south east water

Assessing base cost at PR24

South East Water response

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South East Water

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1. Introduction

This paper sets out South East Water's (SEW) response to Ofwat's "assessing base cost at PR24".

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2. Executive Summary

Cost Assessment is a core function of a regulator. It is important that customers receive good value and that shareholders are able to earn a reasonable return. Because Ofwat has to make judgements on these matters five years in advance, we recognise this a difficult balance to achieve.

There was widespread industry concern about the totex modelling approach used at PR14. There was much more industry consensus around the botex modelling approach adopted at PR19, and the CMA was largely supportive of Ofwat's approach. We note that Ofwat has been running the Cost Assessment Working Group again in AMP7. We think that this group was an important part of the improvements achieved at PR19 and welcome Ofwat's continued operation of this group.

In this context, Ofwat's modelling approach of 'evolution not revolution', appears to be appropriate. However, there are four areas where there are issues with Ofwat's approach which we would like to highlight before we answer the individual consultation questions.

Growth and Developer Services

We believe that Ofwat should consider removing developer services and growth expenditure from the wholesale price control. The single till approach has generated a number of problems and unintended consequences. The only aspect of growth expenditure that must be provided by the incumbent water company is network reinforcement. The data being collected in Table 2J of the APR now allows Ofwat to remove this expenditure from base costs before modelling.

We would support Anglian Water's approach, as presented in the CAWG, to disaggregate growth enhancement between standard and strategic activity – the later covering reinforcement requirements. This would provide visibility across the industry to identify and explain high growth cost activity.

We have tried to find appropriate ways of introducing variables into the botex models that would appropriately reflect the costs of network reinforcement and concluded that there is not a practical way of doing it. Modelling growth without the correct drivers will have the effect of underfunding growth for some companies and over funding for others. The impact of this, is that those with high levels of growth is underfunded, thereby reducing resilience for the companies that need it most.

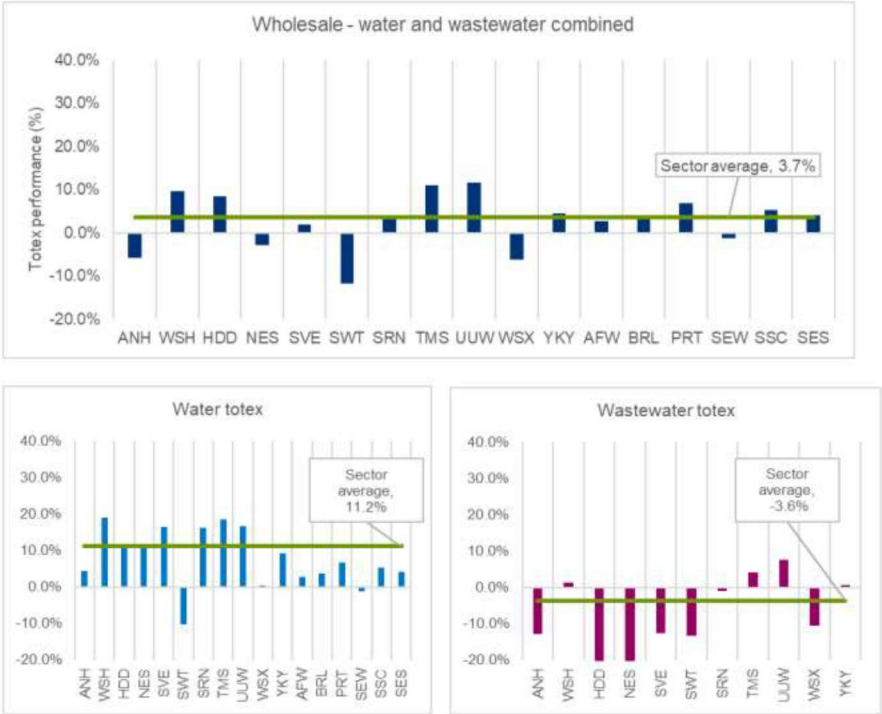
If network reinforcement was excluded from base costs, companies would simply collect compensation for it via the infrastructure charge. Once Ofwat has removed the income offset, as it has proposed doing at PR24, companies would be properly funded by the infrastructure charge. Ofwat could then develop an enhancement model using some of the variables suggested in our answers to questions 3 and 4 below. If this was not successful we think it would be sensible to use ex-post regulation on the costs of network reinforcement, rather than force the expenditure back into the botex modelling, where it clearly cannot be adequately modelled. This would ensure that network reinforcement expenditure was efficiently incurred.

