

# RIIO-ED2 Draft Determinations Consultation Response

## Finance Annex

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**FQ1. Do you agree with our approach to estimating efficient debt costs and setting allowances for debt costs?**

We agree with the continuation of the policy to apply full indexation to the cost of debt allowance, which involves re-setting the allowance each year according to updated data for a benchmark index. An approach that involves broadly matching the cost of debt allowance with the average borrowing costs of the sector by using a benchmark index that is expected to be most representative appears reasonable.

However, NGN cannot comment on the specific calibration of the index for RIIO-ED2 price control, the length of its trailing average or the appropriateness of the allowance for additional costs of borrowing for DNOs as we don't have the required information on the ED sector efficient debt costs (although in principle we support the concept of providing an allowance for additional costs of borrowing).

NGN welcomes that Ofgem retains the policy to remunerate companies in exceptional circumstances, e.g. its decision on an infrequent issuer premium on the allowed cost of debt for three licensees. We agree that a premium (we do not comment on its quantum for ED licensees) reflects an unavoidable increase in the cost of debt for those notional licensees that are expected to issue smaller size new debt or issue new debt less frequently than other networks, due to their smaller RAV sizes and/or lower RAV growths.

**FQ2. Do you have any views on the model to implement equity indexation that is published alongside this document, (the 'WACC Allowance Model - RIIO-ED2 30th April 2022 update Alternative Wedge')?**

Firstly, we agree with Ofgem that although some regulatory finance issues are similar across the sectors, RIIO-ED2 remains a separate price control from RIIO-GD&T2. Therefore, it is important to point out that Ofgem's considerations of whether and how to re-calibrate even common WACC parameters or the tools for their estimation should be considered in their own right for the RIIO-ED2 price control.

Our view on the equity indexation in relation to Ofgem's approach to setting the risk-free rate (RFR) for RIIO-ED2 can be summarised as follows.

We support the conclusion made by Oxera in its new report<sup>1</sup> on the Cost of equity in RIIO-ED2 that Ofgem made an error in estimating the RFR for RIIO-ED2 because it only placed weight on ILG yields, notwithstanding the weight of evidence from the academic, market and regulatory sources that gilt yields are likely to reflect a significant convenience yield.

It is worth recalling that the CMA in its Final Determination on the GD/T2 appeals found that *"ILGs are an imperfect proxy for the RFR"* and *"there is evidence to*

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<sup>1</sup> Cost of equity in RIIO-ED2 Draft Determinations. Prepared for the ENA. Oxera (25.08.2022)

*support the notion of a convenience yield in government-issued securities”.*<sup>1</sup>

Therefore, we believe Ofgem should reconsider its provisional decision to place full weight on ILG yields in its RFR estimation.

We also have concerns with the assumptions Ofgem contemplates in relation to its alternative methodology to the estimation of the RPI/CPIH wedge. A more rigorous analysis is required to validate the appropriateness of these assumptions. We elaborate further on this topic in our response to FQ3.

Therefore, we believe Ofgem needs to reconsider its approach to the RFR indexation in the ED2 Final Determinations, allowing for the inclusion of a convenience yield premium. This would consequently have to be reflected in its ‘WACC Allowance Model - RIIO-ED2 30th April 2022 update Alternative Wedge’.

**FQ3. In light of the upcoming change to the definition of RPI in 2030, should the RPI-CPIH inflation wedge be based on: a) a single year (as shown in the WACC allowance model when: cell D2 is “year 5 forecast” and cell B5 is “01/04/2022”); or b) should it be based on 20 years of inflation forecasts (as shown in the WACC allowance model when: cell D2 is “20 year geometric” and cell B5 is “01/04/2031”)?**

Although Ofgem did not place weight on the 20-y geometric method to derive its point estimate of the risk-free rate in the Draft Determinations, we note that

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<sup>1</sup> CMA (2021), ‘Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited vs the Gas and Electricity Markets Authority – final determination Volume 2A’, 28 October, para 5.68

this alternative methodology would rely on a strong assumption that the market would expect the RPI–CPIH wedge to be zero from 2030 with a 100% probability. This is unlikely to be the case given that there is still uncertainty about the reform and its timing, as explained in Oxera’s Cost of equity in RIIO-ED2 report<sup>1</sup>.

Ofgem should exercise caution until the RPI reform is confirmed and the expectation of the reform can be seen clearly in the market data, which at this stage is not the case.

There’s nothing inherently wrong with Ofgem’s current methodology: it is highly likely that OBR would take into account the RPI reform when it presents its year-5 forecast in 2025. Thus, there is no pressing need to change the current methodology now, whereas an alternative one requires further analysis before a firm conclusion on its appropriateness can be made.

For example, as demonstrated by Oxera, there is strong evidence based on zero-coupon RPI and CPI swaps and the historical CPI–CPIH wedge demonstrating that the alternative market assessment of the wedge is currently 56bps<sup>2</sup>. This is 36 bps higher than Ofgem’s 20-y geometric estimate presented in its ED2 WACC Allowance Model.

The balance of evidence suggests the wedge is likely to be closer to the values produced by the method already in use by Ofgem, suggesting no strong reason to depart from the first method. The benefit of this approach is that by following

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<sup>1</sup> Cost of equity in RIIO-ED2 Draft Determinations. Prepared for the ENA. Oxera (25.08.2022). p.9

<sup>2</sup> Ibid, p.11

it, Ofgem exercises caution until the RPI reform is confirmed and the expectation of the reform can be seen clearly in the market data.

#### Step 1 - Consultation questions on TMR

### **FQ4. Is there evidence that suggests we should change our approach to TMR for RIIO-ED2?**

We welcome Ofgem's statement on being "*open-minded to new evidence*"<sup>1</sup> as some fairly significant new evidence relevant to the TMR estimation has indeed emerged recently, which must be taken into account by Ofgem in its Final Determinations on RIIO-ED2 price control.

Ofgem's TMR estimates are derived by calculating the adjusted geometric average of the historical returns published by Dimson Marsh Staunton (DMS). To convert the TMR from nominal to CPIH-real, Ofgem deflates the historical returns series using the ONS CPI back-cast. However, Ofgem's estimates contained in the RIIO-ED2 Draft Determinations are based on erroneous and a now superseded back-cast.

