



Comparative performance and incentives for the UK water industry

January 2024



Context



This paper has been developed by Anglian Water, with assistance from Reckon LLP, to support our response to the Department for Business and Trade's 'Smarter Regulation: Strengthening the economic regulation of the energy, water and telecoms sectors' consultation. This paper focuses on comparative performance assessment and references to incentives relate to operational performance for customers and the environment as opposed to broader incentives.

We read with interest the proposal in the consultation relating to greater use of comparative performance assessment in the water sector and incentivise performance for customers and the environment. This is a topic we have been reflecting on ourselves as part of developing our business plan for the 2025-30 period and believe there is an opportunity to strengthen competitive pressures on the industry, simplify regulatory and business planning process and improve trust in the sector through greater use of comparative assessment. This appears to us to be a natural evolution of the Outcomes framework currently in place and developed by Ofwat and the industry over a number of price reviews.

This paper is being shared to stimulate discussion about future regulatory approaches and we may develop it further over the course of 2024.

The paper is structured as follows:

1. A vision for the future of water company regulation,
2. Reflections on the current incentive framework in water,
3. Using comparative performance to set dynamic incentives,
4. Practical considerations.

Key points



There is a strong case for greater use of comparative performance assessment and dynamic performance targets as these could deliver a number of benefits to customers and the environment. We believe there is an opportunity to strengthen competitive pressures on the industry, simplify regulatory and business planning process and improve trust in the sector through greater use of comparative assessment. This appears to us to be a natural evolution of the Outcomes framework currently in place and developed by Ofwat and the industry over a number of price reviews. With the development of the performance incentive framework in the water industry, this is now more practical than in the past and would build on the work Ofwat and the industry have undertaken over recent price control periods. It is perfectly feasible for the industry to go much further towards using comparative information to determine rewards and penalties for performance.

This type of approach would help the regulatory regime better emulate the operation of a competitive market and could simplify and reduce forecasting burden on companies and the regulator during the setting of price controls. This approach could also increase public trust, if it can demonstrate that profit in the industry being linked to relatively strong performance and that as far as possible that companies who perform badly make low profits or suffer losses, as in a competitive market.

A comparative performance incentive framework could benefit customers through a more efficient allocation of risk. There is sense in the regulatory framework exposing companies to risk where this brings value to customer (e.g. exposing companies to financial risk around their relative performance helps provide good incentives on each companies' performance levels) and to take measures to protect companies from risk where this does not add value. However, exposing the industry to performance risk from exogenous factors (e.g. relating to the weather, climate change or inaccuracy in forecasting the performance levels that can be achieved by an efficient company) brings limited value to customers while exposing them to a higher cost of capital to accommodate the risk companies are exposed to.

We see this type of approach as delivering a number of benefits to customers, the environment while simultaneously making regulation smarter and reducing regulatory burden. While there would be some implementation issues to work through, in our opinion these are no greater than those that already exist to set credible performance incentives.



A vision for the future of water company regulation

A vision for the future



There is an opportunity for the regulatory regime that applies to the water sector to contribute to rebuilding public trust, building on the vision of yardstick regulation from privatisation.

Public discourse currently reflects on the monopolistic nature of the water companies. To counter the potential negative effects of natural monopolies, a system of economic regulation was set up to act as a substitute for competition when the industry was privatised.

The reason for regulation was that the companies being sold operated in monopoly markets or were likely to maintain positions of monopoly power even after some element of competition had been introduced. A system of regulation was therefore needed to deal with the risk of higher prices and lower standards of service than might otherwise have been expected. There was an expectation that the scope and size of the regulation could decrease over time, as a competitive markets were introduced.

There are opportunities to further apply competition to achieve great outcomes for customers and the environment, through innovation and discovery. One area for further exploration, as identified in the consultation, is the **use of comparative performance targets and dynamic incentives. These better simulate a market environment than ex ante regulatory standards** and the use of yardstick regulation was envisaged at the outset of privatisation.

