



# Assessing base costs at PR24

Response from Southern Water

February 2022

## Introduction

Thank you for the opportunity to respond to your proposals for assessing base costs at PR24.

In broad terms we welcome and support the intention to build on the PR19 base cost models. Consistency of approach over time is important to the stability and predictability of the regulatory regime. We welcome early sight of the emerging thinking, but it will, of course, be important that the approach is not 'set in stone' too early in the PR24 process. We note, for example, that Defra's Strategic Policy Statement to Ofwat has only just been published and will need to be properly reflected in the methodology for setting cost allowances.

There are a small number of areas where we disagree with Ofwat's proposed approach. These are:

- We continue to believe that growth costs should be modelled separately from base costs, in order that the material costs faced by companies, particularly in areas of high growth like the southeast, are adequately assessed. The current suite of models includes no cost drivers that reflect the one-off costs of growth and the differential impact of growth on companies.
- It is critical that Ofwat recognise the growing consensus in the sector and beyond on the need to increase the level of asset maintenance to address the growing risk in the asset base and to ensure that our critical infrastructure is fit for the challenges of the future.
- While we welcome the clarity and transparency of the proposal to set out 'what base buys', it is important that Ofwat takes the time to consider the evidence on how service level improvements have been delivered, in order to understand the degree to which improvements are repeatable. It is also critical that if productivity gains are assumed to deliver service quality improvements, they are not double counted in setting the cost reduction stretch.

We note that there is no significant reference to cost pressures in the consultation. With current input prices, in particular for materials and energy, running well ahead of the headline CPIH rate, this will be a critical issue at PR24.

We provide answers to each of the specific consultation questions below. We would of course be happy to discuss any aspect of our response.

## 1. Consultation questions

### Principles of PR24 base cost assessment

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

We agree with the overall sentiment of the principles, though we note that they are not consistently described in the document – the summary version in Table 0 is different from the summary in Chapter 2 and that has some differences to the descriptions in the chapter. It will be important that the final version is clear and consistent.

We have two specific comments on the detailed description of the principles:

- Principle 3: the distinction between variables that are outside of management control in the short and long-term is in our view an important one and one we support. Most asset measures will be within management control in the long but not in the short-term.
- Principle 4: weighting of models in triangulation should reflect model robustness (and uniqueness) – not a simple averaging of model results.

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

To ensure that companies can respond appropriately to regulatory incentives consistency over time is important. We would suggest adding a principle that cost models should be stable over the medium term. We would not expect to see large changes to the underlying cost drivers between AMPs and this should be reflected in the models used for base cost assessment and be demonstrable in the cross-checks applied to them.

### Approach to wholesale base cost modelling at PR24A

#### 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.

We would suggest that materiality should be added to key criteria for adjusting the scope of wholesale modelled costs. Where costs are material on their own, then separate assessment is more likely to be warranted, as they may not be sufficiently captured by cost drivers at whole company level.

We strongly believe that growth costs should be (at least partially) removed from the base models. It is a material area of expenditure (as per our suggested additional criteria) and in terms of Ofwat's proposed assessment framework:

- While costs may have been incurred in the past, these will not necessarily be a good guide to future costs, which will reflect things like local capacity constraints.
- It is not obvious that model cost drivers capture one-off costs (as opposed to ongoing costs of serving more customers), which will reflect local conditions, not just the number of new connections.
- While we recognise that historic reporting of growth costs has been variable, forward-looking costs can be clearly identified.
- We believe it should be possible to develop models and, if not, the materiality of spend would mean a deep dive would be appropriate for companies with significant forecast growth rates.
- Costs are driven by local network characteristics and the location of demand from developers which are outside of companies' control.

In terms of the treatment of enhancement opex, it is important to distinguish between two types of enhancement opex. The first arises as a result of enhancement capital expenditure (e.g. additional power and chemicals costs associated with higher treatment levels). These are ongoing and will not be captured in historic costs at all. The second is one-off enhancement expenditure, which will be reflected to some degree in the historical data but may be more or less important on a forward-looking basis. Both need careful consideration and separate treatment.

