1-3 Strand
London WC2N 5EH

M: +44 (0)7796 336629
www.nationalgrid.com

nationalgrid

UKRN

By email: consultation.ukrn@caa.co.uk.

16 November 2022

Dear Sir/Madam,

Consultation on the UKRN's guidance for regulators on the methodology for setting the cost of capital

This response is from National Grid Electricity Transmission, which owns and maintains the high voltage onshore electricity transmission network in England; National Grid Electricity Distribution, which is the UK's largest electricity distribution network and manages the electricity distribution network for the Midlands, South West and Wales; and National Grid Gas, which owns and operates the high pressure natural gas network in England, Wales and Scotland. These network businesses are regulated by Ofgem, and so, as a major operator of regulated infrastructure in the UK, we have a close interest in this consultation.

The objective of the UKRN's guidance is to improve consistency in cost of capital decisions, both to improve regulatory stability and to reduce the incidence of repeated CMA appeals on similar issues. We therefore welcome the opportunity to respond to the consultation, as the objective of the guidance can only be achieved if the views of regulated companies and other interested stakeholders are properly considered and given sufficient weight in the updated guidance when it is published early in 2023.

We recognise that greater consistency on issues that are common across the regulated industries, both in relation to methodologies and parameter values, could bring benefits, as unjustified and apparently arbitrary or subjective differences on such issues are likely to undermine confidence in the predictability, consistency, objectivity and balance of the regulators' decisions. We also agree with the benefits of consistency of methodologies across time, as well as across sectors, which are recognised in the consultation. Confidence in the regulatory framework is important and is ultimately beneficial for consumers.

Therefore, although the guidance document, rightly, is very clear that decisions still rest with the regulators, it is helpful that it suggests that for future decisions (i.e. subsequent to those which are close to being finalised) regulators should explain their reasons for not following the recommendations in the guidance, should they choose not to do so. A similar requirement should apply, and in practice will apply, where a regulator does follow the guidance, given that regulators' decisions will continue to be made within the relevant legal frameworks that apply to their individual sectors and in most cases these require such decisions to be adequately explained and justified. Simply following the recommendations of a general cross-sector guidance document which can have no substantive standing within the relevant legal frameworks in each sector would not be sufficient, without further and specific justification within the context of a particular decision which takes due account of the relevant circumstances.

Whilst recognising that past price control decisions, including those from the CMA, do not fetter the decisions of regulators (including the CMA) in future price controls, we have significant concerns that in a number of areas the guidance document supports its recommendations by giving similar and in some cases greater weight to the CMA's decisions in the RIIO-T2/GD2 appeals than to the corresponding decisions in the CMA's PR19 redetermination. In doing so, the guidance document fails to take account of the different nature of a water sector redetermination from an energy licence modification appeal[1]. In seeking to develop guidance that can be applied across both of these (and other) sectors, it is therefore ill-advised and inconsistent with its objectives for the guidance document to give weight to the decisions in the RIIO-T2/GD2 appeals in preference to the CMA's view of the best or 'correctly balanced' decision in the PR19 redetermination. On common issues (including in particular the choice of point estimate within the cost of equity range; and approach to estimating RFR) the guidance should, in the absence of a clear justification to the contrary (which would as a minimum need to include a robust explanation of why the CMA's view in the RIIO-T2/GD2 appeals was better justified than that in PR19) follow the example and reasoning in the PR19 redetermination in preference to that in the RIIO-T2/GD2 appeals.

The draft guidance suggests that an amended version will be published in early 2023, after taking account of the feedback provided through this consultation, and refers to this as a "final version". It is, though, important that this early 2023 document is not seen as a final version: as the consultation recognises there will continue to be meaningful developments across many areas which influence regulators' decisions on cost of capital, such as in financial market conditions, wider regulatory frameworks, available market data, and academic opinion. For these reasons, the guidance document can only ever be seen as an opinion at a particular point in time and to remain relevant it will need periodic review and updating.

In this regard, we note that circumstances can sometimes change very quickly, as developments in financial market conditions in recent months have demonstrated. When setting price controls, regulators need to be mindful of the potential for such changes and to ensure that their proposals will continue to deliver their objectives under such eventualities. Moreover, the draft guidance was written prior to the recent changes and turbulence in capital markets and appears to reflect the views of regulators in recent years that have progressively relied on the assumptions that the 'low interest rate' environment of the past decade constitutes 'normal' and can be assumed to continue into the future. These assumptions have now been shown to be unsafe. As we explain more fully in the Annex to this letter, in our response to the consultation Question 2, the recent changes in markets and their implications for the setting of the allowed return in price controls – including in relation to RFR, TMR and the use of cross-checks – need to be taken into account and as a result changes made to the guidance before it is finalised. Otherwise, the updated guidance, when issued, is likely to be out-of-date even before it is published.

Overall, the draft guidance provides a good starting point from which a revised version could be produced that would encourage sound, and where appropriate consistent, decision making across the sectors. Whilst we agree with a number of the recommendations in the draft guidance, we have nevertheless identified a number of important ways in which it should be revised. In reply to the first of the specific questions in the consultation "*do you agree with the proposed recommendations?*":

- We (mainly) agree with recommendation 1 ("*Notional company*"), recommendation 2 ("*CAPM*"), recommendation 8 ("*Cost of Debt*") and recommendation 9 ("*Gearing*").

- We disagree with the recommendation itself or more detailed methodology points beneath the headline recommendation in relation to the following:

    - *Recommendation 3 – Risk Free Rate*
        - The recommendation to use only recent yields on index-linked gilts would result in a risk-free rate (RFR) that is too low.

[1] In an energy licence appeal the CMA is not tasked with determining the 'right' or the 'best' approach to a particular decision, but only to establish whether Ofgem's decision was 'wrong' on one of the statutory grounds. In contrast, in a water price control redetermination, the CMA revisits the price control and, in relation to the matters under consideration (generally where companies and the regulator take differing views), must determine what it considers to be the 'right' or 'best' decision.

- This is because of the special properties of index-linked gilts which lead to a price premium (referred to in this response as a ‘convenience premium’), reducing their yield below the true risk-free rate. The underestimate of RFR based on long-duration (e.g. 20 year) index-linked gilts should therefore be balanced either by (i) use also of a risk-free rate estimate that is based on high grade (AAA) corporate bond yields, or (ii) addition of a suitable ‘uplift’ to the RFR that is calculated from the long-duration ILG yields. Recent analysis by Oxera has indicated that 50–100bps should be added to the yield on government bonds to account for the convenience premium.
- The reference in the draft guidance to the use of SONIA swap rates as a cross-check of the RFR is not well justified and should be removed, as SONIA swaps rates are an imperfect proxy for a long-term RFR.
- Recent experience also shows that stability in risk-free rates cannot be presumed and demonstrates the benefit of adopting an indexed approach to the Risk Free Rate (as is currently applied by Ofgem). We support this approach to indexing the RFR and suggest that, in light of the increased volatility and reduced predictability of interest rates (and RFR) that recent experience has made apparent, it should be supported in the guidance and applied in other sectors too (e.g. in water and sewerage company regulation).

- *Recommendation 4 – Equity risk premium*
  - We agree that regulators should estimate the equity risk premium (ERP) within the CAPM as the difference between the total market return (TMR) and the risk-free rate (RFR).
  - We also agree that TMR should be based on historical evidence, but do not agree with the proposal to place weight on historical ex ante estimates, and instead consider that the TMR should be based on the historical ex-post method alone. The ex-ante method is not robust because it is dependent on assumptions and adjustments, leads to quite wide ranges, different experts can reach notably different estimates using this method, and at least in some sectors it would represent a break with precedent with no good justification.
  - In relation to the ex-post historical method, which should yield more objective estimates of TMR than other methods, there are several details in the approach that is proposed or implied by the consultation which will result in underestimates of TMR. We document and explain some of these in the Annex attached to this letter.
  - The guidance suggests that combining the full range of estimates from the historical ex-post and historical ex-ante approaches is likely to result in a wide range for the TMR. However, as explained above, the guidance should support estimating TMR using just the ex-post historic method, and use of this approach only should give a narrower range. The best-justified, most predictable and most consistent approach will be for regulators to estimate the TMR range using the ex-post historic approach, with a default expectation that the mid-point of this ex-post historic range should be used as the point-estimate of TMR.