This could help move the regulatory environment from one where **companies make profit from out-performing regulatory expectations** to a situation where companies make profit from **out-performing other water companies in ways that matter to customers and the environment.** One hypothesis is that public trust in the water industry would be higher if there was a way to communicate which companies are doing well or badly in terms of profits, and that the weak performers are taking a hit to their (current or future) profits.

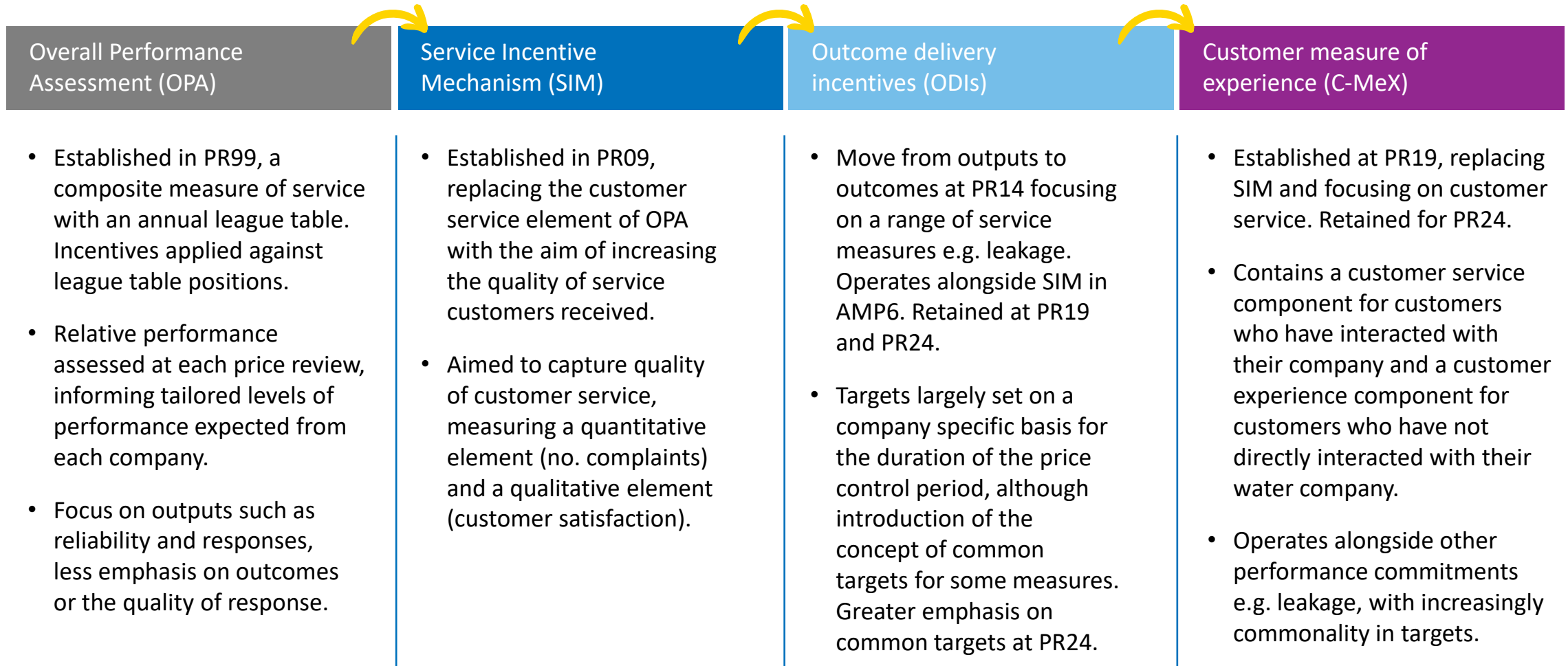
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[the regulator] can use the performance of the water industry as a whole as a yardstick by which to assess the performance of each individual [water company]

S. Littlechild, January 1986, Economic Regulation of Privatised Water Authorities



Reflections on the current incentive framework in water

Evolution of the performance incentive framework



Challenges with the current performance framework



Anglian Water supports the continuation of incentive-based regulation and the water sector has a strong foundation to build on. Most regulated sectors adopt ex ante, or upfront, regulation. This provides certainty and can encourage investment. However in terms of performance targets there are a number of challenges with the current framework for setting targets and incentivising industries to deliver the best outcomes for customers and the environment.

