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Assessing base costs at PR24: Yorkshire Water response

Thank you for the opportunity to respond to the Assessing Base Costs at PR24 discussion paper. We would like to thank Ofwat for its continued engagement on this complicated topic both through the cost assessment working groups and the opportunity to respond to discussion papers such as this one. We also welcome that the topics raised by companies through the working group and through the Future Ideas Lab are being considered in this paper.

We strongly endorse the need for continued engagement with Ofwat, the industry and stakeholders, to ensure that the cost assessment process is as clear and robust as possible. The cost assessment process however needs to be considered alongside other inter-connected parts of the price review such as outcomes, long term delivery strategies and risk and return.

Given the timescales for the response, the stage of the price review process, and the complexity of the topic, we have yet to fully develop our thoughts on all elements of cost assessment. This response is therefore an initial one, but our opinions on some elements may be subject to change where more evidence or analysis has been completed particularly after assessing the links between each of the papers and their impact in the round.

We have summarised our key observations and suggestions below. Further detail and specific responses to the questions posed by Ofwat within the discussion paper are presented in the appendix to this letter.

Principles of Cost Assessment (p4-5): The six principles set out by Ofwat seem appropriate and in line with economic good practice. We however request that Ofwat set out more detail as part of the draft methodology on how each principle would be applied. For example, it is not currently clear what would define a cost allowance as 'stretching but achievable'. On the principle of exogeneity, whilst we understand and agree with Ofwat's concerns about endogenous variables, we suggest they should not be dismissed completely from cost assessment; they may prove to be genuine drivers of cost which must be considered through some means.

Approach to Cost Modelling (p6-13): We note that the proposed approach to cost modelling has not changed significantly from PR19. Whilst this approach was supported by the CMA, we would caution against making firm decisions on the model form, scope, boundaries, and variables used until they are tested with PR24 data. If alternative approaches could produce more robust models, these should be pursued unless there is a valid reason not to.

Cost Adjustment Claims (p13-19): The key proposed change to the cost adjustment claim approach is that the claims will be symmetrical by default. We agree that there is scope for more symmetry in cost adjustment claims but set out why not all claims will be symmetrical. We also highlight that this approach could lead to additional claims and multiple evidence/counter-evidence submissions, a side-effect which could lead to increased regulatory burden on Ofwat and companies.

We cannot confirm at this stage which cost adjustment claims we will be submitting but highlight some data and areas we are currently considering. We would be keen to engage with Ofwat for practical discussions on the evidence base particularly regarding internal sewer flooding and cellared properties.

Capital Maintenance and Asset Health (p19-23): We maintain our position from PR19 that the industry does not invest sufficiently in the long-term condition of its asset base, so historic base costs do not capture ongoing and future expenditure requirements. We welcome that Ofwat is considering capturing evidence (through asset health measures) that could help demonstrate a forward-looking cost requirement in this area. We recommend however that Ofwat sets out what level of evidence would be required to show that a change in capital maintenance investment is needed.

Cost and Service Link(p23-28): We welcome Ofwat's recognition of the link between cost and service. We discuss some of the approaches that could be used to assess this, linking back to our Future Ideas Lab paper produced in 2021¹. The nature of the analysis required to assess individual PC cost/service links may be complicated, but we urge Ofwat to develop a pragmatic approach that does not ignore the link entirely which has significant implications on how performance risk is allocated.

¹ https://www.ofwat.gov.uk/wp-content/uploads/2021/11/Yorkshire-Water-Assessing-the-Relationship-Between-Cost-and-Performance-at-PR24_YW-and-Baringa_Oct21.pdf

Retail (p28-29): In Section 7 we highlight our concerns around the difficulties of reporting bad debt with, and without, the Covid-19 impact.

We look forward to continuing to work with you and the cost assessment working group on this topic in the months ahead and would welcome a similar opportunity to comment on Ofwat's early thoughts on modelling enhancement costs ahead of the draft methodology.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Chris Offer', written over a horizontal line.

Chris Offer

Director of Strategy and Regulation

Appendix: Detailed response

2. Principles of PR24 Base Cost Assessment

Q1. Do you agree with our principles of base cost assessment?

The 6 core principles set out by Ofwat are sensible and are generally aligned with good practice. We would however welcome further detail regarding how they will be applied at PR24 as the application and exercise of judgement of these are not discussed.

We have further comments on two of the principles:

Focused on cost drivers that are outside of company control

Ofwat is right to highlight that there can be difficulties associated with modelling endogenous cost drivers. However, endogenous variables (service quality, historic enhancement activity) can be relevant to explaining companies' costs or performance, and as such, should not be excluded ex-ante from the broader model development process.

If it is not possible to develop robust models that account for material endogenous drivers of expenditure, then allowances for these characteristics should be made through other means, such as a post-modelling adjustment (similar to the growth adjustment at PR19) or cost adjustment claims.

Indeed, we note that regulators (including Ofwat) often make use of endogenous drivers when assessing companies' expenditure. For example:

- *Monitor* used principal component analysis (PCA) to construct a composite service quality variable, and used this as a cost driver in its assessment of NHS trusts²;
- the *Norwegian Water Resources and Energy Directorate (NVE)* controls for energy losses as an input which companies should minimise (alongside expenditure) in its cost assessment models³;
- *Ofwat* used companies proposed leakage reduction as a cost driver for enhancement expenditure in PR19;⁴

²Monitor (2016), '2016/17 National Tariff Payment System: A consultation notice Annex B5: Evidence on efficiency for the 2016/17 national tariff', February, pp. 18–19.

³ Amundsveen, R. and Kvile, H.M. (2016), 'Balancing Incentives: The Development and Application of a Regulatory Benchmarking Model', pp. 233–47, in W.H. Greene, L. Khalaf, R. Sickles, et al. (ed), *Productivity and Efficiency Analysis*, Springer.

⁴ Ofwat (2019), 'PR19 final determinations: Securing cost efficiency technical appendix', December, pp. 71–72.

- *Ofgem* used workload drivers and modern equivalent asset value (MEAV) in its disaggregated modelling in RIIO-ED1 and when constructing its composite scale variable (CSV) in RIIO-GD2⁵.

We note in our response to section 6 that Ofwat is considering looking at endogenous drivers to assess 'what base buys' and we strongly support this approach. Given the link between cost and service this is however not aligned with principle 3.

Setting a stretching but achievable cost efficiency challenge

We support the principle that efficiency challenges should be stretching but achievable. However, Ofwat does not currently provide sufficient detail regarding how it intends to set the overall efficiency challenge and assess that its stretching target is achievable.