The other developer services charges: connection charges, mains requisitions, and diversions can all be provided by the market, and there is no need for monopoly water companies to offer these services at all. If Ofwat thinks that water companies should act as a supplier of last resort, it could simply require companies to provide these services at no profit. Expenditure would be excluded from the wholesale control, and would be fully funded by income.

A balanced package for each service that is provided to customers

We note from Ofwat's review of PR14 that it claims that the industry broadly achieved service improvements in AMP6, within the boundaries of the cost allowances that it set. However, this conclusion is only able to be made by aggregating data from the water and wastewater services. If we look at the water service alone, Ofwat's PR14 data clearly show that the industry was not able to deliver the service levels mandated by Ofwat within the totex envelopes set at PR14:[1]

Figure 4.4: Totex performance during the 2015-20 period, by company



Source: Ofwat analysis using data from the reconciliation models.
Notes: (+) denotes totex overspend while (-) denotes totex underspend.

In addition, the water services were not overspending because they were delivering higher than expected levels of service. Ofwat's Service Delivery report (2019-20) was published with data covering ODI penalties and rewards across the five year period. It showed that the water services incurred more in penalties than rewards (net c £134m) and that the wastewater services earnt more rewards than penalties (net c £171m)[2].

What this demonstrates, is that companies that provide both services were able to offset totex overspends and ODI penalties in the water service with the gains experienced in wastewater services. This in itself does not mean the overall package is balanced.

It also appears that this imbalance has been repeated within the PR19 settlements as year 1 data is showing a similar trend for totex and ODIs across the two services.

We propose that when Ofwat sets targets at PR24, it should estimate frontier efficiency improvement, and then estimate the cost of delivering the PC target improvements. The cost of these improvements then needs to be deducted from the frontier efficiency improvement that any company, or the industry as a whole, should be expected to achieve. A failure to make this adjustment will inevitably result in a repeat of the problems at PR14 and PR19If corrective action is not taken, Ofwat risks, again, setting an

[1] https://www.ofwat.gov.uk/wp-content/uploads/2021/08/PR14-Review-Discussion-paper-on-findings.pdf p 55

[2] https://www.ofwat.gov.uk/publication/service-and-delivery-report-2019-20-data/

unrealistic package of costs and service commitments that cannot realistically be achieved and is unbalanced across water and wastewater services.

Capital Maintenance

We remain concerned that the botex modelling approach is not delivering sufficient funding for water companies to maintain their assets in the long-term. There is widespread concern in the industry that current levels of expenditure are not sustainable. The totex regime has incentivised companies to attain the maximum possible performance from existing assets to extend their life to the maximum. We think it will be necessary to use some form of forward looking assessment of capital maintenance requirements to ensure future challenges are adequately managed.

Cost and service quality

The issue of service quality standards is discussed in the answers to question 21-25. This problem cannot be separated from the question of frontier efficiency. Over time, due to the advancement of technology and experience, humanity generally improves its efficiency, and this applies to water companies as much as any other industry. However, these improvements can be delivered in the form of cost reductions or quality improvements (or a mixture of the two).

A classic example of this is the mobile phone industry, an industry where technology has improved considerably over the last 20 years. However, it should be noted that a smartphone of today, is no cheaper than the leading mobile phones of 20 years ago. The difference is all in quality, where the modern smartphone can do so much more than its equivalent of 20 years ago. Yet nobody would claim that this industry hasn't become more efficient.

In this respect, the answer to question 21: 'what does base buy' is that without efficiency improvements or an increase in investment 'base costs' would buy the same level of service that customers currently receive. Improvements in service can come only through improvements in efficiency, or an increase in costs If cost efficiencies are taken in the form of improved quality of service (as the mobile phone industry has done) there needs to be an appropriate downward adjustment to the amount of cost reduction that can be achieved. Ofwat needs to take account of this relationship when setting Performance Commitment targets, Outcome Delivery Incentives and totex allowances.