In May 2022 a new superior CPIH back-cast has been published by the ONS<sup>2</sup>, demonstrating that CPIH inflation was 0.24% lower than the old estimates of CPI

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<sup>1</sup> RIIO-ED2 Draft Determinations – Finance Annex, Para 3.28

<sup>2</sup> Office for National Statistics (2022), 'Consumer price inflation, historical data, UK 1950 to 1988', 18 May, <https://www.ons.gov.uk/economy/inflationandpriceindices/datasets/consumerpriceinflationhistoricaldatauk1950to1988> (last accessed 14 June 2022).

inflation over the period 1900–2021. This means that the CPIH-real TMR should be corrected upwards by c. 0.25%.

Ofgem estimates the TMR by calculating the geometric average of returns and applying a subjective uplift to account for the difference between the arithmetic average of returns and the geometric average.

The correct methodology of averaging historical returns has been explored at length in the CMA PR19 and RII0-GD2/T2 appeals. The CMA concluded that “in the absence of clear modelling of the regulator’s decision, the most appropriate estimate to use is the arithmetic mean... We continue to find that approach to be appropriate and applicable to the facts of RII0-2”<sup>1</sup>.

The CMA also stated that *“the uplift GEMA had applied to its geometric return to be consistent with the limited evidence on serial correlation in UK returns. The appellants have not provided convincing evidence to suggest that GEMA’s uplift was incorrect. Therefore, we do not find that GEMA had made an error in its approach to averaging historical returns”*<sup>2</sup>.

In this context in the RII0-ED2 Draft Determinations, Ofgem refers to the CMA conclusions, to say that Ofgem’s preferred methodology is not wrong. However,

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<sup>1</sup> CMA (2021), ‘Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited vs the Gas and Electricity Markets Authority – final determination Volume 2A’, 28 October, para 5.266

<sup>2</sup> CMA (2021), ‘Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited vs the Gas and Electricity Markets Authority – final determination Volume 2A’, 28 October, para. 5.271.



Oxera in its new report<sup>1</sup> presented additional analysis and confirmed that equity market returns are in fact not serially correlated.

We agree with Oxera's conclusion that Ofgem's proposed methodology is not correct because it is not substantiated by empirical evidence and it does not take into consideration the regulatory framework of setting allowed returns — that is when setting allowed regulatory returns the regulator is setting a stream of annual cash flows (rather than cash flows that are compounded over time as a geometric averaging methodology would require)<sup>2</sup>.

**FQ5. Can stakeholders confirm their view on the trade-off between: the objectivity of using outturn averages (even though the results may be materially higher or lower in future price controls than current TMR expectations); versus the benefits of putting more weight on current expectations (noting the evidence from cross-checks and the associated risk of subjectivity)?**

We don't think that it is appropriate to be seeking to establish and apply precise mathematical weighting in estimating current TMR to either of the presented options as there is no perfect single source of information on TMR.

That said, using long-term outturn averages is a better-researched and well-established method of estimating UK equity market returns and in our view should be primarily relied upon.

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<sup>1</sup> Cost of equity in RIIO-ED2 Draft Determinations. Prepared for the ENA. Oxera (25.08.2022). p.16

<sup>2</sup> Ibid. p.17

Forward-looking expectations derived from various cross-checks would be highly dependent on the particular set of cross-checks chosen for such an exercise and would be highly volatile and vulnerable to the subjectivity of their calibration and interpretation.

No cross-check is perfectly robust or reliable, which is why they are not considered a replacement for CAPM as the primary estimation method of the cost of equity. The use of short-run measures would wash a combination of market sentiment and noise into the regulatory determinations, weakening stability and predictability and harming investor confidence.

**FQ6. Do stakeholders agree with our proposal to apply the same TMR for RIIO-ED2 (a mid-point of 6.5% CPIH) as we did for RIIO-GD&T2?**

No, we do not agree that Ofgem should apply the same TMR for RIIO-ED2 (a mid-point of 6.5% CPIH) as it did for RIIO-GD&T2.

Since the RIIO-GD&T2 decision, 2 years have passed and important new evidence has emerged. After taking into account this new evidence and correcting for errors on inflation series and averaging mentioned in response to FQ4, the real-CPIH TMR estimate should be between 7.1% and 7.2% based on the arithmetic average of the historical yearly returns<sup>1</sup>.

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<sup>1</sup> Ibid, p.17

**FQ7. Do you believe that DNOs have a higher or lower level of systematic risk than the GD&T companies during their respective RIIO-2 periods?**

We believe that the gas distribution sector faces higher risks than DNOs. This is driven primarily by the higher tail-end risks resulting from the range of possible future demand scenarios for gas distribution network usage.

On the one hand, the gas distribution could potentially require material new investments arising from an emerging hydrogen economy over the next two decades. Alternatively, the sector could be facing (potentially rapidly) declining demand. Under all reasonable scenarios the Gas Distribution sector faces the prospect of a proportion of network assets not being required to meet demand under those scenarios. In the absence of any clear regulatory or government policy for how to address such a scenario, this creates a significant downside asset stranding risk for current investors and the expectation of incomplete recovery of the outstanding RAV of those assets.

Even when regulatory or government policy on the future of gas in the UK does crystallise, this cannot completely eliminate these stranding risks. It must be considered that any regulatory commitments on full RAV recoverability made now, cannot guarantee that this decision would be upheld by the regulator in what may potentially be a very different macro environment in the distant future.

There are also risks associated with any required decommissioning programme. The costs of a large-scale decommissioning programme of a gas network will

remain uncertain for an extended period of time because of the “first-of-a-kind” nature of such expenditure. This implies a very different risk-reward profile for GDNs.

Neither of these risks are faced by the DNOs.

