

February 2022

# **PR24 and beyond: a discussion paper on outcome delivery incentives**

## About this document

This discussion paper considers how to set **outcome delivery incentives for the 2024 price review** (PR24). Outcome delivery incentives (ODIs) provide financial payments to water companies from customers for performing beyond their committed levels of service ('outperformance payments') or from companies to customers for performing below their commitments ('underperformance payments'). ODIs are linked to performance commitments (PCs), which are metrics that measure the service that water companies deliver for their customers and the environment. We will specify ODIs and their relevant PCs as part of setting price limits for the 2025–30 period in the PR24 final determinations.

This paper follows our May 2021 consultation ('[Creating tomorrow, together](#)') and further engagement with stakeholders. We will consider the responses that we receive ahead of our draft methodology for PR24, which is due to be published in July 2022.

## Responding to this discussion paper

We welcome any comments on this discussion paper. Please email them to [PR24@ofwat.gov.uk](mailto:PR24@ofwat.gov.uk).

The closing date for this consultation is **25 March 2022**. If you wish to discuss any aspect of this consultation, please contact Jeevan Jones by email on [jeevan.jones@ofwat.gov.uk](mailto:jeevan.jones@ofwat.gov.uk).

We will publish responses to this consultation on our website at [www.ofwat.gov.uk](http://www.ofwat.gov.uk). Subject to the following exceptions, by providing a response to this discussion paper, you are deemed to consent to its publication.

If you think that any of the information in your response should not be disclosed (for example, because you consider it to be commercially sensitive), you should identify the specific information and explain in each case why it should not be disclosed, which we will consider when deciding what information to publish.

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# 1. Introduction

This discussion paper considers how to set outcome delivery incentive (ODI) rates at PR24.

Outcome delivery incentives (ODIs) provide financial payments to water companies from customers for performing beyond their committed levels of service ('outperformance payments') or from companies to customers for performing below their commitments ('underperformance payments'). ODIs are linked to performance commitments (PCs), which are the metrics that measure the service that water companies deliver for their customers and the environment. They are a key part of the outcomes framework which aims to focus water companies on delivering the outcomes that really matter to customers and the environment. Each PC has a committed level of performance set by us in our price reviews, which we refer to as a performance commitment level (PCL).

We first introduced PCs and ODIs at the 2014 price review (PR14) as part of a new outcomes-based approach to price controls. This approach was developed further at the 2019 price review (PR19). Our [May 2021 consultation on the high-level design of PR24](#) reinforced our commitment to the outcomes-based approach in future price reviews and considered improvements. This included a proposal that all PCs would have financial payments linked to them in PR24 (which we reiterated in our [November 2021 consultation on performance commitments for future price reviews](#)).

We also set out our intention to work collaboratively with companies to produce customer research that will inform the setting of ODI rates, which we will publish alongside the PR24 final methodology. Our [October 2021 paper on collaborative customer research](#) sets out further details of this.

Our May 2021 consultation set out that we were considering revising the standard ODI rate formula and that a different approach to setting ODI rates for asset health-related PCs may be necessary. We made a commitment to explore these issues further in a subsequent discussion paper, and this discussion paper fulfils that commitment.

The focus of this paper is on our approach to ODI rates for common PCs. When submitting their proposals for ODI rates for **bespoke PCs**, we would expect companies to have regard to our reasoning for ODI rates for common PCs, with appropriate rationale and evidence where an alternative approach is required for local circumstances.

We also focus on PCs based on the delivery of outcomes rather than mechanisms that hold companies to account for the delivery of specific schemes or outputs. We suggested calling these mechanisms Price Control Deliverables (PCDs) and we will cover them separately in the PR24 draft methodology.

We have taken account of stakeholders' responses to our May 2021 consultation and further submissions to our [Future Ideas Lab](#), as well as discussions with stakeholders through the [outcomes working group](#), which includes water companies, regulators and CCW. We also take account of our relevant statutory duties and the UK and Welsh Governments' Strategic Policy Statements, which emphasise the need for us to drive water company performance. Both the UK and Welsh Governments are in the process of updating their strategic policy statements. The [UK Government's statement](#), laid before Parliament on 2 February 2022, states that we should drive water companies to be more ambitious in taking action to protect and enhance the environment, push them to provide a better and fairer water service for all and challenge the sector on resilience. The [Welsh Government's current statement](#) sets out that we should incentivise water companies to deliver what customers want alongside other priorities such as affordability, resilience and sustainable management of natural resources.