Upfront targets can be set too tough or too soft, given they must be set up to six years in advance. This can arise due to a number of factors, particularly the degree of uncertainty in an industry undergoing rapid change and transformation. The industry is incentivised to be very ambitious through business planning, where historically ability to deliver has not been considered, and targets are set using this information. This is important as it informs the incentives applied to companies, how the performance of the industry is perceived and **the symmetry of risk**.

Setting robust ex ante targets requires robust data and reliance on this approach effectively locks regulators into tried and tested measures of performance. This **inhibits the potential for innovation** in regulation and evolution of the measures that are incentivised e.g. in the future incentives for sewer flooding could capture severity of incidents.

The current approach can **deter long term thinking** and performance improvements as companies may be concerned that strong performance means tough targets at future reviews or focused on short term operational solutions. Targets are set in a **disconnected way to other regulatory tools**, for example cost allowances or financial parameters.

A proliferation of targets and types of target makes it difficult for stakeholders / customers to understand the relative performance of their company. This is exacerbated in instances where leading companies are penalised (e.g. Anglian Water for leakage).

Taken together, we think that **moving to comparative performance measures reduces the need to forecast uncertain factors and there makes regulation smarter.**

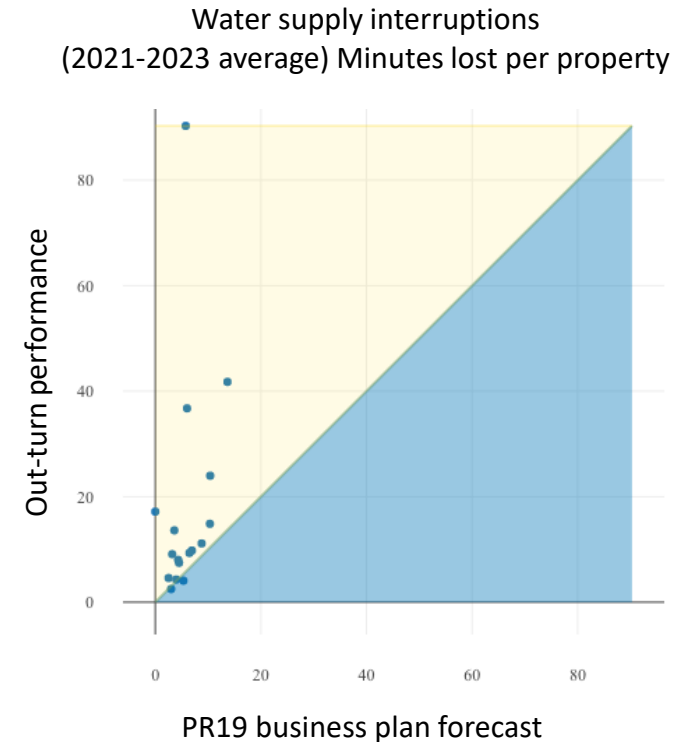
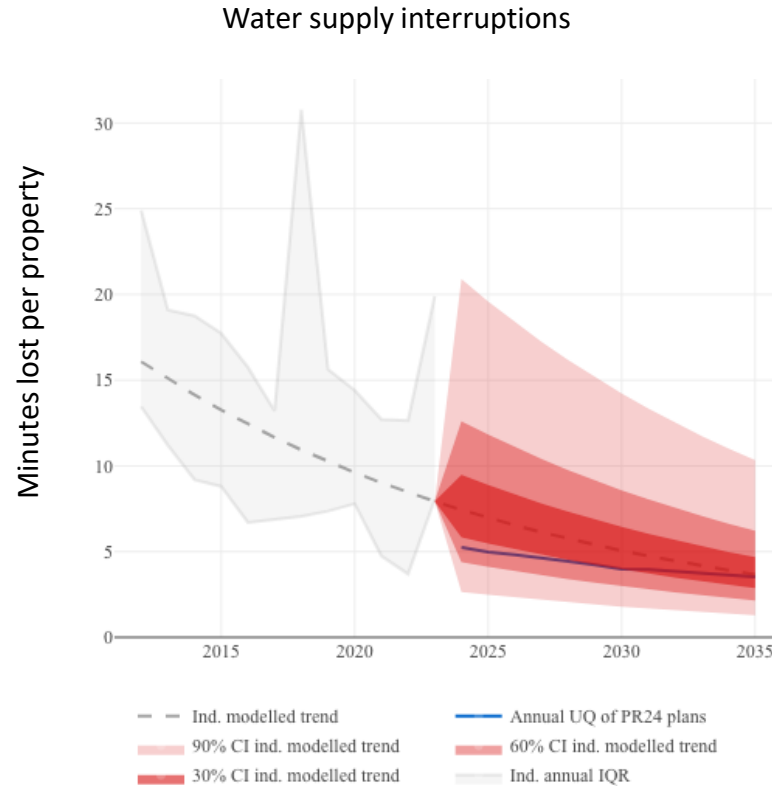
There is significant uncertainty in forecasting performance

