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Dear Aileen,

PR24 and beyond: Creating tomorrow, together

We welcome the opportunity to respond to Ofwat's high level discussion document for PR24: "PR24 and beyond: creating tomorrow, together". The consultation was thought provoking, which is both appropriate and essential at this stage of the process, given the importance of the issues and the impact that Ofwat's approach has on the long-term shape of the water sector.

Our key response points are set out in this letter and its appendices. We have also answered the specific questions asked by the consultation.

In overview, our thoughts are:

- We struggle to understand Ofwat's overall vision for PR24. Whilst the executive summary of the document is clear, the summary does not appear to be clearly aligned with the detailed proposals.
- There are several decisions in the consultation that appear to be fixed, but without sufficient evidence or analysis to support them. This makes it hard to clearly understand all the logic behind the proposals and how they contribute to Ofwat's vision for the sector. This may also be a missed opportunity for reform in light of PR19 and the learning points from the CMA reviews.
- Whilst the proposed process may in theory be simpler for Ofwat (eg having fewer outcomes to compare, no CCG engagement with Ofwat), that does not necessarily make it better. Overview we feel that the direction of travel is towards an increased regulatory burden for companies, with companies spending their time focusing on Ofwat's multiple detailed requirements (the recent asset maturity assessment being a

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good example) rather than directing this resource at local customer and stakeholder engagement to support customer led decision making for the benefit of local society.

- Ofwat appears increasingly tempted to determine outcomes which should ideally be left to the relationship between the company, the customer and wider stakeholders. As the David Gray review found in 2011, this is a real risk in a water sector that has many local needs and impacts, that central regulation may constrain innovation if not balanced proportionately with well justified and company owned plans. The consultation seems to assume that local priorities can be dealt with just as well outside of the price review process – we fundamentally disagree that this should be the case.

The discussion paper starts from the perspective that the regulatory regime is more or less fit for purpose - with a few tweaks or additions needed around the edges in order to address the contextual challenges outlined at the beginning of the paper. This approach fails to recognise the necessity to improve societies understanding of the trade-offs we face, and this requires continuous strategic dialogue. We do not think that this approach will support water companies to create wider public value.

Risks and opportunities in Ofwat's proposed approach

Our conclusion from our assessment and supporting analysis is that whilst the PR24 direction of travel may work, we see a better option of a process that recognises the significant risks to companies and their customers if it does not develop as Ofwat intends.

Our proposed approach (described in **Appendix 3**) may reduce some certainty at the start of the process, but importantly will enable strategic discussion on company plans for customers and stakeholders, revealing information from the complex detail to ensure that proportionate decisions could be made in the round. In our view this dialogue was fundamentally missing at PR19, to the detriment of the process.

We have set out in the table below some of the unintended consequences (the risks) that we think could arise from Ofwat's proposed approach. We also balance this with the opportunities we see from Ofwat's proposed approach.

PR24 and economic regulation	Opportunities	Risks
Greater focus on the long-term	More investment in asset health because of national standards. Central innovation planning does not constrain local innovations so	Higher long-term cost to customers, as needs vary and models and metrics cannot reflect this.

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PR24 and economic regulation	Opportunities	Risks
	customers get benefit of high services and lower costs. Simpler process allows for long term trade-offs to be exposed.	Economic regulation fails to reflect local needs. More focus on regulation than customers. Risk and reward only focuses on regulatory incentives, and increases complexity with Price Control Deliverables without reducing ODI and cost incentive challenges.
Consensus and trust	National accountability and standards sufficient for the water sector, reflects national rather than local accountability. National NGO and local stakeholders and customers fully aligned – through local CCGs holding companies to account and national NGOs engaged enough to local needs to feedback to Ofwat nationally.	Economic regulation undermined and blamed for both lack of national progress and water companies not being able to meet local needs. Trust reduces. Demand for Scottish and Welsh frameworks of negotiated settlements increases that undermines economic regulation model appropriate for England. Opportunity to further build on totex and outcomes framework that builds focus on customer needs lost. National NGOs and Ofwat's PR24 advisory group are not aligned to local views – no ethical basis and depth of evidence for value judgements being made.
Risk and return	Investors accept lower returns because greater regulatory intervention provides more certainty (e.g. outperformance put off for the long term). Risk and return can readily be standardised despite historic performance and investment differences between areas.	Cost of investment goes up – risk increases with less diversity of business and investment options in the water sector. Innovation reduces because all is determined top down. Increased risk of systemic fail of the industry due to planning blind spots.

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PR24 and economic regulation	Opportunities	Risks
		One size fits all risk and return causes significant practical financeability issues.
National or standardised research	Produces reasonable and understood range of WTP values – sufficient to avoid duplication, because trade-offs are clear. Delivers in sufficient time to enable companies to deliver PR24 business plans by October 2023	National research process runs late and companies have to duplicate in order to understand local needs and priorities (which central research cannot reflect due to complexity of design, and lack of deliberative engagement). Wide range of national values provides no useful information – costly and uninformative. Based on a presumption on methodological issues not fact based. Ultimately local bill options research far more credible and useful.

Shaping PR24 to exploring consensus and build trust for the long-term

Our challenge in responding is that we are in two minds about the approach set out in the consultation. In some ways this reflects that the design has two desires, that are in our view conflicting, in the approach proposed for PR24. We welcome the sentiment in the Executive Summary of the consultation strongly – it is right to focus on the customer and stakeholder expectations on the water sector. But the specific proposals for PR24 do not seem likely to deliver against these objectives – we see a disconnect between the intention and the detail. In our response we provide positive suggestions as to how PR24 may be able to better align to the long term.

These suggestions build on our contribution to the Future Ideas Lab "Regulating for Consensus and Trust" ("Refcat") (summary in Appendix 1). We were pleased to see references to this paper within the consultation, but the references to our contribution included some misunderstandings – we did not propose that ethical regulation could replace regulatory incentives, or that incentives would necessarily be weaker. Instead, we proposed a price review process that explored the use of incentives and the trade-offs that needed to

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be made, in language non-economists can engage with, rather than assuming such incentive decisions should be left to economic regulation experts up front in the price review process.

The long-term is not just about national Government plans and targets –decisions on economic growth, climate change and environment are being devolved to regions and local government, whether building back better, levelling up or growth clusters, and water companies are central to these plans. Water customers and stakeholders' understanding of these issues are important to the decisions we make, and ignoring them risks higher costs and worse services for the long-run. An example used before that is a lesson from the past is that nature-based solutions only become *de rigueur* after water companies and local stakeholders built consensus and pushed the regulatory frameworks to change at PR09, with outcomes and totex following the Gray review taking this further at PR14. We do not have confidence that the PR24 approach will not stifle sector change rather than enabling it.

Ofwat's logic in the PR24 consultation re-emphasised our thought process. Rather than creating tomorrow together, our impression was that PR24 might be closer to re-creating aspects we associated with PR04 and PR09. Whilst an oversimplification, we illustrate our observation for this below:

Regulatory Approaches to Key Issues

Price Review	PR04	PR09	PR14	PR19	PR24
Customer Engagement	None (statutory obligations)	Local, centralised research, little value	Localised	Localised	Centralised?
Target Setting	Statutory obligations and asset health	Asset health with layers of serviceability, outputs and activity requirements	Bespoke with 3 common PCs (for water)	Bespoke with 9 common PCs (for water)	Common PCs?
Cost Assessment	Opex + Capex + Cost base	Opex + Capex + Cost base. Asset Management assessments on maintenance	Totex	Botex + Enhancement	Mix of Botex, Capex, cost base and enhancement? Asset management assessments on maintenance?
Risk Balance	Financeability support reflecting differential impact of statutory obligations	Financeability assumed funded equity injections (one company)	RORE broad range (+/-4%) Company financeability proposals for transition	RORE, but skewed by common PC impact. Range of financeability approaches post CMA	Wide range of potential approaches, broadly PR19+ more incentive risk and outperformance conditions?

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Whilst relevant at the time, the approach did not work for the long term, and it did not work for stakeholders or customers. We have referenced the David Gray review of Ofwat in 2011 previously in these early PR24 consultations – it remains are review that the industry may end up focusing on Ofwat, rather than customers or stakeholders. As Ofwat do not reference it, we spell out the relevant sections below, which we think Ofwat should consider as criteria to judge the strategy and framework against.

The burden of regulation

We found a clear consensus that the burden imposed on the companies by the regulatory regime is excessive and needs to be reduced. This is important in its own right but the problem goes further than just the scale and cost of the regime. We saw considerable evidence to suggest that Ofwat goes too far into the detail of company business plans and that, as a result, the companies are very Ofwat-focussed and very cautious and conservative in their approach. Rectifying this will require a substantial change of approach by both Ofwat and the companies it regulates.

There is also some evidence that the system of incentives applied by Ofwat may be too focussed on penalties and compliance as opposed to positive incentives for desired changes of behaviour. We recommend that Ofwat, in conjunction with the companies, should set clear targets for a substantial reduction in the burden of regulation and suggest that progress towards these targets should be monitored by the National Audit Office. We also recommend that Ofwat, in its current review of its use of incentives, should seek to ensure that the future framework of incentives sets the right balance between rewards for success and penalties for failure.

Changing company behaviour

The changes we recommend in these areas are important because everyone we spoke to acknowledged that the water sector faces substantial future challenges. There was some disagreement about whether these challenges were new and exactly how they should be addressed but no-one suggested they did not exist. Government and the regulators must set the policy objectives and required outcomes but it is the companies that will have to take the necessary action and it would be much better for them to take the lead and to have the freedom and flexibility to devise innovative solutions that are in the best interests of consumers. This will require a substantial change of approach and culture both in Ofwat and in the companies themselves.

Better co-ordination of input from the quality regulators and consumer representatives to Ofwat's price review should reduce the risk of them passing confusing or conflicting messages to the companies and allow the development of better business plans with clearer objectives. A reduction of the burden of regulation should free up management time for other purposes; more importantly, it should return ownership of the business plans to the companies and provide more flexibility in their implementation. Finally, an appropriate use of positive incentives should encourage the companies to be more proactive and innovative in their approach. Each of these issues is important in itself but in combination they could provide a powerful stimulus towards an improved system of regulation and facilitate the achievement of Government's objectives for the sector.

Key quotes from the Gray review that should be central to Ofwat's regulatory considerations

It is also the case that the National Infrastructure Commissions recommendation to Ofwat did not specify for Ofwat to only engage with national Governments. The consultation does not state how Ofwat are meeting this recommendation.

The National Infrastructure Commission 2019 report, "Strategic investment and public confidence"[9] included the following recommendation:

"In future price controls, regulators should demonstrate how they have taken consideration of the strategic vision of metro mayors and relevant local government, within devolved powers, where this has material impacts for network investment"

Therefore the only simplification of the process may only be from Ofwat's decision making on incentives, separated as it may be from local needs, whilst the industry is facing an ever-increasing regulatory burden. At its simplest we would question why should local issues and approaches only be considered in Wales? Whilst the government framework is somewhat different, the need for local engagement and decision making is just as strong across England.

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If we are to focus on the environment, then it requires cultural change in society as well as companies. We know from past environmental decisions this needs to come bottom-up, to connect people with the environment around them and to boost their understanding of its value – people, place and planet. The changes needed cannot just be top-down statutory obligations, the roles of social contracts are important beyond regulation, but this does not mean we can divorce local public value from price review decisions – it will reduce consensus and trust. With local bespoke ODIs at PR19 covering community stakeholder satisfaction, net biodiversity gain and catchment management through raw water quality indexes, the tools are there if Ofwat accepts that local measures means that qualitative comparators are not the whole purpose of economic regulation and price reviews. That is clearly not the intention, but it is the impression that the proposed process gives.

There is much in the consultation we think can be built on, and we feel forward looking evolution remains possible, rather than a disruptive revolution of water economic regulation. Time is running out though for the power of independent incentives-based regulation for the long-term to shine through. We cannot understand the logic that price reviews focus on statutory obligations, and are more constrained in the past, whilst Ofwat's strategy expects companies to deliver more, but only outside of this constrained framework.

We hope our response helps to shape the approach for PR24. Whilst there has been some engagement through detailed working groups, we believe what is missing currently is dialogue with companies, Boards, local stakeholders, both on the strategy for the price review and on the tools of economic regulation.

Our analysis and key proposals

This section includes our analysis and key proposals, which we hope summaries the logic we believe Ofwat should consider in order to ensure PR24 is a success for everyone. We believe this section is more informative than the response to the specific questions in the consultation, so we try and cross-reference in the specific response points back to our analysis, which references appendices to keep our response as short and focused as possible. We provide an additional document to cover our responses to the discussion paper's individual questions.

Our overriding concern is that without a local framework and context, the focus on the long-term will reduce compared to PR09, PR14 or PR19, despite the intention for this price review to be more focused on the long-term. In order to deliver the long-term objectives and outcomes we need to build consensus and trust in long-term strategies. This should be the primary focus of the sector, and this cannot be achieved without this being the primary focus of price reviews, without a radical change that reduces the focus on price reviews.

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We propose an amendment to the proposed process and timetable in the consultation so that we start with strategic dialogue, from which Ofwat can observe the consensus emerging, areas of disagreement and trade offs. We need to understand what we are trying to achieve at a more detailed level than very high level concepts, before we dive into the design of regulatory tools.

Without understanding risk and reward, we cannot describe the assumptions and trade-offs being made. And even if the right decisions are made, we cannot be sure they will inspire trust and confidence, or that we (either companies or Ofwat) will be able to communicate the outcome in a way that does.

Proposed process

Our proposal is to rethink the price review timetable to avoid early submissions without strategic dialogue on long-term risks, opportunities and scenarios. We think the sector should explore what we are trying to achieve, before considering how regulatory tools should enable companies to deliver it.

Our suggested process is summarised in **Appendix 2**. We propose a timetable based on early submissions of long-term scenarios and dialogue at a strategic level, which then allows Ofwat to refine the final framework, including guidance on ODIs and the balance of risk and return. This early stage will replace the Initial Assessment of Plans with a higher level, more strategic, screening process that will then allow a one stage draft determination decision making phase.