Our draft methodology will contain further details of our wider proposed approach to ODIs, including how we intend to set caps, collars, sharing mechanisms, the appropriate risk range for ODIs, and measuring ODI risk. We have also engaged with water companies and other stakeholders through the outcomes working group on some of these issues. While we do not focus on these issues in this paper, we recognise there are dependencies and welcome comments on them where they are relevant.

In the rest of this paper, we consider:

- the purpose of ODIs;
- developing an approach for standard ODI rates;
- options for setting standard ODI rates; and
- our approach to enhanced ODIs.

## 2. Purpose of ODIs

We introduced ODIs to help align the interests of a company's management and investors with their customers, by directly linking shareholders' returns to the quality of services that are provided by companies and the outcomes that really matter to customers and the environment.

Financial ODIs provide incentives to deliver key outcomes through the prospect of underperformance and outperformance payments. Companies also have reputational incentives to meet or exceed their PCLs.

ODIs can help to:

- **balance competing incentives**, such as those to reduce expenditure, which could otherwise encourage companies to reduce their levels of service and not meet their PCLs;
- **compensate customers** where they receive below committed levels of service by returning the foregone value to customers through underperformance payments;
- **incentivise companies** to go beyond their PCLs where there are clear benefits for customers (i.e. where the costs of delivering better service levels are less than or equal to the benefits from such an improvement); and
- **encourage stretch and innovation** where companies seek returns by finding better ways of delivering and improving their performance, which improves outcomes for customers within a price review period and also enables us to set more stretching PCLs in future price reviews.

ODI rates based on marginal or average costs can also be used as **funding mechanisms** for service improvements beyond our cost allowances or to return funding to customers where outcomes have not been delivered. This could be seen as an alternative to direct funding through enhancement allowances – the key differences being that ODIs provide (or remove) funding based on the delivery of outcomes, whereas enhancement allowances provide funding in advance. As we have set out, we are more likely to use PCDs rather than PCs with ODIs to fund and manage the delivery of specific schemes or outputs, and will cover PCDs in the PR24 draft methodology.

**Q1: Do you have any comments on what the purpose of ODIs should be at PR24?**

### 3. Developing an approach for standard ODI rates

In this section, we consider how we could set standard ODI rates for PR24.

#### 3.1 Our PR19 approach

PR19 advocated the use of a 'bottom-up' approach to setting ODI rates for each PC, based on a company's estimate of its customers' willingness to pay for incremental improvements.

**Underperformance rates** were designed to compensate customers for their foregone benefit from a unit of underperformance. It assumed that customers would partially benefit from reduced expenditure associated with underperformance (from the cost sharing mechanism)<sup>1</sup> and therefore customers' share of cost savings were deducted from the estimated marginal benefit to achieve the underperformance rate.

**Outperformance rates** were designed to incentivise a company to outperform their PCLs. They provided companies with a share of the marginal benefits of outperformance. This ensured that incentive payments to outperform were not greater than the benefits received by customers for improved performance. This is because companies would only be incentivised to improve only where the share of marginal benefits used within the incentive rate was greater than the share of the marginal costs assumed to be borne by the company.

#### Box 3.1 – Standard ODI rate formula at PR19

$$\text{Underperformance rate} = MB - MC * (1 - S)$$

$$\text{Outperformance rate} = MB * S$$

Where:

*MB* is the marginal benefit

*MC* is the marginal cost

*S* is the company's cost sharing rate

Box 3.1 sets out the standard ODI rate formulas from the PR19 methodology.<sup>2</sup> If a company outperforms its PCL, the units of performance above the PCL are multiplied by the outperformance rate to give the company's outperformance payments; similarly, if a

<sup>1</sup> The cost sharing mechanism allocates a share of totex underspending or overspending between a company and its customers. If a company outperforms against (spends less than) its totex allowance, then the company and its customers share these savings. If a company underperforms against (spends more than) its totex allowance, the company and its customers share in these additional costs.

<sup>2</sup> See '[Delivering Water 2020: Our final methodology for the 2019 price review. Appendix 2: Delivering outcomes for customers](#)', page 92, Ofwat, December 2019.

company performs below its PCL, its underperformance payments are the units of performance below the PCL multiplied by the underperformance rate.