To expose the uncertainty in forecasting performance and challenge of setting targets that are neither too tough nor too lenient we have analysed historic information. We have focused on water supply interruptions (a measure of reliability).

The first chart on the right shows historic industry performance in grey (the inter-quartile range), historic industry performance trend, extended to 2035 (dotted line) and confidence intervals around the trend (red areas). The blue line shows the forecast upper quartile based on company business plans. This industry forecast is near one end of a very broad 90% confidence interval (lightest red).

The second figure is a comparison of industry forecasts in their PR19 business plans with their performance in the first three years of the five-year period (2021-25). Blue dots in the yellow shaded area represent companies that are performing worse than forecast.

Taken together, these figures illustrate the uncertainty in forecasting performance. They also demonstrate that setting an *ex-ante* target for this performance measure in AMP8 at a forecast upper quartile or even median position has a low confidence of reflecting outturn performance, given these would be point estimates within the very wide 90% confidence interval. It appears to us that forecasting performance in the future will be even more uncertain given the impact of climate change increasing the incidence of extreme weather.



Using comparative performance to set dynamic incentives



What is comparative performance?

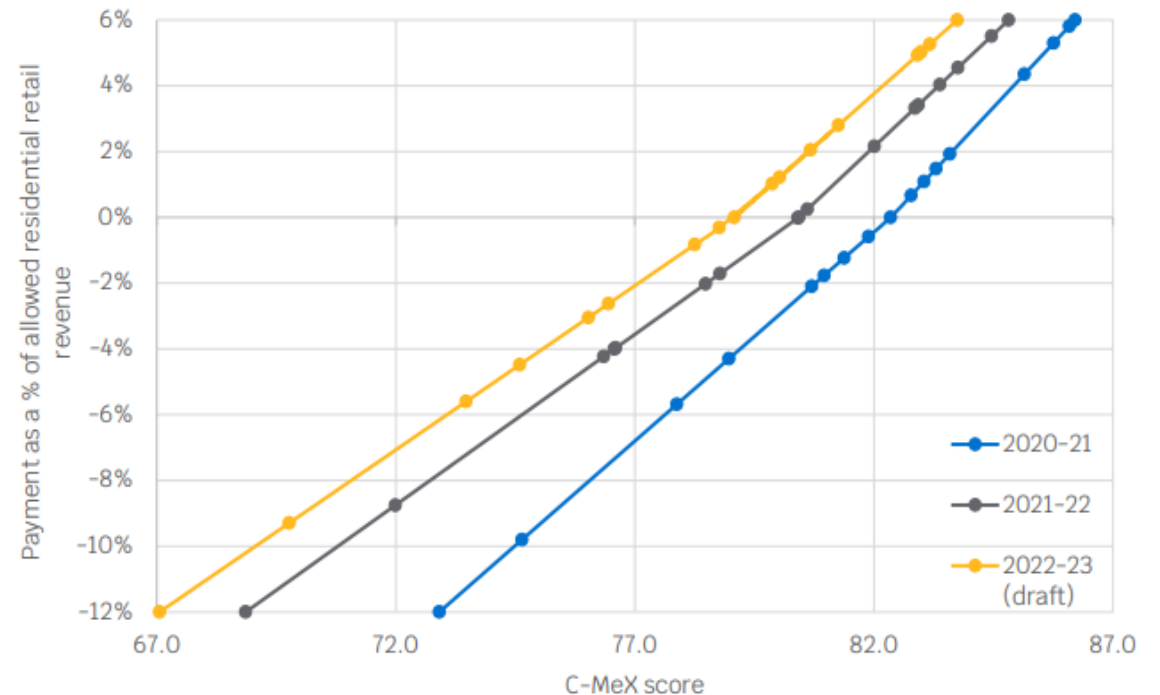
Comparative performance would link incentives to **individual company performance relative to the industry** on a given measure each year.