For example, at PR19, Ofwat justified its decision to stretch the benchmark beyond the upper-quartile level in the Final Determination, but this decision was reversed by the CMA in the PR19 redeterminations based on additional analytical evidence.

We do not consider that the efficiency challenge should be determined using regulatory discretion alone, and this view was supported by the CMA in the PR19 appeals. Instead, the overall efficiency challenge should be largely informed by the regulator's **confidence in its econometric models**. This, in turn, should be informed by quantitative measures of uncertainty. These measures could include:

- the level of noise estimated through Stochastic Frontier Analysis (SFA)
- the impact of data uncertainty through Monte Carlo analysis
- the estimated level of uncertainty in companies' cost predictions through confidence interval analysis.

Q2. Do you consider any important principles are missing?

We do not consider that there are any important principles missing but as discussed, we would welcome further clarity on how those described would be applied.

⁵ Ofgem (2020), 'RIIO-GD2 Final Determinations: Step-by-Step Guide to Cost Assessment', December, para. 1.28.

3. Approach to wholesale base cost modelling at PR24

3.1 Scope of wholesale modelled base costs

Firstly, we consider the inclusion of decision-making criteria for adjusting the scope of wholesale botex plus cost models at PR24 is a useful step. Similar approaches (i.e., clearly outlining the decision making criteria) should be adopted throughout the price review consultation process to help companies understand the evidence required.

We are however concerned that, in this example, there is a potential clash between Criteria 2 and 5:

Criterion	Candidate for exclusion / separate assessment	Candidate for inclusion in wholesale modelled base costs
1	Companies have not incurred these costs in the past.	Companies have incurred these costs in the past.
2	Variations in costs between companies and over time cannot be explained by the cost drivers in the wholesale base cost models.	Variations in efficient costs between companies and over time can be explained by the cost drivers in the wholesale base cost models.
3	Costs can be clearly identified, and data reporting inconsistencies and/or interactions / complementarities with wholesale base costs are minimal (necessary but not sufficient condition for separate assessment).	Costs cannot be clearly identified. Inclusion in wholesale modelled base costs mitigates data reporting inconsistencies and allows for interactions / complementarities with wholesale base costs.
4	Robust standalone econometric / unit cost models can be developed (necessary but not sufficient condition for separate assessment).	Robust standalone econometric / unit cost models cannot be developed.
5	Costs are largely outside of company control.	Costs are largely inside of company control.

Specifically, if the answer is 'No' to both the questions then the implied decision tree associated with these criteria becomes an infinite loop.

We consider that there is always the opportunity for a 'deep dive' approach which should be carried out if top-down industry-wide modelling approaches are not appropriate.

More generally, it would be helpful for Ofwat to outline which criteria will receive more weight when determining whether an activity should be included in the modelled cost base if the activity does not pass all criteria.

We also want to highlight a small but important point related to the terminology used in this area. The inclusion of costs, or not, within botex plus modelling does not define them as "base". Growth costs, for example, still meets the definition of enhancement irrespective of how they are assessed. The current terminology used by the industry and Ofwat can make this distinction confusing.

Q3. Do you consider the scope of wholesale modelled base costs should be amended at PR24? If so, please explain how the potential amendment/s to wholesale modelled base costs can be justified based on our proposed assessment framework.

We consider that the current scope of modelled botex plus costs is broadly right and should not be expanded further to include more enhancement areas. However, there are two areas which warrant further discussion.

Strategic Growth

From an engineering perspective, there are elements of growth that would benefit from being assessed outside of the botex plus modelling. In particular, 'Strategic Growth' has been identified and discussed at the recent Cost Assessment Working Group.

Strategic growth is not linear with the variables used within the econometric modelling (population growth / load). It is lumpy and occurs at the point that capacity/headroom is breached at a catchment level rather than incrementally. The most appropriate solution will vary depending on the location of the growth and the existing infrastructure in that area. For example, if a large new discrete development requires a new treatment works to deal with additional load this will require a very different spend profile than if the growth was distributed evenly across the region.

Using Ofwat's criteria for assessing the inclusion of strategic growth costs

Criterion	Result of Applying Test to Strategic Growth Costs
1 – Similarly to enhancement investment, companies will have incurred these costs in the past but not consistently nor with the same drivers. Those that have not incurred significant strategic growth costs in the most recent periods may set an unrealistic efficient baseline.	UNCLEAR
2 – Growth in STW and Network reinforcement is not linear with the scale variables included in the models. It is possible that variables will change once schemes are delivered (i.e., increasing the length of sewers / load) but this will not provide adequate up-front capital funding to deliver solutions.	EXCLUDE
3 – It should be straightforward to identify the enhancement expenditure associated with these costs as they will align with costs input into enhancement data tables. However, we would support a review and any additional guidance to enable consistency of reporting in this area.	EXCLUDE
4 – We believe that cost models could be developed for Strategic Growth. Anglian Water's set of variables may set	UNCLEAR (deep dive approach feasible)

<p>out some feasible options but given that the nature of the solution will vary by scheme depending on the location, comparable cost data-points may be difficult to obtain. This should not however be a reason for inclusion in the botex plus costs and ignoring additional efficient costs if they are required. A deep dive approach would also be an appropriate way of dealing with this.</p>	
<p>5 – Company has little influence on the development of new settlements and can incur reputational damage if seen to be a blocker to development in the region.</p>	<p>EXCLUDE</p>

Legacy enhancement costs

The other area requiring further consideration is how to ensure that an efficient allowance is made for the ongoing operating (or capital maintenance) costs of the previous AMP's enhancement programme.

There is no fixed process to deal with this in the methodology, so companies submit enhancement plans on the assumption that efficient costs will be funded in the future. However, this is not always the case as unless new variables or cost adjustment claims (which in turn are limited by materiality thresholds) are successfully argued for, the result is a hidden incremental efficiency challenge on base to unfunded obligations in the long term.

In addition to that, even if the modelling is changed, often enhancement opex costs are not incurred until year 5 (or even year 6), so they will not be part of the historical cost base and so will not feature in the modelled dataset. For example, we do not expect to see the full year effect of at least 50% of our total operating costs until Year 1 of AMP8 for our AMP7 P removal programme.

We propose to table this at a future Cost Assessment Working Group on enhancement outlining the issue in more detail with some worked examples.

Q4. Would you recommend collecting additional data in relation to growth expenditure (cost and/or cost driver data) to improve cost assessment at PR24? If so, what additional data would you recommend collecting? Please provide definitions alongside suggested data additions.

We believe that there is the opportunity to model strategic growth variables but note that this may be difficult due to the disparate site-specific nature of schemes. Some high level variables that could be explored are below.