- *Recommendation 5 – Equity beta*
  - The main recommendations in the guidance document in relation to beta estimation seem appropriate, and in particular, both of the specific points raised in the recommendation are reasonable and justified:
    - standard, easily replicated regression techniques and in particular OLS are to be preferred to less widely used and less transparent approaches such as GARCH; and
    - it is right that the conventional approach of de-levering and then re-levering the observed ‘raw ‘equity beta values for the actual comparator companies -

to give a value for the notional equity beta of the regulated 'notional' company at the regulator's assumed notional gearing - is supported in the guidance.

    - There are, though, a number of more detailed points in this section of the draft guidance which should be reconsidered and revised, as identified and explained in the Annex to this letter.

- *Recommendation 6 – CAPM point estimate*
    - The guidance is right that CAPM parameters can only be forecasted with some uncertainty, and so it is appropriate to reflect this uncertainty by combining low and high case estimates for each parameter (RFR, TMR and beta) to give a range for the CAPM estimate of the cost of equity. However, the mid-point of this range will only represent a suitable starting point for estimating the allowed cost of equity in a price control (e.g. before considering any meaningful cross-checks, or taking into account the relative and asymmetric adverse consequences for consumers of choosing a value that is too low as opposed to a value that is too high), if the individual parameter ranges for RFR, TMR and beta are symmetric around the likely best estimate.
    - In its current form, this recommendation is misplaced, as there is significant scope for regulators to generate downward skewed ranges for the individual CAPM parameters which will then result in a similarly downwards skewed mid-point for the final CAPM range. Moreover, as our responses to the earlier recommendations (3) to (5) above explain, this will happen if regulators apply the current draft guidance in relation to TMR, RFR and beta.
    - The guidance should therefore be updated to recommend either (i) use of symmetric ranges for each CAPM parameter, where the ends of the ranges are equidistant from the best estimate, or (ii) selecting a point estimate within each parameter range which reflects the likely best estimate for that parameter (taking account of the relative reliability and biases of the underlying parameter estimation methods). Either of these approaches could be used to give the final CAPM point estimate of the cost of equity before other methods and considerations are considered.

- *Recommendation 7 – Cross-checks*
    - We agree with the draft guidance that cross-checks are more likely to be relevant to the estimation of cost of equity than cost of debt. Consistent with the views of the CMA in the 2021 Energy Licence Modification Appeals, "*the most appropriate role for cross-checks is to use them to assess whether a CAPM-based estimate appears materially miscalibrated versus current market-based data*." We therefore agree that there should be a high evidential bar to adjusting the best CAPM estimate of the cost of equity based on cross-checks.
    - However, there may be reasons other than cross-checks why regulators should select a final point estimate for the allowed cost of equity that is above the mid-point of the CAPM range. Notably, in the PR19 redetermination, the CMA gave careful consideration to the choice of point estimate within the cost of equity range and reached the conclusion that there are a number of benefits from choosing a point estimate of the cost of equity above the middle of the range. This assessment should be reflected in the cross-sector guidance, which should therefore take the position that, as a default, some aiming up on the cost of equity is justified, even if there is no asymmetry in the broader price control settlement.
    - Turning to the issue of cost of equity cross-checks and how these might be used, as noted above there should be a high evidential bar to adjusting the best CAPM estimate of the cost of equity based on cross-checks, given the limitations and

uncertainties that generally apply to these alternative approaches. In particular, the market-based cross-checks that have recently been considered by certain regulators (including that based on the Market-to-Asset Ratio (MAR)) suffer from particular problems, and recent consultation responses to Ofgem's RIIO-ED2 Draft Determination have identified new evidence and additional reasons why the interpretation of the MAR values is subjective and does not give a meaningful insight into the allowed cost of equity that is required.

- There are, though, other cross-checks which are, or at least can be, more objective and informative than the cross-checks recently considered by regulators (such as MARs), and so can prove useful. We draw attention in particular to (i) use of the "Asset Risk Premium – Debt Risk Premium", which uses debt market evidence as the basis of a cross-check of the cost of equity that is proposed for a price control, and (ii) the Dividend Growth Model (DGM) which is a well-established, forward-looking market-implied methodology that can be used to cross-check the CAPM implied cost of equity.

In response to the second of the consultation questions, the following issues need to be taken into account and as a result changes made to the guidance before it is published again in early 2023:

- the implications of the new and volatile conditions that have been seen in financial markets since the draft guidance was written; and
- the use of the alternative cost of equity cross-checks (i.e. ARP-DRP and single company DGM) that are identified in our comments on Recommendation 7.

The above points are developed and explained more fully, where relevant with supporting evidence, in the more detailed Annex to this response which follows.

This consultation response is not confidential. If you would like to clarify anything in it, please do not hesitate to contact me at Richard.Allman@nationalgrid.com.

We hope that you find this response to be useful and constructive.

Yours sincerely

[By email]

Richard Allman

Senior Finance Business Partner - Regulatory Strategy

ANNEX

The consultation asks 2 specific questions:

1) Do you agree with the proposed recommendations?
2) Do you have views on how this guidance could evolve over time, including views on potential issues for further investigation?

In this response, we first provide some overall comments on the draft guidance. We then provide our responses to the 2 specific questions raised in the consultation.

General Comments

- The views expressed in this response relate to setting the cost of capital within the current regulatory frameworks and current form of price controls in the UK, in particular those which follow the general "RPI-X" structure such as in energy and water where allowances are predominantly set on an ex ante basis and where incentives give opportunities for incremental returns. If there were any significant changes to these frameworks, there may need to be corresponding changes to the way that the allowed cost of capital is set, and both the draft guidance and our comments on this guidance may no longer be relevant.

- The UKRN guidance document for setting the cost of capital is, and can only be, guidance. Only when regulators set a price control do the businesses they regulate have the opportunity to accept or appeal the decisions of that regulator. This guidance document is not subject to such an appeal process and so cannot have any substantive standing in the context of price control decisions across the different sectors. From this, it follows that even where a regulator follows the guidance this will not mean that the relevant price control decisions are "right" and they could actually be wrong.

- We nevertheless recognise that greater consistency on issues that are common across the regulated industries, both in relation to methodologies and parameter values, could bring benefits, as unjustified and apparently arbitrary or subjective differences on such issues are likely to undermine confidence in the predictability, consistency, objectivity and balance of the regulators' decisions. We also agree with the benefits that consistency of methodologies across time as well as across sectors generally bring, which are recognised in the consultation.

- Therefore, although the guidance document, rightly, is very clear that decisions still rest with the regulators, it is helpful that it suggests that for future decisions (i.e. subsequent to those which are close to being finalised) regulators should explain their reasons for not following the recommendations in the guidance, should they choose not to do so.

- In addition, a similar requirement should apply, and in practice will apply, where a regulator does follow the guidance, given that regulators' decisions will continue to be made within the relevant legal frameworks that apply to their individual sectors, and in most cases these require such decisions to be adequately explained and justified. Simply following the recommendations of a general cross-sector guidance document which has no substantive standing would not be sufficient, without further and specific justification within the context of a particular decision which takes due account of the relevant circumstances.

- It is also important if there is to be confidence in the stability, predictability and objectiveness of the regulatory framework, which will ultimately benefit consumers, that regulators should fully justify their WACC decisions. Whilst the UKRN guidance cannot impose such a requirement, we nevertheless suggest that it should clearly set a very strong expectation that regulators will provide robust evidence to support their WACC methodologies and decisions.

- Whilst recognising that past price control decisions, including those from the CMA, do not fetter the decisions of regulators (including the CMA) in future price controls, we have significant concerns that in a number of areas the guidance document supports its recommendations by giving similar, and in some cases greater, weight to the CMA's decisions in the RIIO-T2/GD2 appeals as to the corresponding decisions in the CMA's PR19 redetermination, both of these decisions having been reached in 2021. In doing so, the guidance document fails to take account of the different nature of a water sector redetermination from an energy licence modification appeal:
    - the document fails to recognise in particular that in an energy licence appeal the CMA is not tasked with determining the 'right' or the 'best' approach to a particular decision, but only to establish whether Ofgem's decision was '*wrong'* on one of the statutory grounds[2]. On some issues this entails the CMA extending a "margin of appreciation" to Ofgem's decisions, such that the CMA is reluctant to overturn the regulator's decision unless there "*was a clearly superior alternative approach*"[3]. This may be the case even where the CMA itself would, after reviewing the evidence, take a different view.
    - In contrast, in a water redetermination, the CMA revisits the price control and, in relation to the matters under consideration (generally where companies and the regulator take differing views), must determine what it considers to be the 'right' or 'best' decision.

