capitalisation rates that are levers available to us to de-risk asset stranding and change the profile of bills between generations.

Figure 11.08: Indicative estimate of bills into RIIO-4 (2018/2019 prices)



Source: Cadent Regulatory Model

We do not assess financeability into the longer term. We comment above how the low cost of capital proposed, in combination with the conversion to CPIH indexation, increases the risk to sustainability for the industry.

Affordability and financing our Plan continued

11.8.2 Distributional impact of bills

Appendix 11.00 provides commentary on how we manage and contribute to ensuring a cost distribution reflective of its component of the gas bill to customers. We do not directly control customer bills or have the ability to target different unit prices to different categories of domestic or business user groups. This is managed by Shippers. Our charges are governed by the Uniform Network Code and Ofgem licence conditions.

The charging methodology does not allow intervention via the customer bill to support vulnerable user groups, but we comment below on how we are working to ensure a predictable, stable regulatory framework to enable accurate forecasts that support Shippers to pass through our component of the bill accurately. We make significant effort and have a strong track record of communicating accurate forecasts to Shippers to enable a pass through of our cost savings to end customers without risk adjustment.

We acknowledge that the metric of domestic bill p.a. does not get to the heart of affordability and our strategy to support customers in vulnerable situations. The table below shows the indicative range of bills based on different usage.

Table 11.10: Indicative bill impact based on usage (2018/2019 prices)

Usage category	Low	Mid	High
KwH - consumption	8,000	12,000	17,000
£ p.a. (indicative)	75	113	160

Source: Ofgem Typical Domestic Consumption Values and management information (Assume mid usage equivalent to average customer bill for presentational purposes)

We note and agree with Ofgem in their recent charging announcement that "We carefully considered the impacts of reforms on vulnerable consumers, but found them to be present in all consumption categories. We think targeted approaches for supporting vulnerable consumers are more appropriate than changes to the network charging".

Domestic charges are based on the same unit cost regardless of consumption, i.e. a variable cost. It is not possible for us to directly influence the cost of our services for customers in vulnerable situations, including fuel poverty. However, we are offering stretching customer-tested commitments to these user groups as documented in **Chapter 7** of this Plan that will support moving them out of fuel poverty through various measures including energy efficiency. Table 11.10 illustrates the impact of living in an energy-inefficient home and therefore the value to customers of support in this area. **Appendix 07.03.11** details how we are tackling affordability and fuel poverty with specific commitments and direct intervention to over 25,000 Fuel-poor customers.

We promote our position by actively participating in industry groups to ensure charges are cost-reflective and make recommendations to charging methodology changes in support of this objective. Changes to charging methodology are not restricted to the timing of price controls which set the total "pot" of charges to be allocated to our customers. How this "pot" is divided up is not covered in detail in scope of this Plan but we provide commentary in our **Appendix 11.00** on the existing methodology.

Customers in different networks receive different charges related to the cost of the infrastructure (RAV) per customer in these networks. This variability is linked largely to historic expenditure levels (RAV) relative to the number of customers in the geography. We are not able to cross subsidise customers between our networks but focus on ensuring costs are accurately recorded to each distribution network to mirror the cost to serve.

Supporting evidence

The following Appendices set out evidence and supporting information that are cross referenced in this chapter:

- **11.00 Affordability**
- **11.01 Financeability**
- **11.03 Our view on cost of capital**