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December 2021
Defra SPS, Ofwat information on national framework. Early information from regional water resource plans

↓

Autumn 2022
Early company submission of long term scenarios. Initial stakeholder and customer views and evidence set out

↓

Spring/Summer 2023
Strategic dialogue with companies, Ofwat feedback / consultation on indicative decisions (e.g. on ODIs, base costs etc, trade offs between long term/short term and risk and return) to inform further national / local research

↓

Winter 2023
Company submits plans

↓

Late Spring 2024
Draft determination (including any early acceptance or further research requirements)

↓

November 2024
Final determinations

We can then consider more carefully the outcomes and incentives required. Our analysis (**Appendix 3**) illustrates that we already know from PR19 that standardised incentive rates will have an asymmetric impact on different companies. At PR19 we went through, arguably with little value being added, rounds of redesigning incentives away from their intention. As Ofwat agreed at PR19, the balance of our plan was well considered and supported by research. In the round, the CMA agreed and ultimately restored our proposed risk balance, including aspects of incentive redesign made by Ofwat that did not benefit customers compared to our own plans, such as on leakage. Based on the PR24 discussion document approach, it appears that it could be even harder to ensure an appropriate risk balance than at PR19.

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The only reason for this more prescriptive approach appears to be an opinion, yet to be supported by any sufficiently tangible evidence that we have seen, that variation in WTP values must be due to methodological differences. We have had, at last, since we first suggested it at PR19 IAP stage, had the time to explore this contention (**Appendix 4**) – it is surprising that any analysis by Ofwat, if it has been carried out, does not form part of the consultation to support the significant change in approach towards centralisation of customer research. If the contention is incorrect, then the solution is also (and may be in any case). We continue to believe standardised customer research will constrain learning and innovation, and centralised research is unlikely to deliver in time, or support the process we propose. We do not believe trade-offs can more easily be informed based on standardised or national customer research in isolation of the plan the company is developing or testing with customers as a whole.

As we have made clear previously, we do not expect to contribute financially to any centralised research that we do not have the opportunity to directly steer and influence. Contributions must be proportionate to the value to the business, and must consider local issues relevant to the plan being developed by the company, in order for the information revealed to inform trade-offs being more relevant than other research. We demonstrate in **Appendix 7** our analysis which shows why this is the case given the risks and opportunities relevant to Bristol Water and its future plans. If Ofwat wish to mandate participation and require additional financial contributions, then this should be through the licence fee. We believe it is inappropriate to require this indirectly through price review or procedural incentives, or through assumptions of cost savings as a result of centralised research, absent of being able to have a direct say on the research. In reality Ofwat's stance has already increased our likely costs, as we shared some key WTP studies with neighbouring companies at PR19, an option currently crowded out by what appears to be a fixed decision on centralised research.

Proposals on Risk and Return

Replacing ODIs with procedural or reputational incentives (or the confusing "Price Control Deliverables", which may just be a new name for end of period ODIs or totex sharing mechanisms) is not new, but a return to the layers of input, activity and output regulation from PR09. It did not work then for achieving a long-term focus[1], because it wasn't proportionate or risk-based regulation in its implementation. The layers of potential risk and return affecting incentives in the consultation sound more complex than currently, for instance new mechanisms to claw back current outperformance in an attempt to install a long-term focus on even shorter-term price review incentives than at PR14 or PR19. Our analysis (**Appendix 5**) develops our proposal in Refcat – it is a small change to how we approach risk and return, consistent with the CMA decision on PR19 findings, but leaves

[1] Although it was in the context of company long-term Strategic Direction Statements that companies, if focusing on customers and stakeholders, will have developed further since, even absent of a formal role at price reviews.

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space for the power of comparisons to recognise differences between companies, rather than an absolute and constraining straightjacket of consistency.

The objective should not be to reduce the number of performance commitments. The number of incentives should be an outcome of considering plans, but is not the most important decision Ofwat face. We suggest considering risk and return and which outcomes best measure what the industry is asked to deliver. There is no point reducing ODIs only to replace them with other incentives and regulatory processes if it reduces clarity and certainty, rather than increasing it.

Proposal on Asset Health

One of the key contentions in favour of the approach set out in the discussion document is that there is a bow wave of increased capital maintenance needed in the industry as assets age, because investment is constrained. Whilst this is an area to focus on, there is little evidence to support the contention (normally raised in discussions on asset management). The accusation is that regulatory frameworks and processes do not consider this topic sufficiently, and that asset health measures are too backwards looking to do so. It is not clear that circumstances are any different to when these contentions have been raised in the past, all the way back to PR99, that reforms in the regulatory process have increased this risk / resulted in a shorter-term focus, or what the new solution for regulatory intervention may be.

From the Bristol Water perspective, our PR19 plan provided a customer-focused plan based on forward looking asset health and understanding of resilience at the time. In terms of an investment plan, the only dispute was the application of efficiency modelling evidence, including whether companies with better leakage performance had higher costs. Ultimately the CMA accepted the Bristol Water evidence, supported by an increasing trend in industry costs in the water service, which logic suggests is most likely to reflect increasing service levels and reduced failure risk tolerance.

The most significant company specific concern Ofwat had with the Bristol Water PR19 plan was whether the plan could be delivered or was too stretching and ambitious. The only other amendment to our plan we ultimately accepted was removing a long-term resilience ODI, because it focused on smaller investments over a ten-year period. We accepted it in the short term because in the round it would not compromise long-term planning. This, in our view, is exactly the type of ODI that would seem to have value at PR24 based on the discussion paper.

We reflected our approach in a detailed set of resilience action plan commitments, that we continue to report against. For instance, this included specific asset health and output measures, such as for mains renewals lengths. It also considered this holistically as part of

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Board decision making, integrating asset management maturity alongside culture, purpose, our social contract to deliver wider public value and innovation. The transparency and Board governance over this long-term work can be seen in our Annual and Mid-Year Performance Reports.[2]

For this reason, we did not complete Ofwat's asset management maturity exercise, because we could not rationalise the terminology and provide information on our existing long-term plans, developed and presented at PR19, into a comparative framework that equated Board engagement on asset management into resilience. The burden of the process, at the time, was also not feasible to represent in this framework what we actually do, Instead, we signalled our extensive long-term plans, and existing commitments made at PR19 to improve them. We expand on this further in **Appendix 6**.

The challenge for a regulatory framework that focuses on asset health is in terms of the impact on price review decisions. On the one hand, if there are serious issues for customers and stakeholders, and risk of individual company failure excessively penalising past decisions or lack of knowledge, then as Ofwat did for Thames Water at PR19 it ends up tweaking the regulatory framework for that company to protect customers. As with the asset management assessment Ofwat undertook at PR09, judgements that Ofwat make where there is a less clear and immediate customer detriment usually constrain increases in spend where companies are perceived to be less good at asset management or are judged to have less evidence. The increased focus on asset management in the price review proves to be counter-productive, because of the moral hazard in a world of comparative incentives of having to judge historic expenditure decisions and whether they reasonably reflected the data and regulatory trade-offs at the time, or reflected poor management with or without hindsight. This increases the burden of data reporting and the pressure placed on individual regulatory judgements.

The reality may be that past trends in data, even with the benefit of open data and increased knowledge and network monitoring, may not reduce uncertainty about the future. Certainly, these decisions can be helped with improved focus on what forward looking indicators of asset health risks can be developed. This is a significant gap in the Ofwat strategy on asset management maturity which we have been highlighting since your project started early in 2020. For this consultation we have developed a view that for the water service, the DWI emerging Risk Assessment Risk Index (RARI) has the potential to evolve into such a forward-looking measure, alongside some of the bespoke ODIs we developed at PR19, such as the population at risk of significant supply interruptions resilience measure (**Appendix 8**).

[2] Our performance

The main challenge with RARI will be whether it can be used on a comparative basis – because that creates an incentive not to flag and understand risk. However as a measure for individual company improvement, and a way of understanding systemic risk across the industry which may need specific economic regulation focus, there is a useful approach here. But as we suggest in **Appendix 2** and **Appendix 5**, a process and focus on risk and return that is clear what needs to be standard and national, and in what scenarios specific company solutions or options are needed would resolve this concern. This highlights the need for Ofwat to reach out and use the expertise in the industry and its other regulators, a key finding from the Gray review.

We come back to the need for a long-term focus on what the sector is being asked to achieve, and how economic regulation can absorb this information from a wide range of sources to inform trade-offs in how long-term goals can be delivered effectively and efficiently. The key success factor is not likely to be in the incentives, but in how trusted companies are in the communities and by their customers. Ofwat could use this as a key aspect for the price review process, and in doing so building trust in the process. Ofwat has to balance this with calls from companies to simplify the task (we think short-sightedly) and to be seen to meet national policy accountability, which is entirely appropriate. We think the approach we suggest will provide Ofwat sufficient tools to achieve this, with the advantages of a more agile sector that focuses on delivering outcomes and promises it owns, a less technical debate on when intervention and incentives have to be applied with full power, as well as a lower regulatory burden.

Proposal on Financing

On financing, we are pleased to see that Ofwat are considering with an open mind the evidence on the additional cost of small company finance. We do not believe that Ofwat can overlook the CMAs final findings at PR19 that a notional water company appropriate for a small WoC should be informed by the actual cost of finance of the small WoCs. The CMA did not conclude this higher cost of finance was likely to be eliminated over time, but the evidence should be considered at face value and be assessed with an open mind as part of the price review process. The Finance Duty remains relevant and requires appropriate financeability testing, similar to the approach the CMA took. This is not substantially different from Ofwat's PR19 analysis in terms of the testing, but needs to carry weight and impact on regulatory judgements. The CMA reached a different view in the round, in part, because the financeability test carried little weight in the original determination. The extensive data Ofwat now collect on financing costs should speak for itself and be approached with an open mind and in the round, supported by a consistent risk and return framework and meaningful financeability assessment.

We believe that company specific research to test customer acceptance of the higher cost of finance of being served by a small company is a reasonable expectation. This should be the only additional test to allowing the notional cost of finance relevant to a company with the

size characteristics of the appointee. As an additional cost, it is appropriate to test whether the actual company cost is below this notional allowance. The CMA findings at the PR19 redetermination (as at PR14 and PR09) are relevant reference points and were clear that continued use of a customer benefits test not related to the additional cost of finance was not an appropriate methodology.

We are concerned, however, that Ofwat is considering assuming a lower notional gearing level, to boost financial resilience e.g. from weather shocks, by implication from stronger regulatory asset health incentives. This would move away from the principle of a notional company. This could be justified if gearing levels were higher than the reference point for the industry used in setting the cost of debt, but as we support the approach (as the CMA followed) of considering the industry actual debt cost in the round, rather than just relying on the relationship to the IBOXX index, this is unlikely to be an appropriate assumption. The notional gearing should reflect an efficient level evidenced from actual industry information, including the regulatory gearing of companies that are used to set beta. If there are financial resilience issues from regulatory incentives, these should be taken into account in the cost of equity, or mitigated through those incentives, on a company specific basis for factors that are outside management control or not diversifiable for investors in notional companies equivalent to the appointee. Where notional gearing is assumed that is below the relevant notional company, then for smaller companies a higher cost of raising new equity would need to be assumed. This would be higher in the water sector than Ofgem assumed for smaller companies they regulate, given the scale of smaller companies in the water sector in terms of RCV is far lower than for the small company adjustments made by Ofgem at RIIO2.

What are our concerns?

Ofwat's PR24 proposed approach may work – where we make alternative proposals we think these are no-regret judgements that improve the likelihood that they will work. What we are concerned will not work is a process that assumes up front that we should constrain the influence of customer research and engagement, driven by a fixed view of what constraints should be made for the benefits of the process. The assumption that there will be less space for local bespoke ODIs is a case in point. If companies' plans do not deliver for society, or are perceived not to be focusing on what local customers and stakeholders care about – all the judgements will become Ofwat's responsibility for taking this approach, not water companies, who will be operating within a constrained process.

As we set out in Refcat – either we believe that a contestable market proxy and deregulation should drive economic regulation, or we explore alternative economic theories. Strengthening regulatory incentives where a market already exists (e.g. for business customer water efficiency), does not comfortably sit with these principles. Therefore, we need to revisit these principles, and explore consensus, before developing such proposals. An example of why the consultation proposals do not seem to be joined up and have a clear

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strategic logic as a way forward is the postponing development of bilateral trading under PR29, which should, according to the principles, be preferred to regulatory incentives on business customer water efficiency.

There is a risk that by determining performance levels in advance of plans being produced, regulation is driving what the sector is delivering, rather than plans being based on company interpretations of customer preferences. In the long term this reduces trust and increases cost. One alternative is to reduce the reliance on comparative efficiency benchmarks. But making assumptions before research has been undertaken as to what is needed in the long-term, is challenging – it is difficult to see how this is a process improvement towards producing better business plans, other than through making comparisons easier. Making comparisons easier is not the central objective for the price control process, its merely one criterion amongst many in balancing trade-offs between the roles of different parties in the process.

We illustrate the reason why we think the future scenarios require a more local focus further below. This is from a Bristol Water perspective, but is likely to apply in many other areas of the country. It reflects the local community perspective, and expectations in response to ecological and climate emergencies. But it also reflects that for the West Country the need for green growth, particularly after Covid, will be central to economic growth and prosperity. There is diversity of impact and concerns at a very local level, but for the region as a whole, resilience to climate change and a local biodiverse secure environment will enable economic growth and wellbeing.

In terms of Bristol Water, we believe it is clear that there are more risks and opportunities from a local and company specific approach than the from the key national issues, across a range of environment, resilience, social and economic factors. We believe we will struggle to fit the key issues into a national framework. We show this below in terms of capitals, risks and UN SDGs Summary diagram slide (**Appendix 7**).

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BRISTOL WATER

The high value / high impact scenarios appear to be more local than national. A capitals approach suggests local impacts should be the key focus for business plans and for assessing whether they deliver for customers and society

Environment local

Net zero – high
Ecological emergency – high
Customer Led Intelligent Operations (linking assets to response) – high
Resource West – high
Local nature-based solutions – high
Leakage – high (but customer supply pipes key unknown in achieving 50%)

Risks – low and long term – opportunity for regional economic growth

Environment national

Net zero – uncertain based on PR24 consultation
WINEP – low
Abstraction – low
PCC – medium
Natural solutions – low
Water resource – strategic schemes dominate planning over carbon and local environment

Risks – national standards one size fits all. Ofwat assumes lack of water resources investment as an issue, after 30 years of it being a positive

Resilience local

Maintenance increases as assets age – medium
Local resilience – high impact (but low cost)
Resilience Action plans evolving to forward looking predictions, including RARI and in line quality monitoring - high
CLIO – high
Smart network – expanded into individual customer needs (CLIO) - high

Risks – regional plan opportunity offset by national judgements and implausible trading

Resilience national

Interconnectivity – low
Climate change – low
Water quality (lead) – high
Asset Management Maturity assessments focused on sector comparisons - high
Smart network /open data - medium

Risks – one size fits all comparisons or standards suggest inefficiency or solutions uneconomic

Social and human local

Customer experience – high
Local community experience – high
Customer Led Intelligent Operations (perception) – high
Resource West – high
Foundation (education) – high
Employee and diversity – high. (skillsets and career paths - sector agility)
Expectations of business contribution to net zero - medium
Local water poverty = targets and measures - medium

Risk – no local adaptation reflected in PR24 reduces trust of stakeholders in water sectors ability to support change

Social and human national

National affordability measures add costs and are one size fits all
Does not addressing private rented sector for sustainability / housing for PCC.
Skills – high
Innovation – high

Risk – cultural focus of industry on Ofwat. Simple risk and return trade offs focus on cost efficiency that can be measured rather than long-term

Economic local

Affordability – low
Resilience – low scale
Net zero & ecological – local impacts high
CLIO-high efficiency from innovation
Investors – local impact and ESG
Innovation – cross sector and within sector – high local driver for growth
Planned local infrastructure (energy and transport – role for water). High technology growth and UWE etc.