- In seeking to develop guidance that can be applied across both of these (and other) sectors, it is therefore ill-advised and inconsistent with its objectives for the guidance document to give weight to the decisions in the RIIO-T2/GD2 appeals in preference to the CMA's view of the best or 'correctly balanced' decision in the PR19 redetermination. This is because water companies, for example, might reasonably believe that decisions based on such approaches would have a high chance of being overturned on appeal[4]. We agree with the consultation that "*greater alignment may reduce the burden on regulators, appeal bodies and other stakeholders by not revisiting certain methodological debates every price control decision, unless there is a good reason to do so*", but this will only be the case if the guidance in the consultation proposes methodologies that are designed to achieve the best or 'correctly balanced' decisions, rather than decisions that are merely not clearly wrong.

- From this, it is clear that on common issues (including in particular the choice of point estimate within the cost of equity range; and approach to estimating RFR) the guidance should – in the absence of a clear justification to the contrary (which would as a minimum need to include a robust explanation of why the CMA's view in the RIIO-T2/GD2 appeals was better justified than that in PR19) – follow the example and reasoning in the PR19 redetermination in preference to that in the RIIO-T2/GD2 appeals.

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[2]"*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 1: Introductory chapters*", CMA, 28 October 2021, paragraphs 3.20 to 3.22
[3] Ibid, paragraph 3.77
[4] For this reason, placing weight on the CMA's RIIO-T2/GD2 decision rather than the PR19 redetermination, except where justified and explained, would be inconsistent with the aim of the document that regulators should deviate from the guidance "*only where they consider there are good reasons to do so*".

- The document refers to an amended version of the guidance, to be published in early 2023, after taking account of the feedback provided through this consultation, as a "final version". It is, though, important that this early 2023 document is not seen as a final version: as the consultation recognises[5] there will continue to be meaningful developments across many areas which influence regulators' decisions on cost of capital, such as in financial market conditions, wider regulatory frameworks, available market data, and academic opinion. For these reasons, the guidance document can only ever be seen as an opinion at a particular point in time and to remain relevant it will need periodic review and updating.

- In this regard, we note that circumstances can sometimes change very quickly, as developments in financial market conditions in recent months have demonstrated. When setting price controls, regulators need to be mindful of the potential for such changes and to ensure that their proposals will continue to deliver their objectives under such eventualities. Perhaps more importantly, the draft guidance was written prior to the recent changes and turbulence in capital markets and appears to reflect the views of regulators in recent years that have progressively relied on the assumption that the 'low interest rate' environment of the past decade constitutes 'normal' and that it can be assumed to continue into the future. These assumptions have now been shown to be unsafe. As we explain more fully below in our response to Question 2 in the consultation, the recent changes in markets and their implications for the setting the allowed return in price controls – including in relation to RFR, TMR and the use of cross-checks – need to be taken into account through updates to the guidance. Otherwise the updated guidance, when issued, is likely to be out-of-date even before it is published.

Question 1 - Do you agree with the proposed recommendations?

We set out our views on the 9 separate recommendations below and provide some comments in relation to each of these. We also refer the reader to the general comments above and in the covering letter.

Recommendation 1 - Notional company*: Regulators should continue to estimate the allowed rate of return in price controls based on the weighted average cost of capital for a notionally financed firm within their sector.*

- We agree with this approach, which represents a continuation of past practice across a number of sectors.

Recommendation 2 – *CAPM: Since the cost of equity is not directly observable, it must be estimated using a widely accepted method. Regulators should continue to use the capital asset pricing model (CAPM) as their primary approach for estimating the cost of equity*.

- We agree with this approach, which represents a continuation of past practice across a number of sectors. However, for the CAPM to give an appropriate allowed cost of equity, the underlying parameter values (i.e. risk free rate, total market return and equity beta) need to be estimated carefully, as discussed below.

[5] "*UKRN guidance for regulators on the methodology for setting the cost of capital — consultation*", UK Regulators' Network, September 2022, Executive Summary, page 4

Recommendation 3 – Risk-free rate*: To estimate the real risk-free rate (RFR) within the CAPM, regulators should use recent yields on the index-linked gilts, with a maturity which matches the assumed investment horizon for their sector.*

- We do not agree that this approach represents best practice. For those sectors where price controls are set on a real basis (such as energy and water), we do agree that the estimate of the RFR within the CAPM should be *informed* by the recent yields on long-duration (typically 20 year) index-linked gilts (ILGs), but the recommendation to use *only* recent yields on index-linked gilts would result in a risk-free rate that is too low[6]. Therefore, to recommend that the RFR in a price control should be based *only* on ILG yields is intrinsically inconsistent with both (i) the guidance document's assumption[7] that CAPM parameters should be symmetrical around the mid-point, and (ii) with recommendation 6 to 'aim straight' (see below).

- After careful assessment of the evidence, the CMA PR19 redetermination was clear that use of long-run (20 year) index-linked gilt yields underestimates or gives the bottom of the 'true' range for the risk-free rate[8], and this underestimate should therefore be balanced by also using an estimate of risk-free rate based on high grade (AAA) corporate bond yields for the top of the range.

- Even in the CMA's RIIO-T2/GD2 appeal final decision, although the CMA did not find that Ofgem's use of only ILG yields when estimating the RFR constituted an error to the standard required in the specific context of this appeal under the energy licence modification appeals regime, the CMA again expressed its view that "*On the balance of evidence presented, we considered there to be evidence of a convenience yield in government debt*"[9]. From this is again follows that an estimate of the risk-free rate that is based only on index-linked gilt yields will be below the true value, i.e. will be too low.

- This recommendation is therefore one example of where the draft UKRN guidance document is wrongly placing weight on the outcome of the RIIO-T2/GD2 appeals rather than on the PR19 redetermination.

- Alternatively, and more simply, regulators could estimate the RFR from long-duration (20 year) ILG yields only, provided that a suitable 'uplift' is added to the calculated RFR in recognition that ILG yields underestimate the true RFR. Analysis by Oxera has shown that 50–100bps should be added to the yield on government bonds to account for the convenience premium[10].

- The reference in the draft guidance to the CMA's comments in the RIIO-T2/GD2 appeals on the use of SONIA swap rates as a cross-check of the RFR is also not well justified, nor is it relevant in the

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[6] Unless these were uplifted by a suitable 'convenience premium' as explained more fully below.
[7] "*UKRN guidance for regulators on the methodology for setting the cost of capital — consultation*", UK Regulators' Network, September 2022, page 22
[8] "*Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited, price determinations Final report*", CMA, 17 March 2021, paragraphs 9.92, 9.104, and 9.264 to 9.265: see Final report (publishing.service.gov.uk)
[9] "*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: Joined Grounds: Cost of equity*", CMA, 28 October 2021, paragraph paragraphs 5.45 and 5.68
[10] '*The cost of equity for RIIO-2*', Oxera, prepared for the Energy Network Association, 4 September 2020, https://www.northerngasnetworks.co.uk/wp-content/uploads/2020/09/CoE-Oxera.pdf; and "*A review of the methodology used to estimate the allowed cost of equity for regulated companies: Response to the UKRN consultation*", Oxera, November 2022

context of guidance which is intended to be multi-sector. This reference to use of SONIA swap rates, and also the suggestion on page 13 that SONIA swap rates might be a useful cross-check of the RFR, should be removed from the final version of the guidance.

  - Whilst it is the case that Ofgem's use of SONIA swap rates as a cross-check in the RIIO-T2/GD2 appeal was found to be "not wrong" (in the specific context of the appeal standard that applies for energy licence appeals), the CMA did observe that: SONIA is an imperfect proxy for a long-term RFR[11]; SONIA was best placed as a proxy for the overnight RFR and to adjust this to be an applicable check to an estimate of the long-term RFR, in this case via SONIA swaps, would inevitably involve some distortions and compromises[12]; and one important compromise in this context is the fact that SONIA swaps are a collateralised lending instrument[13]. This makes a SONIA swap fundamentally different from a straightforward zero-beta risk-free investment as required for estimating the RFR in the CAPM. The distortions which affect SONIA swap rates and make these unsuitable for use as a cross-check of the RFR are further explained in a recent report by Oxera[14].
  - In addition, as noted above, in both the PR19 redetermination and the RIIO-T2/GD2 appeals, the CMA recognised that (20-year) ILG yields will underestimate the true RFR for use in CAPM. That 20 year SONIA swap rates would be a distorted and inaccurate indicator of RFR is therefore further apparent from (i) SONIA swap rates being even lower than the 20 ILG yields, and (ii) by the very different shape that the SONIA swap and nominal gilt forward curves are typically observed to have.