**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.**

This is an opportunity to join up other statutory plans and ensure consistency in approach. Forecasted property and population growth is a core element of our Water Resources Management Plan (WRMP) and Drainage and Wastewater Management Plan (DWMP). We should use the data from those plans to inform the costs of growth, using the data definitions already defined under those plans.

For example, the WRMP contains robust forecast growth numbers which are subject to external scrutiny from the EA and Natural England. The DWMP contains detailed analysis of growth and other pressures on wastewater services and long-term investment strategies for each of our 11 drainage catchments, all of which have been developed collaboratively with local stakeholders.

We would suggest that a small industry-led working group should consider possible approaches and resultant data needs, however we should use this opportunity to the plans all tie up.

**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 (e.g. structural break that cannot be addressed through other remedies)?**

Yes, we should use the fullest dataset possible so long as relevant structural break tests are satisfied. For example, it will be important to recognise the significant change in Ofwat's approach to service improvements. Prior to PR19 these were treated as enhancement costs and will not be included in base cost data – only post-PR19 will these costs be included.

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

There is a clear need to ensure that future costs driven by changes in the external environment and the expectations of water companies are reflected in cost allowances. However, to include forecast costs in the base cost models we would need to be very clear that these costs were both deliverable and reported consistently. We think this is unlikely to be readily achievable, so would not support inclusion of forecast base costs within models. (This is separate to our earlier point on growth where forward-looking costs from the WRMP and DWMP are appropriate to use as they are developed within clear regulatory frameworks.)

Relatedly, it is important to ensure that company forecasts are presented on a like-for-like basis and there is clear guidance on reporting of forecasts on a pre- or post-efficiency basis to avoid the risk that efficiency savings get double-counted, being applied both in company plans and again by Ofwat.

## Target modelling suite

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

In general, we agree. The disaggregated approach ensures that relevant cost drivers are included, while aggregated models better capture trade-offs between price controls/business units. When setting cost allowances for different price controls it is important to test for these trade-offs. For example, there are trade-offs between bioresources and wastewater network plus - to realise economies of scale in sludge treatment it is necessary to operate larger works which may incur higher sewer networks costs.

### 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?

Yes, if bioresources is to be modelled entirely separately, we think it is important to strengthen the set of models used to set the Wastewater Network plus cost allowance. Equally Ofwat should remain open to the possibility that the level of integration between bioresources and wastewater treatment may make it such that robust separate models cannot be developed. If that is the outcome of the modelling, then it will be necessary to revisit the proposed modelling approach.

## 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?

Yes, we believe it should be reconsidered as a substitute for booster pumping stations.

Engineering logic suggests this is the best variable to capture the 'work done' in pumping, which is the key driver of power costs. We should test whether the booster stations variable is acting as proxy for APH, which we expect, or is independently significant.

### 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?

Given the clear evidence presented on the significance of scale economies in wastewater treatment, it is important that these are captured in the modelling, since plant size is outside of company control and often dictated by local planning constraints and geography of the areas being served. We would suggest this issue warrants some more detailed investigation. The Anglian Water proposals are one solution, but a different arbitrary cut off may not be appropriate and there may be other ways of accounting for scale economies.

### 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.

There is a case to be made for more explanatory variables to explain wastewater treatment costs, in particular in relation to coastal works. Treatment works discharging to sensitive shellfish ecosystems, bathing waters and via long sea outfalls have more chemicals, electrical, backup systems, storm control and capital maintenance requirements compared to inland works or works discharging to less sensitive ecosystems.

For example, as most of our population lives on the coast, many of our larger works are required, under their EA permit, to pump highly treated effluent meeting shellfish directive levels up to 4.5km offshore through one of the 27 long sea outfalls we operate. The energy usage and maintenance of these pumps and offshore structures is materially different to a gravity discharge into a river adjacent to a works. Adding in explanatory variables that capture additional pumping costs, chemical usage and nitrate consent would improve model accuracy. We are currently testing whether a single coastal works variable might be significant and capture some of these effects in the wastewater network plus models. However, this work is not yet at the stage of defining data requirements.