Risks – small scale solutions may appear inefficient in national context and ignore local benefits. Regional inward investment relies on Environmental credential

Economic national

Affordability – high local impact of CCW standardisation on bills+£10
Efficiency – PR19 CMA transition positive impact on PR24 bills
Industry skills and culture – high

Risks – local deprivation masked by other regions.
Focus on protecting South East economy / environment

We would be happy to work with Ofwat to develop a joint workshop to explore these themes further. We note that the discussion with the industry thus far on the PR24 design document has been in a few detailed working level workshops, whilst the strategic discussion appears to be limited. This may be something that could be shared and explored through Ofwat's PR24 stakeholder advisory group or challenge panel. This could be a good way of stress testing the PR24 framework, and as a way of testing alternative proposals. For us it is another way of demonstrating that the basis of our concerns are carefully considered, are matters of judgement, and our alternative proposals are based on considering evidence as we set out in the appendices to this letter.

One observation that we think makes Ofwat's task hard is that energy has a single "call to action" in a focus on net zero – in water we appear to have multiple overlapping issues with a less clear call to action other than "we have to get the right balance for the long-term and its complex". Wastewater appears to have some clear and very urgent issues in comparison that are more universal and also affect the water environment (but history of our water

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supply from 175 and 60 years ago means this priority is less obvious in the area we serve)[3]. We think the solution may be, as it has been at every review since PR04, to focus on local needs and highlight these, albeit within this complex national policy framing for the water sector which has multiple messages which have local impacts of what it means for customers and stakeholders.

An example of why a standardised sector-wide "targeted challenge" approach suggested by Ofwat may be inappropriate in many cases is the impact of EA water-stressed status. Bristol Water is not seriously water-stressed according to the EA assessment, which limits compulsory metering and also currently means that local authorities cannot require below 110l/p/d consumption in building standards for new properties. Ofwat will need to take this impact into account, if imposing national comparisons, targeted sector interventions, or other forms of incentives. Ofwat's approach would expect Bristol Water to evidence why this difference had an impact, rather than assessing whether the plan presented had flaws given the relevant local circumstances. As the CMA found in relation to per capita consumption incentives, such interventions without considering local factors will not always be justified, and the burden of proof should not work against company engagement with stakeholders and customers.

Affordability

The analysis by CEPA for the CCW affordability study is another clear example of why localised analysis is better than decision making based on top-down assumptions. We perform a granular, bottom-up, analysis of water poverty each year as part of our performance commitment that was introduced at PR14 and refined at PR19. A comparison of our own analysis with that of CEPA shows that CEPA may have significantly over-estimated the level of water poverty and therefore the funding gap required to address it.

This has potential consequences for company plans, as CCW proposes a new national social tariff which would add as much as £11 to bills. We disagree that transferring policy decisions on customer support from local to national is appropriate, and consider that is likely to prove less efficient as a solution. Further details of our analysis are explained in **Appendix 9**. It should be for the Government to consider this ultimately, so we publish our evidence here as we are not clear on the consultation process on the CCW affordability proposals. We believe, based on customer research and supported by our vulnerable customer satisfaction and water poverty performance commitments, that customers prefer targeted support as a trade-off and therefore in return accept some degree of postcode lottery.

[3] We highlight the historical reasons for our water sources and why they were separated from wastewater risks in our social history publication as part of our 175th birthday celebrations https://f.hubspotusercontent30.net/hubfs/7850638/Bristol%20Water%20-%20a%20social%20history.pdf

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The four Rs: In the Round, Resilience, Risk and Return

Resilience

In part, we believe Ofwat may be conflating operational resilience with asset management maturity. We do not understand why the PR19 development of systems-based resilience action plans is not mentioned, as the obvious development step at PR24. But the problem is that resilience relies on trust, and that requires purposeful companies that focus on public value, with long-term investor support. Based on our analysis, reshaping incentives to asset health metrics will result in greater, not less short-termism compared to the company and investor led response to risk and return at PR14, and PR19 before Ofwat's numerous (and sometimes overlapping and contradictory to the PR19 methodology) interventions.

Risk and Return

As an example of trade-offs described in regulatory language we take this example from the consultation. "*We are reviewing our risk allocation framework, to see if we can improve the alignment of customers' and companies' interests. We will seek to optimise our framework of risk allocation mechanisms, reducing complexity where appropriate.*"[4] This does not allow stakeholders to engage and understand the trade-offs (which is risk management) that water sector long term planning is making. Our specific proposal in **Appendix 5**, built on long term scenarios (**Appendix 7**), will help describe this better, alongside our process proposals (**Appendix 2**) and consideration of local v national risks as we set out above.

Ofwat also sometimes appears to conflate cost sharing rates (which are risk management tools for companies and customers), with price review incentives – in considering directly applicable penalties based on Ofwat's perception of plan quality. In combination with up front assumptions on service levels, this would force companies to focus on Ofwat, and not customer needs. In several places Ofwat refer to Ofgem RIIO2 approaches, which do not deal with source to tap environmental and end consumer issues, and the more standardised energy networks than the water industry faces.

Any incentive framework, including penalties for business plan submissions, need to be proportionate, which was a point the CMA made that the greater the price review plan incentives, the greater confidence needed on regulator judgements to avoid an increase in risk, distinguishing this with sharing mechanisms that reduce risk. With Ofgem, the whole industry has appealed its application of plan incentives, and Ofgem has already accepted errors in their calculation. They do not appear to be good reference points for the water sector and its regulation.

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[4] PR24 and beyond: Creating tomorrow, together. Section 3.2.3 page 25

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Ofwat state in the consultation "*Regardless of which incentives we provide, rewards for companies must be commensurate with the benefits customers receive through improved plans*"[5]. The same applies to penalties on companies and their investors – these must be commensurate with any detriment to customers. Whilst Ofwat should be able to penalise genuinely poor quality plans, we think this should be objective and through considering risk and return explicitly, to reduce the scope for penalties based on differences of opinion and judgement (and potentially delivering a plan focused on customer needs rather than regulatory comparisons). A well considered plan that does not align with Ofwat's view of the world may still be well considered. There is a risk that this, and Ofwat, becomes the focus of PR24 unless handled adeptly.

In the Round

The key protection for customers is where Ofwat intervene for a plan which is clearly wrong and poorly thought through – these interventions generally benefit both customers and investors, certainly beyond a very short timescale. A plan being assessed through a "slow track" process is not necessarily wrong, and assessing what the appropriate level of ambition for a company is, compared to a company's self assessment, may be a good way for Ofwat to distinguish between company plans that require intervention and the imposition of comparative regulatory judgements (which are needed when considering price reviews in the round, but do not make a plan necessarily worse than ones where the comparators work in a company's favour. The problem at PR19 was looking at these regulatory judgements individually, rather than in the round. There was a presumption of intervention being required, however minor. Major interventions should be the focus, alongside assessing whether the plan has the right level of ambition for the company's circumstances (either too much or too little).

Developer Services

We have specific concerns on the assumptions Ofwat are making on the developer services market. There is not one market, but differences between the markets for individual property connections, sites, and offsite network reinforcement and connections to mains. Competition already exists for sites and from our experience is highly effective – the main competition is now between NAVs and SLPs, which means that regulatory and price control measures are unlikely to have much impact. So we see no particular issue with the PR19 framework, or for taking a different price control approach for development sites. However, network reinforcement is fundamentally a monopoly network activity which cannot be distinguished from other price control network activities without creating new issues in terms of planning future services.

[5] PR24 and beyond, page 47

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Cost Assessment

Whilst we broadly support the overall consultation approach to cost assessment, the funding of performance scenarios section seemed overly complicated. Ultimately a company should be funded in price limits for an estimate of efficient service levels it is delivering. If it is not in base cost allowances, then adjustments to these allowances must be made. Where there is uncertainty, and to avoid disincentivising efficient and necessary investment, cost sharing rates and ODIs should be available.

This is the existing framework. What was of concern at PR19 was where Ofwat had a fixed view of a level of efficiency challenge, compared to company plans, which should be imposed even as elements were removed from those plans, and as the cost and performance evidence shifted from Ofwat's early PR19 perceptions. On the water service, this ignored the increasing cost trend ultimately seen in the data over the five-year period, because service levels were improving. This trend may continue, and if there is a cost trend apparent, it should be taken into account in econometric modelling before considering the potential for innovation and frontier shift.

We suggest a scenario approach and explicit connection made to risk and return (**Appendix 5**), in order to reduce the risk of information asymmetry. Whilst symmetric adjustments can be considered, there needs to be evidence to support a positive adjustment for one company having an offsetting factor in the base modelling for others, which generally has not been evidenced when such adjustment might have been considered at previous price reviews, including PR19 most recently.

Our proposed next steps

Our next steps are summarised below, aimed at supporting a PR24 methodology consultation that can be as future-proofed and resilience as possible.

- ✓ Dialogue on areas of concern and alternative suggestions, considering whether shared and collaborative development of the frameworks we propose would be supported by others.
- ✓ Discussions on the price review process options and long-term objectives, based on a strategic discussion on objectives with national stakeholders and company Boards. Consider what benefits would arise of this being independently facilitated.
- ✓ A focus on the key decisions, setting out the pros and cons in each case with the methodology consultation informed by a review of the options and the strategic discussion on the process and its objectives suggested above. The key areas:
    - Reaching a decision on the how to balance local and national issues, with research approaches that then support this balance.

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- A clearer and less technical discussion on risk and return
- Considering the long-term scenarios to understand the trade-offs in different scenarios, tested through evidence and projections of risks and opportunities.
- Improving understanding of what forward looking asset health measures are available.

Our responses to the discussion paper's individual questions, which explain our views in greater detail, can be found in our supporting additional document.

Yours sincerely,

Iain McGuffog
Director of Strategy & Regulation

Enc. Additional document – BRL responses to the questions for stakeholders in PR24 and beyond: Creating tomorrow, together

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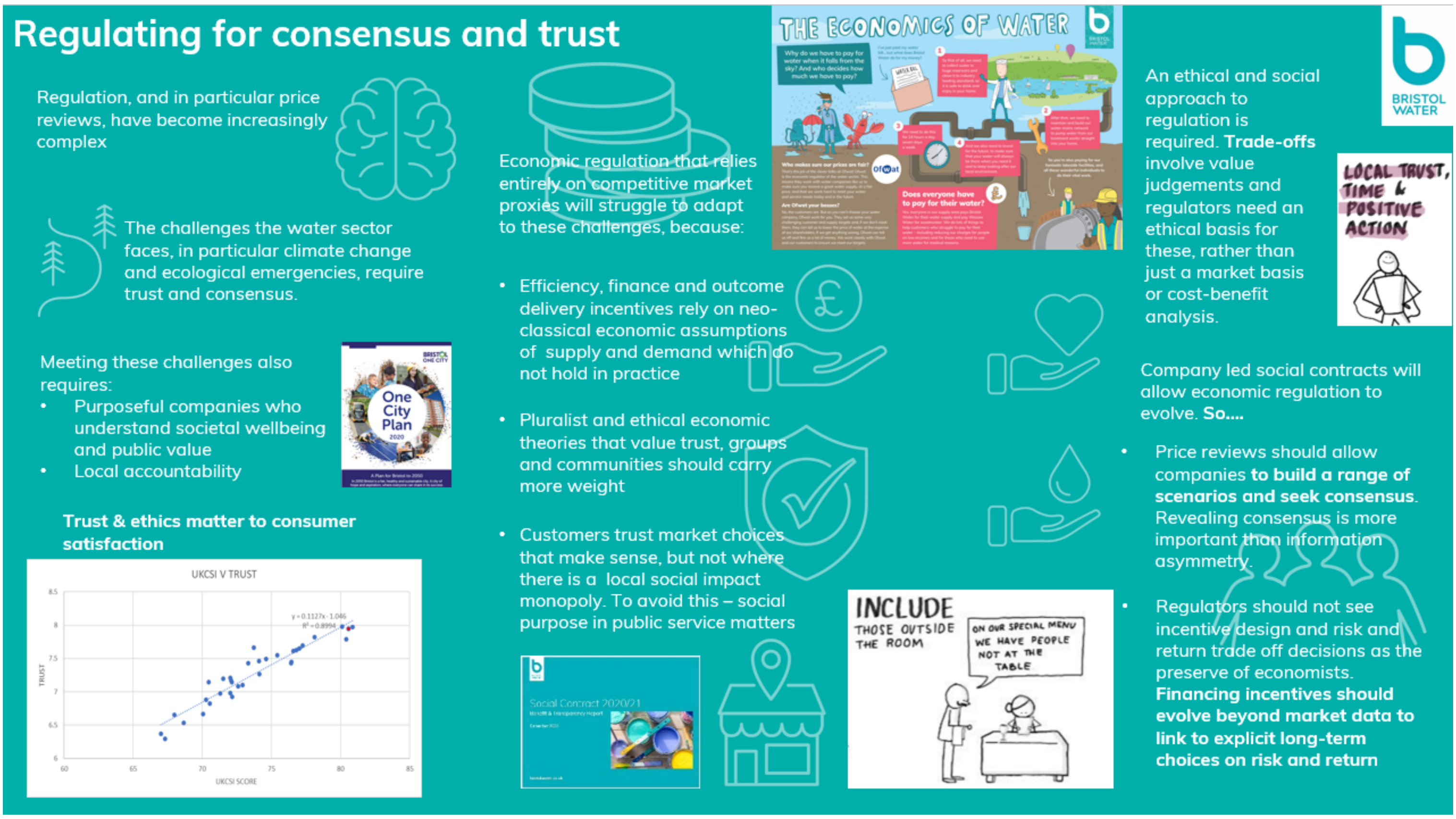
Appendices

Appendix 1: Summary from Regulating for Consensus and Trust ("Refcat")



We were pleased to see our submission to the Future Ideas Lab referenced throughout the paper and that you have included some of our thinking as part of this high-level review. We do however question whether the logic of our contribution was considered in the round.