This would **reward companies who are better than the rest each year and penalise those who are lagging behind**. This emulates dynamic market forces where companies who invest or innovative to improve performance are more likely to outperform competitors and increase profits.

An example of this is already used in the water sector, in the **Customer Measure of Experience (C-MeX)** incentive which measures water customer satisfaction and experience.

Unlike the **Overall Performance Assessment (OPA)** which used a complex aggregation of performance against company specific targets, there could be a greater role for comparative performance assessment in the water sector on other common performance commitments.

C-MeX performance and payments since 2020




Source: Ofwat, Consultation on the measures of experience performance commitments at PR24

Benefits of comparative performance and dynamic incentives

One common critique of the current performance framework is that forecasting accuracy increases asymmetric risk presented to companies, where it is much more likely for companies to receive a net underperformance payment across the outcomes package than outperformance. This is exacerbated by a changing climate and increased incidence of extreme weather. In AMP7 the industry as a whole is in net penalty.


A comparative framework could be significantly more symmetric, depending on how the penalty and reward thresholds are set. It would rely on objective, observed data, rather than uncertain assumptions. On each measure, an equal number of companies could receive reward and penalty payments, reducing the downwards skew across the package. It would also reduce the need for analysis establishing whether the package is symmetrical to inform financing costs.




One current concern of the outcomes framework is that targets set using an **ex-ante approach fully do not reflect events that were not anticipated when setting the PCL** (i.e. a very hot summer leading to shrink/swell events). Setting dynamic incentives could reduce this asymmetry of the overall outcomes package by automatically reflecting an impact felt by all companies. This would remove the need for the regulator to make assumptions or adjustments to financing costs.



Emulating a traditional market through competitive pressures, linking a company's potential for financial rewards and penalties more closely its relative performance to others within the industry would focus attention on outperforming competitors and achieving good outcomes for customers and the environment rather than seeing competition as an end in itself, including a greater focus on innovation rather than cost cutting.



Reducing the need to forecast performance would **reduce regulatory burden for both companies and regulator**, allowing them to focus resources on more material issues. If symmetric incentives are set, it would **remove the need to understand and model potential asymmetric risk**. It could enable lighter touch regulation, with sector regulators intervening and enforcing safeguards only when needed.



Lastly, many performance commitments definitions have evolved over time (i.e. as associated methodologies have been updated etc). **Comparative targets would remove the need for exact comparability of definitions between years**, and address the difficulty associated with the comparability of historic performance data with more recent data when definitions have changed which often can make setting a stretching but achievable PCL difficult.



Practical considerations

There are challenges to this approach, but they are not new challenges and are not insurmountable

