

Draft Determination Representations

WSH.DD.MTH.1

PR19 methodology: Ofwat's approach to
determining the cost-service frontier

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Relevant Supporting Appendix

1. Cost Assessment and Service Performance – False Frontiers That Regulation Demands but Competition Could Not Deliver

1. Background

Ofwat developed its PR19 methodology in an open and systematic manner, providing helpful clarity at an early stage in the process through a number of consultations. All the same, even after the publication of the Final Methodology in December 2017, it was not always clear how the methodology would be applied in practice, and in particular how Ofwat would apply judgement in the way different elements of the price review were brought together to reach an overall proposal for each company on bills, expenditure, performance and financeability.

The Initial Assessment of Plans (IAP) furnished companies with a preliminary view of how the PR19 methodology would be applied 'in the round' and this was enormously helpful. In their responses, companies highlighted apparent flaws in Ofwat's application of the methodology, judgements that appeared unsound or unreasonable, or anticipated outcomes that did not accord with Ofwat's stated goals and duties.

The Draft Determination now sets out how Ofwat believes it has addressed the feedback from companies at the IAP stage. Our representations set out where we believe significant flaws and deficiencies remain in Ofwat's approach, and where the positions adopted by Ofwat in the Draft Determination failed to address our IAP response. This document focuses on the cross-cutting methodological issue identified above as to how Ofwat has brought together the different elements of the price review, and the judgements that it has applied in doing so. This has only really become clear upon publication of the Draft Determinations. In particular, we focus on the separate but closely related issues of performance commitment targets, cost efficiency improvements, financial Outcome Delivery incentives (ODIs), and expected returns.

Detail on specific issues will be dealt with in other technical annexes.

2. Cost-service frontier

The price review is a complex process with multiple 'moving parts' that need to be finely tuned to achieve Ofwat's aims. Each element needs to achieve its purpose without creating any unintended consequences for other parts of the review. Hence the interactions between the various elements of the review need to be understood and adjusted for (e.g. avoiding duplication or 'double counting'), while also ensuring that the 'whole' meets Ofwat's stated goals.

In this regard, we have a particular concern that Ofwat has failed adequately to consider the interaction between the cost efficiency element of the price review and the performance commitment element. Consequently the methodology as a whole, as applied, has set an expectation of companies to meet a 'cost service frontier' which cannot in practice be achieved.

In our IAP response we noted the following:

- *Ofwat has approached the derivation of upper quartile service performance independently from the derivation of upper quartile cost efficiency, creating the likelihood that an infeasible cost-service frontier will be applied. (Ref B2.1.WSH.OC, p.6)*

- *[Ofwat] does not take into account the interactions between service and costs when setting upper quartile targets. There is a strong relationship between costs and service, and these interactions should be accounted for, as determining the upper quartiles separately can result in infeasible frontiers.” (Ref B2.8.WSH.CE.A1, p.11).*

These issues were elaborated further in a paper that Welsh Water submitted to the ‘Marketplace for Ideas’ dated 24 June 2019 (Cost Assessment and Service Performance – False Frontiers That Regulation Demands but Competition Could Not Deliver – see Supporting Appendix 1). A brief summary follows:

- i) It is a recognised principle of effective regulation that the regulator should aim to imitate some of the features of competitive markets.¹ The Draft Determination states: “Our regulatory approach seeks to ensure that customers obtain the benefits as if water companies were operating in a competitive market.” (Cost efficiency appendix, page 28). This is squarely in line with Ofwat’s statutory duties under the Water Industry Act 1991.
- ii) This implies that companies should be operating at an ‘efficiency frontier’, and providing a package of service and cost/price that meet the preferences and requirements of their customers. The packages of goods and services that companies choose to provide may differ in different regions and change over time (while remaining on or close to the efficiency frontier). The efficient frontier itself may shift over time, at a pace determined largely by the rate of technological progress in the industry.
- iii) The challenge for Ofwat is to establish where the efficient frontier is for each company, and how it will change over time.
- iv) Ofwat aims to achieve this by using cost modelling to identify the least cost frontier ‘today’ (using upper quartile to allow for a degree of uncertainty), and then applying a ‘frontier shift’ of CPIH-1.5% per annum (adjusted for labour cost inflation).
- v) Ofwat also requires companies to achieve ‘stretching’ improvements in service performance across multiple performance areas without allowing any incremental expenditure to achieve this. For a subset of these performance areas, all companies are expected to achieve uniform targets commensurate with the ‘calculated/forecast upper quartile’ level.
- vi) While in a competitive market firms select their *trade-off* between cost and service along an efficient frontier, Ofwat sets an ‘efficient’ target for the two elements independently and then combines them as if there is no such trade-off. In seeking to identify a cost frontier without regard to service, and a service frontier without regard to cost, Ofwat has derived a false picture of the combined cost-service frontier, putting it out of reach of efficiently operated companies.
- vii) In deriving an annual efficiency ‘frontier shift’ Ofwat ignores the fact that the performance targets set by companies in their Business Plans, from which Ofwat derived its uniform targets, already factored in a high degree of productivity improvements. If the industry delivered the upper quartile service improvements

¹ That is, where competitive markets would produce beneficial outcomes in line with social priorities.

expected by Ofwat, the industry as a whole would already be improving its productivity significantly. Hence there is a 'double counting' of productivity improvements.

For the reasons set out above, the results of the price review exercise impose on companies a requirement to deliver a package of cost reductions and service improvements that, taken together, are not achievable in practice, and are not in line with what would manifest in a competitive market.

While Ofwat has now undertaken an exercise at the industry level to assess the extent of achievability of the common performance commitments that it has included in the DDs, we believe that this analysis is flawed, ignoring the 'decreasing returns' on performance improvements, not taking into account the lack of enhancement cost allowance required to achieve improvements, and failing to assess the achievability of the targets at a company level.

While this outcome runs counter to Ofwat's overall goal of mimicking competitive markets and setting determinations that are 'stretching and deliverable' for companies, there are also important secondary impacts. For example, it runs the risks of forcing firms that do accept the final determination to operate strictly in pursuit of regulatory targets, even at the detriment of the long-term customer and environmental interest. It could also have a damaging impact on investor confidence and customer trust in the sector, which runs directly counter to Ofwat's published strategy.

3. Taking extreme positions on each of a range of issue areas

As explained above, Ofwat expects companies to deliver 'stretching' improvements on cost, and separately on service, and then combines the two without adjusting for the fact that the two are related. This argument can be widened to include other areas where Ofwat, in the absence of perfect information on the future, has to make a judgement. These include the application of financial ODIs and, crucially, the cost of capital. On the former, companies are faced with more 'penalties' than 'rewards', skewing the ODI RORE range to the downside and reducing expected returns. On the cost of capital (WACC), where there is a range of possible values for each of the underlying factors in its calculation, Ofwat has selected a value on the range for each factor that, when combined, produces a WACC below the 'expected' level given the ranges.

These various decisions, each of which may not be unreasonable in isolation, need to be reconsidered 'in the round'. The WACC, PC targets, and ODIs, combine to result in the expected return for equity holders. A 'stretching' position on each of these issues can combine to yield unacceptably low returns to shareholders, at levels likely to be inconsistent with Ofwat's own assumptions underpinning its determination of the WACC, and insufficient to enable companies to attract capital to enable them to finance their functions.

4. Enhancement expenditure for improving service levels

The Draft Determination states that:

We consider that the performance levels are achievable under base cost allowance and that companies should be aiming to continuously improve service within base cost allowances,

consistent with improvement seen in other markets. We set performance commitment levels to reflect the levels that can be achieved by an efficient company within base costs. In setting the levels, we take into account the historical rate of improvement to reflect what is achievable under base cost allowances. (Delivery outcomes for customers policy appendix, p.23).

We do not accept that the performance levels set in the DD are achievable under base cost allowances, for the following reasons.