"The economic theories that underpin economic regulation are well past their sell-by date, if applied without considering the wider context. They are based on trying to incentivise an equilibrium of efficient costs and service benefits that cannot reliably be measured. Alternative and more pluralistic theories of economics exist – an ethical and social approach to regulation that values trust and relationships is supported by theory, and also would be superior in practice.

"While Ofwat's strategy for regulation recognises the limitations of traditional economic regulation incentives and tools, it has yet to work out how to incorporate improvements into regulatory processes. Instead, we have an increasing burden of regulatory expectations on companies and investors, without a commitment to consider changes in economic regulation that question its fundamental tenets and logical assumptions.

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"Research on customer satisfaction suggests that ethical perceptions of companies make a significant difference – the most ethical companies are the most trusted, and have the highest customer satisfaction. The same logic applies to ethical economic regulation – whilst many regulators have considered this perspective, it is not something that is yet to be clearly set out in the water regulatory framework. This is a gap that requires addressing, as even if you accept the position that the decisions on incentives and risk and return is only something that economists have the expertise to assess, there are still value judgements involved in the underlying societal assumptions being made."

We offered two proposals, which will help to explain our responses to the questions in this discussion paper:

"The primary focus of price reviews should shift away from regulator incentive decisions to a process that builds consensus amongst local stakeholders… To support this, companies should develop scenarios to test consensus and regulators should be involved in those conversations. The concept of trying to compare and judge "best" company plans used to reveal information has less value and should carry less weight in the future, because it does not necessarily reflect trust or do anything to build strong relationships between non-economists and the economic regulation process.

"Second, the approach to risk and return trade-offs needs to form part of how consensus on company plans and regulator decisions is built, rather than being a judgement made by regulators exclusively at the end of the process."

These proposals are particularly relevant when considering "collaborative" customer research, the evaluation process (initial assessment, draft determinations and final determinations) and long-term risk and reward.

Likewise, whilst we support Ofwat's drive to reduce complexity in the price review process, we are however worried about the law of unintended consequences. There will arguably be a balance needed in seeking industry-wide standard approaches versus one that is tailored to each company. We question how simplification of the price review process sits with the current increase in the regulatory reporting burden, both annual processes and ad hoc requests which are signalling further annual information requirements.

A simple comparison of approach between the PR24 discussion document and Refcat is shown in the table below. Our proposals in this response seek to bridge this gap.

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Ofwat PR24 approach	Regulating for Consensus and Trust
Reserves costs, efficiency, target levels to economic regulation decisions	Build a range of scenarios
Focus on national ODIs on common metrics and asset health	Translate into local relevant ODIs and incentives for performance and investment
Focus on long term and public value outside of PR24 incentives approach. Increases focus on price reviews as a result.	Focus on public value as key to economic regulation. Decrease focus on price reviews through local consensus affecting process.
Do not follow ethical regulation principles, other than in Wales. See this as distinct from incentives based regulation	Focus on people, place and purpose as objectives in setting incentives, and design process to provide information on trade-offs rather than assuming what they are ex ante.
Risk and return balance through financial mechanism assumptions. Assuming benefits from innovation in defining cost and service challenges.	Risk and return focus is long term level of ambition, stretch, and part of trade-offs (e.g. performance incentives). Risk that no innovation projects can objectively be measured as boosting productivity quickly enough to be certain for PR24, particularly with the slow start of Ofwat in getting approach going. Fund relies on judgements of Ofwat and panel, and not clear on the focus of decision criteria.
Ofwat assume it should be trusted by stakeholders. Ofwat controls the engagement it has, e.g. to the PR24 stakeholder forum, or in who steers the customer research	Regulators have to earn trust from those outside the sector, through engagement.

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Appendix 2: Our proposed process and timetable

We suggest below an alternative price review process which we believe would provide a better balance between company led plans based on research and engagement, and the need for Ofwat to provide early advice on the common areas that would allow simplification of the price review process.

December 2021

Defra SPS, Ofwat information on national framework. Early information from regional water resource plans

↓

Autumn 2022

Early company submission of long term scenarios. Initial stakeholder and customer views and evidence set out

↓

Spring/Summer 2023

Strategic dialogue with companies, Ofwat feedback / consultation on indicative decisions (e.g. on ODIs, base costs etc, trade offs between long term/short term and risk and return) to inform further national / local research

↓

Winter 2023

Company submits plans

↓

Late Spring 2024

Draft determination (including any early acceptance or further research requirements)

↓

November 2024

Final determinations

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- The scenarios exploration stage is designed to build trust and consensus, both in company plans and in the remainder of the process. This would be led by companies at a local level and Ofwat at a national level (with the support of companies, sector regulators and Water UK).
  - The benefits of this approach is that exploring tensions between national frameworks and local views should be transparent.
  - For regulators (and potentially Government) observing this process will expose useful information on long term risk and return trade offs.
  - In **Appendix 7** we show an example of how such a framework could be developed, with supporting evidence for each component. The importance of understanding how local and national impacts will be managed, and there variable affects in different areas, supports the focus of the remained of the process.
- Once completed at a high level, alongside the PR24 methodology, companies can updated their long term plans and Ofwat can consider strategic dialogue with companies, informed by customer and stakeholder research and engagement.
- Companies should then submit plans that consider those trade offs. Explicit exposure in what this means for risk and return (as we propose in **Appendix 5**) will be a matter for companies to consider, and ultimately convince Ofwat in their plans.
  - Companies choose the trade offs they think are right – it is important that this influences Ofwat determinations without constraining Ofwat's use of incentives. It may be appropriate to standardise some assumptions and some incentives particularly if these are long-term and not merely constrained to the five-year period. This would allow companies to justify different pathways if they are confident to do so, but equally able to follow a standard pathway and incentives trade-off indicated by Ofwat.
  - The balance of comparative and bespoke can be more or less constrained by Ofwat in the final methodology, or based on early companies submissions, based on the strategic dialogue phase.
- Developing scenarios allows for stress testing. We note that the use of Monte Carlo simulation to test risk and reward was suggested by CEPA in their paper on risk and return.[6] This has featured at all price reviews from PR04 to some degree, for instance the industry developed a model called "Liquid Risk" which tested the impact of industry uncertainties on individual company circumstances. The challenge with such tools is the degree to which the inputs, or past trends, are relevant to the decisions faced. At other reviews DEFRA has worked with water companies to understand future planning scenarios. At all views companies have taken a number of approaches, and in our experience integrated this into discussions with stakeholders and plan development and decision making.

[6] CEPA (2021) Allocation of risk

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    - From our analysis the scenarios that are the context for PR24 are unclear, and therefore we suggest a process that focuses on this as a framing for balancing short and long term needs - what are the risks and opportunities in terms of future investment, water resources, asset risks, water quality risks, resilience risks and customer acceptability?
    - Adaptive pathways should be sought – what is the right approach for each company, and what are the regrets for PR24 of choosing a different pathway.
    - Minimising regrets allows risk and return and customer protection to be part of a conversation – a grown up and strategic discussion.
- Some of the key risk and return decisions would be supported by this scenario process, and we have to consider whether it should vary between company: if a big certain investment is needed, should there be lower company protection for overspend than where future investment is less certain (to encourage spend on maintenance instead). The design of local outcome incentives to reflect local priorities and uncertainties where there is a significant difference to the national design has traditionally been used to protect customers, but to encourage such innovation.
    - Whilst the evidence base for a difference in risk will be on the company onus, the risk and return framework can in many cases for most companies leave this balance as the decision of management and investors. Where Ofwat assess a different scenario is required, this will be in the language of priorities and uncertainties, rather than economic regulation incentives, again to build trust in the sector.
- If we can seek consensus before plans are submitted, then the draft determination process can focus on the key issues and challenges, as well as refining incentive proposals.

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Appendix 3: Standardised research and incentive rates

One of the important factors to consider in the light of PR19 is that the impact of standardising WTP and incentive rates and ODIs is likely to have an asymmetric impact on different companies, best illustrated on the impact on RORE.

A number of factors lead to this:

- Different starting service levels.
- Different opportunities for outperformance incentives.
- Greater risk of underperformance from external events (e.g. weather), which increases the better the starting service level.
- These factors should influence customer WTP for service improvements and customer WTA compensation levels in response to service deteriorations.
- Different levels of RCV / operational gearing – companies with lower relative enhancement investment will have a lower RCV per standardised ODI unit of change.
- No ability to trade risks and opportunities between water and wastewater for water only companies.

To illustrate this we illustrate below the potential impact on Bristol Water of the PR24 discussion document proposals. This considers two of the potential outcomes of the methodology – removing ODIs on local bespoke measures and then applying median WTP rates for the standard / common ODI list that remains.

	Max under	P10	P90	Max out
FD rates Standard	-4.8%	-2.4%	0.5%	0.8%
FD rates (standard plus bespoke)	-6.5%	-3.0%	0.7%	1.0%
PR24 standard WTP, no bespoke	-11.4%	-6.0%	1.2%	1.6%

This shows that bespoke ODIs contribute relatively little to the PR19 CMA FD for Bristol Water, and are focused on areas of investment that require customer protection (e.g. for resilience investment). There would not appear to be therefore a clear rationale for their removal unless the investment was also going to be reviewed. The scope for bespoke ODIs in particular does not impact the risk and return balance from using standard WTP (median) values. Companies can continue to consider in their plans how local needs are reflected appropriately for customers, including through ODIs or other regulatory approaches.

The more significant challenge comes from applying standardised research and WTP values, even before considering whether greater potential penalties for asset health measures are required. The incentive rates result in an unsustainable risk reward balance – with outperformance potential not able to be balanced by underperformance risk. This leaves two possible outcomes – either a higher cost of equity is needed for investors to accept this risk, or the impact of the standardised incentive design and WTP values has to be mitigated. The

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standardised research gets ignored because it cannot be consistently applied in practice – this is ultimately what happened at PR19 when the Ofwat tried to apply incentive ranges but ended up with company specific designs and solutions. The rationale for a national research study, or not considering the potential risk and return balance impact of the methodology incentives design ultimately means Ofwat ends up moving away from the original methodology in its application.

When Monte-Carlo simulation of likely weather impacts is applied the real risk position of the water sector can easily be illustrated. Although Monte-Carlo simulation has limitations in terms of the assumptions that have to be made, at least with a relatively plausible set of assumptions, it can be used to illustrate the impact of different scenarios, as CEPA suggested in their report. Applied to the situation we set out above, we assessed a baseline position based on the CMAs FD for Bristol Water ODI incentives that showed an expected downside for ODIs of c1% underperformance penalties, with a 80% central range of -2.1% to +0.1%. This reflects a stretching determination which needs to reduce the underperformance risk by innovating to ensure that leakage, supply interruptions, mains bursts other asset health risks can be reduced through improving long term resilience to historic experience of weather events that cause this skew, as the risk is increasing if service levels are reducing without enhancement investment to replace the network to deliver such shifts in performance.

Through its own analysis, the CMA concluded that these risks required additional equity headroom (0.25%) to that Ofwat had assumed. It will be informative for PR24 to understand how these risks change based on performance across the industry over 2020-25. Ofwat have already acknowledged that there are still limited circumstances even with a balanced determination (COVID and PCC being most obvious) that mean flexibility on what risks can be managed is in the interests of the sector and its customers.

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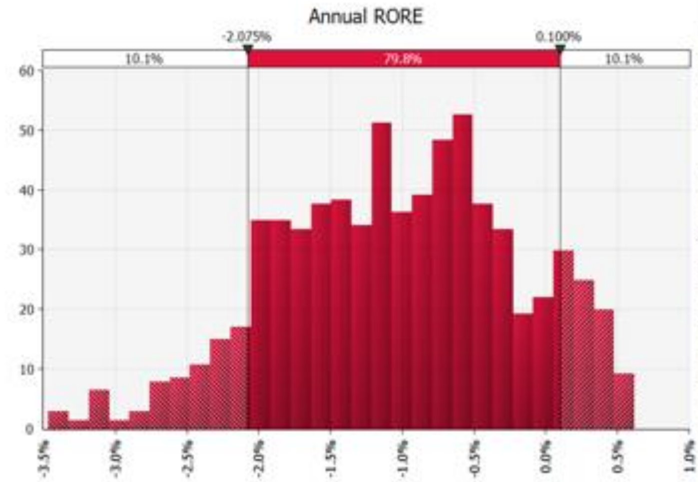

	Annual RORE
Cell	RORE Risk Monte _lin..
Minimum	-3.4632%
Maximum	0.6180%
Mean	-1.0293%
90% CI	± 0.0431%
Mode	-1.7259%
Median	-1.0176%
Std Dev	0.8287%
Skewness	-0.2151
Kurtosis	2.5605
Values	1000
Errors	0
Filtered	0
Left X	-2.075%
Left P	10.1%
Right X	0.100%
Right P	89.9%
Dif. X	2.1750%
Dif. P	79.8%

CMA FD linked risk range - +0.1% to -2.1%, with mean of -1.0%

If we simply run this same analysis to remove local ODIs and replace the remaining common ODIs with the PR19 median WTP then we get a very skewed downside risk, because weather impacts on the water sector cannot be avoided in the short term – it requires a different level of resilience to the long term past direction of the industry, even for a company such as Bristol Water which has invested in resilience and has a relatively strong position as a result (for instance having a balanced mix of water sources and the ability to swap use of sources substantially throughout the region). It is more likely that better performance results in greater asymmetric downside risk in the future, unless all common performance target levels are standardised, rather than incentivised for %age improvements. In which case, the Bristol Water leakage target, if performance is industry leading, would become easier through rewards or a lower service level, and would offset some of the downside asymmetric risk. This would not be a good outcome for anyone, but is an issue that we have to address in costs, incentives, returns, and probably all three when we follow through the PR24 discussion document logic. We believe this practical impact of fewer, harder hitting ODIs on the risk reward balance will apply beyond Bristol Water.