- Additional treatment capacity (Population equivalent (PE)) provided through new Sewage Treatment Works (STWs).
- Additional treatment capacity (PE) provided through expansion of STWs.
- Additional network property capacity provided (water).
- Additional network property capacity provided (wastewater).

An individual scheme may map to one or more of these lines.

Some of the more granular variables set out by Anglian Water seem to get to a level of complexity which would suggest that a deep dive approach to assessing these costs may be more appropriate.

3.2 Sample period selection

Q5. Do you agree that we should utilise the full historical data series available to develop the wholesale base cost models at PR24 (from 2011-12 onwards) unless there is clear justification for using a reduced time series (eg structural break that cannot be addressed through other remedies)?

We consider that using all of the available historical data as the default option is a sensible starting point. As has been argued during the CMA appeals (with reference to the use of 2019/20 data), there should be compelling reasons to omit specific historical data from the analysis. It will be important for Ofwat to establish a framework through which irrelevant/uninformative historical data can be omitted from the sample. This should include the use of statistical testing (as noted by Ofwat), as well as a careful consideration of whether data and operating conditions are comparable over time.

It should be noted however that whilst the definition of base has only minimally changed since 2011-12, the expectations of what can be delivered through base has changed more materially. The Performance Commitment level expectations through base have not been stable during the period so costs may not be entirely comparable, but a larger dataset could capture these variations if modelled appropriately.

We would also note that much of the expenditure to drive service improvements will have been allocated to enhancement lines in company Annual Performance Reports (APR) (e.g., Quality programmes, service improvements at the end of AMP6) but would be excluded from any base modelling. As discussed in Q3 there is no defined mechanism to ensure enhancement expenditure is reflected in ongoing base modelling.

Q6. Should we consider including business plan forecasts in our wholesale base cost models at PR24?

We consider that it is important to test the stability and the validity of the models when business plan forecasts are included. If the models do not “work” in AMP8 (e.g., because coefficients become unintuitive), then it could be a sign that important drivers of AMP8 expenditure are omitted from the models, or that the models are otherwise inadequate at explaining industry-wide AMP8 expenditure.

However, we are generally against using forecast costs directly in the base cost modelling. We believe that the myriad of considerations that each company must make in setting out its base costs (affordability, risk, quality of evidence)

means that base costs can be built up on a very different basis and forecasts are less likely to reflect the efficient baseline. Indeed, Ofwat has highlighted some of these issues in its consultation document. Therefore, we consider that it is most appropriate to use the forecast data as a robustness check, rather than to set allowances directly.

An example of this issue is where a company makes a deliberate decision to put forward a higher risk, or unsustainable level of base maintenance for an upcoming period in order to meet an affordability imperative potentially driven by a large enhancement programme.

Whilst, as set out in Section 5, this may be a way to capture industry level forward looking costs, this would require all companies to make base cost decisions on the same basis and introduce a further source of uncertainty into the modelling.

Q7. Do you agree with our proposed target wholesale base cost modelling suite at PR24?

It is generally preferable to explore a wide range of aggregations for modelling, especially when there are potential trade-offs across the value chain. Ofwat should not focus on the PR19 levels of aggregation to the detriment of alternatives purely because it worked well in the past; when the model development is conducted on new data (with a new industry structure), alternative levels of aggregation might be superior.

Specifically, in relation to water modelling, it could be helpful to develop separate models for water resources and network plus, as these activities are covered under separate price controls. Even if these models are not used to set cost allowances directly, they could be used to inform the apportionment of the overall expenditure allowance into the different price controls and validate the outcomes of alternative aggregations.

At PR19, Ofwat used two models to assess expenditure at each level of aggregation (except Treated Water Distribution (TWD) and some retail expenditure). However, the extent to which these models were 'different' to each other was limited; in water, the only difference was in the treatment complexity variable. It could be appropriate to incorporate models that account for different cost drivers, even if this means increasing the overall number of models.

We consider that it may be appropriate to have a wider consultation on botex plus models similar to that at PR19 where different model aggregations, approaches (Question 12 and 13) and explanatory variables (Questions 9 - 11) can be tested. Despite some additional burden that this may create it allows the testing of alternative models to be shared across the industry with Ofwat able to adopt the approaches that are demonstrably the most robust.

Q8. Do you consider it would be worthwhile attempting to develop wholesale wastewater network plus models for PR24? If so, do you propose any potential wastewater network plus cost model specifications to consider?

In line with our response above we believe it would be useful to test a variety of aggregations of wastewater network plus models to identify the most robust model possible.

3.3 Cost drivers and explanatory variables

Q9. Do you think we should reconsider the inclusion of APH in the wholesale water base cost models at PR24? If so, should it be a substitute for, or additional to, booster pumping stations per length of mains?

From an engineering rationale, *Average Pumping Head* seems to be a logical explanatory variable for base operating costs. So, if the explanatory variable also meets a required level of statistical robustness (to be defined) then we see no reason not to include it in some capacity.

We would add that the PR19 variable of *Booster Pumping Stations per length of main* is likely to have a closer relationship to base capital maintenance costs in the asset base so should not be excluded from consideration. As there is likely to be overlap between the two modelling should consider both drivers, or an approach should be developed to consider a combination of the two (avoiding multi-colinearity issues).

Q10. Should we consider replacing the existing 'load treated in size band 6' variable with 'load treated in band 8 and above' in the relevant wholesale wastewater base cost models?

Based on the presentations at the Cost Assessment Working Group it appears there is good evidence that further economies of scale are seen within the wide banding of 'size band 6 and above'.

Therefore, we agree that Ofwat should consider adjusting this scale variable to reflect this. However, the most appropriate economies of scale variable is (in part) an empirical question that can only be addressed in the model development process. As such, Ofwat should not focus on any one economies of scale variable (e.g., Band 8 and above) ex ante. Moreover, it could be appropriate to explore alternative methods of capturing economies of scale, such as through a 'weighted average size' variable, akin to the weighted average treatment complexity variable in some of Ofwat's wholesale water models.

Q11. Please provide detailed proposals for any additional / alternative cost drivers and explanatory variables we should consider at PR24, including clearly defined data requirements that would need to be collected from companies

As set out in our response to Question 8 it may be useful to have a wider modelling consultation so that the industry can demonstrate and assess explanatory variables to help identify which are the most appropriate for use at PR24.

Our current considerations on additional/alternative cost drivers are set out below:

Wastewater

We believe there is strong imperative to adjust the modelling to include a variable that can account for the enhancement costs incurred by the industry at PR19 with respect to phosphorus removal. These costs will have a material effect on the industry's treatment and maintenance costs and will particularly impact those companies with large programmes, such as Yorkshire Water.