Potential challenge	Interactions with the idea of dynamic targets
<p>Concern that it is not reasonable to expect the same levels of performance from all companies across England and Wales.</p> <p>The Smarter Regulation consultation (page 44) identifies potential concerns about limited comparability of performance across different geographical areas (e.g. due to topography) which could lead to unfair returns for companies.)</p>	<p>This is already a concern under Ofwat’s approach of setting targets on an ex ante basis. Compared to Ofwat’s current approach for common targets, a move to dynamic targets does not create any new problems or concerns in relation to regional differences.</p> <p>To tackle this concern, there is the potential to set targets that are company-specific but derived from a common model or methodology so as to take better account of how exogenous regional differences between companies (e.g. topography or rurality) may affect performance. This is how cost allowances are set. Adjusting for exogenous regional differences is equally feasible under a dynamic target approach as under an approach of ex ante targets.</p> <p>Arguably, a dynamic approach to targets provides more opportunity to address this challenge, because the time saved in avoiding the need to determine reasonable ex ante targets six years into the future can be used instead understanding potential differences between companies that allow for more like-for-like comparisons of performance.</p>
<p>One of the challenges in setting common targets is that in some cases performance differences between companies may reflect differences in the funding the company has historically to carry out enhancements to improve performance, and it may not be reasonable to expect them to achieve the same performance levels today. The Smarter Regulation consultation highlights (page 44) that different levels of funding may affect the comparability of performance across companies.</p>	<p>This is already a concern under Ofwat’s approach of setting targets on an ex ante basis. This challenge arises irrespective of whether targets are set on an ex ante or dynamic basis.</p> <p>Arguably, a dynamic approach to targets provides more opportunity to address this challenge, because the time saved in avoiding the need to determine reasonable ex ante targets six years into the future can be used instead to develop a better understanding of historical funding differences between companies so as to allow for more like-for-like comparisons of performance.</p>
<p>Maintaining standards of performance a potential concern is that relative incentives could reward stagnating performance.</p>	<p>If incentives are accumulated over a gradient of performance (penalty or reward) a strong incentive is maintained to either rectify poor performance or continue to improve good performance. It would also be possible to carefully set safeguard level for rewards to apply (e.g. recent average) which does not reward the industry if average performance is worse than this level.</p>
<p>Greater competition could reduce collaboration within the sector</p>	<p>While a slight concern, we think the benefits of competition outweigh any disbenefit of inhibited collaboration. Despite this there are examples of companies sharing best practice on this type of regime for existing comparative metrics like C-MeX and D-MeX (e.g. on priority services for vulnerable customers). The regime could include a system where companies who are performing strongly and wish to continue to earn increasing rewards must share knowledge on what drives their performance, akin to Ofwat’s current enhanced incentives regime. The presence of Ofwat’s innovation fund also actively encourages collaboration (being a requirement of funding). Ofwat are consulting on doubling the scale of the fund in AMP8 to £400m.</p>

Interactions with setting performance incentives

Aspect of performance incentives	Interactions with the idea of dynamic targets
<p>Common PC definitions: work to define and measure performance in a way that is consistent and comparable across companies.</p>	<p>Ofwat has developed – and continues to expand – a broad set of performance metrics which are intended to be comparable across companies and these can provide the foundation for a dynamic targets approach focusing on relative performance.</p>
<p>Scope of common targets: Regulatory decision as to which PCs should be subject to targets that are common across the industry.</p>	<p>The number of PCs for which common targets are set has grown over time – and this has paved the way for a move to targets based on relative performance. Note that it is not essential for targets to be strictly common (i.e. set at the same value for all companies) to apply dynamic targets (e.g. as highlighted in slide 14 targets could be company-specific but determined using a common method or model).</p>
<p>Approach used to set targets: By this we mean the broad approach used by the regulator to determine the PCL for each company (the PCL represents an incentive baseline so that performance better than the PCL gets a financial reward and performance worse than the PCL leads to a penalty).</p>	<p>For most of the PCs with common targets (and excluding C-MeX, D-Mex, and BR-Mex), Ofwat’s historical approach and planned approach for PR24 is to determine the value of the PCL on an ex ante basis – specifying in 2024 a value for the PCL for each year from 2024/.25 to 2029/30, in light of historical data, companies’ business plan forecasts and regulatory judgement. The dynamic PCL approach provides an alternative approach, under which the PCL for each year is to be calculated based on the actual performance of the set of water companies in that year and a specified rule (e.g. PCL is the upper quartile or median level of performance) – this does not involve any forecasts or projections at the price review of what level of performance would be seen as good or bad during the forthcoming price control period.</p>
<p>ODI incentive rate: Regulatory decision on the financial value, for each company, of marginal changes in performance relative to the baseline for the performance incentive scheme (i.e. the PCL).</p>	<p>The introduction of dynamic targets does not require any changes to the approach taken to setting ODI incentive rates. It is equally applicable with what Ofwat has referred to as bottom-up approaches to incentive rate calibration and top-down approach (the former concern evidence on customers’ absolute valuations for variations in a specific aspect of performance whereas the latter concerns customers relative valuations across different aspects of performance).</p>
<p>Caps, collars and deadbands (if applied): these determine limitations and exclusions from the application of financial incentives to differing levels of performance.</p>	<p>The introduction of dynamic targets can be applied alongside policies on cap, collars and/or deadbands for specific incentives. Rather than these elements being specified as values ex ante they might in some cases be defined in terms of a specified range around the (dynamic) target.</p>