3. Answers to consultation questions

Principles of PR24 base cost

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

With a few exceptions (outlined below), we consider that these principles are generally aligned with good practice. However, the principles outlined in the consultation document do not provide specific insights into how Ofwat will assess base expenditure in PR24. Specifically, the application and exercise of judgement of these principles are not discussed in the consultation document, and we would welcome the opportunity to provide additional commentary as Ofwat refines its methodology and develops models for PR24.

By way of example, we note two areas of concern.

- The focus on exogenous drivers could inhibit Ofwat's ability to model key relationships as there is a trade-off between endogeneity and missing variable bias. Excluding variables purely on the basis of endogeneity may result in a less robust outcome. This includes, for example, the relationship between cost and service quality. Ignoring such relationships because of endogeneity could result in setting infeasible efficiency targets, thereby compromising other principles (the omission of important cost drivers). There appears to be unnecessary rigidity and inconsistency in the treatment of the cost-service relationship as several regulators have considered this without compromising the statistical or incentive properties of the models.

- Ofwat does not provide sufficient detail regarding how it intends to set the overall efficiency challenge and assess that its stretching target is achievable. For example, it would be useful if Ofwat could set out how it will combine the various sources of evidence and the type of quantitative evidence Ofwat intends to gather when determining the benchmark.

These are discussed in more detail in response to Q2.

2. *Do you consider any important principles are missing?*

<u>Focus on exogenous drivers</u>

Ofwat is correct that there can be difficulties associated with modelling endogenous cost drivers. However, its argument for omitting endogenous drivers from the cost assessment modelling has several limitations, and could bias several companies' estimated cost allowances. Using the relationship between cost and service quality as an example, we note that:

a) through not controlling for service quality in the cost assessment models, companies can reduce costs at the expense of their quality of service. That is, Ofwat's focus on exogenous drivers can create perverse incentives;
b) the impact of perverse incentives can be mitigated in the model development process by ensuring there is an appropriate estimated relationship between expenditure and service quality (as Ofwat attempts to ensure with other cost drivers included in their models);
c) management influence is only one driver of service quality—there are many others, many of which are outside management control, such as weather, climate, topographical features, customer preferences and population density;
d) companies are incentivised through other means (such as ODI payments) to improve service quality that may reinforce the incentives that arise through the cost assessment models;

e) omitted variable bias resulting from ignoring service quality measures in the cost models is in itself a significant problem as it results in the estimated relationships in Ofwat's cost model, and thus the estimated inefficiency, to be incorrect. In addition, it can also result in an endogeneity bias, given the likely correlation between these measures and the structural and topographical features included in Ofwat's cost models. In other words, omitting these measures from the cost models because service quality is endogenous does not address the statistical issues that Ofwat has highlighted in the past as it can result in the same statistical issue that it is seeking to mitigate.

For these reasons, critical endogenous cost drivers should not be excluded from the model development process ex ante. If Ofwat cannot develop robust models that account for material endogenous drivers of expenditure, then it should make an allowance for these characteristics through other means, such as post-modelling adjustments (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. These include, but not limited to:

- Monitor used principle component analysis (PCA) to construct a composite service quality variable, and used this as a cost driver in its assessment of NHS trusts;[3]
- 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 models;[4]
- Ofwat used companies' proposed leakage reduction as a cost driver for enhancement expenditure in PR19;[5]
- Ofgem used workload drivers in its disaggregated modelling in RIIO-ED1[6] and when constructing its composite scale variable (CSV) in RIIO-GD2.[7]

<u>Setting the overall efficiency challenge</u>

Ofwat states that it will use its regulatory judgement to set the catch-up efficiency challenge, and will take into account sources of evidence such as:

- the econometric model robustness and quality;
- historical cost efficiency analysis;
- forward looking cost efficiency analysis;
- catch-up efficiency challenges set at previous price reviews and by other regulators in comparator sectors;
- external cost benchmarking analysis.

However, it is unclear how Ofwat will combine the various sources of evidence into an overall target. In particular, while we appreciate that this is not an entirely mechanistic exercise, it would be helpful to understand the type of quantitative evidence Ofwat intends to gather, the importance it expects to attach to the different sources of evidence, and the overall approach or methodology it intends to

[3] Monitor (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.

[4] 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.

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

[6] Ofgem (2014), 'RIIO-ED1: Final determinations for the slowtrack electricity distribution companies Business plan expenditure assessment', November, pp. 192–199.