In addition, the wastewater treatment complexity variable does not capture the full range of complexity of treatment that companies face. We believe a variable that captured tight consent requirements for ammonia <5mg/l, and/or UV >20mW/s/cm<sup>2</sup> and/or phosphorus (<2mg/l) would better capture the full range of treatment complexity.

Finally, we believe that some sort of time varying parameter should be included to capture time specific effects.

### 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?

Yes, we agree that the random effects approach remains most appropriate and provides consistency with PR19, which we believe is an important goal. We do not have a strong view on using stochastic frontier analysis, but we believe pooled OLS is less appropriate to assessing base costs. In general, we would suggest that alternative techniques are used principally as a cross-check on the random effects models.

### Model selection process

#### 13. Do you agree with our proposed model selection process

Yes. It is important to remember that such modelling, while complex, is not a precise science. Model robustness needs to be taken in to account when using results of models to set efficiency targets. Subject to satisfaction of relevant statistical tests, there should be a preference for stability of models over time. However, we should look at the model results with a fresh perspective and shouldn't presume that models used in prior price controls were accurate, as fewer explanatory variables were used at the time.

### 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?

In principle, we support the proposal for separate assessments of base and enhancement cost adjustments, with clearly defined guidance for each.

It is important to note that the distinction between base and enhancement is now less clear than it was prior to PR19. Historically, investment that improved service levels was funded and reported in the regulatory accounts as enhancement, yet at PR19 Ofwat included many of these costs in base. We therefore need clear guidance on which costs should be treated as base and which enhancement.

We believe it should be for Ofwat to determine whether cost adjustments should be symmetrical. It is not necessarily the case that all claims should be symmetrical. We agree that claims associated with things like regional wage differentials or other regional factors should be symmetrical and the data should be available in published data sets to facilitate this. However, one-off effects that impact a single company are unlikely to have a material effect on the model specification overall. For example, SES Water water softening requirements are unique and material for SES Water, but are highly unlikely to have any significant impact on models as a whole. Hence the question of symmetry needs to be considered case-by-case.

**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 are not yet in a position to confirm which base cost adjustment claims we may submit. We have identified a number of areas where we think the models may not appropriately capture the costs that we face, and we are in the process of exploring these further. It is likely that as we test these a number will fall away, and we may identify additional claims, but we are currently considering the following areas:

- (i) Wastewater treatment work size / economies of scale
- (ii) Coastal wastewater treatment works impact
- (iii) Leakage costs for going beyond upper quartile levels
- (iv) Meter replacement of our near universal metering stock to smart meters
- (v) Growth (if not modelled separately)
- (vi) Infrastructure resilience and water resource zone network interconnectivity
- (vii) Upstream surface water separation to reduce pollutions (if not allowed for in enhancement)

There are a number of other areas, such as expenditure to deliver Net Zero, which we assume will be treated as enhancement costs. If they are not, then we would include base cost adjustment claims for these forward-looking cost pressures.

**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.**

As noted above, we are still testing a number of potential cost adjustment claims. As such, it is far too early in the process to determine precise data requirements. With respect to additional data collection, the regulatory reporting burden is already very high, so the need for any further data should be considered carefully.

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

We do not believe it is necessary to make significant changes to the guidance. The guidance is understood by companies and has been broadly consistent over time. The main issue is to remove elements that may be irrelevant for base / enhancement claims. We would suggest the following elements are relevant to each type of claim.

	Base	Enhancement
Need for investment;	N	Y
Need for adjustment;	Y	Y
Robustness and efficiency of the cost	N	Y
Management control;	Y	N
Best option for customers;	N	Y
Customer protection	N	Y
Affordability	N	Y
Board assurance	Y	Y

The calculation of implicit allowances remains very unclear. The nature of the botex models means that there is no robust way of unpicking any implicit allowances. Given this complexity and the lack of robustness we should consider whether these adjustments (which Ofwat in alternative circumstances would consider 'trivial') should be retained.

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

Yes, a chance for early discussion and engagement on claims would be useful. But this should not prevent companies from submitting different / additional claims as part of their final business plan submissions, when they have had an opportunity to consider matters in the round.