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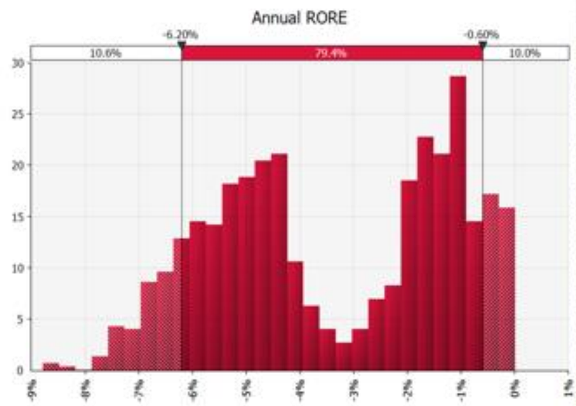

	Annual RORE
Cell	RORE Risk Monte _lin..
Minimum	-8.7816%
Maximum	0.0105%
Mean	-3.3753%
90% CI	± 0.1144%
Mode	-6.2012%
Median	-3.6999%
Std Dev	2.1977%
Skewness	-0.1152
Kurtosis	1.6439
Values	1000
Errors	0
Filtered	0
Left X	-6.20%
Left P	10.6%
Right X	-0.60%
Right P	90.0%
Dif. X	5.6000%
Dif. P	79.4%

PR24 standard WTP - -0.6% to -6.2%, with mean of -3.4%. The distribution is skewed because of large WTP values for correlated weather related risks – leakage, mains bursts, supply interruptions, with no potential to offset.

We set out the implications for the risk and return balance in **Appendix 5**.

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Appendix 4: Research into causes of variation in incentive rates

Appendix provided in separate document.

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Appendix 5: Approach to risk and return

Alongside the PR24 process and timetable, we believe that revisiting risk and return from a fundamental perspective on what we are trying to achieve through the price review and economic regulation of the water sector is the most important thing we need to consider at this stage of the methodology development. These are the two key conclusions from Refcat and we develop the risk and return proposals further below.

<u>Risk and return options and trade offs</u>

The key issue in any industry, and particularly infrastructure industries with long asset lives, is time, cost and quality. Understanding and managing the factors influencing these three dimensions helps to minimises risk, encourages innovation, and results in fair returns. Quality has many dimensions, but with a focus on the acceptability to customers and stakeholders allows quality to be defined in the broadest sense. Consumers make decisions based on time, cost and quality all the time – choice of supermarket and products within that supermarket are signalled to make those choices easier. Trust is involved (e.g. honesty in best before dates) – the challenges in infrastructure is what is acceptable. This increasingly applies to all markets (e.g. trade-offs in the use of plastic packaging in supermarkets is not in consumers' minds as simple as a premium for more sustainable packaging).

Ultimately risk and return decisions in the water sector also need to balance time, cost and quality. The PR24 framework, as with the PR19 narrative, often slips into assuming that incentives and companies/investors can solely minimise cost and quality, irrespective of timeframe and irrespective of the price review framework. In the context of time, cost and quality, we need to explicitly explore the limits and boundaries of this to get the right trade-offs at PR24.

Companies are best placed to manage time, cost and quality, as long as the regulatory framework protects both companies and customers from uncertainty where it is not clear how best this can be managed. The focus of individual plans and companies should be on managing such long-term risks.

The PR24 framework appears to give the impression that Ofwat will, through statutory obligations, be best placed to judge time, cost and quality. The challenge with this approach to risk and return starts with the regulatory burden that results, and we note a worrying increasing burden of Requests for Information and consultation based on limited analysis, where it is not clear that a threshold of risk-based regulation tests of time, cost and quality has been passed, If Ofwat have considered this risk, it is not transparent what the assessment has concluded.

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At the same time through this increased regulatory burden and elsewhere there is a greater societal expectation on water companies own analysis and increased complexity in the processes that affect time, cost and quality – such as the expectation on Regional Water Resource Plans that it requires the water sector to also plan other sectors use of water. This is right from a perspective of net zero and local customer and stakeholder expectations and has societal benefits. But at some point the burden of expectations and whether companies are carrying this risk or not will need to be considered in risk and return – it cannot all be national and top down, or driven by comparative analysis, whether reputational, process incentives or econometric benchmarking.

<u>How do we know a "Fair Bet" when we see one?</u>

As CEPA recognise in the "Fair bet" principle (fair for the long term, for society) – "*overall symmetry of risk is relevant in ensuring that the returns available are consistent with the risk faced and in ensuring that the regulatory framework is well calibrated*". (CEPA, Allocation of Risk, page 23)

But for society we need long term investors that recognise the importance of people, place, purpose and planet. To achieve this they rely on the right management team and a culture focused on these priorities. Ofwat's own strategy reflects this priority and expectation, although we disagree this public value should be narrowed to "core activities" (as per the recent Ofwat public value principles) or not central to price review decisions.

To achieve this balance we think that risk and return frameworks need to consider:

- Company assessments of future capital maintenance and asset health measures, but not in isolation of a wider plan that considers time, cost and quality from a range of long-term perspectives
- Outcomes – that balance time of delivery and balance local need and national frameworks. Ofwat seem to be focusing on the core regulation of outcomes that can be compared, and national obligations. It seems more likely than not this will result in companies focusing on Ofwat's regulation in the short term, rather than long term outcomes and on local customer and stakeholder needs.
- How to link expected returns for investors to a defined level of ambition (and responsibility) for the water sector for society and how actual returns are likely to vary with delivery uncertainty.
- Notional financing and returns, but are set on the basis of a notional company with relevant characteristics to the company in question in terms of risk and return, both financing and the impact of Ofwat incentive frameworks. An example would include ODI incentive skew that would affect expected returns.
- Risk allocation that balances backwards looking considerations (to avoid moral hazard in past underinvestment, but does not allocate past regulatory trade offs e.g. leakage targets or enhancement spend allowances to investors forever, or allocates

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historical network or geographical challenges to investors that materially affect risk (ie factors outside company specific control, which can be drivers in cost models).

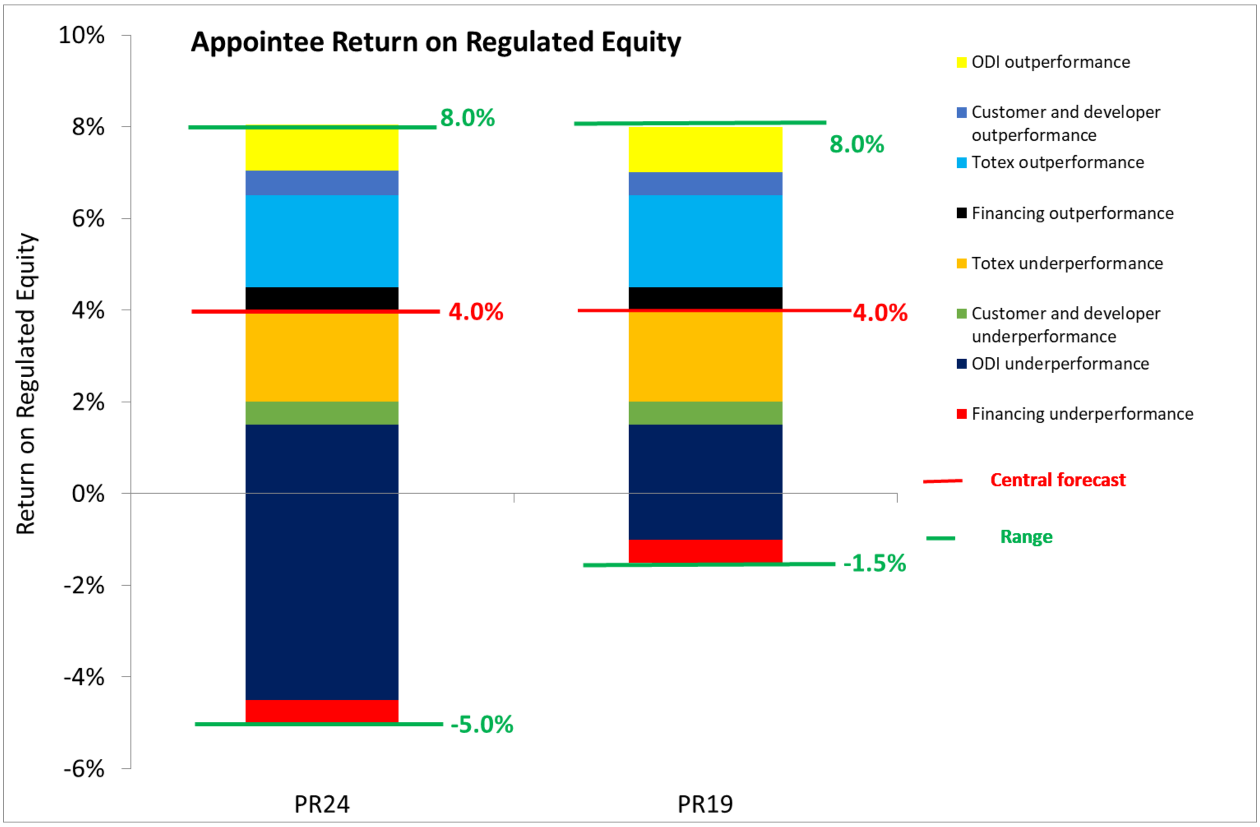
Ultimately there are limits to risk and return judgements within a five-year price review horizon, particularly if the priority is to consider both resilience and encourage longer term decision making. This is the purpose of financeability assessments, but we believe this can be considered explicitly through the risk and return framework. For instance on financeability CEPA state "*the requirement to achieve an investment grade credit rating sets a limit on the allocation of risk within the price control.*"

Explicit use of MonteCarlo simulation in water business planning to inform such risk and return judgements is not new, such as the shared development of the Liquid Risk tool which was shared by the water companies with Ofwat at PR04. Even where there are standardised frameworks and incentives set centrally by Ofwat, the impact on companies is likely to vary for factors outside of their control – it may not be a fair bet for that company's circumstances.

As we illustrate in **Appendix 3**, a solution that attempts to focus the industry on few, more powerful, asset health linked incentive is likely to risk the financial resilience of several companies in the industry. More generally, if the measures are not truly forward looking at systemic industry risks (which we explore in **Appendix 6)**, it may result in a short term rather than long term focus. The bespoke ODIs that Bristol Water included at PR19 (raw water quality for catchment management, biodiversity index for net environmental gain, local community satisfaction and long term resilience metric ultimately included) were part of a balanced plan aiming at the long term. They were based on five years of performance commitments, which provided the stakeholder support then for development into ODIs as part of the maturity of the water sector planning for the long term.

This is a context for bespoke ODIs not considered in the consultation – moving such important factors outside of the price review is a retrograde proposal. Whilst Ofwat do not exclude bespoke ODIs proposals altogether, we do not have confidence that Ofwat's process would hear such local issues that mattered to company strategic plans and how this mattered to the risk and return balance, and the long term investors that Ofwat recognise are important to effective running of water as an essential public service.

We illustrate this concern in terms of risk and return further below. The impact of Ofwat's focus on stronger asset health metrics and ODIs is a bigger downside skew in ODIs. The CMA found that 0.25% additional equity returns was required on the cost of equity to reflect the level of skew at PR19). Based on our calculation in **Appendix 3**, the impact on risk and return could be as shown below.



Faced with this risk and return imbalance, one option would be to reduce totex underperformance risk – either through more "generous" investment allowances or for more cost pass through mechanisms (perhaps specific price review deliverables as Ofwat suggests). However it is far from clear that this is a better risk balance for customers or companies, or would improve resilience.

Ofwat may argue that such asset health failures would be outside of the P10 range include in RORE ranges. But if this is not the case (particular if targeted interventions to improve service levels are made in combination), then increased penalties for a factor being assumed to be small probability and high consequence does not ultimately protect customers, as it puts financeability risk.

The final alternative that Ofwat suggested during the CMA process (which was not accepted) is that such downside skew can be offset by increasing outperformance potential. This does not seem logical for higher asset health penalties, nor would it be consistent with the Ofwat view that outperformance rewards may need to become more conditional than now on long term performance, with rewards postponed. This would add further asymmetry to expected returns, and appears unlikely to be sustainable as a methodology in practice. If such penalties happened in practice, the price review would probably need to be reset in

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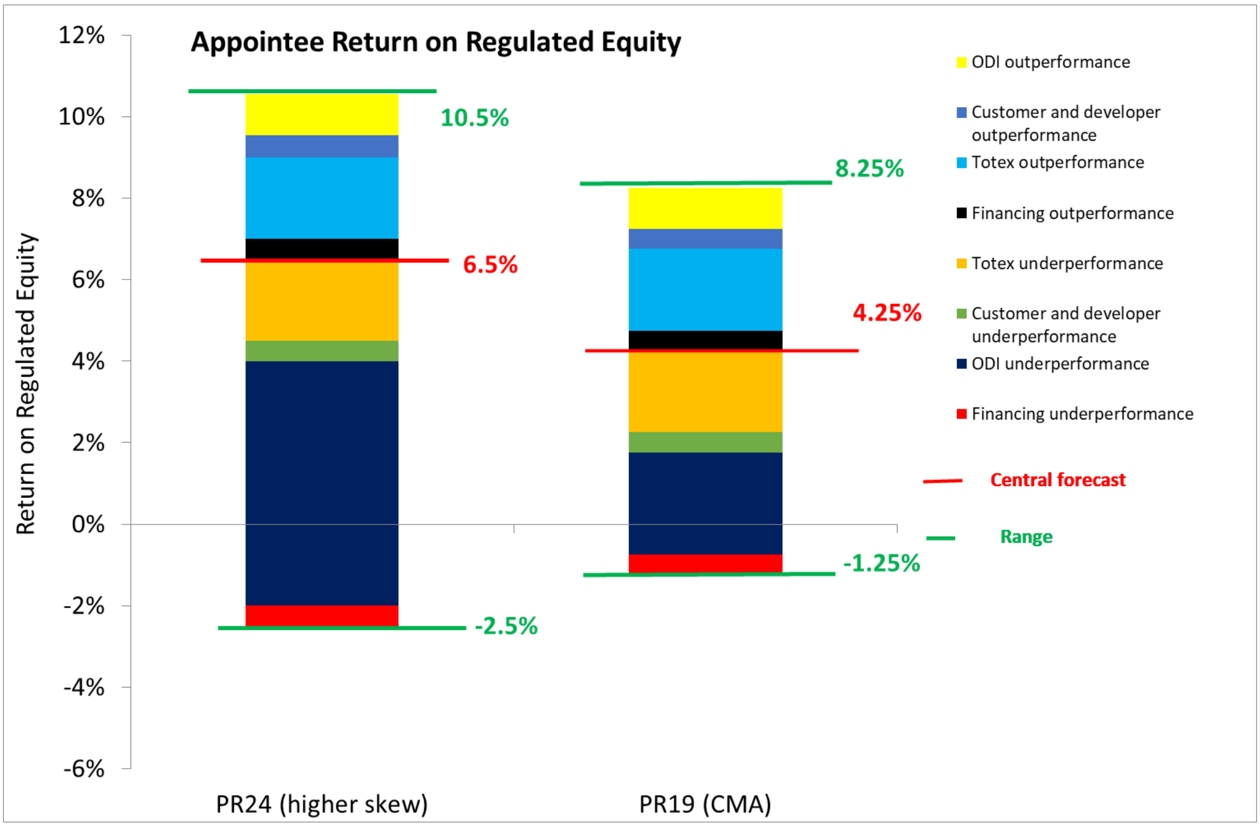
order to avoid the short term resilience consequences, which would undermine the credibility of the regulatory framework and not support long term evolution and planning.