- The consultation suggests that recent yields are likely to provide the most up-to-date indication of the return that investors require on a risk-free investment, but different factors may influence the time duration of the sample of recent yields (referring to "for example 1, 6 or 12 months"[15]) that is used to determine a RFR point estimate or range. Whilst these may lead to use of different sample lengths in different industries, individual regulators should take care when changing their own preferred sample length unless there are strong reasons to do so, as this would be susceptible to regulatory opportunism or cherry-picking, which would harm investor confidence in the relevant sector and thus ultimately increase financing costs, to the detriment of consumers.

- However, there have been significant increases in yields over the past year, with 20 year ILG yields, 20 year nominal gilt yields and investment grade corporate bond yields having all increased significantly over the past year, as part of the shift away from the low interest environment of the past decade to a fundamentally different set of market conditions.

- Recent experience also shows how stability in risk-free rates cannot be presumed and demonstrates the benefit of adopting an indexed approach to the Risk Free Rate (as currently applied by Ofgem, using the average yields during October each year to set the RFR for the following regulatory year), which allows the RFR rate to be adjusted each year during a price control in line with market

[11] "*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: Joined Grounds: Cost of equity*", CMA, 28 October 2021, paragraph 5.166
[12] Ibid, paragraph 5.157
[13] Ibid, paragraph 5.158
[14] "*A review of the methodology used to estimate the allowed cost of equity for regulated companies: Response to the UKRN consultation*", Oxera, November 2022
[15] "*UKRN guidance for regulators on the methodology for setting the cost of capital — consultation*", UK Regulators' Network, September 2022, page 13

changes. We support this approach to indexing the RFR, and suggest that, in light of the increased volatility and reduced predictability of interest rates (and RFR) that is now apparent, it should be applied in other sectors too (e.g. in water and sewerage company regulation) and supported in the guidance.

- We agree that where a price control is set in real terms relative to CPI or CPIH, regulators will need to convert the observed yields from which they base their RFR estimates into the appropriate inflation base: index linked gilt yields will need to be converted from 'RPI-real' to 'CPI(H)-real', whereas nominal yields would need converting to CPI-real or CPIH-real using estimates of the relevant CPI or CPIH inflation rate. We also agree that it is preferable to use long-run inflation forecasts or assumptions from official sources such as the OBR for this, rather than regulators' own estimates, and in light of the planned changes to RPI at a date not before 2030 regulators need to exercise appropriate judgement in deciding how to use the available RPI and CPIH forecasts. Until it is clear that the reform of RPI at a date not before 2030 is being fully reflected in the pricing of RPI-linked gilts, the RPI to CPI(H) real adjustment applied to index-linked gilt yields should not be calculated assuming a zero differential between RPI and CPI(H) from 2030, but rather a continuation after 2030 of the forecast differentials for the period between now and 2030.

Recommendation 4 – Equity risk premium: *Regulators should estimate the equity risk premium (ERP) within the CAPM as the difference between the total market return (TMR) and the risk-free rate (RFR).*

- We agree with this approach, which represents a continuation of past practice across a number of sectors. However, we question whether this approach has actually been strictly and objectively applied in recent price controls, given the decline in regulators' estimated TMR over the past decade even though there has been little change in the long-run evidence for TMR. In practice, regulators have sought various pretexts to justify lower TMR values, against a backdrop of declining RFR. As RFR is now rising, these unjustified reductions in TMR now need to be unwound, and regulators estimates of TMR should and would be expected to revert to the higher levels seen prior to 2014.[16]

Recommendation 4 then continues *"We recommend that the TMR should be primarily based on historical ex post and historical ex ante evidence".*

- We agree that TMR should be based on historical evidence, but do not agree with the proposal to place weight on historical ex ante estimates, and instead consider that the TMR should be based on the historical ex-post method alone. The ex-ante method is not robust because it is dependent on assumptions and adjustments[17], leads to quite wide ranges, different experts can reach notably different estimates using this method, and at least in some sectors it would represent a break with precedent with no good justification.

- There is also very limited discussion of the technical aspects and complications of using the historical ex ante approach in the draft guidance document. This indicates that the UKRN has not

[16] The draft UKRN guidance suggests (on page 17/18) that under the proposed approach the estimated TMR may be too high in times of low interest rates and that we are still in such a period now compared to long run historical averages. However, it is clear that interest rates have risen significantly during 2022, to the extent that there has been a clear break with the market conditions that have been seen over the past decade or so. As a result this suggestion - that an estimate of TMR based on the historical average may be too high in times of low interest rates – would, even if it had merit, no longer be a justification for continuing to use lower values of TMR than in price controls prior to 2014.
[17] "*A review of the methodology used to estimate the allowed cost of equity for regulated companies: Response to the UKRN consultation*", Oxera, November 2022

appreciated nor taken into account the problems with the approach when suggesting that it should be given some weight when estimating TMR.

- In relation to the ex-post historical method, which should yield more objective estimates of TMR than other methods, there are several details in the proposed approach in the draft guidance which will result in underestimates of TMR, as explained below. Whilst these might have been considered by regulators to be 'justifiable' or at least 'defensible' in recent years when interest rates have been very low (on the basis that some have argued that at such times TMR may be below the long-run average), the significant increases in interest rates during 2022 and the significant volatility in these rates during September and October 2022 means that applying methods that bias the ex-post long-run historical TMR estimates downwards is no longer justified.
    - The size of the geometric to arithmetic uplift is an important issue – and again the report seems incorrectly to be giving weight to the decision in the RIIO-T2/GD2 appeals rather than PR19 redetermination.[18]
    - Dismissing giving any consideration to RPI-deflated returns is another example where the CMA's decision on T2/GD2 is given more weight than the redetermination of PR19[19]. The approach currently recommended in the draft guidance, of ignoring RPI-deflated returns and relying on CPI(H) deflated returns only, will, like that relating to the basis on which arithmetic average returns are set (see the preceding bullet point above), generally cause the estimate of TMR to be an underestimate.
    - The references in the guidance to use of the new modelled CPI/CPIH back-cast series published by the ONS in May 2022 rather than the indicative modelled CPI back-cast series previously used by Ofgem in RIIO-T2/GD2 for example, are helpful, as there is no justification for regulators continuing to use the older superseded series. However, the guidance should make it clear that where a price control is set on a CPIH-real basis it should be the new CPIH-back-cast series (rather than the new CPI back-cast series) that is used as the inflation series for the period from 1950 to 1988 when deflating the long-run historic nominal returns dataset.
    - In relation to the earlier period, from 1900 to 1950, the draft guidance proposes use of the CED data series, but this will contribute to the underestimation of TMR. Firstly, the guidance favours use of the CED series rather than the Cost-of-Living-Index (COLI). As COLI is generally lower than the inflation implied by the CED series, use of COLI instead of CED prior to 1950 would result in higher estimates of TMR using the ex-post (or indeed ex-ante) historic method. Whilst COLI does have some limitations in terms of coverage, it was compiled contemporaneously, unlike the CED series which was calculated from retrospective estimates of the National Accounts, and so should be given some weight, at least directionally. It should also be noted that the CED series is derived from data that predates the first publication of CPI by over 20 years and so is likely to have been compiled using methods that are more akin to RPI rather than CPI(H). As a result the CED series is likely to incorporate some component of the formula effect (that is discussed in relation to RPI in the UKRN's draft guidance), a hypothesis with which the ONS has agreed[20]. For this reason, the CED data series should be considered an overestimate of CPI (and CPIH) during the period prior to 1950, and so use of this CED data series when deflating nominal returns will result in a real TMR relative to CPI(H) that is too low.