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

follow in making its decision. Moreover, the sources of evidence outlined in the consultation document are not clearly defined e.g. it is unclear what is meant by 'forward looking cost efficiency analysis'? What type of modelling will Ofwat undertake to construct this piece of evidence? It would be helpful if Ofwat could provide a more detailed description of the methodology involved for each source of evidence such that stakeholders could provide more detailed feedback.

As noted by the CMA,[8] the overall efficiency challenge should be largely informed by the confidence or robustness of the econometric models which, 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, which can take into account the confidence grade of data submitted by companies;
- the estimated level of uncertainty in companies' cost predictions through confidence interval analysis.

Scope of wholesale modelled base costs

3. *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.*

   Our main concern with the PR19 modelled cost definition is the inclusion of growth enhancement expenditure.

   The funding of growth expenditure has always represented a challenge over many price reviews. This is highlighted by the fact that the same approach has never really endured for more than one 5 year cycle and indeed was changed by Ofwat multiple times during the PR19 process.

   Our network would have been installed initially with some spare capacity, but continued population growth means that this has been used to meet additional demand from new development, to a point at which there will be areas where it may not be able to sustain any more without compromising our levels of service. Network reinforcement does vary from region to region, and also over time even for the same company. It is entirely plausible that one company could add many new connections but still spend relatively little on network reinforcement if it happens to have spare capacity in the area. Conversely, one company could add a relatively low number of new connections, but still require a relatively high amount of reinforcement if it does not have spare capacity in the area. For PR14 we provided details on the areas of our network already nearing maximum capacity. And due to the forecasts over the next 25 years, we have to reinforce a high proportion of our network to accommodate the extra demands. Furthermore, in addition to increasing population growth, our operating area also provides support to agricultural activities through irrigation.

   This is therefore a crucial area to get right in that growth inevitably places resilience challenges on existing infrastructure, and if not handled appropriately will lead to a continual reduction in resilience.

   We are consulted on local development plans, but there will be stronger determining factors other than our own, and once sites are agreed, we are obliged to provide domestic supplies

[8] For example, the CMA stated that the efficiency challenge should be based on its assessment of the quality of the econometric modelling, rather than to achieve specific outcomes. See CMA (2021), 'Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations Final report', March, pp.231–232.

wherever they are in our area. Elevation of areas of new development or topography on the way will also influence cost.

The investment required in order to maintain levels of service throughout is significantly influenced by the location of the new development. We do not have spare capacity to deliver water from declining heavy industry in our area, in fact we are supplying more water for irrigation and other agricultural purposes.

Ofwat has taken steps to improve the comparability of growth expenditure data since PR19, which is reflected in the latest APR datasets (2020/21). Nonetheless, it considers that the PR19 approach is a pragmatic solution to the assessment of growth expenditure, as opposed to developing separate growth enhancement models. From the consultation document, we can infer the following Ofwat justifications.

- Concerns regarding the allocation of costs between growth enhancement and capital maintenance have not been resolved.
- Additional cost driver data is likely to be required to model network reinforcement expenditure and wider growth costs.
- The improvements to data reporting occur from 2020/21 onwards, which restricts the sample size for modelling growth enhancement expenditure.
- Under the proposed criteria for including costs in the modelled cost base (Table 3.2), growth enhancement should be included. That is, growth expenditure:
    i. has been incurred in the past;
    ii. can be explained by the cost drivers in the base models (specifically scale and density);
    iii. suffers from cost allocation issues;
    iv. is difficult to model separately;
    v. is within management control.

Our views on how growth enhancement compares to these five criteria, as listed by Ofwat in Table 3.2, are outlined below.

<u>Criterion 1: Historically incurred costs</u>

Growth enhancement expenditure has been incurred since the privatisation of water companies, and it would not be tenable to suggest that growth enhancement is a new issue at PR24. However, the drivers of growth enhancement expenditure (discussed below) vary over time, such that the efficient level of expenditure for growth enhancement in previous price reviews might not reflect the efficient level of expenditure in AMP8. As such, a simple extrapolation of base cost models that do not account for these drivers could overfund or underfund companies' growth enhancement expenditure.

<u>Criterion 2: Explained by base cost drivers</u>

Ofwat argues that the drivers of growth enhancement expenditure are largely captured in its base cost models, particularly scale and population density. Moreover, the differences in volume growth (across companies and over time) is partially captured by Ofwat's post-modelling adjustment for growth enhancement expenditure.