The new drivers and the required additional processes will have increased the complexity of our treatment works significantly at the start of AMP8. As the investment has no impact on the existing ammonia complexity variable used in the Wholesale Wastewater modelling, the large operating cost increase is not captured in the current models.

Ofwat already collects data for 'load by phosphorus consents' as part of the APR and price review processes, so the explanatory variable data should be available. It is not clear whether this will be an adequate efficient costs allowance however:

- The difference in granularity of enhancement and base modelling potentially leads to those companies with larger programmes being underfunded.
- Many schemes will not be built in time to feed into historic base cost modelling so historical additional costs will not be captured.

It may be appropriate therefore for an adjustment in this area to be applied fully or partially through a cost adjustment claim (see section 4) if it cannot be robustly captured directly in the cost assessment models.

Water

We set out our concerns about the water treatment complexity variables used at PR19 throughout our responses to PR19. Our primary concern was that the significant increase in complexity due to our PR19 Drinking Water Quality programme was not captured in the model using *Proportion of Water treated in bands W3-6*. Our enhancement programme was causing a move in complexity within Bands 3-6 which effectively resulted in an additional efficiency challenge on the operating costs related to the investment.

In line with the general principles of our response, Ofwat should explore the use of alternative thresholds as even though the proportion of water treated in bands W3-6 performed the best in its models at PR19, this could change in light of new data for AMP7 (and maybe AMP8) as companies' treatment complexity changes. Ofwat should also explore the use of multiple thresholds in a single model.

In relation to the weighted average complexity variable, Ofwat should explore whether the weights on each complexity band are appropriate. At PR19, the weights appeared somewhat arbitrary. Similarly, Ofwat should explore whether the functional form is appropriate; as it is currently modelled (in logarithms), the coefficient does not have an intuitive interpretation, which makes assessing the magnitude of the coefficient relative to operational expectations difficult.

3.4 Model estimation method

Q12. Do you agree that we should maintain the use of random effects to estimate our wholesale base cost models at PR24?

We agree that random effects modelling could be one of a suite of tools appropriate to modelling costs. However, we do not think that the most appropriate technique should be pre-judged at this stage of the process.

3.5 Model selection process

Q13. Do you agree with our proposed model selection process?

As highlighted previously we do not necessarily agree that if a model or method worked at PR19 then it will automatically be appropriate for PR24.

As an example, Stochastic Frontier Analysis (SFA) is a well-established econometric method that estimates the parameters of a cost function and the inefficiency for each company (in each year). Specifically, it can separate the estimated residual from the econometric model (i.e., cost gap) into noise and inefficiency.

This has particular advantages over the existing Ofwat approach, including that company-specific statistical noise is separated from company-specific inefficiency according to the data and the model specification, rather than by using judgement

One of Ofwat's objections to SFA in previous determinations was that, in Ofwat's view, SFA requires a large sample to provide reliable results. However, Ofwat will have access to materially more data at PR24 relative to PR19, such that sample size might no longer constrain Ofwat's decision.

4. Cost adjustment claims

The cost adjustment claim process is one of several ways to ensure that the correct efficient allowance is provided to companies to deliver their outcomes and statutory requirements. However, it is a very important mechanism to protect against potential averaging effects of econometric modelling.

Our need for cost adjustment claims will depend on a number of decisions that Ofwat will make within its methodology. For example, the inclusion, or not, of an explanatory variable in the botex modelling, the allowance of enhancement expenditure for a particular driver, and the assumptions around 'what base buys'.

We would also note that for some factors the more appropriate approach to recognising inter-company differences may be to adjust the Performance Commitment Levels (or outcome delivery incentives, ODIs). An example of this would be where the required cost adjustment could create affordability issues.

Q14. Do you agree that the cost adjustment claim process at PR24 should be separated between base (wholesale and residential retail) and enhancement claims?

We do not hold a strong opinion on the separation of cost adjustment claim processes between base and enhancement as long as there is a mechanism available for any costs to be adjusted where the models do not reflect efficient costs.

We are keen to understand in more detail how the process for enhancement cost adjustments will work as it will be important to know which drivers are going to be used to assess enhancement costs to know whether a cost adjustment claim is appropriate.

The one area we think may be impacted by this separation is the consideration of materiality.

By separating out base and enhancement claims, a material factor that affects both base and enhancement costs may become immaterial when split across two separate claims. Ofwat should include a mechanism to recognise this in the gated process.

In fact, the use of a quantitative threshold as the basis of the materiality test for enhancement cost adjustment claims is not always appropriate as efficient enhancement costs are likely to be very specific to the activity being delivered.

Additionally, a high materiality threshold could lead to cumulatively significant unfunded legal obligations.

Q15. What base cost adjustment claims (wholesale and residential retail) would you consider submitting if the PR19 base cost models were used to assess efficient costs at PR24?

We are exploring a small number of areas which are not currently controlled for in the botex plus cost models that our engineering teams consider may be material factors driving our base costs or performance in comparison to other companies.

We may find that the evidence for some of this is not sufficient to meet the high evidential bar but at this stage we do not want to pre-judge any analysis.

Some key areas of consideration for claims are as follows:

- Ongoing cost impact of the AMP7 WINEP phosphorous removal programme.
- The proportion of cellared properties.
- Differences in network material / age.
- Variations in company assets and/or climate and ground conditions impacting on CSO spill frequency.

It should be noted that this list is not necessarily exhaustive, just indicative of our current thinking, and it may be that data on these, or other drivers, can be sourced from other suitable datasets without adding to the burden of the APR process.

Potential Cost Adjustment Claim	Rationale and Potential Data Requirements (if known)
<p>P Removal</p>	<p>As described in our response to Question 11 the WINEP phosphorus programme at PR19 will have significantly increased the complexity of STWs across the industry. Phosphorus complexity increases are independent of the existing complexity variable (ammonia) and therefore would get no AMP8 allowance in the PR19 botex models.</p> <p>We do not believe that any additional explanatory data definitions would be required to inform such a claim as all the available data should be captured within the existing APR process or within the WINEP dataset used to assess the PR19 enhancement plan. Factors captured within the existing datasets include</p> <ul style="list-style-type: none"> • Phosphorus limits by works/load • Whether a scheme has ‘first time’ phosphorous removal or a tightening of an existing standard. • Splits of works by phosphorus reduction Driver (UWWTD/WFD) <p>However, given that many AMP7 schemes (particularly larger schemes) will not be completed until the end of the period, costs ongoing into AMP8 are not yet in the dataset. Forward looking cost data will be required to get an effective model of efficient ongoing costs for phosphorous removal.</p>
<p>Cellars</p>	<p>Yorkshire Water submitted a cost adjustment claim (and a subsequent request for a PC adjustment) at PR19 on the basis that we have a higher proportion of cellared properties than the rest of the region.</p>