[18] "*UKRN guidance for regulators on the methodology for setting the cost of capital — consultation*", UK Regulators' Network, September 2022, first paragraph on page 17

[19] Ibid, page 18

[20] "*The cost of equity for RIIO-2*", Q4 2019 update prepared by Oxera for Energy Networks Association, November 2019, see page 16, Cost-of-equity-for-RIIO-2-Q4-2019-update.pdf (oxera.com)

- In relation to forward looking approaches, the guidance again follows the RIIO-T2/GD2 appeal rather than PR19 redetermination without justification, suggesting that these approaches (i) provide some useful insight into market expectations of returns in the relatively near term, and (ii) that they have recently supported the hypothesis that investors' expected returns have been lower than they were historically[21], although it should be noted that the changes in market conditions in recent months may mean that this is no longer be the case. Whilst DDM estimates of TMR might give some insights and DDM models more generally (including application of DDM to individual companies to estimate their cost of equity) are widely used in other jurisdictions, they do depend on the choice of input parameter values and so can give wide ranges and are much more subjective than the ex-post historical estimate of TMR. Weight should also not generally be given to the other forward-looking methods considered, particularly 'professional' forecasts and surveys of market practitioners. Such estimates will generally depend on the context in which they are made[22], they are likely to be subjective and volatile (as the consultation itself notes) and, in the case of surveys, the values will reflect how the survey questions are framed.

- The guidance suggests that combining the full range of estimates from the historical ex-post and historical ex ante approaches is likely to result in a wide range for the TMR, but regulators might identify a narrower range from this evidence to achieve greater alignment and predictability, and this is an area where regulators would need to continue to exercise their judgement "*depending on the latest available evidence*." This latter point would in practice reduce predictability and alignment across sectors because of the significant scope it would give for regulators to apply the suggested judgment differently over time and from each other, even if the underlying evidence is largely unchanged. The problems that this proposal is seeking to address result from the earlier suggestion that apparently similar weight should be attached to the results from both the ex-post historic and ex-ante historic methods. However, as explained above, the guidance should not support weight being placed on estimates of TMR made using the ex-ante historic. Once this change is made, the best-justified, most predictable and most consistent approach will be for regulators to estimate the TMR range using the ex-post historic approach alone, with a default expectation that the mid-point of this range should be used as the point-estimate of TMR. Individual regulators could still depart from use of this midpoint where appropriate and choose to place some limited weight on other estimates of TMR, but this would need to be properly justified in light of the specific circumstances at the time.

Recommendation 5 – Equity beta*: Regulators should estimate equity beta for the notional company using comparable listed companies and standard regression techniques (i.e. ordinary least squares). Where the listed comparator has different gearing to the notional company, regulators should continue to de-lever and re-lever the raw equity beta.*

- The main recommendations in the guidance document in relation to beta estimation seem appropriate. In particular, both of the specific points raised in the recommendation are reasonable and justified:

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[21] "*UKRN guidance for regulators on the methodology for setting the cost of capital — consultation*", UK Regulators' Network, September 2022, page 17

[22] "*The cost of equity for RIIO-2*", Q4 2019 update prepared by Oxera for Energy Networks Association, November 2019, section 2.2.4, Cost-of-equity-for-RIIO-2-Q4-2019-update.pdf (oxera.com); and "Review of RIIO-2 finance issues, Rates of return used by investment managers", Prepared for Energy Networks Association, 6 March 2019, Review of the FCA rates of return (northerngasnetworks.co.uk)

- standard, easily replicated regression techniques and in particular OLS are to be preferred to less widely used and less transparent approaches such as GARCH; and
- it is right that the conventional approach of de-levering and then re-levering the observed 'raw 'equity beta values for the actual comparator companies - to give a value for the notional equity beta of the regulated 'notional' company at the regulator's assumed notional gearing - is supported in the guidance. This approach has been widely used by UK regulators across many sectors for many years. It enables beta information from comparator companies with different levels of gearing to be considered and taken into account, even where their actual observed gearing differs from the regulator's assumed notional gearing.

- There are, though, a number of more detailed points in this section of the draft guidance which should be reconsidered and revised:
  - In considering how to calculate gearing for the purpose of the de-levering/re-levering exercise, although the consultation suggests that it is likely to be reasonable to estimate the value of debt on a book value basis, it does also suggest that "*if appropriate, market values of debt could also be considered*." This suggestion, that market values of debt could also be considered, should be removed from the guidance. There are a number of important reasons why the value of debt in regulators' de-gearing/re-gearing calculations should be on a book value rather than market value basis: this approach would be more predictable from one price control to the next; it is consistent with precedent; it makes it straightforward to value debt in both the de-levering and re-levering steps on a consistent basis; and it is more logically consistent with the wider form of price controls in the relevant UK sectors (where efficiently-incurred embedded debt costs are funded through price controls.)
  - In relation to the estimation of a debt beta value, we disagree with the characterisation that previous regulatory point estimates have tended to lie in a range of 0.05 to 0.15: many price controls have assumed a zero debt beta in the past, and a range from 0 to 0.10 would better reflect the values and ranges in past price controls. We would also point to the discussion of debt beta in the PR19 redetermination, which concluded that a narrower range from 0.05 to 0.10 would be more appropriate and better justified. There is no reason to depart from the analysis and conclusion on debt beta values in the PR19 redetermination in this proposed cross-sector guidance at this stage.
  - Also in the context of debt beta estimation, the draft guidance suggests that regulators might sense-check the combination of their asset beta, debt beta and gearing, and specifically investigate the relationship between the forward-looking cost of capital and gearing. The Modigliani-Miller Theorem on which this suggested 'sense-check' is based (that the cost of capital is invariant to gearing changes) only applies under strict conditions which are unlikely to hold perfectly in the real world. Some variation in the forward-looking cost of capital with changes in the assumed notional gearing should therefore be expected, although in many cases these are unlikely to be particularly material. Therefore, whilst regulators may wish to look at this relationship of forward-looking WACC to gearing, it is unlikely to inform the estimation of debt beta in a meaningful way, and neither should it be a key determinant when setting the notional gearing.

- There are other detailed points in this section of the draft guidance which in large part we agree with:

- We agree that when choosing the detailed methodology for estimating beta values there may be a trade-off between relevance and reliability. Recent data may be more relevant to a regulated company today than historical data but using a longer sample of observations results in a calculated beta value that is less likely to be materially influenced by either random fluctuations in observed beta values (statistical noise) or a small number of atypical and transient events which may not be representative of the ensuing control period. Use of a range of estimation windows (e.g. 2 yr, 5yr and longer, e.g. 10 years) can therefore be useful, although the relative weight that should be attached to the different estimates should take account of the relevant context. For example, where the comparators and their operating frameworks have been largely stable for many years the longer-run estimates are likely to be more useful, as they are more stable and will be less affected by random fluctuations, and in these circumstances the potential concern that long-run data may be less relevant will be less of an issue.

- We also agree that beta estimates should be calculated using daily data for the types of comparator stocks generally considered and identified in the draft guidance, which are highly traded liquid stocks. Use of daily betas significantly reduces the analytical work involved compared to calculation of weekly or monthly beta estimates, and daily betas also appear to be more reliable given both the 'reference day' issues that the consultation refers to and the greater volatility which is often seen with beta values calculated from lower frequency samples.

- Even if consistent methods are used to estimate equity beta, the estimated beta values themselves are likely to be one area where there can be less alignment between regulators than for the other CAPM parameters which are market-wide values (i.e. RFR and TMR). Beta values (both actual and notional) should be expected to vary between companies in different regulated industries and sectors, depending on their different risk exposures.

Recommendation 6 – CAPM point estimate*: The RFR, TMR and (re-levered) equity beta assumptions should be combined using the CAPM to produce a cost of equity range. The mid-point of the range should be used as the central estimate for the CAPM cost of equity.*

- Our comments on this recommendation, which is concerned with the central estimate of the cost of equity as found using CAPM, follow below. Additional comments on the choice of the final point estimate of the Cost of Equity that should be used when setting price controls, which include reasons (not limited to cross-checks) why regulators should select a final point estimate for the allowed cost of equity that is above the mid-point of the CAPM range, are then given in our response to Recommendation 7.

- The guidance is right that CAPM parameters can only be forecasted with some uncertainty, and so it is appropriate to reflect this uncertainty by combining low and high case estimates for each parameter (RFR, TMR and beta) to give a range for the CAPM estimate of the cost of equity. However, the mid-point of this range will only represent a suitable starting point for estimating the allowed cost of equity in a price control (i.e. before considering any meaningful cross-checks, or taking into account the relative and asymmetric adverse consequences for consumers of choosing a value that is too low as opposed to a value that is too high), if the individual parameter ranges for RFR, TMR and beta are symmetric around the likely best estimate.

- In its current form, this recommendation is misplaced, as there is significant scope for regulators to generate downward skewed ranges for the individual CAPM parameters (for example by placing some weight on estimation methods even where they are less reliable), which will then result in a similarly downwards skewed mid-point for the final CAPM range.