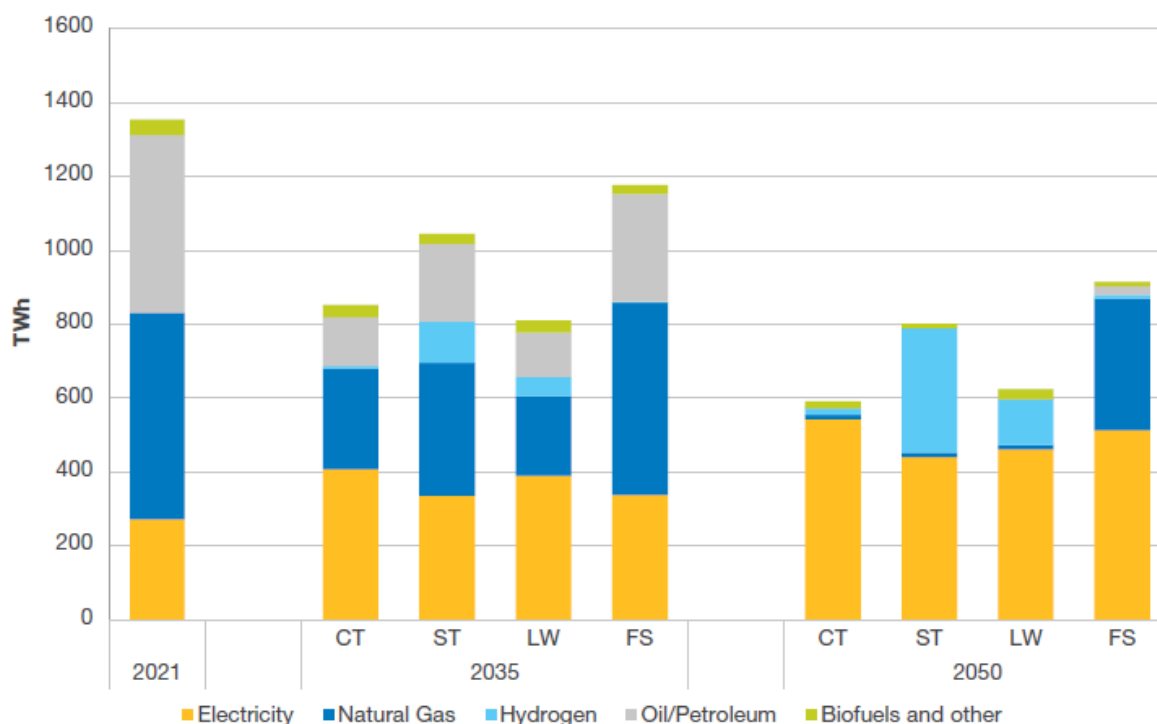
Recent Government policy has targeted both new hydrogen production and increased roll-out of heat pumps. For gas distribution networks, the critical issue will be whether hydrogen for domestic heating becomes a viable and growing sector, and competes with or complements heat pumps and/or district heating to be the heat source of choice. A major Government policy decision on the use of hydrogen for domestic heating is expected in 2026.

The existence of these tail-end risks is illustrated in National Grid ESO’s Future Energy System (FES) scenarios. The 2022 FES scenarios were published recently. The chart below shows the headline change by 2035 and 2050 in end consumer energy demand by different fuel types, under the four FES scenarios.<sup>1</sup> The underlying data is shown in the table beneath.

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<sup>1</sup> CT = Customer Transformation; ST = System Transformation; LW = Leading the Way; FS = Falling Short.

**Figure EC.02: Annual end consumer energy demand by fuel**



Consumer Demand TWh - split by fuel

	2021
Electricity	272
Natural Gas	560
Hydrogen	0
Oil/Petroleum	480
Biofuels and other	44
Total	1,355

2035			
CT	ST	LW	FS
409	335	390	340
272	362	216	519
8	110	53	3
132	210	118	290
33	29	33	25
854	1,046	810	1,178

2050			
CT	ST	LW	FS
543	442	463	514
14	12	11	355
16	337	125	10
0	0	0	25
25	18	30	12
598	810	629	916

This represents aggregate scenario demand for homes, road transport, rail industry and commerce, including industrial direct connects<sup>1</sup>.

The fall in total demand for gas (i.e. natural gas + hydrogen) is stark.

<sup>1</sup> The data does not include demand for aviation and maritime or electrolysis

- By 2035, total gas demand would fall by c. 50% in the CT and LW scenarios; 16% in the ST scenario; or 7% in FS (which is a scenario that is not compliant with the 2050 Net Zero target).
- By 2050, under the CT scenario there is almost no gas demand whatsoever (either hydrogen or natural gas) – with aggregate demand falling by 95%. The decline is 76% in LW; 38% in ST (which involves the highest hydrogen demand); and 35% in FS (where demand remains largely for natural gas).

The aggregate figures partially hide the story for residential consumers, who are the most relevant when considering gas distribution network risks. The majority of gas demand at the distribution level is used for residential heating.<sup>1</sup> NG ESO provides the following two charts which focus specifically on heating.

Figure EC.R.07: Natural gas demand for heating

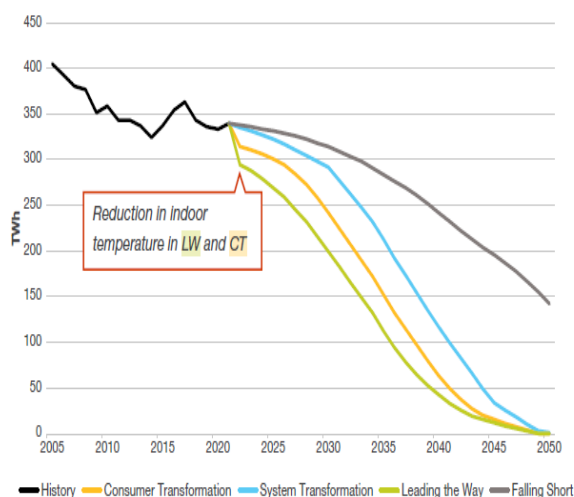
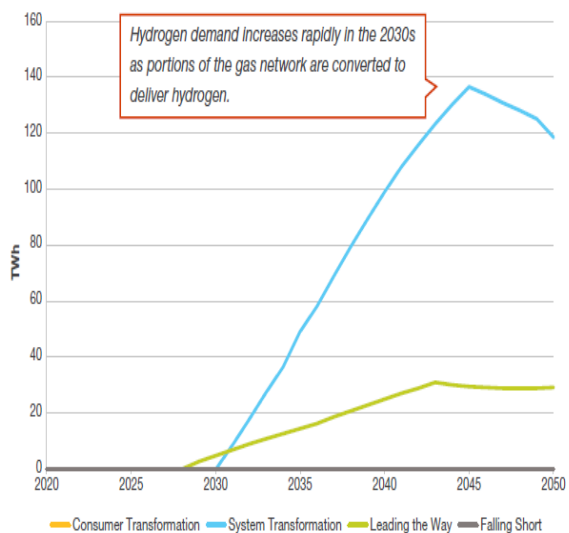