- i) While it is true that some improvement may be achievable under base cost allowances, due to continuous improvement of processes, incremental innovation and sharing of best practice across companies, this does not justify the conclusion that the expected 'step change' service improvements can be delivered by base costs.
- ii) Companies can and do aim to continuously improve service within base cost allowances, but the comparison with "other markets" is false. As a whole, in competitive and regulated markets, service levels can be observed to improve over time, doing 'more for less'. But we would argue that Ofwat has amply accounted for this in its frontier shift decisions, and in its expectations on cost efficiency generally.
- iii) Ofwat seems to be assuming that historical improvements have been achieved under base cost allowances, and therefore those improvements can be 'rolled forward' under base cost allowances. This is not the case for the following reasons.
 - a. Historically companies have been granted a totex allowance that includes investments that have, directly or indirectly, led to performance improvements. However, this expenditure for service improvements in the previous AMPs is not captured in botex. Any expenditure to deliver improvements in the past was classified as enhancement expenditure and therefore not included within the base cost modelling.
 - b. In our case we have invested significant additional funds beyond our totex allowance which has directly improved service levels. During AMP6, in order to achieve the PR14 target for acceptability of water and bring our performance more in line with the rest of the industry, we invested not just the £70 million allowed at PR14, but a further £60 million from our 'customer distributions' (which in other companies would have been available to be paid out as dividends to shareholders). Our acceptability of water measure as a consequence has improved from 3.53 contacts per 1,000 population in 2014-15 to a forecast 2.4 in 2019-20. It is therefore not correct to assume that service improvements, both in this specific case and in the general case, has been achieved within base cost allowances.

Indeed, Ofwat's response to companies' IAP submissions has highlighted the inherent contradictions within Ofwat's overall approach. Modelled base costs are extrapolated forwards at the upper quartile level of efficiency on the basis of projections of certain quantitative cost drivers (e.g. volume of load treated) and some qualitative cost drivers (e.g. proportion of wastewater treated to higher standards). There is no suggestion that "customers should not pay extra for companies to deliver stretching but achievable levels" in

relation to the number of properties connected or the proportion of load treated at works with ammonia consents below 3mg/l, so it does not make sense that unmodelled cost drivers such as leakage and the rate of sewer flooding are expected to change without a commensurate movement in costs.

Or to put the point another way, in an ideal world Ofwat would be able to model costs as a function of all relevant cost drivers, including every aspect of service performance, thereby identifying with a high degree of confidence the efficient cost path for each company going forwards. In those circumstances it would be perverse to model future costs on the basis of no improvement in some service performance metrics, yet insist that companies nonetheless achieve them.

We address in document WSH.DD.OC.1 'Performance Commitments' the question of whether the specific targets are appropriate and achievable. Our point here is that historical improvements achieved under historical totex allowances do not suggest that future improvements can be achieved under future base allowances derived from historical base costs.

This point is amplified by the simple fact of diminishing returns to investment when it comes to improving performance. For example, In AMP6 we have invested to reduce supply interruptions, by inter alia purchasing more tankers and emergency fittings, and introducing best practice. This has indeed reduced interruptions significantly. To achieve further such reductions in AMP7 we will need to implement different, and generally more costly, solutions such as mains replacement and supply zone interconnections (where possible). It is inevitable that, as performance improves, the cost of making yet further incremental improvements rises, often quite sharply.

In the PR19 methodology, Ofwat acknowledges that companies may need to invest to improve service, but that these costs would need to be absorbed by the company (albeit partly 'trued up' through the cost sharing mechanism). This implies a de facto financial penalty for those companies that may, for legitimate reasons, find themselves lagging the rest of the industry on a particular measure. Those reasons might include customer preferences, historical investment patterns (driven by priorities agreed with the regulator), or operating conditions. Such a penalty is therefore unjustified in relation to companies' actual performance failings and unrelated to them. Instead Ofwat should make an allowance for companies to deliver performance improvements where there is clear evidence of how the investment will deliver the improvement, and where that investment is justified by evidence of customer preferences.