In the majority of cases, particularly for customer-facing PCs, this approach was followed with marginal benefits estimated from research into customers' willingness to pay or other valuation methods. We used companies' estimates of marginal costs where appropriate and assumed a cost sharing rate of 50% for most PCs.

For asset health-related PCs, we acknowledged the significant challenges involved with obtaining accurate customer valuations. Some companies based their proposed ODI rates on estimates of marginal costs in light of this and we accepted them if they met our checks.<sup>3</sup>

## 3.2 Developing our PR24 approach

In developing our approach for PR24, there are a number of issues that we need to consider.

There are two challenges in terms of **marginal costs**, which we used to set ODI rates at PR19:

- **Availability and reliability of marginal costs estimates.** During PR19, we observed wide variations in companies' submitted marginal costs which we found challenging to assess. For example, one company estimated the marginal cost of a sewer collapse to be £106m per 1,000km of sewer while another estimated £0.083m per 1,000km of sewer. We do not expect significantly improved marginal costs data will be available at a PC level for PR24, and we are likely to face similar challenges in assessing it.
- **Interactions between outcomes and costs.** The PR19 methodology assumed a clear positive relationship between a company's incremental outcomes performance and costs. In reality the relationship is not straightforward. In some cases, performance can be improved without additional marginal costs.<sup>4</sup> In other cases, underperformance is driven by managerial ineffectiveness which can increase costs as well as reduce performance. Even where there is a positive relationship, in some cases, the level of marginal costs may increase as performance increases (i.e. the relationship may not be linear).

There are also important considerations relating to **marginal benefits**:

- **Reliability of marginal benefit estimates.** At PR19, we observed wide variations in companies' estimates of marginal benefits for the same PC and performance increment, which could not easily be explained by customer preferences or local circumstances. For example, we found one company's customer valuation for water supply interruptions was

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<sup>3</sup> See '[PR19 final determinations: Delivering outcomes for customers policy appendix](#)', page 100, Ofwat, December 2019.

<sup>4</sup> The CMA recognised this in '[Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations: Final report](#)', page 29 and pages 629–630, Competition and Markets Authority, March 2021.

42 times greater than that of another company.<sup>5</sup> For PR24, we are expecting the collaborative customer research to provide more accurate and consistent estimates.

- **Difficulties with marginal benefit for asset health PCs.** We recognise there are particular challenges with quantifying marginal benefits for asset health-related PCs, where the impacts on customers are indirect or more likely to materialise in the future. It may be challenging to elicit robust customer valuations through conventional willingness to pay methods.
- **Presence of diminishing marginal benefits.** Diminishing marginal benefits refer to the impact on customers reducing at increasing levels of performance. In cases where this applies, there may be a case for differing underperformance and outperformance rates. Outperformance rates set at a constant level of marginal benefit may incentivise performance above the efficient level and could make customers worse off. We consider which PC types may exhibit diminishing marginal benefits in section 4.1.

Taken together, this suggests a **proportionate and pragmatic approach** to setting ODI rates is required at PR24.

Similarly, issues regarding the difficulty in collecting marginal costs and marginal benefit estimates have been reflected in our proposed approach to setting PCLs for PR24. We are intending to set initial PCLs that are consistent with our base cost allowances, and move away from this where there is a clear rationale to vary this approach for specific PCs. In our December 2021 consultation on base costs, we proposed to set common PCLs for all companies where appropriate at PR24, such as where this was the case for PCs at PR19, and whether the PCLs achieved by base cost allowances should be common, unless there is robust evidence it should be set on a company-specific basis.<sup>6</sup>

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<sup>5</sup> See '[PR24 and beyond: Creating tomorrow, together](#)', page 58, Ofwat, May 2021.

<sup>6</sup> See '[Assessing base costs at PR24](#)', Ofwat, December 2021.

## 4. Options for standard ODI rates

In this section, we consider two broad approaches to setting ODI rates:

- **bottom-up approaches**, set at the level of each PC, primarily based on estimates of customer benefits, or potentially using cost estimates where necessary; and
- a **top-down allocation approach**, where ODI rates are derived from a company's overall potential payments informed by customers' priorities and regulatory judgement.

We discuss both approaches separately because they are in principle distinct, though there may be potential for using both approaches at PR24, for example using a top-down approach for a subset of ODIs where there is weak evidence of customer benefits or costs.