Figure EC.R.08: Hydrogen demand for heating



<sup>1</sup> See eg Figure EC.R.04 in FES 2022, page 76

All three net-zero compliant FES scenarios show natural gas demand for heating tailing off rapidly through the 2030s. In only one of the scenarios (System Transformation) is there any meaningful increase in the use of hydrogen for home heating. Even in that scenario, total gas demand for home heating falls from c.340 TWh today to less than 120 TWh in 2050 – a c.65% decline. In the other scenarios<sup>1</sup>:

- Despite some use of hydrogen for domestic heating, Leading the Way entails more than a 90% decline in demand for gas with 29 TWh of hydrogen used to heat homes by 2050; while
- Customer Transformation has no hydrogen heating in homes whatsoever i.e. 100% decline in demand. Indeed, in this scenario, there is no domestic demand for gas whatsoever by 2050, for any end use (heating or otherwise).

Relative to the FES 2021 scenarios published a year earlier, National Grid explained its key scenario changes for heat as follows:<sup>2</sup>

“In FES 2022 Falling Short [formerly known as “Steady Progression”] has around 100 TWh less natural gas demand for residential heating by 2050 compared to FES 2021. This is because post-2030 gas boilers are replaced by heat pumps and district heating more quickly than in FES 2021 due to the slightly greater decarbonisation ambition in Falling Short this year.

In FES 2021 Consumer Transformation saw a relatively small proportion of residential heating switch to hydrogen boilers through the 2030’s

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<sup>1</sup> FES Tables EC.R.07 and EC.R.08

<sup>2</sup> <https://www.nationalgrideso.com/document/263906/download>

culminating in a hydrogen demand for heating of 15 TWh by 2050. In FES 2022 Consumer Transformation has no hydrogen for domestic heating, this is to reflect that an almost fully electrified domestic heating system is part of the credible range of outcomes by 2050.”

We also believe the following is clear from comparing the FES 2022 scenarios vs. FES 2021:

- In the highest hydrogen scenario (ST) total hydrogen demand by 2050 in FES 2022 (337 TWh) is 13% below the level it was in FES 2021 (389 TWh). Hydrogen demand by 2050 has also fallen materially in the CT and LW scenarios.
- More pertinently for gas distribution grids, in terms of demand for home heating, ST now projects 119 TWh of demand by 2050 compared to 190 TWh in FES 2021, a fall of nearly 40%. Again the CT and LW scenarios also project less hydrogen demand for domestic heating by 2050 than they did a year ago.

These changes suggest that, relative to a year ago, NG ESO’s view is that the use of hydrogen as a fuel for domestic heating is now less likely. While we hope that view is not reflective of what is to come, it nevertheless represents a change in the risk profile facing investors in gas distribution grids.

In contrast, electricity demand in all scenarios has increased by at least 10% in FES 2022 as compared to FES 2021. As National Grid explains:

*“By 2050, for all scenarios, annual electricity demands are higher than last years’ results reflecting stakeholder feedback and policy announcements, specifically:*



- *Increased fuel switching (both electrification and hydrogen which may be produced via electrolysis) in Industrial & Commercial (I&C) sectors reflecting the Industrial Decarbonisation Strategy*
- *Increased electrification of HGVs*
- *For **Falling Short** an increased level of electrification compared to FES 2021, although without the efficiency measures seen in some of the other scenarios.”*

It is also entirely possible that the 2050 outcome for natural gas/hydrogen demand on distribution grids is not uniform across the country, but more patchwork - with potential for some domestic heating located near industrial clusters to convert to hydrogen, while elsewhere heat pumps are used. In the 2022 FES, one of NG ESO's three key policy recommendations was that a regional approach to heat was required, stating “A ‘one-size fits all’ approach to decarbonisation of residential heat is not optimal due to differences in consumer preferences, availability of resources and proximity to energy infrastructure. Within a national strategy, delivery of the targeted solutions and investment required by consumers should take place at a more regional level to leverage local knowledge and improve affordability.”<sup>1</sup> This means there might be differential risks between GDNs or even within a given licence area. There is currently an absence of Government or regulatory policy on how differential risks being faced across the country are likely to be addressed in RIIO. This increases the perception of risk across the board in gas distribution, given the

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<sup>1</sup> NG ESO, FES 2022, Executive Summary – page 8

chance that region-specific differences are not adequately addressed by the regulatory framework.

We therefore believe the GDN sector faces an entirely unique set of scenario-driven risks. The tail-ends of these scenarios are far more extreme for GDNs than for DNOs.

- In all scenarios, electricity demand is expected to increase relative to today - the uncertainty faced by DNOs is largely around how much and how rapidly demand (and associated network investment) will increase. Ofgem's RIIO-ED2 Draft Determinations sets out a system of funding mechanisms which enable DNOs to understand what risks they face and how funding will be provided. That funding is largely for investments in traditional reinforcement (i.e. more of the familiar grid capacity expansion interventions which the DNOs have been installing to date).
- In contrast, gas scenarios are far more polarised – ranging from a (potentially rapid) 'managed decline' to zero demand; through to a requirement for (potentially substantial) new investments to meet the demand for hydrogen i.e. a new product that will have different properties and system management impacts relative to natural gas currently in the system.