However, as noted above and in our previous submissions, there are several drivers of growth enhancement expenditure that are not explicitly captured in Ofwat's cost assessment framework. For example, SEW has limited excess capacity on its network. Therefore, additional connections to SEW's network require material reinforcement expenditure, beyond the simple cost of the connection itself. These costs will not be incurred by companies with significant capacity on their

networks, and SEW could be underfunded if Ofwat's framework assumes that all companies face the same unit costs.

One solution to this issue could be to include measures of excess capacity in Ofwat's cost assessment models. However, growth enhancement is a relatively small part of the industry's modelled base costs, such that the estimated coefficient on this driver could be unintuitive or statistically insignificant, despite it being a material driver of growth enhancement costs. However, for companies – including our – growth enhancement is a material part of base cost.

Criterion 3: Cost allocation

This criterion represents a further hurdle with respect to removing growth enhancement expenditure from the modelled cost base. Ofwat is of the opinion that updates to the APR reporting guidelines since PR19 may not be sufficient to address the cost allocation concerns.

However, it is important to note that Ofwat's current approach to setting growth allowances relies on the separate treatment of growth enhancement expenditure. Specifically, the post-modelling growth adjustment at PR19 used an upper quartile unit cost for growth enhancement expenditure—if the cost allocation issues are such that separate growth enhancement models are not robust, then the post-modelling growth adjustment is also unlikely to be robust. That is, using a post-modelling adjustment for growth enhancement costs is not a solution to the cost allocation issue.

Criterion 4: Robust standalone models

Ofwat's growth enhancement modelling at the IAP stage of PR19 was equivalent to simple unit cost modelling—Ofwat only considered the impact of connections growth and not of other factors (such as density or capacity).

Growth enhancement models can become more robust with additional cost driver data (e.g. spare capacity variables, see response to Q4) and improved cost data (e.g. the APR update)—see question 4 for suggested cost drivers. The observation that robust growth enhancement models have not yet been developed should not prohibit Ofwat from exploring this option at PR24. If Ofwat can develop robust models in PR24, then these should form part of the evidence base for setting cost allowances.

Criterion 5: Exogeneity

Growth enhancement expenditure is within management control (i.e. companies can generally make efficiency improvements in growth enhancement). However, the drivers of growth enhancement expenditure are exogenous in either the long term (e.g. population growth) or short term (e.g. excess capacity).

For these reasons, separate growth enhancement models should also be considered as part of the evidence base for setting allowances at PR24.

4. *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.*

Network capacity is a key driver of growth – with lack of capacity leading to a requirement for off-site reinforcement activity. Good interconnectivity is also required to ensure available capacity can be utilised – however, a measure of good connectivity is difficult to quantify.

Subsequently we believe the following variables, in addition to what is already collected, to be of use to inform growth related enhancement.

- Available capacity in treated network – i.e. companies with a large amount of (time) storage in the network will have capacity to absorb future growth.
- Available headroom - the difference between water available for use (including water imported into the supply area) and demand at any given point in time. Whilst not available in APR, this data will fall under WRMP information.
- Distance (km) / elevation gained (m) of historic / future reinforcement - we are consulted on local plans but there will be stronger determining factors and once sites are agreed we are obliged to provide domestic supplies wherever they are in our area. Remoteness from our network can influence cost of reinforcement as can elevation/topography of both areas of new development and required pipelines, for example new pumps at higher heads.

Sample period selection

5. *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)?*

There are two separate ways in which historical data can feed into the cost assessment models.

1. Historical data can be used to estimate the relationship between costs and cost drivers (the 'cost function') via Ofwat's proposed econometric methods. At PR19 and the ensuing CMA appeal, all historical data from 2011/12 onwards was used to estimate the cost function.
2. Historical data can be used to estimate companies' efficiency scores, which are then used to estimate the benchmark. At PR19 and the ensuing CMA appeal, the latest five years of data was used. At the CMA appeal, this represented a complete AMP.

We agree with the consultation that Ofwat should take advantage of the 13 years of available data to estimate the cost function, but with the caveat that consideration should be given to ensure there are no clear structural breaks that could lead to inappropriate outcomes. In other words, the relevance of historical information in imputing future cost requirements of the industry should be carefully examined. 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.