### 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?

There is a strong consensus among asset management practitioners within the sector that the level of asset risk has increased over time due to historic under-funding of asset maintenance. The level of service to customers has not yet been impacted because companies have adopted operational solutions to meet performance commitments, in the absence of investment in the asset base. This has meant that the regulatory definition of serviceability/asset health has been met, in line with the prevailing regulatory requirements, but company deterioration models point to an increasing backlog of asset replacement and the need for a step up in investment levels.

That said, we recognise that the evidence to date is not strong in terms of headline service measures, highlighting the criticality of developing better leading indicators of service and measures of underlying asset risk and resilience. While work is ongoing in this area, such measures are unlikely to be available and well established for PR24. Nonetheless, it is important that this issue, which was highlighted by the CMA, is not ignored for another AMP.

We would suggest that a pragmatic solution for PR24 would be to have a tailored cost adjustment mechanism, with clear guidance and assessment principles, tied to specific deliverables. The risk to customers of such an approach is extremely limited – specifying the work to be delivered will, at worst, mean that assets are replaced earlier than they would otherwise have been.

Of the approaches suggested by Ofwat:

- We would not support including forecast costs in base models, for the reasons set out by Ofwat in Section 3 of the consultation and in our response to question 6 above.
- It is not clear to us how a forward-looking catch-up efficiency challenge would work. This would appear to give companies a strong incentive to over-bid in their business plans, running counter to existing incentives for 'truth-telling' in business plans.
- Based on experience in previous price reviews, we think it unlikely that it will be possible to develop robust cost drivers that meet Ofwat criteria and appropriately capture the risk that companies face.
- Separate capital maintenance modelling may be worth exploring. If it is possible to develop robust models these could be used to identify whether there are factors that might support the need for an increase (or otherwise).

We do not believe there is a role for the Asset Management Maturity Assessment (AMMA). While this is a very useful tool to help spread asset management best practice in the sector, the qualitative nature of the assessment means it is not appropriate for making material cost adjustments.

**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.**

We provide comments below on the measures included in Table 5 of the consultation.

Type of measure	Example measures	Comments
Asset characteristics	<ul style="list-style-type: none"> <li>• Asset condition grade (for assets or groups of assets)</li> </ul>	This can apply to certain critical assets or assets with statutory/regulatory/legislative needs. Later assets are inspected/ maintained at a set frequency. Each water company recognises that there are certain critical assets that we shouldn't allow to fail, and these assets need to be proactively inspected/ surveyed and remedial actions undertaken as required to prevent a catastrophic failure. Some water assets are classed as critical national infrastructure as well.
Maintenance activity	<ul style="list-style-type: none"> <li>• Unplanned maintenance</li> <li>• Planned network rehab</li> <li>• Proactive vs reactive maintenance</li> <li>• Mean Time to Repair, Mean Time Between Failures</li> <li>• Maintenance backlog</li> <li>• Asset inspections planned vs actual</li> </ul>	This will be a useful way to compare performance of different asset groups from different water companies especially if a standard approach can be developed. It can help to understand whether there is an improving / deteriorating asset outlook.

Type of measure	Example measures	Comments
Asset and service performance	<ul style="list-style-type: none"> <li>• Compliance Risk Index (CRI)</li> <li>• Properties at risk of receiving low pressure</li> <li>• Sewer blockages</li> <li>• Percentage of population equivalent, served by sewage treatment works with numeric limits, which were non-compliant</li> <li>• Number of equipment failures</li> <li>• Unplanned Interruptions greater than 12 hours</li> <li>• Disinfection, Reservoir or Process control Index</li> </ul>	Some of these metrics such as blockages can be influenced by customer behaviours and technological advancement such as smart sewers, which can help by achieving quicker responses and blockage prevention. Hence the performance for different WaSCs will be quite different, depending on the level of technology used.
Aggregated measures	<ul style="list-style-type: none"> <li>• Base asset health index (BAH)</li> <li>• Overall Equipment Effectiveness (OEE)</li> <li>• Asset risk (monetised likelihood*consequence).</li> </ul>	We believe that these type of measures have good potential although different water companies might capture different data. Therefore, the consistency and quality of data could vary so it is necessary to ensure both.