	<p>We understand Ofwat's rationale to reject the claim based on insufficient evidence (i.e., an old dataset) at that stage however we still believe that there is a strong engineering and observational rationale behind the claim.</p> <p>E.g., If the presence of cellars leads to internal flooding that would not otherwise occur then companies with a high proportion of cellars are limited in their ability to achieve the common internal flooding targets (or achieving them becomes more costly).</p> <p>We do not believe that the data required to demonstrate this observational argument is particularly complicated but may be costly for the industry to collect a dataset that would meet the high evidential bar that Ofwat has set.</p> <ul style="list-style-type: none"> • % of connected properties with a cellar • % of internal flooding events that occur in cellared properties <p>There are other datasets that we would explore that could act as proxies for this issue or provide further clarity; these include such as:</p> <ul style="list-style-type: none"> • Property age cohorts • Property type (back to back, Victorian) • Distinction between basement (likely to be used as a room and protected) and a cellar <p>We would welcome a discussion with Ofwat on what would constitute good evidence in this area as we recognise the impasse reached at PR19 was not helpful for either party.</p>
<p>Mains Material / Age</p>	<p>We are exploring whether there is a demonstrable impact of our legacy asset stock to achieve our asset health and service. These are not endogenous variables in the short term and our modelling consistently demonstrates that older, cast iron mains are significantly more likely to burst than other cohorts.</p> <p>We are aware that Yorkshire Water has one of the highest legacy stocks of cast iron mains in the country (over 50% compared to approx. 30% industry average indicated by the National Mains Failure Database (PR14)).</p> <p>The engineering rationale would therefore be that the cost to meet comparative asset health targets is higher for those companies with old cast iron asset stocks. It should also be noted that the presence of un-lined cast iron also has a much greater impact on drinking water quality contacts and CRI.</p> <p>In order to demonstrate this, we would need to understand the following:</p>

	<ul style="list-style-type: none"> • The proportional split of each company’s clean water mains by material type and age. • The average burst rate (per km) split by material type and age. <p>Other more complicated data capture could be to show the service links of any failures. However, we are aware that these would likely lead to methodological differences between companies and may not add to the case for increased replacement activity.</p> <ul style="list-style-type: none"> • i.e., supply interruptions (CML) by material / asset age • The average number of DWQ contacts by material type.
<p>Legacy variations in company assets and conditions impacting on spill frequency.</p>	<p>In light of improvement requirements associated with spill frequency and the drainage water management planning process. We are exploring whether there are any regional differences that may impact on our modelled spill frequency. This activity is ongoing but variations in weather, ground conditions as well as comparative numbers of CSOs are being reviewed.</p>

Q16. How can the cost adjustment claim guidance be enhanced to improve the quality of cost adjustment claim submissions?

Evidential Bar

As highlighted in our comment above related to cellared properties we would welcome better guidance and company level discussions on what evidence would be sufficient to meet the high evidential bar.

Symmetrical Process

We agree, in principle that more symmetry could be applied in how Ofwat assesses many cost adjustment claims.

Ofwat states that cost adjustment claims for base expenditure should be symmetrical by default as Ofwat’s models are just as likely to overfund a company based on a specific characteristic as they are to underfund a company based on the same characteristic. Furthermore, Ofwat expects a company to indicate how an upward adjustment to its expenditure would impact other companies’ allowances. This approach assumes that the future is the same as the past and that historical allowances have been sufficient to deliver a sustainable level of investment (see Section 5).

However, not all base adjustments will be symmetrical, and the symmetry of any adjustment could depend on how base expenditure is modelled. For

example, Ofwat's own adjustment for growth at PR19 compared a company's forecast growth rate to the historical average growth rate—if growth is forecasted to be generally higher for all companies relative to the historical average, then the adjustment will be asymmetric across the industry.

We would also request Ofwat exercised caution in considering whether a downwards symmetrical adjustment should be applied in full. Most datasets used to justify claims are likely to have a degree of uncertainty around them, or around their link to cost and level of uncertainty should be considered when adjusting allowances (as Ofwat did with Growth expenditure at PR19, later overturned by the CMA).

It would be helpful for Ofwat to establish what type of evidence it expects from companies to make a proposed claim symmetrical. It will be difficult for any individual company to robustly quantify the impact of their proposed adjustment on all companies, especially without having seen other companies' submitted costs and if bottom-up evidence rather than top-down evidence (e.g., alternative models) is used. Instead, it would be more feasible if Ofwat only requires companies to express whether the adjustment should be symmetrical, and perhaps indicate what type of company requires an adjustment.

Finally, we have two other procedural concerns related to the symmetrical adjustment process.

- Firstly, a company that has its allowance reduced due to a successful claim elsewhere is likely to respond at the next stage (e.g., IAP response) with any counter evidence (which in itself may need responding to). This could lead to a significant additional burden on both Ofwat and the companies during the latter stages of the process.
- Secondly, Ofwat is clearly looking at reducing the number of cost adjustment claims at PR24 relative to previous periods. We wanted to highlight the risk that the focus on symmetrical adjustments could have the opposite effect as companies submit claims to protect themselves from unknown downward adjustments due to other drivers.

We would like to work with Ofwat and the industry to establish a means through which the cost adjustment process can become more symmetrical, while mitigating some of the concerns outlined above.

Implicit Allowance

Ofwat is correct that there would often be an implicit allowance for costs that have been historically incurred and, in principle, this implicit allowance should be removed from the total value of a cost claim.

The main issue with this section of the consultation relates to the other evidence that Ofwat requires companies to submit. In particular, Ofwat's requirement that the alternative explanatory variable(s) must be 'clearly superior' to what is already included in the model is inappropriate.

To take an extreme example: if a company treated all of its water in complexity band 6, it would incur higher efficient water treatment costs than all other companies. However, this does not mean that a model which controls for ‘% of water treated in band W6’ would be superior at explaining industry wide costs than ‘% of water treated in complexity bands W3–6’. In practice, the coefficient on the former could be estimated to be unintuitive or statistically insignificant.

Therefore, this model could ‘fail’ Ofwat’s test for model robustness, despite the claim itself being sensible and proportionate. It would be helpful for Ofwat to elaborate what it means by ‘clearly superior’ in this context.

Q17. Would an early cost adjustment claim submission be welcome at PR24?