Testing that the models derived using historical data are stable and valid when using business plan data is an essential step in the model development—if the models do not work in AMP8 (e.g. because coefficients become unintuitive) then the model development may need to be re-visited.

With respect to estimating the benchmark, Ofwat should ensure that the time period contains at least one *full* expenditure cycle or complete AMPs.

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

We encourage Ofwat to review the use of forecasts in their wholesale base cost modelling. We believe this approach could be effective as a means to correct genuine underfunding in historical data. However we also acknowledge the outlined risks described in the consultation, specifically

the inclusion of forecast data risks the independence of the benchmarking process. We look forward to working with Ofwat via the Cost Assessment Workshops to facilitate an acceptable approach.

Target modelling suite

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

   We broadly agree with the proposed approach. However, we consider that there is merit in exploring additional models for each level of aggregation, particularly for treated water distribution where only one model was considered at PR19. This would enable Ofwat to capture a broader range of characteristics in its cost assessment modelling, and could mitigate the biases associated with using a single model. For example the proposed introduction of APH could be applied to an additional treated water distribution model, alongside the retained "booster pumping stations per length of mains" (see question 9).

8. *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?*

   No comment.

Cost drivers and explanatory variables

9. *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?*

   Intrinsically we believe APH to be an important explanatory factor, and would therefore support its consideration for inclusion in future modelling. In principle, APH could better capture the costs associated with topography, although this would depend on the quality of data and the empirical analysis.

   However, we are also mindful that "booster pumping stations per length of mains" can also (to some extent) capture the costs associated with factors beyond pumping requirements. For example, SEW has a large number of sources, treatment and distribution assets compared to the majority of the industry. This is unique to SEW's geological constraints and requirement to rely on multiple (smaller) sources, rather than fewer larger sources. Consequently, this leads to a requirement for more capital maintenance to maintain relatively more assets, but also implies that we are less likely to enjoy the economies of scale that can be gained with larger volume assets. Subsequently, the current model using "booster pumping stations per length of mains" is the best explanatory factor to consider this operating environment, and we would therefore favour retaining this explanatory in some form, rather than being substituted (see question 7).

10. *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?*

    No comment.

11. *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.*

We note that, at PR19, there were some inconsistencies with respect to the cost drivers used to assess water and wastewater base expenditure. For example, Ofwat only uses weighted average density to capture density in water, but considers a range of alternative density drivers in wastewater (e.g. properties per network length, proportion of load treated in works of different sizes, number of works per property), some of which are specific to the expenditure being assessed. It would be helpful if Ofwat could explore these alternative drivers in water, and comment on why they were included or not.

Model estimation method

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

We believe that the best and most appropriate econometric models should be pursued – if this proves to be the use of random effects to estimate wholesale base cost models at PR24 then we would support this.

However, we believe Ofwat should come to decision via investigation and elimination of other techniques. We note that that data envelopment analysis (DEA) is not discussed, and Ofwat has ruled out the use of other panel data estimators and Stochastic frontier analysis (SFA). Our preference is for Ofwat to assess these other options to seek the best models. For example SFA can separate the estimated residual from the econometric model (i.e. cost gap) into noise and inefficiency by considering standard assumptions on the distribution of the inefficiency and noise terms. This has particular advantages, 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. SFA can also (i) provide valuable insights into the relationship between costs and cost drivers; (ii) inform other areas of the cost assessment (e.g. the level of uncertainty in the models, see response to Q2); and (iii) test the sensitivity of the RE/OLS models to alternative specifications.

We note that one of Ofwat's objections to SFA in previous determinations was that SFA requires a large sample to provide reliable results. However, as outlined in the consultation Ofwat will have access to materially more data at PR24 relative to PR19, such that sample size should no longer constrain Ofwat's decision.

Model selection process

13. *Do you agree with our proposed model selection process?*

Yes, we broadly agree with the proposed model selection process. However, we note that our response to Q1 also applies here—while the high-level principles appear reasonable, it is not possible to provide a robust commentary until more detail is revealed regarding how Ofwat will apply this in practice.

Cost adjustment claims

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

Yes, we agree that cost adjustments should be relevant to either base (wholesale and residential), and enhancement claims.

15. *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 would continue to pursue a cost adjustment in relation to growth unless it is modelled appropriately (see responses to Q3–4).