- As our responses to the earlier recommendations (3) to (5) above explain, this will happen if regulators apply the current draft guidance in relation to TMR, RFR and beta. For example, the best estimate of TMR should instead be based on the range of values found using the ex-post historic approach only, as this is more objective than the ex-ante method which can give a wider range of values depending on the assumptions and adjustments made; and the RFR will be higher than the long-tenor (e.g. 20 year) index-gilt yield, because of the convenience premium for government debt which pushes the ILG yields downwards below the value of the RFR that should be used in the CAPM.

- We therefore recommend the guidance is updated to recommend either (i) use of symmetric ranges for each CAPM parameter, where the ends of the ranges are equidistant from the best estimate, or (ii) selecting a point estimate within each parameter range which reflects the likely best estimate for that parameter, taking account of the relative reliability or biases of the underlying estimation methods. Either of these approaches could be used to give the final CAPM estimate of the cost of equity, before other considerations are considered, such as cross-checks and the asymmetric consequences of setting an allowed cost of capital that is too low as opposed to too high.

Recommendation 7 – Cross-checks: *Regulators should only deviate from the mid-point of the CAPM cost of equity range if there are strong reasons to do so.*

- We agree with the draft guidance that cross-checks are more likely to be relevant to the estimation of cost of equity than cost of debt, as cost of debt can be estimated more directly from market rates.
- Consistent with the views of the CMA in the 2021 Energy Licence Modification Appeals[23], "*the most appropriate role for cross-checks is to use them to assess whether a CAPM-based estimate appears materially miscalibrated versus current market-based data.*" We therefore agree that there should be a high evidential bar to adjusting the best CAPM estimate of the cost of equity based on cross-checks, given the limitations and uncertainties that generally apply to these alternative approaches.
- However, there may be reasons other than cross-checks why regulators should select a final point estimate for the allowed cost of equity that is above the mid-point of the CAPM range, as listed in the draft guidance. The draft guidance suggests these reasons can be dismissed or ignored, but we don't agree that this will always be the case. Notably, in the PR19 redetermination, the CMA gave careful consideration to the choice of point estimate within the cost of equity range and reached the conclusion that there are a number of benefits from choosing a point estimate of the cost of equity above the middle of the range[24]. These benefits included "*addressing the level of risk to investment in the sector associated with setting the cost of equity too low*", asymmetry in the broader financial

[23]"*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: Joined Grounds: Cost of equity*", CMA, 28 October 2021, paragraph 5.718(c)
[24] "*Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited, price determinations Final report*", CMA, 17 March 2021, paragraphs 9.1402 – 9.1404: see Final report (publishing.service.gov.uk)

settlement, and risks to financeability. This assessment – which was reached after careful consideration, including issuing a specific working paper on this issue for consultation[25] - should be reflected in the cross-sector guidance, which should therefore take the position that, as a default, some aiming up on the cost of equity is justified, even if there is no asymmetry in the broader price control settlement.

- It should also be noted that prior to the era of cheap money over the past decade, the compelling logic that supports aiming up was recognised universally by the UK regulatory authorities. However, in RIIO-T2/GD2 both Ofgem and the CMA took comfort from the then prevailing market conditions to conclude that the allowed return was not too low and therefore rejected the need to aim up – or at least to conclude that failure to aim up was not at that time wrong. The current environment no longer provides that comfort, while the heightened volatility recently observed in markets can only heighten the risk and consequences of inadvertent error in setting allowed equity returns too low.

- It is the case that, in contrast to the PR19 redetermination, in the RIIO-T2/GD2 appeal the CMA did not implement any aiming up (although it did remove the element of "aiming down" in Ofgem's original decision). However, the issue in question in that appeal was whether it was *necessary* for Ofgem to aim up in setting the cost of equity in that specific price control, rather than whether aiming-up would be best practice or would generally be in the best interests of consumers[26]. It is therefore clear that the RIIO-T2/GD2 position should not be adopted for this general guidance document, and instead the discussion and decision in the PR19 redetermination, which recognised the benefits of aiming up on the cost of equity (in that case by 0.25%) should be recognised in this guidance as the default position.

- The merits of aiming up will be even greater when, as recently, there is greater volatility in financial markets, and thus greater uncertainty as to the cost of equity both now and over the subsequent years that will be covered by a new price control that is being set.

- In relation to some of the reasons for aiming up which are noted in the draft guidance – in particular asymmetry of incentives and asymmetry of parameters – we agree that it would be preferable for regulators to address any returns asymmetry in the first instance 'at source' through recalibrating incentives and/or performance commitments in a given policy area, and by adopting symmetric CAPM parameters. However:
  - It may not always be possible to recalibrate the incentives and overall price control framework to make it symmetric; and
  - as explained in our response to the previous recommendation, the current draft guidance will result in a downwards bias in some of the individual CAPM parameter ranges unless it is revised, and so if a regulator was to follow this guidance the best CAPM-based estimate of the cost of equity will be above the mid-point of the full CAPM range, and so some aiming up from the mid-point will be needed.

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[25] "*Water Redeterminations 2020 - Choosing a point estimate for the Cost of Capital – Working Paper",* CMA: see Point estimate for cost of capital working paper (publishing.service.gov.uk)

[26] "*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: Joined Grounds: Cost of equity*", CMA, 28 October 2021, see for example paragraphs 5.786 and paragraph 5.934

- On the question of financeability which is also raised in the draft guidance in relation to the selection of a point estimate for the cost of equity, we agree that a financeability assessment is a judgement in the round and that the value of metrics can be heavily influenced by embedded debt costs. Nevertheless, credit metrics are a highly relevant and key consideration in any assessment of financeability which is an important issue in the setting of price controls. It is evidently the case that if the return is set too low, metrics will be worse than they should otherwise be, so metrics have some informational value as a check on the allowed cost of equity. Furthermore, setting a cost of equity that is too low will make attraction of equity to the sectors more difficult, weaken the confidence of rating agencies and debt investors in the stability of the regulatory frameworks, and thus unnecessarily increase financing costs at a time when there is significant need for higher levels of investments to meet new and growing demands for infrastructure across a number of sectors, particularly in energy.

- Turning to the issue of cost of equity cross-checks and how these might be used:

    - As noted above, there should be a high evidential bar to adjusting the best CAPM estimate of the cost of equity based on cross-checks, given the limitations and uncertainties that generally apply to these alternative approaches. In particular, the market-based cross-checks that have recently been considered by certain regulators suffer from particular problems:
        - firstly, regulators have recently demonstrated a tendency to focus more of their attention on cross-checks which imply lower values of cost of equity than the CAPM estimate whilst disregarding some others which support higher values, making the use of cross-checks subject to confirmation bias, both individually and when considered together;
        - they are generally much more subjective than the cost of equity based on an appropriately calibrated application of the CAPM;
        - they have generally been based on values or interpretations of market values which are both short-term and, as seen recently, can be highly volatile: but it is highly unlikely that regulators would feel able to give weight to such evidence when these cross-checks point to a higher cost of equity than the CAPM estimate. This creates further exposure to confirmation bias, asymmetry in the setting of price controls, and also demonstrates that they are inherently unsuitable for use when setting price controls.
        - In addition:
            - Weight should not be placed on cross-checks that are based on comparators which have different risk from regulated networks.
            - Weight should not be placed on cross-checks which are based on short-term, hard-to-interpret and potentially volatile values, and especially so where such cross-checks use data that is already likely to be out-of-date or may quickly become so.

    - The draft guidance suggests that the primary market cross-check that is important in regulated sectors is that based on the Market-to-Asset Ratio (MAR). However, in the PR19 redetermination, the CMA noted the difficulties in interpreting MAR evidence, and that different parties interpret the data differently, and as a result decided not to give the MAR analysis significant weight in coming to a final view on the point estimate of the WACC[27]. Similarly, in the RIIO-T2/GD2 appeals, the CMA recognised that a large range of factors can influence MARs[28], and whilst the CMA disagreed with the view that little to no inference could be taken from MAR premiums this should be seen in the context that the CMA took the view that "*the most appropriate role for cross-checks is to use them to assess whether a CAPM-based estimate appears materially miscalibrated versus current market-based data*."[29]

- Use of a MAR cross-check has more recently been proposed again by Ofgem in the RIIO-ED2 draft determination, but responses to the RIIO-ED2 Draft Determination[30] have now highlighted new evidence and additional reasons why the interpretation of the MAR values is subjective and does not give a meaningful insight into the allowed cost of equity that is required, including the following:

    - new evidence demonstrates there is no evidence of any correlation between MARs and returns, which calls into question the premise on which the MAR cross-check is based;

    - there is evidence that transaction MARs are consistently above 1 and insensitive to regulatory determinations: this is unsurprising, as like some other asset classes, the value of a regulated business is often significantly determined by a judgement on the exit value or terminal value and based less on the cash flows received during ownership. It is logical for potential investors to assume an exit or terminal MAR greater than 1 if they have observed such values over a prolonged period of time, without needing to backsolve that terminal value into assumptions of performance and return. This undermines the argument that the MAR reveals significant information on required returns.