### 4.1 Bottom-up approaches

We first consider how we could revise the ODI rate formula, then consider approaches for different PC types.

#### 4.1.1 Revising the ODI rate formula

Given the challenges with using marginal costs data, we are considering removing it from the standard ODI rate formula, as suggested in our May 2021 consultation.

Doing so would simplify the formula as follows:

#### Box 4.1 – Revised ODI rate formula

$$\text{Underperformance rate} = MB * X_{\text{under}}$$

$$\text{Outperformance rate} = MB * X_{\text{out}}$$

Where:

*MB* is the marginal benefit

*X* is a defined sharing rate between customers and companies, which may be different between underperformance ( $X_{\text{under}}$ ) and outperformance ( $X_{\text{out}}$ )

This would have the key advantage of no longer explicitly relying on ex-ante marginal cost estimates. Marginal benefit estimates are likely to be more robust at PR24 due to the collaborative customer research for the majority of PCs, and so they should better reflect the impacts on customers from underperformance or outperformance.

The use of marginal benefits means that incentives should broadly correlate with the preferences of customer and society, with higher rates on the PCs that are most important. The rates would not precisely account for potential additional impacts on customers' bills from cost sharing as a result of outperformance or underperformance, but as we note above, this relationship may be complex. However, we would need to consider the risk of unintended consequences from this simplification. This is therefore likely to be a starting point which could vary under specific circumstances, which we consider below.

We would need to decide on the appropriate share of marginal benefits between companies and customers to set within ODI rates ( $X_{under}$  and  $X_{out}$ , above).

We could set **ODI rates equal to estimated marginal benefits** (i.e. 100% of marginal benefits or  $X = 1$ ). This would provide strong in-period incentives for companies to improve their performance, and fully reflect and compensate customers for their foregone benefits from underperformance. However, if improved performance requires additional costs, then customers would pay more than they value the performance improvement, as they would pay the entire marginal benefit and a share of additional funding through the cost sharing mechanism. On the flip side, companies would receive the full marginal benefit but only pay a portion of the costs so there is a risk of 'gold plating' (where costs exceed the benefits). Using this approach for underperformance could overcompensate customers if reduced performance is associated with cost savings and may cause companies to be excessively risk averse to trying new innovations.

Alternatively, we could set **ODI rates equal to a fixed share of estimated marginal benefits**. For simplicity, this could be set at 50% (similar to our approach to outperformance rates at PR19). This has some economic support if cost sharing rates are set at 50%, as it should encourage companies to operate where marginal costs equal marginal benefits, which is generally socially optimal. This would reduce the risk that companies are incentivised to gold-plate in terms of outperformance. In terms of underperformance, there is a risk that customers may not be fully compensated for their foregone value from underperformance, particularly if they experience no share of cost savings, or they are relatively low.<sup>7</sup>

This could provide a starting point for the ODI rates, but there may be circumstances where we need to adjust the share of marginal benefits for ODI rates to **avoid distorted incentives on companies or perverse outcomes**, or where we identify a material risk to customers. This could, for example, be because **cost sharing rates diverge significantly from the share of marginal benefits used in ODI rates**. To illustrate, assume a company has cost sharing rates of 75% (i.e. it incurs 75% of all cost overspends and receives 25% of cost savings) and its ODI rates are set at 50% of marginal benefits. If improved performance is

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<sup>7</sup> This is because if marginal costs below PCLs are significantly lower than marginal benefits, the share of cost savings plus underperformance payments received by customers does not fully reflect the level of underperformance that they experience. However, if cost sharing rates and the share of marginal benefits in ODI rates are broadly aligned, companies should have an incentive to meet their PCL if marginal costs are lower than the ODI rates based on marginal benefits, so this may be unlikely to occur in practice.

associated with additional costs, the company would bear a larger proportion of the costs and gain a relatively small proportion of the benefits. Therefore, it may not improve its performance even if the benefits outweighed the costs, so that improvements would be in customers' interests. In such situations, there may be a case for adjusting the share of marginal benefits in ODI rates to be in line with the company's cost sharing rates.

We could also take **different approaches for outperformance and underperformance rates**, for example setting a higher share of marginal benefits for underperformance rates compared to outperformance rates. This would provide strong incentives on companies to meet their PCLs and would provide greater compensation for the customers of companies that underperform their PCLs.