There would be some benefit to companies of an early cost adjustment claim submission as it would help flatten the burden of activities. However, given the interlinked nature of the plan, there would need to be sufficient time between seeing the botex plus modelling and the early submission for us to assess what cost adjustment claims are appropriate and meet the evidential gates set out.

5. Capital maintenance and asset health

We are sympathetic to Ofwat’s view on capital maintenance in that the high-level evidence related to expenditure and service indicators does not on first look appear to indicate an issue. This evidence was sufficient to persuade the CMA not to change the approach at PR19. It is a very complicated issue and one that the industry as a whole has not articulated well.

However, we are keenly aware of an industry-wide engineering view that the current levels of capital maintenance are unsustainable. This was set out by multiple companies in the responses to *PR24 and beyond: Creating tomorrow, together*, building on their PR19 arguments. This has been reflected in, alongside other publications, the recent Environmental Audit Committee report⁶ which states

“Ofwat’s regulatory approach to date appears to have placed insufficient emphasis on facilitating the investment necessary to ensure that the sewerage system in England is fit for the challenges of the 21st century”

This statement is in the context of river quality, but the approach that has led to this underinvestment has applied to all capital maintenance.

The overall industry asset base has increased significantly since privatisation. More stringent quality requirements have led to greater treatment complexity. As enhancement interventions occur (due to customer or statutory environmental requirement) future base costs to operate and maintain these assets increases. The industry has also adopted a significant private sewer

⁶ <https://committees.parliament.uk/publications/8460/documents/85659/default/> p.79

network and pumping station network during this period. These cost increases have been over and above anticipated gains in efficiency so contribute to the totex increase.

Increased service expectations, both through PCs and through more stringent application of powers by the quality regulators, have influenced the nature of companies spend.

A greater proportion of spend is now focussed on short-term mitigations to avoid the penalties, fines and reputational risks associated with missing such targets. This has led to both an increase in operational maintenance and mitigation (flushing, jetting, active leakage control) but also base expenditure has been spent on innovative new assets such as monitoring and telemetry which increase the asset base further. These telemetry assets are often short-lived, requiring regular cyclical replacement.

The challenge for the industry in this area is separating out the asset health benefits of innovative activity that has led to companies better targeting and mitigating asset/service failure over recent years from the deterioration in assets caused by low replacement rates.

There is strong evidence that older assets fail more frequently and that the current rates of replacement are causing our assets to age. A 2017 UKWIR report showed that the current industry rates of renewal were 0.6% and 0.2% p.a. for water and wastewater networks respectively.

This gives an assumed average asset life of 167 years for water mains and 500 years for sewers which are way beyond what any engineering expertise would indicate. Under the current approach, as more assets move towards the end of their lives this deterioration will become harder and harder to mask and asset failure could accelerate.

We would also add that the output of Ofwat's fully econometric approach to setting asset maintenance costs is not aligned with the output of our decision-making tools that have been assessed as consistently showing some of the best practice in the industry (from the recent AMMA assessment). We consider that the use of alternative tools (deterioration modelling, Price control deliverables etc.) alongside econometric modelling may provide a more rounded view of long-term capital maintenance requirement.

We are aware that a single company is going to find it difficult to put forward a compelling case, but we ask Ofwat to remain open to evidence that may show that the regulatory mechanisms at PR14 and PR19 may not have sufficiently provided for forward looking maintenance (hence it is being looked at now) and this may have led to sub-optimally low capital maintenance being embedded into historic base costs.

Q18. Do you agree with the different elements / approaches to introducing more of a 'forward-look' into our approach to assessing capital maintenance expenditure? Are there other elements / approaches we could consider?

We welcome Ofwat's exploration on how to incorporate a forward-looking view into cost assessment. We however do not consider that the proposed approaches in the discussion paper are likely to solve the issue.

Using PR24 business plan forecasts in the wholesale botex plus econometric models or setting forward-looking catch-up efficiency challenges has the potential to capture industry-wide changes to costs e.g., if the industry is expecting to see a change in base costs due to a particular driver that cannot be allocated to enhancement (examples put forward by the group are Biodiversity Net Gain, Net Zero).

However, this would require all companies to build their plans on exactly the same basis. Given the nature of business planning, a balance often needs to be struck with other considerations such as affordability which may tip companies into submitting forward looking plans on a different basis. As described earlier companies that have an imperative to focus on affordability (maybe due to large enhancement plans) could make a different risk-based decision and make a sub-optimal postponement of investment. Those companies would look relatively efficient and set an unrealistic / unsustainable baseline. Similarly, companies could appear to be low-cost (i.e., 'estimated to be efficient') in PR24 purely because they are at a low point in their maintenance cycles; if the upper-quartile companies forecast lower maintenance or renewal activity in PR24 relative to the industry as a whole, then they will set an unreasonable benchmark for other companies. For these reasons, incorporating PR24 business plan forecasts into the cost modelling is unlikely to solve the issue of underfunding long-term maintenance.

We understand Ofwat's reticence to bring in additional explanatory variables containing capital maintenance activity or developing separate capital maintenance models – and recognise that the reasons for this align with the principles set out in section 1. We are concerned however that rigidly sticking to the principle of exogeneity in modelling may miss genuine differences between companies which may be more damaging than the perverse incentives that could result from their use. We note that the issue of perverse incentives could be mitigated in the model development phase (i.e., only include endogenous drivers when the relationship between cost and output provides the correct incentives) or through other regulatory mechanisms.

The described approach appears to assume that as Ofwat has yet to see compelling evidence of areas where the future is different (or define what such evidence would look like), companies will not be able to produce such evidence.

In limiting the base cost adjustment claim process to symmetrical adjustments only and providing no mechanism for forward looking changes to costs, companies would be left with no route to propose such cases should the evidence become clearer as plans are being developed.

Finally, we think Ofwat should consider the use of Performance Commitment Deliverables to ensure efficient long-term investment requirement in assets can occur with the requisite customer protection.

Q19. Do you have any comments on the proposed long list of asset health measures in Table 5, particularly in relation to their suitability and how feasible they are to collect? Please include any reporting or definition changes you would like us to consider and provide suggestions for other measures not included in this list.

The long list of asset health measures presented in Table 5.2 contains a useful selection of metrics that companies should be collecting to support an evidence base for forward looking asset investment. Not all of the metrics on the list can be linked directly to asset health, so some (particularly the Asset and service performance) are probably less appropriate. We note that the UKWIR BQ08 project has set out definitions of what a good asset health measure is, so it would be useful to referring to those principles as well as any metrics that are suggested from that study.

It should be straightforward for a company to report many of these metrics if they do not already, but we are wary that comparability between companies may be difficult without a significant and costly convergence exercise. We are cautious about adding to the burden of the APR process.