16. *What additional cross-sector data should be collected to support the submission of the claims indicated in response to the previous question? Please describe and explain the rationale behind the additional data that you consider should be collected and provide a draft definition.*

    Ofwat argues that companies should indicate what cost adjustment claims they would consider submitting in PR24 (based on the PR19 models) in response to this consultation. In addition, companies should outline what extra data would need to be collected from companies to support these claims. Ofwat argues that the unavailability of this data could lead to the rejection of a cost claim because it might lack high-quality evidence.

    It is reasonable and appropriate for Ofwat to ask companies for data at an early stage in the process, and could ultimately improve the transparency of the cost adjustment claim process for all companies. Nonetheless, as an initial suggestion, we would request the following cross-sector information to assist in the growth enhancement cost adjustment claim outlined in our response to Q.15 (and to assist Ofwat in developing growth enhancement models):

    - Available headroom (Mld) under both normal and peak conditions
    - Available capacity in treated network / Minutes of available storage in the treated distribution network (i.e. resilience to supply customers)
    - Distance / elevation gained (km / m) of historic / future reinforcement
    - Disaggregate growth activity/cost between standard and strategic (i.e. offsite reinforcement) enhancement

    We look forward to working with Ofwat via the Cost Assessment Workshops to continue to discuss additional data requirements.

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

    Ofwat's consultation places the onus on companies to quantify the impact of their cost adjustment claims on Ofwat's cost assessment framework. While this might not be an unreasonable request, it would be helpful for companies to understand the exact level of detail required.

    For example, it would helpful for Ofwat to establish what type of evidence it expects from companies to make a proposed claim symmetrical. It could be too onerous or not even possible for any individual company to robustly quantify the impact of their proposed adjustment on all companies, especially if bottom-up evidence rather than top-down evidence (e.g. alternative models) is used. If, instead, Ofwat only requires companies to express whether the adjustment

should be symmetrical, and perhaps indicate what type of company requires an adjustment, this would be more feasible.

Similarly on the implicit allowance, it could be difficult for companies to quantify the extent to which certain regional factors are compensated in the models, especially if the factor is particularly company-specific. We welcome Ofwat's comment that it will provide further guidance on this in the PR24 methodology and look forward to commenting on the proposed approach.

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

We agree with this approach in principle – however to ensure cost adjustment claims from companies can be robust and appropriate there is the inherent assumption that companies will have an understanding / confirmation of the econometric models to be used at PR24.

Capital maintenance and asset health

19. *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 approach to consider a forward-look. As per other companies we have become concerned that the existing regulatory/funding model provides too much focus on "least spend" in the short-term without considering long-term asset health. We are keen to seek a balance that provides "effective" capital maintenance funding that will ensure underlying deterioration of assets is avoided.

The inclusion of forecast costs in wholesale econometric modelling is clearly helpful to influence correct 2025-30 base capital maintenance funding. As per other areas of the consultation we appreciate and understand Ofwat's hesitation, specifically the perverse incentive to inflate costs to influence future funding. However, forecast cost for each asset class should be robustly evidenced within companies' business plans with third party assurance – we encourage Ofwat to utilise fully these evidenced plans to support future costs.

An alternative approach to drive more effective capital maintenance could be for any given asset class to create an option at PR24 to invest to upgrade the condition and capability of that asset class with the efficient cost of that investment to be added to the RCV.

20. *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.*

<u>Asset characteristics</u>

Whilst characteristic information can be collected, the activity required to complete this task should not be underestimated - as notable resource (and therefore cost) will be required to complete effectively. Equally, it should be noted that frequency of data collection varies depending on asset type and material. Civil structures may have a longer frequency requirement

(e.g. every 10 years for when we gain access during internal reservoir inspections), whilst other asset categories would need to be more frequent to be useful, hence the 5 year collection period is not always ideal.

Asset characteristic is also less applicable for equipment where external condition is not an indicator of actual performance or failure, for example accessing inner workings of pump sets. Furthermore, a proportion of assets can also be inaccessible (e.g. pipes, submersible pumps) which can complicate obtaining asset characteristics.

We do, however, see asset characteristics being useful for slow deterioration assets such as civil structures, where a view of performance can be seen over a number of AMPs.