This may also be appropriate where there are likely to be **diminishing marginal benefits** from outperformance, and a risk of gold plating, which may be the case for asset health-related PCs (as discussed in section 4.1.3).

Even without diminishing marginal benefits, **customers may have different views about outperformance and underperformance rates** which could drive different approaches. This may be due to loss aversion or status quo bias (which might mean customers dislike deteriorations in service more than they value improvements), concerns about overall bill levels increasing due to outperformance on multiple ODIs, or dislike of outperformance payments to companies in principle. In PR19, we asked for evidence of customer support for outperformance payments, which led to a different approach to outperformance and underperformance rates for some PCs. However, in some cases this can lead to distorted incentives on companies. For example, in cases where the benefits from outperformance are experienced by different customers, and as such diminishing marginal benefits are unlikely to apply (such as for sewer flooding incidents), outperformance rates that are lower than underperformance rates may cause a company to not improve its performance to the benefit of additional customers if the company has already met its PCL by improving performance to the benefit of other customers, even though the additional customers may value the improvements equally.

During PR19, we increased ODI rates where we had **concerns about a company's past performance**, to strengthen incentives to meet PCLs.<sup>8</sup> We could take a similar approach for PR24.

At the PR19 referrals by the Competition and Markets Authority (CMA), some stakeholders argued that setting different rates for outperformance and underperformance created **asymmetric risk** in ODIs. However, the balance of expected ODI payments is driven by expected performance rather than solely ODI rates. We intend to consider how we assess ODI risk in more detail in the PR24 methodology. With a bottom-up approach to ODI rates, we may

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<sup>8</sup> See '[PR19 final determinations: Delivering outcomes for customers policy appendix](#)', page 102, Ofwat, December 2019.

need to do cross-checks on the overall ODI package, and set caps, collars and aggregate sharing mechanisms, to ensure the overall risk to companies is appropriate.<sup>9</sup>

## Stakeholders' responses

We proposed a simplification where ODI rates would be set at a share of marginal benefits, such as 50%, in our May 2021 consultation and we discussed this further at the outcomes working group in November 2021. Some water companies recognised the challenge in quantifying marginal costs and supported revising the formula in this way. Other companies preferred retaining the use of marginal costs, with one company suggesting industry collaboration to improve approaches to allocating joint costs. Some companies suggested maintaining the reporting of marginal costs as a cross-check. A few stakeholders suggested alternatives including not applying a cost sharing adjustment, so that companies receive the full share of customer benefits from improvements.

We welcome further views from stakeholders.

**Q2: Do you have any comments on our observations on the standard ODI rate formula and how we are considering revising it?**

**Q3: What are the risks of unintended consequences from this approach? How can they be mitigated?**

### 4.1.2 Customer-facing and environmental PCs

For **customer-facing PCs** (such as water supply interruptions) and **environmental PCs** (such as pollution incidents), there is a strong case to use a marginal benefits-based approach to setting ODI rates. Doing so should provide incentives on companies which are broadly proportionate to the impacts on customers. We will also have readily accessible estimates of marginal benefits, building on extensive work during PR14 and PR19 and drawing on the collaborative customer research for PR24. For some measures, we would be able to use alternative data or market values to quantify marginal benefits.<sup>10</sup>

We consider diminishing marginal benefits are unlikely to apply to customer-facing PCs. This is because the impact on individual customers should be constant at any level of performance and not be affected by incidents affecting other customers. For example, the marginal benefit of an avoided internal sewer flooding incident in a property should not

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<sup>9</sup> Which at PR19, we indicated would be in the range of  $\pm 1\%$  to  $\pm 3\%$  return on regulatory equity (RoRE) for notional companies.

<sup>10</sup> For example we could use the UK Government's [Valuation of greenhouse gas emissions: for policy appraisal and evaluation](#) with respect to a PC relating to carbon emissions.

decrease based on the aggregate number of preceding sewer incidents that were avoided for other customers, although individual incidents may have different impacts on customers. For environmental PCs, while diminishing marginal benefits may occur at some point, they seem unlikely to be realised during the next price review period because of the scale of improvement that is required.

As such, underperformance and outperformance rates could be the same for customer-facing and environmental PCs as a starting point.