We are interested in understanding how Ofwat would intend to use these metrics, as non-comparative data could be useful for identifying industry trends but would not be suitable for the sort of cost/service analysis described in section 6.

We are also concerned that rather than using the metrics as indicators to evidence future asset investment requirements, that they could be used to penalise companies whose metrics indicate that asset health is deteriorating, hence exacerbating the issue.

Type of Measure	Comments
<p>Asset characteristics</p>	<p>Condition grade data is a useful metric for measuring asset health that can show how it is changing over time. It is, as discussed, a time consuming activity that requires consistently trained practitioners and definitions to obtain a useful and comparable dataset.</p> <p>We believe that condition grade is a particularly appropriate tool for assessing civils assets (tanks, reservoirs etc.) and that a recurring visual inspection is the best way to do this, on a basis of no less than 5 year intervals with potentially 10 yearly intervals being optimal. Clear guidance on how to assess condition grade would be required and we would be happy to work with Ofwat to develop this.</p> <p>We have found that condition grade for mechanical and electrical assets (pumps/valves etc.) is less reliable and that observed; age/failure data is a better indicator of condition. In our asset deterioration modelling we effectively use this as a proxy for</p>

	condition grade to predict the expected frequency of failure in the future.
Maintenance activity	<p>The metrics showing reactive maintenance data are probably the most reflective indicators of asset health that we have. We are confident that we can and do report these but differences in company systems may mean a standardised approach is difficult.</p> <p>The metrics relating to maintenance activity (maintenance backlog and asset inspections) are not asset health measures in themselves so are probably less directly relevant but could be lead indicators to future problems when combined with other metrics.</p>
Asset & service performance	<p>We do not believe these metrics are useful indicators of asset health. Improvements or deterioration in performance of these assets may be due to a variety of factors of which asset health is only one. (e.g., CRI can be impacted by third parties, control, or operational failure or simply due to the material in company and customer networks as well as by issues with asset health).</p> <p>Whilst these measures may be valuable to demonstrating a company's overall performance, they do not help with understanding the health of assets.</p>
Aggregated measures	<p>We support the view that Life Expectancy is an important and overlooked factor in asset health and an aggregated metric to include this is likely the only way that the risk associated with certain asset types can be demonstrated.</p> <p>We cannot comment on the specific metrics proposed without significantly more detail however and agree with Ofwat that there may be comparability issues.</p>

6. Cost-service link

Q20. Do you agree with the high-level approach to determine 'what base buys'? Can you define any additional analysis or information that could support this process?

We support the proposal by Ofwat to incorporate the link between cost and service into the assessment of what base buys. We consider that directly linking base performance and expenditure is a positive step forward. This would require Ofwat to co-ordinate across sections of the methodology to ensure the determination of efficient costs and performance are consistent.

Defining "what base buys" is a key element of the methodology and will significantly impact the balance of risk associated with company plans.

Our view of what base buys is aligned with Ofwat's Regulatory Accounting Guidance "base expenditure is required to maintain the current level of service

to customers⁷. However, we recognise that service improvements may also be delivered through productivity increases within base costs. It is important that this link between cost, service and productivity is understood and recognised in the methodology and that productivity improvements are not double counted through both the efficiency expectation on costs and the stretch on performance.⁸

Leaving the productivity element to one side, the relationship between cost and service is a complex one and there are two elements to it which will need to be carefully considered in order to provide efficient costs.

- What does it cost to move from one service level to another, and how does that cost change depending on the speed of that movement?
- What does it cost to maintain service at a given level – is it more expensive to maintain at a higher level of service?

A simple extrapolation of historical trends in service quality improvements to predict what is feasible in the future does not account for the non-linear relationship between service improvements and expenditure. It was noted at several points in PR19 that it becomes more costly to improve service quality as the quality of service improves. Indeed, Ofwat explicitly modelled this non-linear relationship between cost and quality in its alternative models that controlled for leakage, and Ofwat used these models to adjust Anglian Water's cost allowance. We do not consider that it is feasible for Ofwat to robustly assess what performance level an efficient company can achieve through base expenditure without modelling this explicitly.

Baseline Performance

Using the PR19 performance commitments as the baseline relies on the assumption that the PR19 performance commitments were achievable through base expenditure. However, we do not consider that this is an appropriate assumption for the following reasons.

- Ofwat has not yet provided sufficient evidence that the PR19 determination was achievable (in terms of being able to achieve both cost and quality targets). We understand that the reason for this aspect of the consultation is to improve upon the PR19 approach for linking cost and quality. Moreover, recent datasets indicate that several companies are not expecting to simultaneously achieve their cost and quality targets for the common PCs.

⁷ Ofwat (2021), 'RAG 4.09 – Guideline for the table definitions in the annual performance report', February, para. 13.1.

⁸ For example, if the feasible rate of productivity improvement is 1% p.a., and Ofwat sets a cost reduction target of 1% p.a., then there is no headroom for companies to improve service quality through productivity improvements. Conversely, if Ofwat applies a cost reduction target of 0.5% p.a., then an efficient company should be able to deliver some service improvement through base expenditure

- Some companies were provided with additional enhancement funding to achieve stretching performance commitments. Even under Ofwat's assumption that the PR19 determinations were achievable in full, the performance commitments of these companies would not represent what base buys.

For these reasons, Ofwat's approach to setting the baseline performance level risks underfunding companies to improve service quality. We consider it would be beneficial for Ofwat to define what it means by efficiency noting that setting a stretching performance target and cost target (i.e., upper quartile for both) are both forms of efficiency challenge.

In principle, we welcome Ofwat's proposal to investigate the possibility of determining the 'efficient' performance level for each company through econometric modelling that considers the influence of exogenous factors, endogenous factors, and differences in historical levels of enhancement expenditure on company performance. This would place less weight on the PR19 determination, where the combined achievability of the cost and quality targets was not robustly demonstrated (and where the CMA intervened for four companies) and would place a greater weight on what the industry has actually achieved.

We note that Ofwat is considering the use of endogenous variables to model the efficient performance level for each company but does not consider the use of such variables when determining the efficient cost level. Importantly, all of the difficulties that Ofwat raised associated with incorporating endogenous drivers in the base expenditure models (to the extent that they are valid) are also applicable to modelling performance levels.

Any assumed improvement in service through base needs to be considered and justified alongside the productivity assumptions to ensure there is no double-counting. Productivity improvements could include:

- maintaining quality at a reduced cost,
- improving quality at the same cost, or
- reducing carbon whilst maintaining cost and quality.