We note that the Investor Survey commissioned by the GDNs as part of the GD2/T2 review found (among other things) that *"there was a unanimous view that the risks relating to decarbonisation are greater for GDNs relative to the*

*other energy networks.”*<sup>1</sup> Investors also noted a reduced appetite to invest in GDNs due to the forecast decline in gas volumes.

Ofgem’s FQ asks whether there are differences in systematic (i.e. beta) risk between DNOs and GDNs. We consider that the extent to which a specific beta impact can or should be directly estimated or inferred will need to be thoroughly considered as part of RIIO-GD3. We expect that the detailed analysis that will be submitted by the ENA and its members in response to the ED2 Draft Determinations will address the question of how the appropriate beta for RIIO-ED2 should be estimated in light of the latest market evidence. The question for RIIO-GD3 will be to what extent an uplift relative to electricity companies’ beta estimation is required, to reflect the risks outlined above.

The CMA considered Net Zero risks in the course of the RIIO-GD2/T2 appeal – including evaluating whether such risks affect beta<sup>2</sup> or should be accounted for more widely in the regulatory framework (eg through aiming up on the cost of capital or through the treatment of depreciation).<sup>3</sup> While the CMA concluded that stranding risk did not, at the time of its decision, obviously affect beta (5.437, 5.452), it also recognised the importance of considering not just the theoretical arguments but also the available evidence on actual betas/beta

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<sup>1</sup> Investor views of risk for Gas Distribution Networks under RIIO-GD2. September 2020

<sup>2</sup> CMA (2021), ‘Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited vs the Gas and Electricity Markets Authority – final determination Volume 2A’, 28 October, paras 5.452 – 5.455

<sup>3</sup> CMA (2021), ‘Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited vs the Gas and Electricity Markets Authority – final determination Volume 2A’, 28 October, paras 5.851 – 5.890.

trends, particularly to the extent that these might suggest that the market holds a different assessment from the CMA's (5.453).

It is not appropriate to conduct a comprehensive analysis regarding the actual betas and trends relevant to the GDNs so far in advance of RIIO-GD3. We believe this analysis should and hopefully will form an important part of the next price control review.

Alongside the “systematic gas risk” debate, it is worth reiterating that the CMA did identify the following with respect to gas-specific risks, supporting the arguments in favour of aiming up when one considers the appropriate Cost of Equity for GDNs:

- Net Zero affects gas networks differently to electricity networks (5.882). The evidence suggests the risks for electricity networks are not asymmetric (5.884). In contrast, for gas networks the CMA recognised that *“Net Zero could theoretically lead to gas networks and their investors becoming exposed to additional non-systematic risks”* 5.438) and acknowledged *“the uncertainty that arose from the Net Zero agenda and the potential for a disproportionately large impact on investors in the gas networks.”* (5.866). The CMA therefore found that risk asymmetry is far more significant for gas networks than electricity.
- The CMA nevertheless concluded that aiming up for gas assets was not in customers' interests for RIIO-GD2, since more targeted approaches could be adopted once more information is available on how the gas networks might need to adapt to meet Net Zero (5.867 – 5.868, 5.888). However, that conclusion relied in part on the CMA's finding that any transition for gas *“is*

*not immediate and there is likely to be demand for natural gas for some time”* (5.888). The marked reductions in long-term hydrogen demand projections for home heating in the new FES scenarios (described above) – even relative to the 2021 FES - suggest that scenarios with material declines in gas demand could now be much more probable.

Further scenario analysis will clearly be produced ahead of RIIO-3, in addition to any policy, market and technology developments – these will provide critical new evidence on the aiming up question for RIIO-GD3.

For the avoidance of doubt, the above arguments on why aiming up on the Cost of Equity for the gas distribution networks is likely to be required in RIIO-GD3 do not imply that in setting the Cost of Equity for electricity distribution networks in RIIO-ED2 Ofgem should aim down.

**FQ8. What are your views on the relative risk comparison shown in Table 10?**

The comparison shown in Table 10 is helpful as far as it goes. However, the key problem is that this list of qualitative factors gives no sense of what the quantitative impact should be. While Ofgem may not be able to provide quantified estimates, we believe a qualitative expected orders-of-magnitude comparison should at least be possible. For example, we believe that the stranding risk listed in column 1 is a far more material risk driver than the RoRE ranges or Totex incentive rates listed in column 3.

We also believe the table fails to adequately capture the scenario-driven risks identified in FQ7 above, i.e.:

- In very low gas scenarios there will be a potentially significant programme of expenditure associated with decommissioning gas networks; but
- in scenarios involving the use of hydrogen for domestic heating, there would be a programme of investment in new technologies required for GDNs (since not all assets can be re-purposed to hydrogen) and other potential changes eg in system management (particularly if hydrogen blending forms an interim step).

In relation to column 2:

- It would help if Ofgem could provide evidence to support its statement that *“investors do not appear to see material net differences”*. We do not believe this is accurate – as noted in our response to FQ7, the Investor Survey commissioned by the GDNs as part of the GD2/T2 review found (among other things) that *“there was a unanimous view that the risks relating to decarbonisation are greater for GDNs relative to the other energy networks.”*<sup>1</sup>
- We do not believe the regulatory risks are similar – the wide scenario uncertainty identified in FQ7 creates knock-on regulatory risk for GDNs which is not faced by DNOs.

In relation to column 3, suggestions that DNOs might bear higher risks:

- RoRE ranges can be driven by the assumptions Ofgem makes about the likelihood of outperformance/underperformance on Totex and other

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<sup>1</sup> Investor views of risk for Gas Distribution Networks under RIIO-GD2. September 2020

incentives. Since these ranges are an artefact of regulatory assumptions that might be specific to a sector, they are not a sound basis for drawing sweeping conclusions about relative risk across sectors.

- DNO Totex incentive rates are identical to GDNs' TIM strength for most companies, so this is not a differentiator.
- If Ofgem intends to use the investment:RAV ratio as a meaningful part of its assessment of relative risks, we think Ofgem should provide quantifications of the differences across sectors alongside a rationale - based on finance theory - for why this should drive differences in beta (and the quantum of those differences).