    - there is evidence that networks have not been overvalued relative to the market;

    - a new 'MAR inference model' to interpret MARs has been suggested by Ofgem, but this shows not only that interpretation of MARs is highly sensitive to the assumptions used, but also that anticipated network RAV growth rates are likely to influence (and in a material way help to explain) any recently observed MAR premia.

- To place significant weight on MAR evidence is therefore wrong in principle and, if it were to be applied consistently, could put regulators in a position where allowed returns have to be increased in the event MARs fell below 1 for reasons that had nothing to do with the price control settlement.

- There are, though, other cross-checks which are, or at least can be, more objective and informative than the cross-checks recently considered by regulators, and so can prove

[27] "*Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited, price determinations Final report*", CMA, 17 March 2021, paragraphs 9.1358 – 9.1362: see Final report (publishing.service.gov.uk)
[28] "*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: Joined Grounds: Cost of equity*", CMA, 28 October 2021, see for example paragraphs 5.675 – 5.681
[29] Ibid, paragraphs 5.686 and 5.718
[30] RIIO-ED2 Draft Determinations response documents, available at RIIO-ED2 Draft Determinations | Ofgem

useful. These do not rely on comparators which have different risk from regulated networks, nor the subjective (and most likely conservative) views of certain investment advisors, nor regulators' subjective interpretation of MAR ratios. We draw attention in particular to the following:

- During the RIIO-2 price controls energy networks have proposed use of the "*Asset Risk Premium – Debt Risk Premium*", which uses debt market evidence, as a cross-check of the proposed cost of equity. This cross-check was developed by Oxera, and as Oxera previously explained "*The asset risk premium is the additional compensation over the RFR that investors require to invest in a company as a whole. This is the premium for equity risk assuming zero gearing, and should be higher than the risk premium on debt given the lower priority of equity relative to debt in terms of claims on cash flows. A risk premium on energy network assets would be expected to be greater than that on the investment-grade bonds that these companies issue*." Ofgem and the CMA have both recognised the logic and potential value of this ARP-DRP cross check[31], but in RIIO-T2/GD2 chose not to give it weight, albeit at that time DRP was notably less than ARP and so the conclusion that the proposed cost of equity was too low depended on the estimate of the margin by which the ARP should exceed the DRP. Parameter values have since changed such that the ARP implied by some regulators' recent estimates of the cost of equity is now much closer to the DRP (and during October 2022 the ARP even became smaller than the DRP for a time). This cross-check therefore now provides much stronger and more objective evidence for the cost of equity than, for example, MARs, and shows that the allowed cost of equity needs to be appreciably higher than has recently been proposed by regulators in, for example, the RIIO-ED2 Draft Determination.

- The Dividend Growth Model (DGM) is a well-established, forward-looking market-implied methodology that can be used for valuation assessment or to estimate an implied cost of equity given a market valuation, and so can be used as a cross-check of the CAPM implied cost of equity. The DGM does require estimates of short and long-term dividend growth rates, but with plausible estimates of these parameters the DGM can be used to give ranges for the required cost of equity, or alternatively the dividend growth rates that are implied by regulators' CAPM estimate of cost of equity can be calculated and assessed for plausibility. From this it can be seen whether the cost of equity proposed for a forthcoming price control is reasonable.

[31] For example, in the PR19 redetermination "*Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited, price determinations Final report*", CMA, 17 March 2021 the CMA said at paragraph 9.1386 "*The Oxera analysis is based on what seems like a logical principle: that for a regulated business with capped returns, the cost of equity used in the WACC should still be assumed to remain sufficiently above the current cost of debt to promote equity investment in the sector. We agree that this is conceptually sensible, …*"; and in "*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: Joined Grounds: Cost of equity*", 28 October 2021, the CMA noted at paragraph 5.717 that "*… while we accept that ARP-DRP might ultimately gain more general acceptance as a relevant cross-check within regulatory price control processes, the approach and its acceptance is inadequately developed at this stage to be sufficiently convincing evidence that GEMA's CAPM-based estimate is wrong. …*"

***Recommendation 8 – Cost of debt**: Regulators should estimate an allowance for an efficient company under the notional financial structure, with actual debt costs suitably benchmarked against other market evidence.*

- We agree with this proposed recommendation, which appears to represent a continuation of past practice across a number of sectors. We also agree with a number of the other observations made in this section of the draft guidance, including the following:

    - "*For sectors with multiple regulated companies, an approach where the notional allowance is based on a benchmark drawn from sector average balance sheet costs and/or a benchmark index is likely to be reasonable in most circumstances. In sectors with one regulated company, it would also be reasonable to consider suitable benchmarks, potentially as cross-checks to provide assurance that actual debt has been prudently incurred*." This approach is likely to create suitable incentives on regulated companies to manage their finances prudently and efficiently, especially if applied consistently over time.

    - "*In deriving a cost of debt, regulators must make adjustments when either the balance sheet or benchmark index approaches are used for purposes of deriving a real cost of debt and potentially also a nominal cost of debt. We recommend that typically the long term Bank of England target or long term official inflation projections should be used. However, there may be circumstances where an alternative forecast might be preferable, for example, if there is evidence that the long term Bank of England inflation target will not be met*." Again, this approach appears broadly consistent with past practice across a number of sectors, is likely to create suitable incentives on regulated companies in relation to the financing, and, if applied consistently, should allow companies to recover efficiently incurred financing costs, consistent with regulators' interpretation of their financing duty. However, even where there is evidence that the long-term inflation target will not be met, it would still seem reasonable to use official Bank of England or OBR inflation projections rather than alternative forecasts, and the guidance should be changed to reflect this, as these bodies appear the most independent and best qualified sources of these numbers. If there is evidence the Bank of England's inflation target will not be met it is reasonable to believe the inflation projections would reflect the situation in which case the projections should be used without the need for alternative forecasts.

Recommendation 9 – *Gearing*: *The notional gearing assumption should reflect the balance of risks facing the regulated company and a wide range of benchmarks on gearing levels, not just that of the actual company (or companies) in question.*

- We agree with this proposed recommendation, which appears to represent a continuation of past practice across a number of sectors but offer the following observations and comments.

- Whilst actual choice of financing structure for companies in a regulated sector is for the company to determine rather than the regulator, regulators should ensure that where companies choose financing arrangements that are broadly consistent with the regulators' notional gearing assumption, they will be financeable and will be able to earn reasonable returns.

- Consistent assumptions in relation to notional gearing should be made across the price control.

- Where a regulator makes a change in notional gearing from one price control to the next, the associated costs that would be incurred by the 'notional company' should be funded through the new price control (where these costs may, for example, include the cost of raising new notional equity). This will be necessary if the price control is to meet the actual financing costs that would be expected for those actual companies that choose to adopt financing structures that are close to the assumed notional gearing in these successive price controls.

- Notional gearing should not be adjusted downwards by regulators solely to generate acceptable financial metrics for a new price control on a notional basis. This would undermine confidence in the stability of the regulatory framework and would create a further unjustified disconnect between the notional and actual networks. Adjusting notional gearing to a lower level may require notional equity injections, which should be considered limited, and should in any case only be considered possible if the cost of equity is set at a sufficient level to attract equity to the sector.

- The draft guidance suggests that "*as discussed in the beta section, it is important to sense check the combination of the notional gearing, asset beta and debt assumptions, and the relative impact of gearing on the WACC*". In most cases, once assessed on the right basis, the allowed WACC will change only slowly with the assumed notional gearing. Therefore, as the choice of notional gearing must take proper account of a number of factors, benchmarks and information (as noted in the draft guidance), this relationship between return and notional gearing is unlikely to be a principal consideration when choosing the notional gearing level.