Q21. Do you consider it would be feasible to assess the 'efficient' baseline performance level for each company for individual PCs such as leakage and PCC through econometric modelling? Are there any other PCs where you consider this could feasibly be attempted?

Leakage and PCC are potential candidates for the approach described. These PCs have significant variations in performance across companies and there are existing datasets that could be used to estimate an efficient performance level for each company. Activity to maintain and improve these PCs is relatively easy to identify, allowing trade-offs between cost and service to be incorporated into the assessment.

This activity is not without its challenges. Ofwat will need to provide clear expectations around methodologies, assumptions, and governance processes to ensure it is able to gather data it has confidence in. It will need to scrutinise both ongoing and historic enhancement and base expenditure as well as the service levels to identify and normalise for exogenous variables and anomalies. Finally, in the initial years, it may have to rely on lower confidence, sparser datasets, although this will improve over time.

The Covid-19 pandemic has significantly impacted PCC – and Ofwat may need to undertake an adjustment to take account of this. Evidence on whether there is a new normal, and if different consumption patterns are persisting, will need evaluation.

The other area where this approach may work well is for isolating costs associated with improving asset health PCs. Whilst the investment will have service benefits in addition to asset health improvements, the direct nature of the investment in the assets with changes in the measure could be captured.

Ofwat should identify the criteria that would need to be met for a company level or individual PCs to be adopted. This could help identify those areas where this approach may not be appropriate for PR24, but with additional data, could be used for PR29. The ambition should be for future price controls to target PCs where there are identifiable costs that can be recorded and reported.

Q22. The need to collect further granular data to elucidate the cost-service relationship was highlighted by companies in response to our PR24 May consultation. Can you propose any data it would be proportionate to collect to support the high-level approach outlined in this chapter?

We agree that there may be some additional data needed to elucidate the cost-service relationship and that the process for collecting any additional data should be proportionate.

Whether additional data is required will partly depend on the options that are adopted. For example, setting PCs at a company and individual level will require potentially new datasets. Setting PCs at an industry level or using a composite variable may mitigate the need for collecting this additional data.

Once a set of performance commitments and definitions are agreed upon, the industry can explore which cost and performance datasets are available for each and the robustness. This should be separated by the costs associated with maintaining the current level of service and the investment to improve service in the short term.

However, this is likely to be an extensive exercise and it is likely that disaggregating cost data will be the key challenge.

In developing its methodology for what base buys, Ofwat should be considering the trajectory to PR29. PR24 should provide a framework which leverages multiple approaches to triangulate towards a reasonable answer in the round. If gathering data now improves evidence for PR29 models that would be

preferable to avoid data challenges later. This also aligns with Ofwat's long term delivery strategy approach.

Q23. What are your views on attempting to use of a composite variable to investigate the cost-service relationship, in the context of the methodological issues and complexities we outlined?

A composite variable would combine several PCs and weight them appropriately to develop a single indicator of performance.

We agree that a composite variable has some benefits as it avoids the challenge of allocating costs to individual PCs which would be required in any attempt to model an individual PC.

A composite variable would only be appropriate for PCs where the existing data does not provide a clear, observable link between cost and service.

It is a pragmatic approach for PR24 in the absence of granular data that may not be available or sufficiently robust at this stage.

We note that the weighting of PCs is perhaps open to subjective judgement, so this would require careful consideration for PR24 methodology. One option for overcoming this subjectivity would be to set weights in line with ODIs/customer valuation. The common approach to valuation may facilitate this in a way that would not have been possible with disparate customer valuation methodologies.

Further consultation with the industry would be valuable to better understand the methodology (e.g., benchmarking), pros and cons of the options and specific circumstances where a composite variable would be applied. The examples provided in the consultation cover PCs where it is unlikely a composite variable is needed (e.g., leakage, PCC). Focussing on PCs where a composite variable is more likely to add value would help with understanding the trade-offs between a composite variable and other approaches.

Q24. Do you have any proposals for how to make adjustments where a performance commitment level differs from that expected to be delivered from base costs?

Ofwat state that adjustments to performance commitment levels could be made through cost allowances or ODI outperformance or underperformance payments. Ofwat are exploring the mechanisms for making these adjustments.

We agree with these options and support the need for a robust framework for making adjustments to performance levels or cost allowances as company operating circumstances vary significantly across the sector.

Symmetrical adjustments could be provided to ensure the overall performance level is consistent on average with an industry benchmark.

There are several reasons why an individual company's performance may differ compared to a common standard that are outside its control, including geographical reasons, historical performance, regional price effects and operational factors. Whilst we understand the proposed cost adjustment claims process there is currently no mechanism for a performance adjustment claim and we believe that this is an omission. Ofwat should create such a mechanism and provide guidance on the evidence that would be required to demonstrate grounds for an adjustment.

Ofwat should also provide early visibility of forecast base costs and common PCs. This would help companies understand what adjustment claims they should put forward. While we recognise there may be some concerns around releasing this information early as it could influence company behaviour, we think it would be worthwhile to ensure an efficient process is followed.

We note that the choice of mechanism (cost allowances or ODI payments) could result in differences in the timing for when companies receive an adjustment and that this should be considered in the design of the mechanism.

7. Residential retail cost assessment

Q25. Do you have any comments regarding our proposal to ask companies to separate out the part of their provision of bad debt costs to do with Covid-19 that was made outside of their standard methodology in the PR24 business plan tables?

Our process of reporting, monitoring, and managing our bad debt provision does not distinguish between the standard methodology and the debt provision potentially impacted by Covid-19. Current system and processes would not allow us to make the distinction at source data level and would rather require a management assessment of a suitable split, based on economic assumptions, customer demographics, etc.

However, we do continue to review our current methodology of bad debt provisioning through data modelling and machine learning.

On 31 March 2020 an additional year-end household bad debt provision of £2.5m was included reflecting the impact of Covid-19. This was a very early assessment as the World Health Organisation declared the outbreak of Covid-19 a pandemic on 11 March 2020, the UK national lockdown had only just been introduced, and the national 'furlough' scheme was in its infancy. In contrast, the impact of Covid-19 is now embedded within this financial year end's base bad debt provision.

Q26. What guidance would aid companies to provide appropriate data related to the provision of bad debt costs to do with Covid-19?

As mentioned in the response to Question 25 a distinction is not made in our source systems as to the level of debt relating to covid and non-covid so there

will always be an element of management estimates in deriving the split. Covid financial metrics provided by the government such as the level of furlough take up over time and by region and Office for Budget Responsibility metrics such as unemployment may assist in providing the distinction. However, these would also need to have a covid and non-covid split in order to be beneficial and be used as part of the provision for bad debt costs.