### 4.1.3 Asset health-related PCs

For **asset health-related PCs**, it is more challenging. In principle, the existence of customer-facing PCs, and our commitment to maintain them over time, should incentivise companies to maintain their asset health to avoid underperformance payments in future years and price review periods. However, as we note in our [November 2021 consultation on PCs](#), we are concerned that companies may not put sufficient weight on the long-term consequences of poor asset health and so consider it necessary to directly incentivise asset health through more short-term PCs, such as mains repairs and sewer collapses, as at PR19.

Broadly, a bottom-up approach to ODI rates for asset health-related PCs could be based on:

- **direct customer valuation of asset health** – from customer willingness to pay research;
- **inferred marginal benefits** – by allocating valuations from relevant customer-facing metrics to asset health-related PCs; or
- **marginal costs**.

We consider each of these options in turn.

Using **direct customer valuations** should in theory link customer preferences to the PC. However, customers struggle to properly value the impacts of poor asset health, particularly where the impacts are indirect (e.g. from a sewer collapse). Research suggests that areas which require technical expertise to understand may be less appropriate for customer research.<sup>11</sup> During PR19 we considered there was a risk that customer valuations for asset health-related ODIs were elicited in a way which did not capture the long-term impact of companies failing to properly maintain their assets.

Using **inferred marginal benefits** would involve linking asset health-related PCs to the probability of a customer-facing event in future price review periods. Table 4.1 sets out a possible mapping between existing customer-facing measures and asset health-related PCs from PR19.

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<sup>11</sup> ['Engaging water customers for better consumer and business outcomes'](#), Blue Marble Research, May 2020.

**Table 4.1 – Potential mapping of asset health-related PCs at PR19 with customer-facing metrics**

PR19 performance commitment	Customer-facing metrics
<b>Mains repairs</b>	Water supply interruptions Low pressure Leakage Drinking water quality
<b>Unplanned outage</b>	Water supply interruptions Water use restrictions
<b>Sewer collapses</b>	Internal sewer flooding External sewer flooding Pollution incidents

It may be possible to quantify the probability of an asset failure leading to customer-facing service incident in future price review periods. For example at PR19, United Utilities used operational data to estimate that on average one sewer collapse resulted in 0.087 internal sewer flooding incidents and 0.54 external sewer flooding incidents within the same price review period, before then estimating the extent to which a sewer collapse in the current period was an indicator of future asset failures in the following price review period (2.62 per collapse in the current period).<sup>12</sup> This could be used to scale a customer's valuation of a customer-facing event to derive an ODI rate for an asset health-related PC, after applying an appropriate discount rate. While this approach maintains the use of customer valuations, it is highly sensitive to companies' assumptions on the interactions between customer-facing and asset health-related PCs, and could be challenging to assess across companies during price reviews. It also only considers impacts on the next price review period, which may not sufficiently reflect typical asset lives. In the January 2022 outcomes working group, one stakeholder suggested developing a common industry methodology to provide consistency between companies, which could improve this approach.

Using **marginal costs** would enable companies to recover the costs of improvements and return unspent costs to consumers. Combined with reputational incentives and the prospect of future ODI payments for customer-facing PCs, this may incentivise them to at least maintain their performance. However, if marginal benefits exceed marginal costs below the PCL, customers will not be fully compensated for underperformance. Conversely, if marginal costs exceed marginal benefits beyond the PCL, companies are incentivised to over-invest.

Moreover, there was wide variation in companies' marginal costs data at PR19, leading us to have low confidence in the data. There may also be further challenges in quantifying marginal costs, particularly if individual incidents measured by asset health-related PCs are

<sup>12</sup> ['Performance commitments technical document: supplementary document S3001'](#), pages 349 to 350, United Utilities, September 2018.

highly heterogeneous. For instance, the mains repairs PC could encompass the cost of relining or replacements, which could have highly different marginal costs.

In response to our May 2021 consultation, Yorkshire Water agreed there are challenges in identifying the marginal costs of changes in asset health performance. Nonetheless, it suggested that we could collect this information as a cross-check for approaches based on marginal benefits or top-down approaches (as in section 4.2).

### **Implication of diminishing marginal benefits on asset health**

Unlike customer-facing and environmental PCs, asset health-related PCs are more likely to have diminishing marginal benefits. For example, beyond a certain level of performance an additional mains repair could have a declining impact on the frequency and impact of supply interruptions, if companies prioritise interventions on assets with the highest risk and impact on customers (although companies may target lowest-cost solutions, which may not correlate with highest-risk interventions).