We note that Ofgem has asked for any quantitative evidence (para 3.39) that could inform its qualitative comparisons. Since this is a RIIO-ED2 price review we consider it would be disproportionate for us to provide further quantified evidence, which could be a substantial exercise. To the extent Ofgem is minded to rely on quantified evidence of relative risk which may later be used in the context of RIIO-GD3, we would anticipate engaging on that evidence as part of the RIIO-GD3 review. Arguably, given it could directly affect the financial interests of GDNs and others, we consider that all stakeholders must be consulted on any such quantitative evidence on which Ofgem might be considering placing weight.

**FQ9. Do you have any evidence that suggests the beta for GD&T companies has materially changed since RIIO-GD&T2 Final Determinations in December 2020?**

It is not clear why any change in the beta for GD&T companies could have any relevance to the RIIO-ED2 review for electricity DNOs.

We assume Ofgem intended to ask whether the beta for the DNOs has changed since Ofgem last looked at the beta peer group in December 2020 (which has so far remained the same peer group as Ofgem used to inform the GD&T settlement). For the avoidance of doubt, we consider that in light of the CMA's decision on the Energy Appeals, RIIO-GD2 is now settled and there is no beta modification possible, even if our view on the appropriate estimation methodology and the value of beta for the GDNs might differ from Ofgem's judgement.

In relation to Ofgem's methodology used to estimate betas for the RIIO-ED2 price control, we believe that Ofgem has erred by placing too much weight on a sample of comparators that is not representative of the risk associated with energy networks.

In setting its beta, Ofgem relies on a comparator sample with only one energy network company (National Grid) and three water companies (Pennon, Severn Trent and United Utilities). It is important to note that the risks associated with the regulatory regime of the water sector in the UK differ from those affecting energy networks, notwithstanding that there are similarities in the models of economic regulation and regimes for the two sectors.



One important difference is that in the water sector, there is a process for redeterminations (by the CMA) rather than an appellate regime. The experience of the PR19 redetermination relative to the RIIO-GD2/T2 appeals suggests that there is more regulatory discretion (due to the margin of appreciation that is accorded by the CMA to the regulator) in the exercise of the appellate regime in energy.

Higher regulatory discretion tends to imply higher risk to energy networks. This hypothesis was investigated in a recent report on the assessment of risk in regulated energy networks<sup>1</sup>. One of the findings of the report was that “the new energy appeals regime provides a substantially weaker form of protection for investors than the water equivalent. We measure the impact as a factor of 1.7x difference in the exposure to regulatory judgement... We would not translate this 1.7x factor directly into a beta difference, but it would be difficult to discount much of the effect. We conclude that an estimate of the effect of 1.1x, for example, would be unreasonably low”.

As explained by Oxera, the decision to give significant weight to the sample of water betas tends to anchor the allowed asset beta for energy networks to the low end of the distribution of National Grid’s asset beta. We recognise that there are good reasons for not relying on the beta of National Grid as the sole source of data on betas for UK energy networks. However, Ofgem’s choice to place significant weight on the betas of the water companies—notwithstanding

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<sup>1</sup> Reframing our understanding of risk in regulated energy networks. Imrecon (8 March 2022). p.3

differences in the risks associated with the two sectors—while disregarding other potential comparators, such as European energy networks, is not robust<sup>1</sup>.

We believe that Ofgem should take into account the above-mentioned evidence and reconsider its approach to the beta comparator sample, which should be used for the ED2 price control.

However, a separate comprehensive analysis will be required to estimate the risk of owning and operating gas assets, including its systematic component captured by beta, which is too early to conduct now so far ahead of RIIO-GD3.

## Step 2 - Implied cost of equity consultation questions

### **FQ10. Do you agree with our interpretation of the cross-check evidence?**

No, we do not agree. Ofgem gives weight to a set of cross-checks where there is a weak conceptual underpinning and/or limitations in the evidence base while failing to consider other valid cross-checks, which have a lot more robust economic underpinnings.

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<sup>1</sup> Cost of equity in RIIO-ED2 Draft Determinations. Prepared for the ENA. Oxera (25.08.2022). p.22

**FQ11. Do you agree with our updated MAR and OFTO cross-check techniques, in terms of drawing better inferences for RIIO-ED2?**

No, we do not believe that Ofgem's analysis allows drawing better Cost of Equity inferences for RIIO-ED2.

Ofgem appears to place significant weight on the MARs cross-check. Ofgem explains that it observes companies being traded at a premium to the regulatory asset value (RAV) and suggests that the premium must be driven by a combination of two factors: the expected outperformance and the deviation of the required return on equity from the return on equity allowance.

We do not reiterate here arguments on a multitude of other factors that might influence the MAR in a private transaction such as control premium, "winner's curse", etc, but point out that they should not be ignored by Ofgem.

However, we would like to bring to Ofgem's attention a recent study conducted by Frontier Economics<sup>1</sup> on this topic, which concludes that if Ofgem wishes to rely on a cross-check based on market valuations, then it is more appropriate to focus on relative valuation.

Apparently, Ofgem believes that if the regulatory price control is calibrated such that allowances exactly equal the costs (including the cost of capital), then the efficient notional company should have a MAR equal to 1. While plausible in theory – is not true in reality. The following conditions need to be met for MAR to be equal to 1:

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<sup>1</sup> RIIO-ED2 Cost of Equity Cross-checks. A paper prepared for the Energy Networks Association. Frontier Economics (23 August 2022).

- a) Markets are efficient. This means that there needs to be perfect information and transactions are frictionless.
- b) All investors are perfectly rational and have perfect foresight. They also all need to employ the identical fundamental valuation approach for equity assets.

These conditions clearly do not hold in reality. By implication, when we observe a MAR higher than 1, this does not necessarily mean that the stock is outperforming in the eyes of investors. In a bullish market, a MAR higher than 1 may be the expectation, but even then the stock may be underperforming the market. The only way to find out if a stock is out- or under-performing is to carry out a relative valuation exercise.

An analysis of the market evidence shows that regulated utilities are not relatively highly valued, contrary to Ofgem's conclusions from its MAR analysis, and therefore does not suggest that there is any underlying problem with regulatory calibration. Network valuations are moving in line with wider market sentiment and sit where one would expect regulated utilities to sit within the wider market.