Appendix – further considerations

Introducing comparative performance

There are a number of considerations for introducing or piloting greater use of comparative performance assessment.

A logical place to start to start would be performance commitments (PCs) designated as having common performance commitment levels by Ofwat. Ofwat have given an initial view of these PCs in the Final Methodology.

Another consideration is the characteristics of the PC. PCs where there is scope for improvement but uncertainty about the pace change or volatility due to exogenous factors may be good candidates.

For PCs with good historical data availability, it would be possible to simulate the incentive distribution under comparative performance assessment, although how companies would have responded to that type of incentive will not be part of the data.

Common performance level	Company specific performance level
Water supply interruptions	Leakage
Internal sewer flooding	Per capita consumption (PCC)
Pollution incidents	Business demand
Unplanned outage	Bathing water quality
Serious pollution incidents	River water quality (phosphorus)
Compliance risk index (CRI)	Biodiversity
Discharge permit compliance	Mains repairs
Business customer experience in Wales ⁹⁹	Sewer collapses
Customer contacts about water quality	Operational greenhouse gas emissions – water ¹⁰⁰
External sewer flooding	Operational greenhouse gas emissions – wastewater
	Storm overflows

Source: Ofwat, PR24 Final Methodology Appendix 9 – Setting expenditure allowances, table 4.1