5. Estimate of true rate of Frontier Shift implied by Draft Determination

Historically, regulators have typically used estimates of frontier shift in the region of RPI-1%.² Given the general consensus that the "wedge" between RPI and CPIH is about 1%, this is approximately equivalent to CPIH-0%.

² See, for example, *"Innovation and efficiency gains from the totex and outcomes framework"*: KPMG and Aqua Consultants (June 2018), page 118.

Now that the draft determination has been issued, we are in a position to quantify the “true” rate of frontier shift that is required as a result of the methodological decisions made by Ofwat and discussed in sections 2-4 above.

The following table presents Ofwat’s assessment of our upper quartile wholesale costs, together with the adjustments made as a result of “frontier shift”. Ofwat have estimated a productivity frontier shift of 1.5%. We present our critique of this aspect of the determination in document WSH.DD.CE.1 ‘Wholesale Base Expenditure’.

£m – 2017/18 prices	Water	Wastewater	Total
Upper quartile efficient costs (£m)	1,146	1,203	2,349
Effect of 1.5% frontier shift movement (£m)	(47)	(53)	(100)
Percentage effect of frontier shift	4.1%	4.4%	4.3%

As discussed above, on top of the (average) 4.3% reduction applied in respect of frontier shift, companies are being required to achieve substantial improvements in service performance without commensurate allowances in the form of enhancement expenditure.

In our case our Business Plan contains planned improvements in service performance, but not, in many cases, to the extent proposed by Ofwat. For us, therefore, the “unfunded” costs that Ofwat expects us to absorb are a combination of the expenditure we will incur to meet the targets that customers support, and the financial underperformance payments (penalties) that we will incur in respect of the difference between those performance levels and those imposed by Ofwat. The following table presents a summary of these, on the basis of the Draft Determination.

£m – 2017/18 prices	Water	Wastewater	Total
Service Performance Unfunded Costs			
- Pollution incidents	-	4	4
- Odour	-	3	3
- Leakage (inc project Cartref)	54	-	54
- Supply interruptions	22	-	22
Sub-Total	76	7	84
ODI Penalties			
- Pollution incidents	-	1	1
- Odour	-	-	-
- Leakage (inc project Cartref)	-	-	-
- Supply interruptions	20	-	20
Sub-Total	20	1	21
Total	96	8	105

Combining the £100 million of frontier shift reduction with the £105 million of service performance expenditure and penalties, the total challenge posed by the DD can be presented as follows.

£m – 2017/18 prices	Water	Wastewater	Total
Effect of 1.5% frontier shift movement	47	53	100
Unfunded service performance costs	96	8	105
Total	143	61	205
Implied average efficiency movement – 5 yr	12.5%	5.1%	8.7%
Implied efficiency movement per annum	4.4%	1.7%	3.0%

Note that we have taken a cautious approach to compiling this analysis. In fact, there are additional areas such as sewer flooding where Ofwat has either disallowed the cost of achieving our targets, or moved those targets such that we face the prospect of paying penalties, or a combination of both. However, given Ofwat’s revised approach to modelling botex there is some uncertainty as to exactly what has and has not been allowed, so we have excluded items from this analysis where there is any ambiguity as to the precise values. In effect, therefore, the implied frontier shift challenge is even greater, but we have not sought to put a precise number on it at this stage.

In summary, therefore, the ongoing efficiency challenge posed by Ofwat goes well beyond the levels that have been contemplated by regulators in the past. Overall, we are being required to achieve CPIH-3%, the equivalent of RPI-4%. For the water business, the challenge is the equivalent of RPI-5.4%. This is on top of the ‘catch-up’ efficiency that we will have to achieve to meet Ofwat’s assessment of ‘upper quartile’. We consider that this goes well beyond what could be regarded as a realistic and feasible cost challenge.

6. Conclusion

We have set out our concerns in relation to the way key elements of the PR19 methodology have been applied in combination in the DDs. We would urge Ofwat to reconsider some of the DD decisions in light of these interactions between different elements, and to consider whether the DDs when taken ‘in the round’ are really meeting Ofwat’s objective of setting ‘stretching yet achievable’ goals for companies.