Another recent analysis by Oxera<sup>1</sup> also corroborates the above argument although from a different angle. Oxera demonstrates that there is no causal link between returns and MARs. It explains this phenomenon by the "stickiness" of investors' expectations, i.e. that they are fluctuating within and around the same range of MARs over an extended period of time. As long as investors have

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<sup>1</sup> Market-to-asset ratios as a cost of equity cross-check. Prepared for the Energy Networks Association. Oxera (22.08.2022)

sticky expectations and believe that MARs will stay approximately at the current level (i.e. above 1x), they can assume a terminal value of above 1x MAR. A terminal value of above 1x explains a significant proportion of the premium paid above RAV.

We believe Ofgem cannot disregard the above-mentioned analysis if it decides to continue relying so heavily on the MARs cross-check, and has to reconsider its proposed interpretation of the available market data.

**FQ12. Do you agree with the cross-checks we have used and are there other cross-checks we should consider?**

The set of cross-checks used by Ofgem is incomplete.

Other cross-checks, including CAPM multi-factor models<sup>1</sup> cross-check, Oxera's ARP–DRP cross-check, The Dividend Growth Model (DGM) and the longer-term profitability cross-checks suggested by Frontier Economics should be added to Ofgem's set of cross-checks and afforded appropriate weight when interpreting results.

For example, Frontier Economics finds that applying the DGM to the five listed utilities in the UK reveals that Ofgem's proposed allowed rate of return in its Draft Determinations is at the low end of the results derived even from its "low" (a rather conservative) scenario<sup>2</sup>.

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<sup>1</sup> The ENA has commissioned a review of Multi-factor models by KPMG to ascertain if it is a robust and reliable cross check to setting the Cost of Equity for regulated networks.

<sup>2</sup> Assumes no real dividend growth over the long-term.

Frontier's Return on common Equity (ROE) cross-check<sup>1</sup> shows that while interest rates have (until recently) been falling over a long period of time, ROE has not fallen in line, but has remained broadly constant<sup>2</sup>. Oxera observes a considerable decline in the ARP–DRP differential from RIIO-ED1 to RIIO-ED2, with an ARP–DRP of 1.73% and 0.93% respectively<sup>3</sup>.

**FQ13. Do you consider we should put greater weight on cross-checks or reconsider our CAPM parameters in light of the adjusted cross-check results?**

The results derived using other cross-checks suggested in our response to FQ12 directly contradict Ofgem's view that cross-check evidence supports the lower part of its Step 1 CAPM range. The evidence suggests completely the opposite conclusion – that an upward revision to the allowed Cost of Equity is required.

No cross-check is perfectly robust or reliable, which is why they are not considered a replacement for CAPM as the primary estimation method of the cost of equity. All cross-checks will display some undesirable properties that weaken their reliability.

If Ofgem were to put greater weight on cross-checks, it would introduce a new form of pro-cyclicality into regulatory determinations:

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<sup>1</sup> It is based on the fact that Ofgem's cost of equity allowance effectively sets the allowed level of profitability. Therefore the cost of equity allowance should be broadly in line with observed average levels of profitability in the long-term.

<sup>2</sup> RIIO-ED2 Cost of Equity Cross-checks. A paper prepared for the Energy Networks Association. Frontier Economics (23 August 2022)

<sup>3</sup> Cost of equity in RIIO-ED2 Draft Determinations. Prepared for the ENA. Oxera (25.08.2022). p.28

- Allowed cost of equity would vary with short-run market sentiment, which could lead to greater systematic risk in utility stocks.
- This in turn could increase beta over time to the detriment of customers.

Reliance on cross-checks introduces a new form of regulatory discretion into determinations, i.e. how to interpret noisy, volatile and potentially contradictory cross-check evidence.

For all these reasons, UK regulators have always consciously avoided using short-term market-implied evidence to set the allowed equity return. This is why we would recommend that Ofgem put less rather than greater weight on short-term cross-checks.

### Step 3 - Allowed return on equity consultation questions

#### **FQ14. Do you agree that we should not adjust for expected outperformance when setting baseline allowed returns on equity?**

Yes, we agree. It is appropriate to reflect CMA's view on the RIIO-GD&T2 price control appeals on this matter within these RIIO-ED2 Draft Determinations, because the issues are similar across the sectors, even though RIIO-ED2 remains a separate price control.

**FQ15. Do you believe there is new evidence which would support an adjustment downwards (eg expected outperformance) or upwards (eg aiming up) that we have not yet considered?**

We are not aware of any robust evidence which would support a downward adjustment, but there are some indications implied by the robust set of Cost of Equity cross-checks to the contrary.

We have not analysed in sufficient detail the calibration of Totex allowances for DNOs, the appropriateness of the ongoing efficiency challenge or the balance of risks implied by the financial incentives proposed for RIIO-ED2, hence we are not in the position to comment whether and if so to what extent aiming up on the Cost of Equity proposed by Ofgem for ED companies may be warranted.

In any case, we believe that the correct calibration of the price control should be done at the source, ensuring that the financial package represents a “fair bet”.

#### [Inflation and WACC consultation questions](#)

**FQ16. Do you think we should adjust our approach to allowed returns (noting our approach to expected inflation for WACC and outturn inflation for RAV as described above) so that outturn inflation does not permit the notional company to generate real equity returns that are materially higher or lower than our cost of equity allowance? What would be the consequences to consumers and DNOs of doing so?**



Treatment of inflation is a key pillar of the regulatory regime and is one of the most important issues for both customers and investors. The inherent complexities of using different measures of inflation and the inevitable differences that have always existed between any forecasts (or expectations), including those on inflation, and actuals, including those concerning outturn inflation, is not a new phenomenon – these topics have been extensively debated upon by all stakeholders and considered by Ofgem in the past.