Question 2 - Do you have views on how this guidance could evolve over time, including views on potential issues for further investigation?

The guidance will need periodic updating to reflect changes and developments. It is, though, important to recognise that the document can only be guidance, i.e. cannot be 'mandatory' across different sectors, given our earlier observations that regulators' decisions need to reflect the relevant circumstances in a particular industry and price control. However, regulators should be cautious of departing from the guidance, except where there is good reason in the relevant circumstances of a particular price control. This is especially the case where the approach a regulator proposes to adopt not only departs from the guidance but would also involve use of a novel approach. Where regulators do choose to depart from the guidance they should explain their rationale, but equally where the cross-sector guidance has been followed regulators will also need to justify properly their decisions and this will include explaining why the guidance represents the best approach in the relevant specific context.

One option to improve the guidance could be to involve representatives of regulated networks (who could be nominated by industry bodies such as the ENA and water UK) in the development of future versions. This would reduce the risk of regulatory 'group-think', and also ensure a wider range of perspectives can be taken into account.

Two issues that merit further consideration before the draft guidance is finalised are the implications of the recent changes in capital markets for the proposed guidance; and the opportunity to make better use of the alternative cross-checks which we referred to in relation to recommendation 7 above, including the "Asset Risk Premium – Debt Risk Premium" cross-check.

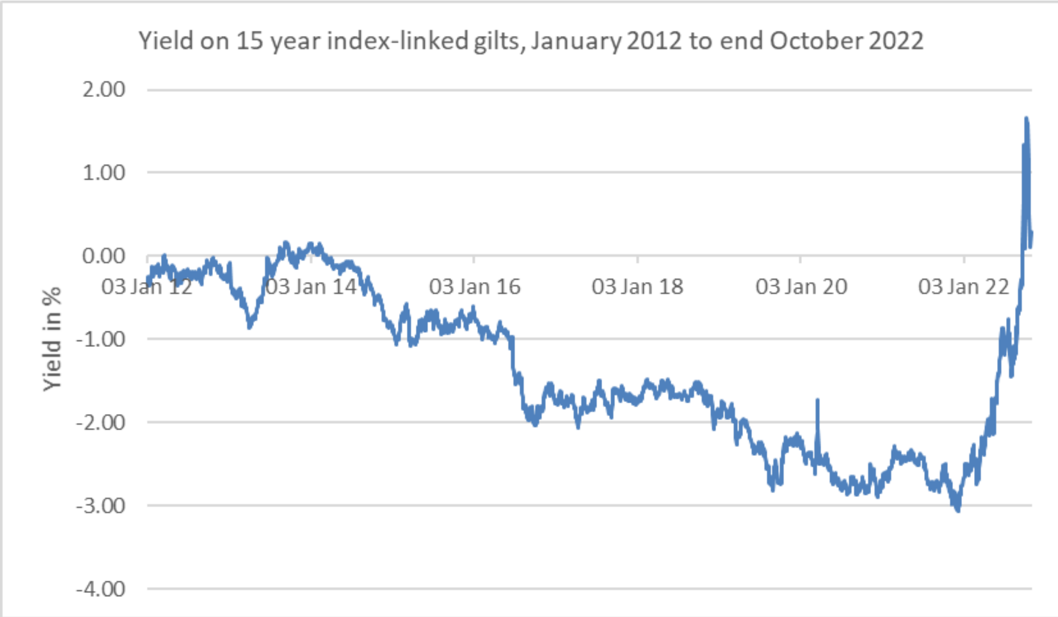
UK regulatory practice during the past decade has been conditioned by debate around how regulatory finance decisions should accommodate the very low and declining interest rates that have been observed, and the resulting thinking is also reflected in the draft guidance as it currently stands. However, the past few months has seen the largest and fastest reversal in financial market conditions since the 2008 financial crisis. It is now necessary to consider how the draft cross-sector guidance document, and also the wider debate around best practice when setting allowed returns in price controls, must evolve to reflect the fact that the period of low and relatively stable interest rates has come to an abrupt end.

For example, there is an acknowledged consensus that the preferred methodology when setting Total Market Return is to rely on a very long-run estimate, as endorsed again in the UKRN's draft guidance. However, despite this widely accepted principle, in recent years regulatory decisions on TMR have gradually moved allowed equity returns lower, even though the data evidence suggests that the long-term total equity market return has remained relatively stable. In effect, regulators' decisions on TMR over the past ten years have been overly influenced by the ever-decreasing interest rates, either explicitly[32] or implicitly by attaching weight to questionable methods or data sources which better met the regulators' prior view of the 'right' level of TMR, and even though contrary to regulators' own stated principal approach. In light of the recent changes in market rates (see below), regulators must now move away from such distortions of the actual long-term evidence on TMR, and instead must return to a proper balanced assessment of long run market evidence.

The recent changes in capital markets, particularly in government bond markets, have two striking features, these being the scale of the movements in prices and yields and the speed with which these movements have occurred. Figure 5 in the Appendix to the draft guidance showed the evolution of 15 year index-linked gilts from January 2012 to January 2022. By bringing this chart up-to-date, these features of the recent reversal in market conditions can be clearly seen, as shown below:

[32] See for example:

- The Competition Commission, in its re-determination for NIE in 2014, initiated the first move of TMR downwards from 7.0% to 6.5%, away from the levels indicated by the available evidence on long run TMR. This was despite the fact that the underlying data on TMR available to the CC at the time of its NIE decision was almost indistinguishable from the data it had available to it at the time it took its Bristol Water decision in 2010. One of the key justifications for this move as stated by the CC was: "*A forward-looking expectation of a return on the market of 7 per cent does not appear credible to us, given economic conditions observed since the credit crunch in 2008 and lowered expectations of returns*." (See "*Northern Ireland Electricity Limited price determination: A reference under Article 15 of the Electricity (Northern Ireland) Order 1992, Final determination*", March 2014, Paragraph 13.146)
- Following the CC's NIE draft decision, Ofgem launched a consultation on assessing equity market returns for the RIIO-ED1 price controls, and from this, Ofgem decided to "*give greater weight to the influence of current market conditions in relation to equity market return*", also noting the sustained period of relatively low risk-free rates. (See "*Decision on our methodology for assessing the equity market return for the purpose of setting RIIO-ED1 price controls*", Ofgem, 17 February 2014, page 1)
- Around the same time as Ofgem's consultation on equity market returns, Ofwat released its 'risk and reward guidance' for its upcoming PR14 price control, within which Ofwat estimated a TMR range of 6.25% to 6.75% (RPI terms). A key reason Ofwat selected this range, a large reduction from the 7.4% TMR that featured in its PR09 decision, was that "*monetary policy and investor appetite have significantly reduced Government and corporate bond yields and put downward pressure on returns across most asset classes*". (See "*Setting price controls for 2015-20 – risk and reward guidance*", Ofwat, January 2014, page 14)
- A few years later, as the market interest rates continued to decrease, Ofwat and Ofgem both estimated the TMR to be roughly 5.5% in RPI-real terms for their PR19 and RIIO GD2/T2 decisions. This time the justification included use of a modelled back-cast CPI series identified from an academic study which was known to be of questionable reliability (and which has been subsequently proven unreliable by the latest CPIH back-cast released by the ONS).



For some years we have maintained that Ofgem's method for determining allowed equity returns for RIIO-2 was flawed, and by extension the same concerns apply to much of the proposed cross-sector guidance, at least in relation to the details of how it might be applied if not the higher-level recommendations themselves. The flaws with Ofgem's methods are now made plain by recent market developments. We do not argue that regulators should now use short run signals from volatile markets to push the TMR used to calculated allowed returns up above the levels suggested by historical averages, but they must stop distorting their so-called long run estimate down, by reference to data or methods that are of limited quality or reliability, or through cross-checks to short run signals that emerged from capital markets in a now bygone era.

Following on from the above issues concerned with recent market changes and turbulence, a second area which merits changes to the guidance document before it is finalised concerns the alternative cross-checks which we referred to in relation to recommendation 7 above. In particular, the use of these alternative cross-checks (e.g. ARP-DRP) should be reflected in the guidance, as these cross-checks (particularly in some circumstances) are able to provide very strong evidence that the estimates which some regulators have made in recent price controls should be revised. To the extent that these estimates of required returns by regulators were made in ways that were consistent with the draft cross-sector guidance, changes to the earlier sections of the guidance also need to be considered.