If faced with such downside risks, the obvious conclusion would be that higher equity returns would be required to compensate. Depending on the level of gearing assumed, 50% to 60% of an increased downside risk would need to be reflected in assumed returns in order to maintain the same expected return – or else there is no "fair bet", as well as risking financeability issues from greater underperformance for less successful companies. For more successful performing companies, then Ofwat would need to enforce stronger dividend controls to ensure retention of returns, as well as the potential PR24 outperformance retention to provide a buffer for ODI penalties in future periods.



We think this illustration helps to explain Ofwat's thinking for some of the proposals in the consultation, including the potential that a lower notional gearing assumption may be required. Where we disagree is that this may not be the right approach, across the industry and certainly not for all companies equally. We also do not agree that a lower level of gearing can be considered without allowing higher returns that the higher risk to investors that would appear to be required.

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In the time for this consultation response we have not modelled impacts on the whole sector, only illustrated a real issue from the Bristol Water position, one that we do not believe to be atypical however.

We believe it would be useful to explore the circumstances where this risk and return outcome might be considered, particular stress testing it for some of the key industry and company scenarios that might be faced. Some of the generic scenarios (illustrated as a national vs local risk comparison for Bristol Water in **Appendix 7**) include;

- Impact of flooding and climate change on assets and asset health;
- Drinking water quality risks and incentives (**Appendix 8**);
- Pollution and greater water sector allocation of environmental risks (e.g. micropollutants both treated and waste water); and
- Net zero and ecological emergencies.

<u>Our proposal on risk and return</u>

Our proposal is to build on our analysis set out above and develop a longer term approach to risks and returns. Where there are greater environmental needs, resilience needs, capital maintenance, or other enhancement needs in company plans, this may be reflected in a company specific risk and return trade off. We would expect this should normally be within the regulatory mechanisms, including the balance of ODIs and the degree of totex sharing and cost pass through protections and specific IDOK items that are noted for a company and groups of companies.

We have undertaken some high level modelling to illustrate the scenarios of how a standard (largely PR19) based risk and return balance could vary for high enhancement spend / environmental obligations, where high increases in maintenance expenditure are sought, and where plans are sufficiently innovative and ambitious that the risk balance justifies higher returns, where this protects customers better than limiting totex or ODI downsides for companies. In the example below, there is a point where the ODI skew that arises because a plan is sufficiently ambitious means that a higher base rate of return is justified, taking into account the change in skew compared to other risk and return balances, and the equity (gearing) level assumed.

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	Standard	High enhancement spend / environmental obligations	High maintenanc e spend	Innovative and ambitious
Finance and customer service outperformance	1.00%	1.00%	1.00%	1.00%
Min. Totex outperformance	1.50%	1.50%	3.00%	1.50%
Investment totex outperformance	0.50%	1.50%	1.00%	0.00%
Local ODIs outperformance	0.50%	0.00%	0.00%	1.00%
Resilience ODIs (e.g. supply interruptions) outperforr	0.30%	0.30%	0.00%	0.50%
Environment (e.g. leakage, PCC) outperformance	0.20%	0.20%	0.00%	0.50%
Asset health ODIs outperformance	0.00%	0.00%	0.00%	0.00%
Base return	4.00%	4.00%	4.00%	4.00%
Skew return (ODIs, not totex)	0.25%	0.25%	0.25%	0.50%
finance and customer service underperformance	-1.00%	-1.00%	-1.00%	-1.00%
Min. Totex underperformance	-1.50%	-0.50%	0.00%	-2.00%
Investment opex underperformance	-0.50%	-0.50%	0.00%	-0.50%
Local ODI underperformance	-0.50%	0.00%	0.00%	-1.50%
Resilience ODIs (e.g. supply interruptions) underperf	-0.50%	-1.50%	-1.00%	-1.00%
Environment (e.g. leakage, PCC) underperformance	-1.00%	-2.00%	-2.00%	-1.00%
Asset health ODI underperformance	-1.00%	-1.00%	-3.00%	-1.00%
Upside	4.00%	4.50%	5.00%	4.50%
Base return	4.25%	4.25%	4.25%	4.50%
Downside	-6.00%	-6.50%	-7.00%	-8.00%
ODI skew	-2.00%	-4.00%	-6.00%	-2.50%
Base skew due to ODI penalty reward balance	0.25%	0.25%	0.25%	0.50%

- The standard scenario shows a similar balance to PR19.
- Where there are higher enhancement or resilience obligations, there is higher scope for investment outperformance, but less space of local ODIs. There is more scope for both upside and downside, but overall skew remains similar to the standard scenario
- Where a step change in maintenance spend is requested, in this scenario there is more potential for totex outperformance, but this should be balanced with greater asset health penalty risk. ODIs are heavily focused on penalties, but this is justified because of the additional investment. A change to the sharing rate can also be used to protect customers, but for RORE (using a standardised sharing rate of 50% above), this does not require an impact on expected (skew) return.
- Where plans are more balanced, then there is greater scope for out and underperformance incentives. Where service levels are already high or inbuilt into plans, this would either be reflected in cost assessment (to reflect service levels) and in base returns (a higher ODI skew), because of the risk and reward balance given

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the nature of the plan. If this is a long-term position, there is a greater justification for these higher returns, rather than using cost sharing rates or other regulatory incentives. This could be a refinement to fast track incentives, although would focus more explicitly on customer benefits than the price review process, but the two should be equivalent.

There should be sufficient space for local ODIs or baskets of measures (noting this reduces transparency and was not successful in the companies who tried this at PR14), to allow for flexibility in the national ODI trade offs. In general, totex skew should be dealt with through sharing rates and the degree of productivity stretch and how tightly cost benchmarking is applied.

This can be based on assessing the degree to which scenario factors are being dealt with through the national framework. For instance, it may be that higher enhancement spend on resilience or the environment can be assumed based on evidence to reduce totex risk, or can be dealt with through pass through mechanisms. The risks are clearly different where statutory obligations land differently on the sector, particularly if targeted challenges / interventions are planned.

A degree of choice can be provided to companies on these trade offs within a framework – although Ofwat should be able to overrule whether the balance between local and national ambition is right for customers. This can be reflected in returns - where Ofwat want to impose skewed incentives with asset health where more investment is not available – the risk may need to be reflected in returns to maintain the “fair bet” principle. We much prefer a price review process that exposes these scenarios further than fixing a framework at this stage that locks Ofwat and companies into one of these scenarios – our analysis suggests Ofwat will not be able to sustain a position that locks a fixed view of these scenarios for the whole industry in to the methodology by the time we get to final determinations for PR24.

The benefits of our proposal is two fold, in that it benefits a process that focuses on long term scenario planning, something that we conclude is appropriate to the position of a water sector that has a diverse range of competing, but important, future factors and priorities which will have a differential impact on individual companies.

The second benefit is that it is a logical evolution for the water sector and its regulation, which directly addresses the position that the CMA reached. We believe our approach would address each of these CMA points and at the same time meet Ofwat’s long term strategy for the water sector, in a way customers and stakeholders could engage with:

- It maintains the notional principle, based on a notional company relevant to the characteristics of the company. For instance for small company cost of debt it would still allow the process to as the CMA described “***reflecting the higher historical***

financing costs of a small company relative to our cost of embedded debt allowance which is based on the actual costs of the larger companies in the sector"

- Recognising the risk and return scenarios may legitimately vary between companies reduces the assumption that comparisons are always the conclusion, which as the CMA noted in terms of the cost of capital for small companies ***"If it is identified that the notional small water company will incur higher costs to finance its activities, we would expect that this should be reflected in the notional cost of capital for such a small company. As a result, we do not apply a customer benefits assessment within our assessment of Bristol's request for a CSA."***
- Size is one characteristic that should be considered as the CMA noted ***"We have not applied a customer benefits test to Bristol's costs of capital allowance and it remains our view that the key consideration in this regard is the return on capital that allows a notional company of the size of the appointee to finance its activities."*** But it is not the only characteristic that can be considered in risk and return, and the general principle can be applied more widely.
- For instance, for companies with a higher level of service, there may be a different impact on risk and return: ***"In the area of leakage reduction, we recognise the important principle raised by the Disputing Companies that a commitment to improve outcomes across the whole sector may require companies to spend more than in the past".*** This should be considered before assuming targeted interventions, and scenarios for risk and return may allow this to be exposed earlier than was the case at PR19.
- The CMA also noted the impact on skewed ODI incentives at higher levels of performance on return risks ***"We also conclude that the use of asymmetric or penalty-only incentives may be appropriate in certain circumstances, for example, where there is evidence that customers would not be willing to pay for out-performance or there are diminishing economic benefits to out-performance. Where this results in residual financial risks for investors, this should be taken into account as part of the assessment of the appropriate cost of capital and whether the company is financeable."***
- And finally, if PR24 is seeking to raise the ambition levels for the sector still further, and applying this across the board, the CMA expects a clear risk to be made to risk and return decisions ***"The approach to PCs in PR19 is very different to previous periods, and includes extensive analysis from customers, overlaid by comparisons across the companies. The analysis of the PCs suggests that they have been deliberately set at stretching levels to produce benefits for consumers. We are not persuaded it is consistent for Ofwat to both set new and increasingly stretching targets for PCs in PR19 and also to assume that companies will outperform against those targets."***

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On this last point, the PR24 methodology appears to reduce the relevance of theextensive analysis of customer views, which the CMA used to evidence the limits of risk and reward when central overlays on company plans driven by comparisons were made. This illustrates our concern that the PR24 process risks the same risk and reward challenge without the extensive analysis from customers to provide a cross-check on what trade offs investors are being asked to manage. Our illustration suggests that the risk and return trade off will ultimately not add up and we will need local customer and stakeholder inputs to rebalance PR24, so we may as well design the process to reveal information to support this necessity and do so explicitly.

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Appendix 6: Resilience and asset management assessments

Considering asset management in the water sector, there are two challenges in trying to avoid a risk that there is systemic failure in the water sector which regulation would struggle to defend or adapt to (with an example being the demise of Railtrack, or in the water sector the supply failures in Texas earlier in 2021 linked to electricity market issues due to exceptional (but predictable) cold weather:

1. Improving service levels means capital maintenance cannot just focus on what is needed to achieve stable serviceability anymore.
2. Just measuring reactive maintenance failures does not reduce the awareness or understanding of emerging systemic risks.

We observe the following as an example from the asset management maturity approach, and how it is unlikely to be proportionate in understanding challenges to the water sector, compared with wider considerations involved in scenario planning to inform risk and return frameworks:

- It is true that assets deteriorate with age – but the criticality of this, the time of investment, cost and quality of this will depend on many defined and undefined factors.
- Even if regulation could measure this centrally, and compare it, ultimately the inputs or outputs (these are not outcomes in terms of asset health perspective) are unlikely to improve resilience in isolation.
- As an illustration consider the example of a long term ODI resilience Bristol Water proposed at PR19 – modelling of long term supply interruption risk focusing on the main population centres with a long term plan – population centres of 25,000 had been achieved substantially by 2020, with proposals targeting 10,000 by 2030, 5,000 by 2040, 3,000 by 2050. This was time and quality based, but as a relatively small cost did not fit with Ofwat's approach to regulation. A focus on large schemes risks increasing cost in the long term.

The solution is unlikely to be new comparative metrics. Given climate change and improved control plant monitoring and network sensors, improved data should provide sufficient evidence basis for companies to consider what a future efficient maintenance profile may be. The area of greater concern may be with assets that cannot be monitored or measured in the same – in particular civils assets that could be deteriorating and then suffer from sudden failure, particular if flooding, erosion or land changes with climate change increase with uncertainty that seems inevitable. As this is the main challenge, we think it is unlikely that there will be a forward looking asset health metric that can for the industry as a whole inform trade offs on time, cost and quality in a standardised way.

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One alternative which Ofgem have used for such ambiguous risks is a company led "use it or lose it" pots of investment, that to innovate and invest in less known risks required collaboration. This may be appropriate and Ofwat could tweak the innovation fund approach to provide a start in this direction, but we believe it is unlikely to significantly impact PR24 decisions given that it is not clear currently what the main areas of systemic risk that the industry should focus on. The green growth investment approach provides one route but is company specific and resource intensive for both Ofwat and the companies. We therefore conclude that rather than focusing on asset management specifically, we should focus on understanding hazards, such as considering the potential for the DWIs RARI measure as we set out in **Appendix 8**.

In March we responded to the Asset Management Maturity Assessment by explaining our concerns at the time regarding the request. Our concerns focused related to:

- The lack of a clear definition for asset health and other terminology used in the questions. The framework effectively asks about all business decision making, but constrained to the format of an asset management maturity assessment. Definitions in the consultation (e.g. public value) appear to us to be inconsistent with other Ofwat strategy documents and consultations.
- The lack of consideration of the existing asset management maturity assessments we have already provided at PR19, or are inherent in Drinking Water Safety Plans, and the existing improvements against these set out in resilience action plans, again which all featured at PR19. The maturity assessment document seems to state these issues are not considered at price reviews, which appears to us to be incorrect.
- The scale of the burden, including the expectations of supporting information and in particular the qualitative request, at a time that asset management teams need to work on year end information for the significantly increased regulatory burden expectations in Annual Performance Reports.
- The lack of information on the status of the request, justification for the burden being imposed and clarity on how the information would be used.

In February 2018 our long-term ambition looking ahead to 2050.[7] We set out what we had been doing, who we have been listening to and working with, and what we could do in the future. It also set out some of the options we faced for the long-term, and how we planned to work with others to address shared challenges. We used the views of our customers, stakeholders and employees to develop our future ambition. Bristol Water… Clearly played back what we had heard and presented how we had translated these views into our plans for the future.