With diminishing marginal benefits, there is a risk that outperformance rates set ex ante could incentivise companies to overinvest or 'gold plate', where the marginal costs of higher performance exceed the marginal benefits. This would be more acute for outperformance rates based on marginal costs, or where marginal benefits are hard to measure. This suggests that for some asset health-related PCs, it may be appropriate to have lower outperformance rates than underperformance rates, or no outperformance rates at all where there are no clear benefits to customers.

**Q4: Do you have any comments on using a bottom-up approach based on marginal benefits for setting ODI rates?**

**Q5: Do you have specific comments on setting ODI rates for asset health-related PCs?**

## **4.2 Top-down approaches to setting ODI rates**

An alternative to setting ODI rates on an individual PC basis is using a 'top-down' approach, starting at the company level. Under this approach, we would start with intended maximum ODI payments for individual or groups of PCs, either expressed in £ million or a proportion of regulatory equity. This would likely be informed by customer surveys about the maximum amount customers are willing to pay for a particular outcome and regulatory judgement, for example based on the appropriate amount of ODI risk for companies to bear and/or government priorities. We would then allocate this to individual or groups of PCs over a given increment of performance.

In its recent submission to the [PR24 Future Ideas Lab](#), Bristol Water proposed such a top-down approach to setting ODI rates, with the aim of simplifying how we set ODI rates.<sup>13</sup> Dŵr Cymru supported a similar top-down approach based on relative customer preferences in its response to our May 2021 consultation.

The key benefit of this approach would be using customers' preferences to inform the overall size and relative balance of companies' incentive packages, which they may find easier, and more meaningful, to engage with than questions about their willingness to pay for specific service improvements.

However, a key challenge is deciding the appropriate performance increment across which to allocate top-down payments. This could be based on a range of methods such as an assessment of feasible levels of improvement or deterioration, historical performance (such as recent best or worst cases), or companies' probability estimates. Some PCs may have 'natural' limits (such as zero leakage) but they may not be achievable in practice, or could be outside the levels of customers' preferences. For some common PCs, we could use a common performance increment range for all companies.

Risks with these approaches include the quality of these estimates, and the possibility that the resulting ODI rates do not reflect impacts on customers. For example, a top-down approach, even aligned to customers' relative priorities, may not adequately reflect the impact on customers from a service failure if the performance range is too narrow or too wide. Customers may struggle to effectively allocate their total willingness to pay for service incentives to individual service areas without a clear understanding of the impact on service performance. This could also lead to maximum and minimum payments that exceed customers' overall willingness to pay.

There is also an inherent risk that the size of incentives and ODI rates will arbitrarily differ between companies, particularly if the top-down payments are based on a proportion of regulatory equity, which reflects the size of each company's regulatory capital value (RCV), which tends to differ between companies based on the extent of historic investments rather than number of customers.

A top-down approach could be appropriate for a subset of PCs, such as asset-health related PCs, where it is difficult to derive customers' willingness to pay or ascertain marginal costs. For example, a share of regulatory equity could be allocated to asset health-related PCs so that the company's board and management sufficiently focus in this area.

A top-down approach could also be used to inform how caps and collars are set for individual or groups of PCs, or for defining aggregate limits on ODI payments, for example, by helping to inform the maximum amount that customers are willing to pay overall for environmental improvements relative to customer-facing service improvements. This could help to balance

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<sup>13</sup> See '[A simplified approach to setting ODI rates](#)', Bristol Water, January 2022.

companies' overall packages in line with customers' priorities alongside bottom-up approaches for individual PCs.

**Q6: What are your views on using top-down allocation approaches for setting ODI rates or for other uses?**

**Q7: How would we ensure that the performance increments for individual PCs are sufficiently robust and protect customers?**

## 5. Enhanced ODIs

This section considers our approach to enhanced ODI at PR24. It sets out our approach at PR19, considers whether we should retain enhanced ODIs at PR24, and then considers how the rates could be set if they are retained.

### 5.1 Our approach at PR19

We introduced enhanced ODIs at PR19. These rates were higher than the standard ODI rates and were only granted beyond a certain performance threshold. They were designed to provide strong incentives on companies to innovate to deliver major performance improvements, beyond the best level currently achieved by any company, compensating them for the extra effort and risk involved.