As a reminder, in RII0-2 Sector Specific Methodology Decision Ofgem<sup>1</sup> clearly stated its policy position on deflating the Cost of Debt allowance as follows: “we do not believe outturn inflation data is a good indicator of the long-term future inflation expectations that are embedded in the long-term debt constituents of the iBoxx indices used. We continue to believe that a long-term estimate of inflation expectations is more appropriate for deflating an index based on long-term debt rates. Breakeven inflation is one long-term measure of inflation expectations but official forecasts are another”<sup>2</sup>.

Ofgem separately considered the question of RPI/CPIH wedge true-up, relevant to setting the Cost of Equity allowances. Importantly, Ofgem noted that “the cost of equity is an expectation, not something that can be observed, and therefore we cannot obtain 'truth'. Similarly, if the cost of equity is not observable, there cannot, therefore, be an observable ‘forecast error’. The proposal to use equity indexation is in part driven by a desire to best estimate expectations, using the most recently available data, rather than a desire to

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<sup>1</sup> [https://www.ofgem.gov.uk/sites/default/files/docs/2019/05/riio-2\\_sector\\_specific\\_methodology\\_decision\\_-\\_finance.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2019/05/riio-2_sector_specific_methodology_decision_-_finance.pdf)

<sup>2</sup> RII0-2 Sector Specific Methodology Decision – Finance annex. Para 2.85.

revisit allowances to correct a difference between expectations and outturns”<sup>1</sup>. It further postulated that “We continue to believe that the cost of capital should be estimated over a long horizon, and propose to do this consistently for all aspects of the cost of capital, including debt and equity, and therefore, a long horizon is necessary for estimating real costs of debt and real costs of equity”<sup>2</sup>.

As the above statements demonstrate, the treatment of inflation for RIIO-GD2 price control has been carefully considered and is now a settled matter, particularly in light of the CMA GD&T2 Energy Appeals which concluded less than a year ago.

Ofgem’s statement that “this issue is not unique to RIIO-ED2 but is common to our RIIO-GD&T2 price controls as well”<sup>3</sup> is concerning and creates regulatory uncertainty, which is in itself harmful to both investors and customers of the energy networks, particularly in the long-term.

There are many other common issues in the ED2 price control that do have parallels to GD/T2 price control, but this does not mean that any different decision by Ofgem taken as part of the RIIO-ED2 as opposed to RIIO-GD/T2 should call into question and “re-open” the debate on such issues that had been considered and decided upon not only by Ofgem but also by the CMA in their own proper time and context.

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<sup>1</sup> RIIO-2 Sector Specific Methodology Decision – Finance annex. Para 3.39.

<sup>2</sup> RIIO-2 Sector Specific Methodology Decision – Finance annex. Para 3.40.

<sup>3</sup> RIIO-ED2 Draft Determinations – Finance Annex. Para 4.10.

It should also be noted that the treatment of inflation and any changes that Ofgem might be contemplating cannot be regarded in isolation from the wider financial package of the price control settlement.

**FQ17. If you believe we should make such an adjustment, what is the best method for making it?**

We don't think adjustments to the treatment of inflation are warranted at this time and/or can be made within the RII0-2 timescale as such a fundamental change to the fabric of the price control, which has existed since privatisation, would require an extensive and potentially a few-years long consultation process with all the interested stakeholders.

We would like to refer Ofgem to the paper prepared by Frontier Economics<sup>1</sup> on behalf of the ENA members which elaborates in more detail on the complex issue of inflation and serious risks associated with any sudden and not properly thought through regulatory developments on this front.

In short, Frontier concludes that it would be highly counter-productive and detrimental for consumers if Ofgem attempts to eliminate inverse inflation exposure (which Ofgem terms a "leveraging effect"). This would de-stabilise the credibility of the regulatory framework and shake investor confidence, particularly in light of the evident lack of due process and consultation Ofgem has followed.

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<sup>1</sup> INVERSE INFLATION EXPOSURE. Response to ED2 Draft Determination. Frontier Economics (24 August 2022).

This de-stabilisation cannot be good for consumers – it will increase perceptions of regulatory risk and can be expected to lead to higher financing costs; and it will detract from the critical objective of securing potentially significant increases in investment to deliver Net Zero. Ultimately it can be expected to lead to unnecessary increases in customer bills in the long run.

**FQ18. If you don't believe we should make such an adjustment, how should we ensure that the fairness of the price control is maintained to prevent ex post returns from deviating from ex ante expectations for both consumers and investors?**

Ofgem's allusion to the supposedly positive regulatory asymmetry for investors arising from the option to address financeability constraints of a notional company, if they were to arise following a period of very low inflation which is not counterbalanced by similar protection in extremis for consumers in the event of high inflation, is misleading.

We are not aware of a clearly defined mechanism that would compensate or otherwise insulate investors from outturn low inflation, and even if such a mechanism existed it has not been exercised in practice. However, the sole fact that Ofgem is raising questions on this issue so late in the process and the complete lack of clarity from the regulator suggests completely the opposite – i.e. that negative asymmetry for investors exists. This is because the regulator apparently contemplates the possibility of revisiting one of the cornerstones of the regulatory regime, which has been in place since privatisation, only when the short-term inflation spiked.

Therefore, we are of the view that all regulatory matters, including those on inflation, may have to be carefully reviewed for the next round of the price controls in RIIO-3, but following due process. If any new arrangements on inflation were to be contemplated by Ofgem going forward, sufficient notice to allow companies to adapt their debt position, if necessary, would be crucial.

Any sudden change in the regulatory policy on such a fundamental issue as inflation nearly in the middle of RIIO-GD/T2 price controls or even so late in the process for RIIO-ED2 price control would be wrong.

Moreover, the particular timing of Ofgem's suggestion to introduce a change in the framework now – when inflation is higher than the long-term forecast, but immediately following a long period when it was lower and no changes were even contemplated – is likely to undermine investor confidence and lead to an increase in WACC.

One of the nearer-term risks may manifest itself in a downgrade in the credit rating agencies' assessment of the stability, transparency and predictability of the regulatory regime in the UK, which in turn could cause a deterioration of the perceived credit quality of the sector as a whole and a re-assessment of the individual companies' credit ratings. Ultimately such a scenario is likely to be very detrimental to customers in the long run.