[7] Bristol Water…Clearly

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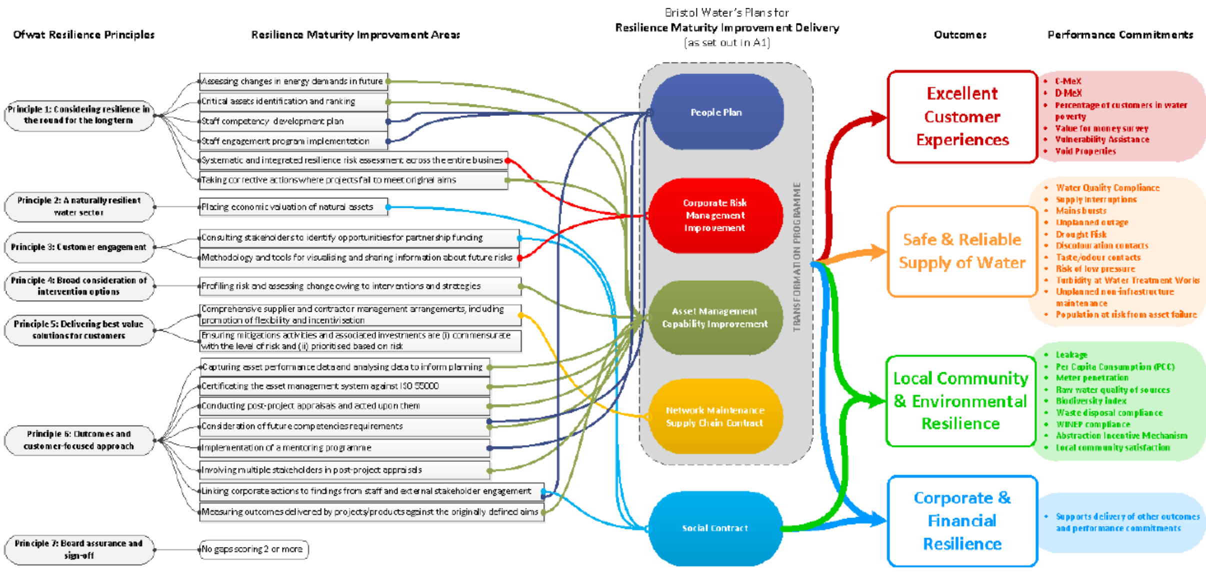
All of our PR19 plans were based on a long-term view set out in Bristol Water…Clearly. This included our plans for asset health measures. In August 2019 we published our Resilience Action Plan to enhance our systems thinking approach to resilience in the round.[8] We consider systems thinking to be about understanding the whole context of a particular challenge with all its connections and interrelationships. This approach helps to identify the root cause of a problem, or source of an opportunity, enabling powerful, long term and cost-effective decision making.

At Bristol Water we operate as an organised collection of systems, arranged in hierarchies which are integrated to deliver outcomes to our customers. Our systems also influence and interact with the natural environment, our community and external stakeholders. To ensure our systems are aligned and focussed on achieving common goals, their component parts need to continually exchange information.

By the end of AMP7 we aspire to be recognised as being a mature organisation in terms of systems thinking approach to maturity.

From a Bristol Water Board perspective, we provided extensive information on our own asset management maturity assessment and approach to asset resilience in our Resilience Action Plan .



This set out our plans and we are transparently reporting our delivery against (including updated maturity assessments), as part of our mid-year performance reporting, together with our social contract reporting which is also relevant to our decision making outside of

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[8] Bristol Water Clearly Resilient

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the standard regulatory framework. Our Annual Performance Report 2020/21 also includes updates in these areas[9].

The focus of our resilience framework is to learn about the society we operate in, and to understand how it may affect the services we offer and the investment choices we face in the future. Our systems also influence and interact with the natural environment, our community and external stakeholders. We recognise the value that systems thinking can bring to our decision making and investments, particularly to the way we manage our resilience, and we already apply it implicitly in many of the ways we work. Our commitment to our Resilience Action Plan and approach to long-term challenges ensure we have strong resilience as a company:

- As part of our PR19 business plan we had a long-term ambition to improve the resilience of our supplies. Our initial target was to improve resilience so that issues over 24 hours with one of our critical assets (e.g. one of our key pumping stations, service reservoirs or mains) did not affect populations centres of more than 10,000 people by 2030, and in the long term, would not affect more than 5,000 people by 2040. Ofwat however revised our linked performance commitment and incentive to achieve such ambitions following the draft and final determinations.
- We already have the lowest leakage in the sector and we are targeting the lowest supply interruptions at PR19. In 2020/21 we achieved our lowest level of leakage (in Ml/d) ever.
- We have the oldest water mains in Europe – but asset health is maintained through state of the art network monitoring
- Future impact on assets are largely driven by climate change – but the needs of transport, electric vehicles and district heating.
- The challenge of biodiversity emergency is met through our biodiversity index and our partnership work as part of the Bristol One City Plan.

We think serviceability / asset health is important – but forward-looking measures have proved difficult to develop. This is because asset health measures the harm to service from shocks (e.g. third party, weather, Beast from the East). Avoiding the worst impact on customers and service recovering quickly is the best measure of long-term asset health.

We split out service and operational resilience to help close the gap between asset health and long-term risks and opportunities. Companies with persistent service failures that are not resolved are where the asset health is not resilient. But forward looking challenges mean this is not enough – it is difficult to define but ingredients are:

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[9] Our performance

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- Ability to predict events
- Resilience – local duplication measured in terms of population at risk
- Relevance of past asset health to future challenges – e.g. local infrastructure and needs planning such as in the Bristol One City Plan
- Customers, stakeholders, culture, values – importance of Social Purpose and public value to asset health and world class asset management
- Resilience Action Plans – a welcome and useful addition to track progress
- Transparency – our commitment to mid-year reporting rather than a focus on year end (i.e. before year is finished). For example, our latest mid-year report included an update on our resilience action plan.[10]

[10] Mid-Year Performance Report 2020/21

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Appendix 7: National vs local – if it works and if it doesn't

Our priority through our social contract is to build trust that a range of organisations working together can deliver a shared social purpose – the wellbeing of society.

Our overriding concern is that without a local framework and context, the focus on the long-term will reduce compared to PR09, PR14 or PR19. In order to deliver the long-term objectives and outcomes, we need to build consensus and trust in long-term local strategies. This should be the primary focus of the sector, and this cannot be achieved without this being the primary focus of price reviews, without a more radical change that reduces the focus on price reviews more substantially through longer term ODIs and cost pass through mechanisms. Whilst this has attractions, our analysis of sector risk and returns in appendices 3 and 5 suggests that such radical reforms may not reflect the needs of the water sector. We agree with Ofwat that evolution from PR19 is the best approach, although our concern is that the draft PR24 methodology, if it does not work as intended, which is plausible and possibly likely outcome based on our earlier analysis, will result in a framework that requires radical interventions outside of the five-year price review cycle.

As one of the early stages of reconsidering our long-term strategy, which will help inform PR24 plans, we have considered with our Board the degree towards which there are risks and opportunities that come from national policy and requirements compared to local pressures and needs:

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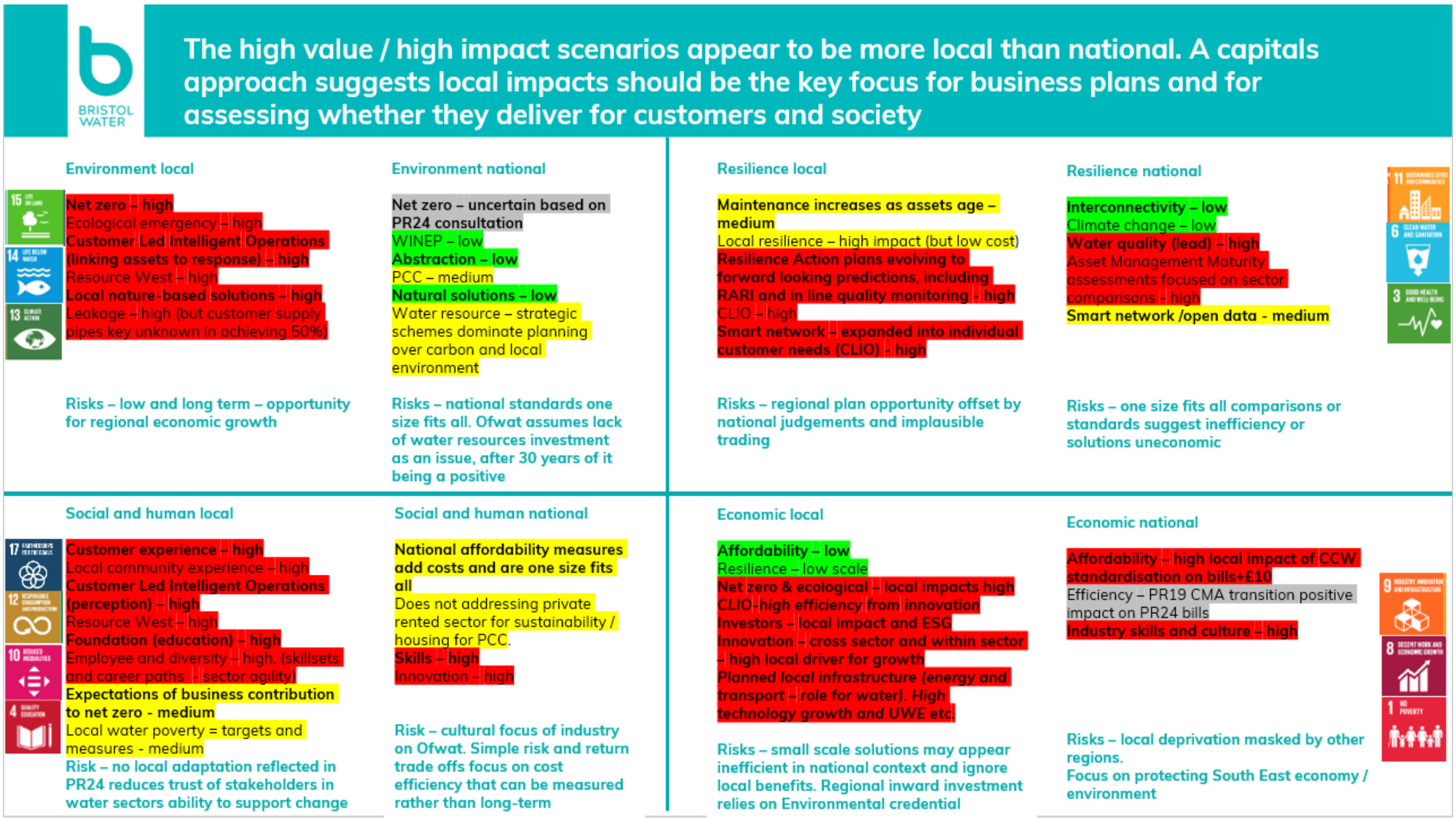

This should not be surprising, as to a large part it reflects the benefits of having a clear social contract and understanding of public value. It reflects the evidence that risks and cost to the water industry will increase if local planning is not undertaken. It reflects a mature (and evolving) approach to asset management and systems-based resilience. However, we are also clear and understand the risks in this local approach, which is why we have considered how these risks should be balanced. This is a preliminary view and will change in the light of evidence, company performance over 2020-25, Defra's Strategic Policy Statement, and Ofwat's decisions on regulatory approach, which is the key risk to a local-based strategy currently.

In short, meeting future challenges requires a more local response from water companies because of their unique and often overlooked role in society and in in people's lives. But in contrast to Ofwat's insistence that this is equivalent to simply meeting statutory obligations, there needs to be recognition and flexibility for water companies to be able to response to localised prioritises and pressures.

This is partly why we created our social contract (we were the first utility to do so). As a provider of an essential public service we recognise the responsibility that we have to society to have a positive impact beyond the provision of a safe and reliable supply of water

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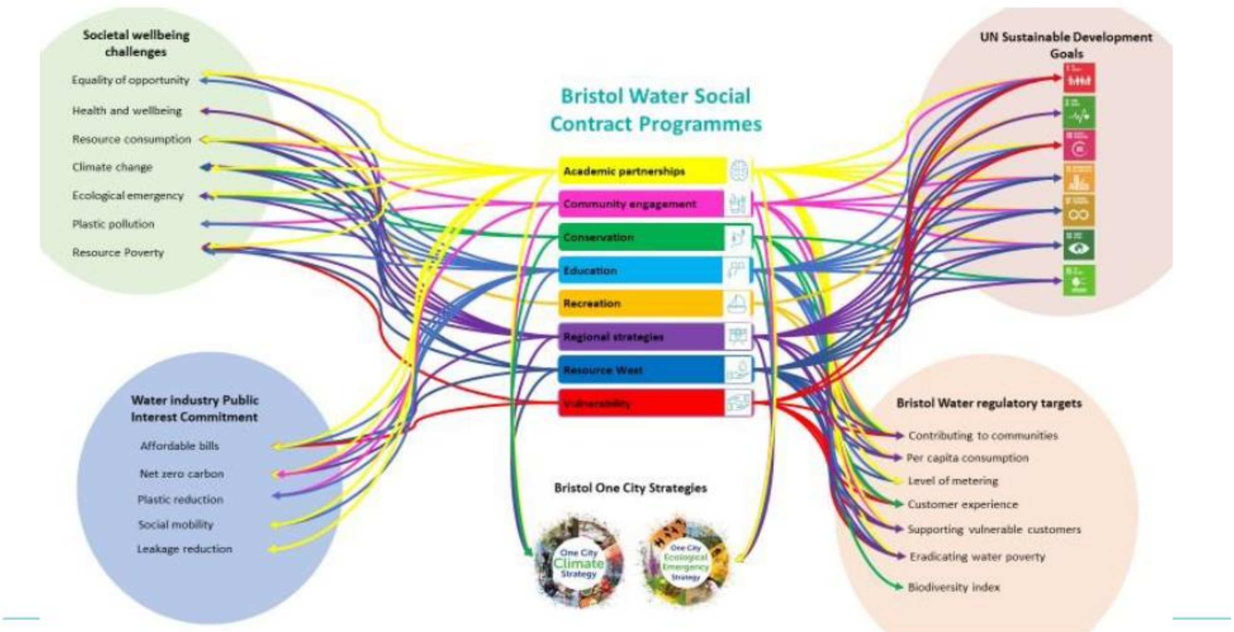
(beyond our statutory obligations). We see our social contract as a framework to help us to continue delivering societal benefits, but also as a way local people can hold us to account for how we deliver our actions. It goes way beyond the basic requirement of competitive markets, regulation, legislation and corporate social responsibility. If local people believe we have not delivered societal benefits then there are financial consequences for us. It is not as simple as defining a core water company activity and then assessing what public value can be delivered – it is fundamental to how trust in companies and their purpose can help make better long-term plans that reduce risk. It was an approach that informed the scale of ambition on regulatory targets, rather than being tangential to them.