## 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?

We think it is helpful to have clarity about what Ofwat assumes can be delivered via base costs as a result of productivity improvements, rather than investment in the asset base. To ensure internal consistency it will be important that any assumptions about the scope for future productivity gains are adjusted to take account of this. To do otherwise would clearly double count the scope for productivity improvements.

In terms of identifying more clearly the level of productivity gains embedded in the historic data, we consider that a hedonic model approach would be more rigorous. We are currently testing this approach and will share the results once we have made some more progress.

In setting the starting point, there is no reason for Ofwat to assume, a priori, that all companies will meet their AMP7 performance commitments. The sector as a whole incurred net ODI underperformance payments of £67m in year 1 of AMP7 and if you exclude bespoke performance commitments, the net underperformance payment was more than £100m. Ofwat also require companies to forecast in the Annual Performance Report their expected ODI performance for the AMP as a whole. Based on the 2020-21 data, overall companies expect to incur net underperformance payments of more than £200m over the AMP in relation to the common performance commitments. Ofwat cannot simply ignore this evidence and assume that targets are all met.

In projecting forward historic performance, we believe it is essential that Ofwat clearly understands how historic service level improvements have been delivered and the extent to which these are repeatable. Even where they are repeatable, it is clear that such service improvements will be subject to diminishing returns. It is not clear how Ofwat's suggested approach accounts for this.

**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?**

We welcome recognition that it may not be feasible or economically sensible for all companies to achieve the same levels of performance. We believe the approach that we highlight above (question 21) could be feasible for the common PCs where there is sufficient data i.e. for all companies for several years.

If it is not possible to model, Ofwat will need to reflect on how to recognise differences in operating environments that may affect the appropriate level of performance.

**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 noted above, it is important for Ofwat to understand how historic improvements have been delivered and therefore whether these are repeatable. Where step changes in performance are not obviously repeatable Ofwat should not build the same level of improvements into baselines.

**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?**

While historically it has proved to not be possible to develop a composite index, we would prefer that some method to address the cost-service relationship is attempted rather than none. We believe that a hedonic approach might be possible and are currently testing this method.

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

We hope to have an answer on this once our testing of a hedonic method is completed.

## **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?**

We can identify a specific value for the provision made in relation to Covid-19 as at March 2020, because this is when we first made such a provision, and it was a specific overlay to our normal provisioning methodology. As our underlying provisioning model uses historic cash collection over a rolling three-year period to estimate the provision required, for all subsequent years an element of the provision generated by our model will take some account of Covid-19. Separating this element from any other factors, such as changes in cash collection performance from historic expectations, would require a high degree of judgement. Therefore, we could only provide an estimate of the overall Covid-19 related provision over time.

We would also highlight that if Ofwat makes adjustments to the bad debt element for Covid-19, there are likely to be other costs that need adjusting too, for example, debt collection costs. We stopped debt collection for a period of time due to Covid-19 and so those costs were much lower than normal during 2019-20. Ofwat should account for such “cost holidays” in areas beside bad debt provisions too.

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

Based on the above, and given the level of judgement involved, we cannot suggest any specific guidance to aid companies provide this data. We expect that each company will have its own individual provision methodologies and so providing a common set of guidance is likely to be difficult.

### Other issues

#### Resubmission / back-casting of data

In addition to the specific consultation questions, Ofwat asked for feedback on certain areas for resubmission or back-casting of data. As a general point, we would emphasise that providing data is a time consuming and resource-intensive exercise. We are in favour of using existing data where possible to limit the regulatory burden from growing further.

#### Growth-related data

In relation to growth-related data, the consultation asks “whether it might be feasible to submit historical data on the same basis (e.g. back-cast to 2011-12).” We would need to understand specifically which data Ofwat requires, so we can say what might or might not be feasible.

#### Wastewater load

Regarding additional data for wastewater load, as suggested by Anglian Water, we could feasibly provide data back to the start of AMP6. Data from earlier years is likely to be associated with a low level of confidence and therefore we do not know how accurate it would be.

#### Asset Health measures

Regarding asset health measures, we would need to know for which measures historic data might be required. For any existing measures, we expect it would be feasible to provide historic data. If it is an entirely new measure, then we might not be able to.