Maintenance activity

We have concerns across all example measures with the exception of unplanned maintenance. This is because the level of activity is already below preferred levels, thus to be used as a comparator could be misleading. We are also concerned the measures might not be comparable across the industry and the targets could be very variable depending on the mix of assets, criticality and level of standby/ dual mains etc.

Asset and service performance

We support measures that directly report on asset health. Service performance is a consequence of that asset health. As such, this category definition (and naming) should be clear that it is service performance that is being measured, not asset health.

Aggregated measures

Good measures are suggested but are based on methodologies that need to be implemented in a way the business works. However we expect suggested measures will be difficult to collect and could be inconsistent across the industry.

UKWIR are currently undertaking a review in this area of asset health/performance. As part of this review the UKWIR report will propose a new definition of asset health. This review will aim to identify the following purposes of asset health performance measurements:

i. To reassure customers, economic regulators and other stakeholders that water companies are being good stewards of public assets, by maintaining them adequately
ii. To provide value in the long term and to avoid deterioration that would be unfair to future generations
iii. To provide similar reassurance to water company management
iv. To provide a common language for understanding and communicating asset health across the water industry and with external stakeholders, without the need for detailed knowledge of each asset type
v. To play a role in quantifying, targeting and justifying investment within the context of a wider risk and value driven investment planning process
vi. To have a role where they provide information that is useful for estimating future likelihood of failure or remaining life

We strongly encourage Ofwat to review the outputs of this pending UKWIR report, which will hopefully be instructive to defining a future approach in this area of asset health.

Cost-service link

21. *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?*

Ofwat's proposed starting assumption is that efficient companies will deliver their PR19 performance commitments, such that the performance commitment level for 2024/25 will be the baseline when forecasting what base buys in AMP8.

However, using the PR19 performance commitments as the baseline relies on the assumption that the PR19 performance commitments were achievable through base expenditure. In this respect, we note the following.

- There is not sufficient evidence that the PR19 determination was achievable (in terms of being able to achieve both cost and quality targets). Indeed, the reason for this aspect of the consultation is to improve upon the PR19 approach for linking cost and quality. We understand that several companies are not expecting to simultaneously achieve their cost and quality targets.
- Some companies were provided 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.

22. *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?*

Ofwat has stated that it is investigating 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.

In principle, we agree with the approach for common performance commitments as data should be widely available, and in theory would rely less upon the PR19 determination (which may or may not be achievable and where the CMA intervened in the case of four companies) and places a greater weight on what the industry has actually achieved.

Whilst we encourage the analysis we do urge caution that some factors that influence performance could be difficult to quantify and require careful consideration. For example, interruption performance can be influenced by the incumbent interconnectivity of the network which can be difficult to assess. We therefore look forward to working with Ofwat to develop this analysis.

We also note that successful modelling is very much dependent, not only on identifying consistently reported explanatory factors, but also correctly allocated cost. Achieving consistent cost allocation at broad price control levels is already challenging, and it feels disaggregating cost allocation to performance commitment will add further challenge – particularly in the time available.

23. *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?*

    - As per our suggested growth variable we consider it useful to collect *available capacity in treated network* – i.e. companies with a large amount of (time) storage in the network will have capacity to absorb future growth, but also an improved resilience to significant interruption.

24. *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?*

    Following on from question 22 we certainly accept this approach could lead to less regulatory burden and criticism regarding the issue of performance commitment (PC) cost allocation. Potentially the composite approach could be a stepping stone to progressing to individual performance modelling for PR29 – since PR24 seems now too close to ensure consistent cost allocation at a detailed PC level.

    Whilst we support ongoing review of composite variable we note obvious concern regarding the development of such a variable, e.g. how can we account for differing metrics to reach an appropriate composite value? As noted in response to Q2, Monitor used PCA to construct a composite service quality variable, and this approach could be explored by Ofwat for PR24.

25. *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?*

    We currently have no further proposals.

Residential retail cost assessment

26. *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?*

    In theory we consider this to be a prudent approach, however in practice we anticipate the process of categorising debt as "Covid" driven to be difficult. A crude fix is to assume any increase in the level of debt beyond normal expected historical profile can be assumed to be Covid related – however we cannot currently specifically "tag" debt as Covid related.

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

    As per Q26 we do anticipate to be able to robustly categorise individual debt as Covid driven.

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