An example of the social contract working in action is our contributions to the Bristol One City plan. This sets out the long-term ambitions for Bristol including the response to the climate and ecological emergencies, where we contribute through the Environment Board and Economy Board. We see local plans such as this as a key future focus for the water sectors and its regulation. These local plans, that have local resident, customer and stakeholder support, will help planning future infrastructure needs, such as:

- Our plans to achieve net zero (via the One City Climate Strategy)[11]; and
- Our plans to respond to ongoing ecological emergencies (via the One City Ecological Emergency Strategy)[12].

[11] One City Climate Strategy
[12] One City Ecological Emergency Strategy

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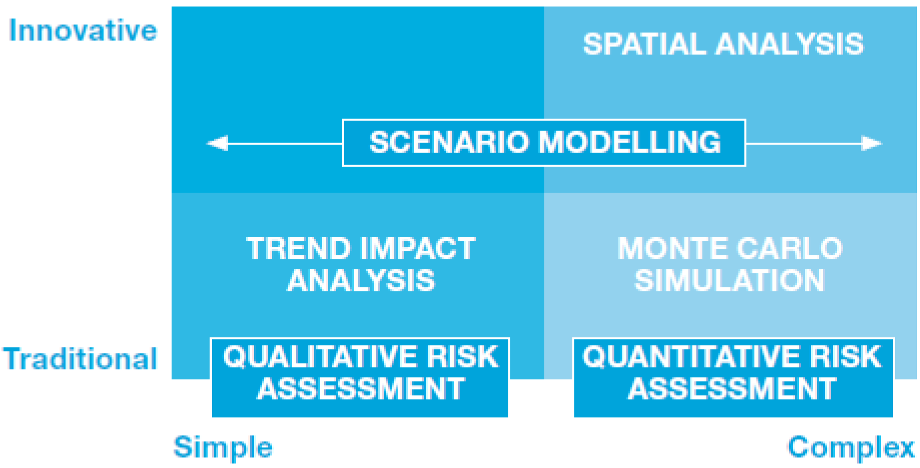
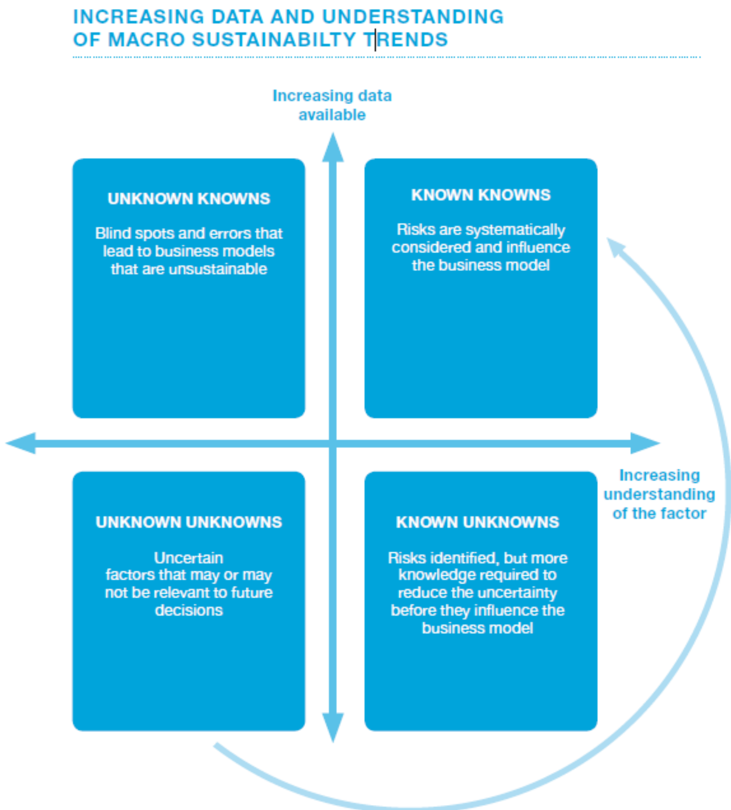
The Bristol One City plan is just one example. Our social contract ensures that we create wider public value that we then held account over. It means we do not try to do everything – it ultimately means we make trade-offs transparently about what areas of activities we focus on and informs Board discussions on all parts of our business strategies for the future. If we can use such frameworks to inform long-term plans, it encourages engagement and balances decision making beyond regulatory incentives in a way stakeholders can engage with.

If water regulation (through price setting) does not allow water companies to effectively respond to this as our horizon, or our limited resources are diverted by a burden of regulation focused on Ofwat's national economic regulation and nationally set statutory obligations, then the resilience of our planning for the long term will reduce. If we can demonstrate the benefits of our approach into a more flexible regulatory framework then nothing will be lost. If this applies to other companies beyond Bristol Water, and all the evidence we suggest it does other than to specific high or low performing companies, then the cost to water sector will reduce, and cost to consumers will increase in the long term.

The link of scenario planning to risk and return and the price review (as set out in other appendices) should be seen as an obvious development for water industry planning. The need to consider local and regional plan requirements is a recommendation of the NIC. We think it avoids the risk of systemic blind spots in the water sector, which would mitigate against long term planning. Good practice examples of this are set out in Accounting for

Sustainability (A4S) guidance for businesses on managing future uncertainty, such as shown in the extracts below.





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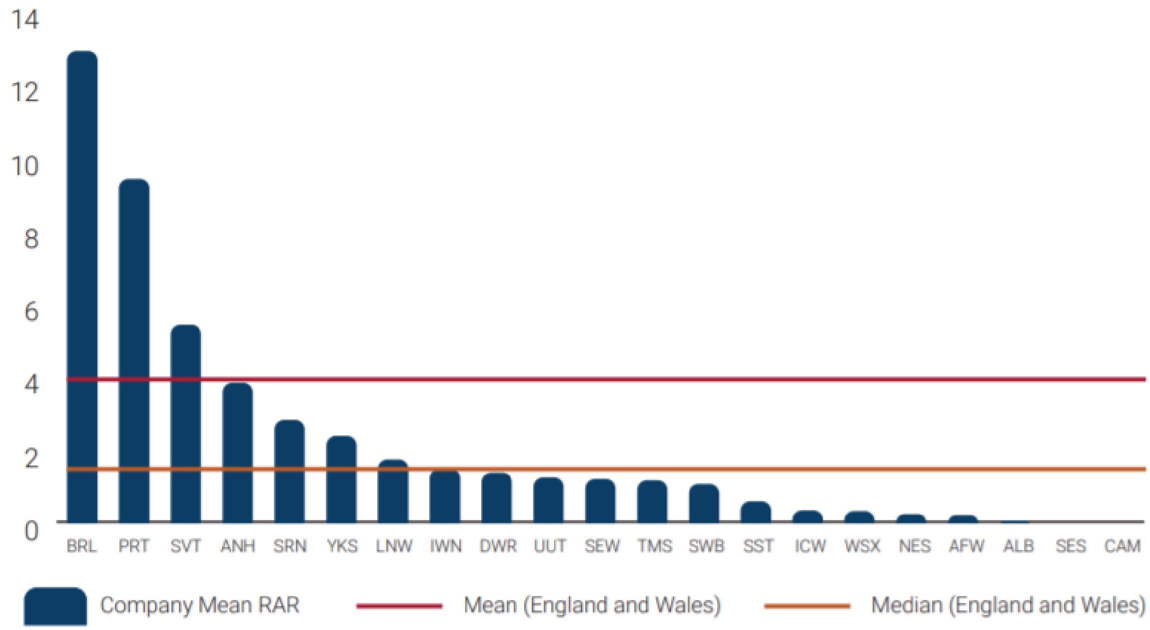
Appendix 8: RARI (the DWI Risk Assessment Risk Index) as a forward-looking asset health measure

Under Regulation 27 and 28 of the Water Supply (Water Quality) Regulations 2016 (as Amended), water companies are required to undertake risk assessments of each supply system and report a summary to the DWI. In 2019, the reporting requirements were revised, and this led to the development of the RARI, which uses similar principles to the Compliance Risk Index (CRI) and Event Risk Index (ERI), adapted for risk assessment data. This metric allows for comparison between water companies.

The RARI calculation includes a number of variables including severity of hazard, status of the control measures (DWI Category), how long new control measures have been required for, and the site volume supplied or site population as a proportion of the overall company volume supplied or population.

Currently, RARI scores are disclosed to water companies each July in the Chief Inspectors Report, which is calculated from a snapshot of the risk database taken in January each year. The DWI are clear that a higher RARI score does not necessarily reflect worse performance. The latest RARI data is below for context.[13]

Company Risk Assessment Risk Index (RARI) scores for 2020



[13] Drinking water 2020 The Chief Inspector's report for drinking water in England

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As the DWI noted in the 2020 Chief Inspector's Annual Report "*Bristol Water (BRL) was the highest scoring company with a score of 13.1. This does not mean this is the worst company, only that this is the risk profile for that company upon which action can be taken by the company. Both Purton Treated works and Pucklechurch service reservoir make up some of the highest scoring lines in the data set, with a range of hazards including microbiological, the pesticide metaldehyde and no supply contributing to the scores. The highest RARI score is attributed to a 'no supply' risk at Purton Treated works, which is under investigation (category E). The issue is due to insufficient sludge handling capacity that could cause a limitation in water supplied under challenging water quality conditions. It is imperative that companies tackle strategically important issues such as this in a timely manner. At Pucklechurch service reservoir, there were a few bacteriological hazards that required additional work with high days in category due to potential ingress (which was also noted in the 2019 CIR). The company should progress any remaining work at this site to ensure the risk to consumers is properly controlled.*"

This level of understanding of individual risks is something that could be developed into a forward-looking measure of asset resilience. In the case above, the hazard reflects a range of factors, and the mitigation is limited by the ability of civil structures (sludge handling). It provides a sense of criticality, and in our approach unmitigated risks are linked through to our asset risk register which informs our investment plans. The potential to forward project RARI to support asset management decisions is worth exploring further, but as the DWI note there is a range of company approaches currently. Lower scores may merely reflect less understanding of risk, or quicker ability to mitigate risks.

Whilst being valid measures of water quality, the existing CRI (compliance measures) and ERI (event resilience and response) provide backwards looking measures of performance, with CRI being a mix of an asset health and a compliance metric.

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The below table summarises the current advantages and disadvantages of use of the RARI for company performance. However, given its importance

Advantages	Disadvantages
• Enables water companies to be compared in terms of their level and response to asset risks, and in turn as a measure of asset health. • A DWI index that is becoming more established within the industry and suggestions from DWI they aspire for it to be regarded at the same level as CRI and ERI. • Would complement existing backwards looking measures such as leakage, unplanned outage, mains bursts • Potential to be used to monitor changes as a result of investment if companies link to asset risk registers and investment plans, and to be projected forward for risk factors (e.g. source water quality) • Provides degree of understanding of criticality, which other asset health measures do not, reducing the moral hazard as to whether further investment should be allowed (as RARI takes into account how long a risk is not mitigated, not just that it exists).	• Current application of DWI Category is inconsistent across the industry (e.g. cascading of category to downstream assets). • Currently RARI score is calculated by a snapshot of the DWI risk database taken in January each year. There can be variations in RARI score month on month so this only gives the picture at one time of the year. • The risk index is still immature in terms of its use within the industry. • Risk assessments solely focus on water quality and sufficiency of supply as measures of asset health.

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Appendix 9: Affordability evidence

The analysis by CEPA for the CCW affordability study is a clear example of why localised analysis is better than trying to make top-down assumptions. We perform a granular, bottom-up, analysis of water poverty each year as part of our performance commitment that was introduced at PR14 and refined at PR19.

We use a model produced by the population analytics company CACI. This compares at an individual customer level their disposable income and their actual water bill. CEPA use a threshold of water bill as >5% disposable income on a joint bill, our measure is 2% on a single bill, which equates to a threshold of around 4.5% on our joint bills with Wessex.

CEPA's top down model suggests 7.3% households in our area need support with their water bill, but the CACI model suggests this is 4.9%. This shows the variation that can be created through different analysis techniques. CEPA's model suggests that at a threshold of 4.5% (around 38,000) of our customers would need support (as the mid point of the 4% and 5% figures). This is significantly in excess of our equivalent figure of 23,000. CEPA's model also suggests that the reduction in water poverty from interventions through social tariffs is only 21% (from 7.3% to 5.8%), or 8000 customers. Our own analysis shows that our social tariffs are much more effective at tackling water poverty, with 87% of eligible customers currently supported and removed from water poverty through one of our tariffs. This is a more credible result given the development and application of our social tariffs over several years.

The outcome of CEPA's analysis leads to a policy suggestion from CCW of introduction of a national social tariff, which would require a subsidy of c£5[14] per Bristol Water customer, in addition to the £3 that they currently pay. This tariff would also be likely to be less targeted and therefore less effective, compared to our current social tariff schemes which consider each customer's needs individually and assign them to a tariff level accordingly.

Using the figure from the CEPA model reduces the calculation of the gap in our area to £7, rather than £10, and we consider that through our Assist tariffs this gap is largely met.

Analysis tool	CCW/CEPA	BW/CACI
Method	Top Down	Bottom Up
Percentage water poverty threshold (joint bill)	5%	5%
Number of customers in water poverty (pre intervention)	29,000	23,660
Percentage of customers in water poverty (pre intervention)	5.8%	4.7%

[14] Assuming the water element to be just under half of the £11 national figure

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Analysis tool	CCW/CEPA	BW/CACI
Method	**Top Down**	**Bottom Up**
Water poverty gap £m (using CEPA figure per HH)	4.6	3.7
Gap per non-water poor household £	10	7.4

The analysis of the CACI model shows just two of the 3,013 customers calculated to be in water poverty are on our Assist tariffs. This shows that those tariffs are effective at providing the right level of support relative to each customer's disposable income. This means those tariffs should remain effective and promotion can be targeted (based on CACIs analysis) at locations (postcode sectors and below) where more support appears to be required. The risk with a national scheme is that it would not have that link, some customers may not receive enough support, others may need more than they really need, at the expense of the rest of the customer base. If standardised social tariffs were funded nationally, this would be a net contribution from the Bristol area to other parts of the country, who may have lower water and sewerage bills.

Delivery of our social tariffs is through local delivery, in partnership with Citizens Advice and Debt Advisory bodies. We build relationships with them to help them understand our offerings, and use that knowledge to support customers in need. We fear that this local relationship would also be lost in a move to a national tariff.