We considered that such significant changes in frontier performance would provide both direct benefits to the company's own customers, and benefit customers more widely by enabling us to set more stretching PCLs at future price reviews for all companies.

For PR19, we set out that only common PCs could have enhanced ODIs, to ensure thresholds and payments are based on frontier-shifting performance relative to the sector. Companies could request enhanced ODIs on these PCs in their business plans, and we assessed them as part of our determinations. Where a company's customers did not support standard outperformance payments, we did not set enhanced ODI rates for those PCs. In all other cases, we assessed whether companies' proposals were stretching.

In our final determinations, nine companies had enhanced ODIs covering five PCs (internal sewer flooding, leakage, per capita consumption, water supply interruptions and pollution incidents).

To provide balanced incentives and protect customers, we required enhanced ODIs to also have enhanced underperformance payments and rates. To further protect customers and companies, and prevent excessive focus on individual PCs, we set caps for enhanced outperformance and collars for enhanced underperformance. We also required companies with enhanced ODIs to have knowledge sharing plans in place, to share learning on what has worked and what has not, which we said we would take into account when reconciling enhanced ODI payments.

During the PR19 final determinations, we generally accepted companies' proposed enhanced ODI rates and enhanced outperformance thresholds where they were greater than our estimates, to reflect asymmetry of information between us and companies. We set enhanced underperformance thresholds at least at the lower quartile of recent historic performance.

We set enhanced caps to limit enhanced outperformance payments for each PC to be no greater than 1% of the company's water or wastewater regulatory equity. We set enhanced underperformance collars equal to the lower decile of recent historic performance.

## 5.2 Should we retain enhanced ODIs at PR24?

We need to consider whether to retain enhanced ODI rates at PR24, taking account of the wider context of PR24 as well as our learning from PR19.

Innovation is a key consideration for PR24 but we need to consider the use of wider mechanisms, such as the innovation fund, to also incentivise innovation. We are also seeking to simplify the price review where the level of complexity is not proportionate to the benefits.

As enhanced ODIs (and the innovation fund) have only been in operation for one full reporting year, we have limited data on which to judge their effectiveness. No companies received enhanced outperformance or underperformance payments in 2020–21, although some companies came close – Northumbrian Water and Wessex Water for water supply interruptions, and Northumbrian Water for pollution incidents. We will have one additional year of performance data (2021–22) by the PR24 final methodology.

In discussions in the outcomes working group, companies indicated that they generally support maintaining enhanced ODIs, although they provided limited examples of how they had led to them targeting high levels of performance.

## 5.3 Designing enhanced ODIs at PR24

If we do maintain enhanced ODIs, we will need to consider whether we should set them in the same way or whether there are opportunities for simplifying their design or strengthening incentives.

We could require all companies to have enhanced ODIs on certain PCs instead of companies requesting them in their business plan submissions. This would expose more companies to incentives to achieve frontier-shifting performance. Enhanced underperformance rates could introduce greater levels of risk to poorer performers.

We could also expand the scope of enhanced ODIs to apply to more PCs than those that were put forward by companies at PR19, where there is sufficiently robust data to set appropriately stretching enhanced thresholds and clear benefits from high performance (for instance, we would be unlikely to set enhanced ODIs for PCs relating to statutory compliance).

In line with our wider approach to setting PCLs and ODI rates at PR24, we could set out early views on enhanced thresholds and rates. It may be appropriate for them to be consistent across companies, simplifying the assessment process.

**Q8: Should we retain enhanced ODIs at PR24? If we do, should they apply to all companies? And which PCs should have enhanced ODIs?**

**Q9: How should we approach assessing and setting enhanced ODIs at PR24?**

**Q10: For water companies: how have enhanced ODIs influenced your company's decision making around achieving high performance?**

## 6. Next steps

We look forward to responses to this discussion paper, and will take account of them, and any further discussions with stakeholders, as we continue to develop our thinking on these issues ahead of the PR24 draft methodology due to be published in July 2022 and the final methodology in December 2022.

We will continue to engage with stakeholders and welcome any further views on these issues.

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Ofwat  
Centre City Tower  
7 Hill Street  
Birmingham B5 4UA  
Phone: 0121 644 7500

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