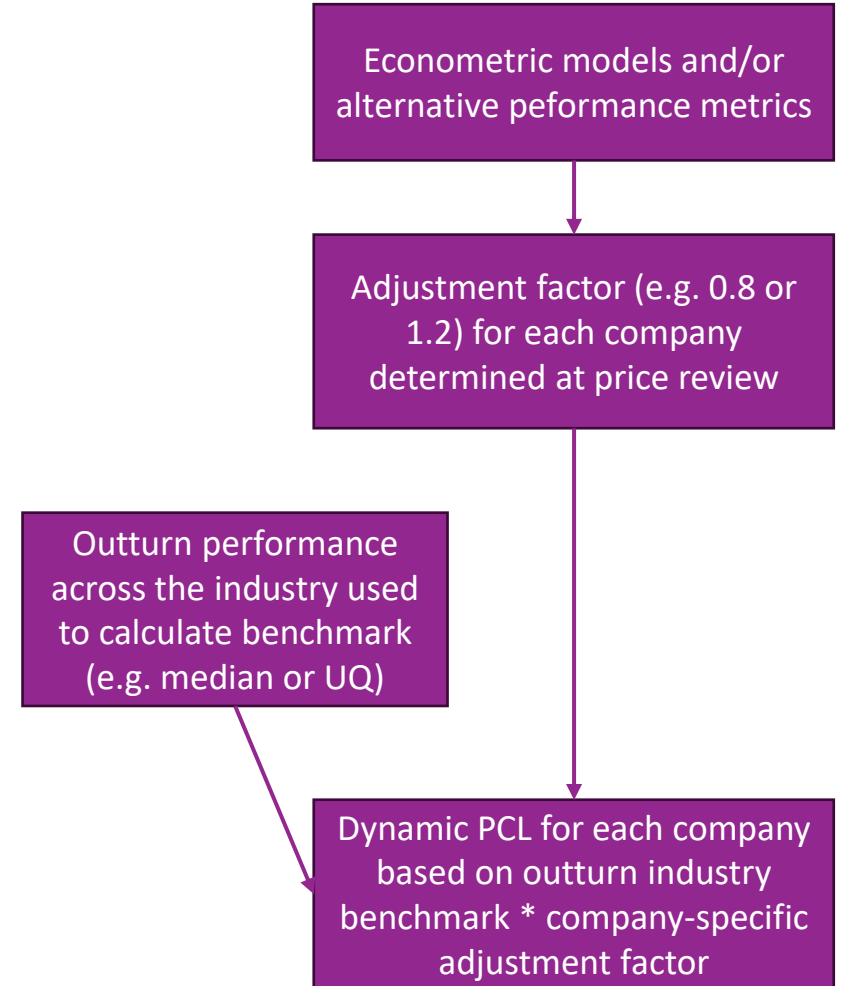
Regional differences between companies

Ofwat’s current approach (PR19 and PR24 so far) to using cross-company benchmarking to determine PCLs is relatively simplistic: it assumes that if all companies were equally efficient and well-run they would achieve the same levels of performance against the specific metrics that Ofwat uses for its PCs.*

For instance, all companies may be given the same PCL in terms of the average length of interruptions per customer or the total pollution incidents per 10,000km sewers. However, there may be regional differences between companies that affect performance levels (e.g. more interconnected networks in urban areas can reduce risks of supply interruptions from a mains burst). And Ofwat’s performance metrics may not support like-for-like or fair comparisons (e.g. the number of pollution incidents is not simply a function of the length of sewers). *NB refining the metrics could improve comparability without requiring further modelling e.g. including all asset types to normalise pollution incident performance.*

A natural response to this situation is to draw on the approach that Ofwat has used for many years for its cost benchmarking: using cross-company econometric models that take account of exogenous drivers of companies’ costs/performance. In addition, there may be a role for alternative performance metrics that allow for fairer comparisons of performance across companies.

These approaches could be used to set benchmarked PCLs that are better tailored to individual company circumstances. This could be done under Ofwat’s current approach of ex ante PCLs and under an approach of dynamics PCLs (the diagram opposite illustrates one way that this might be done but there is flexibility on this).



*Further discussion of the potential for econometric modelling to inform performance assessment can be seen in Anglian Water’s business plan, outcomes table commentary in sections 1.2 and 1.13 [anh07-outcomes-pr24-data-table-commentary.pdf](https://www.anglianwater.co.uk/anh07-outcomes-pr24-data-table-commentary.pdf) ([anglianwater.co.uk](https://www.anglianwater.co.uk))

Design considerations

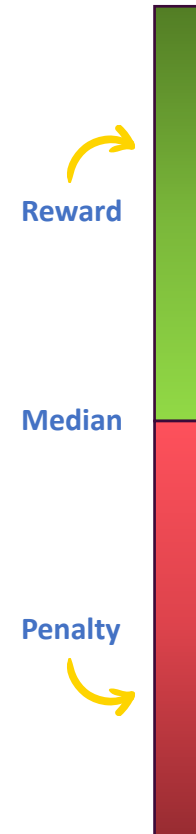
There are a number of ways of implement comparative performance assessment.

At its core comparative performance assessment involves dynamic **performance targets**, reflecting the changing nature of a competitive market. In practice there are myriad ways in which thresholds for rewards and penalties could be set. One approach could be to apply incentives from the median, akin to C-MeX. Other approaches could involve setting incentives around the upper quartile, or apply rewards from the upper quartile and lower quartiles of performance. The choice of structure depends on the priorities of the framework e.g. stretch vs symmetry.

Incentives could be applied in the same was as currently for C-MeX – i.e. distance from the reward threshold. The default would appear to be to apply incentives based on the number of units of performance above the threshold. This would allow incentive rates to be set in line with current approaches.

Minimum performance standards could be specified to ensure the industry is not rewarded for getting worse. This would be set at the price review and could be absolute or dynamic (e.g. average performance from the last three years). Consideration could be given to linking these to customer expectations e.g. a >95% reliable service.

Incentives from the median



Incentives from the upper quartile

