

July 2019

Trust in water

# PR19 draft determinations

**Delivering outcomes for customers  
policy appendix**

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## **PR19 draft determinations: Delivering outcomes for customers policy appendix**

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## 1 Introduction

Outcomes are the high-level objectives valued by customers and society. Our vision for the water sector is one in which customers and wider society in England and Wales have trust and confidence in vital public water and wastewater services. The aim of the outcomes framework is to help realise this vision by focusing companies on delivering the high-level objectives that matter to today's customers, future customers and the environment. Outcomes-based regulation was one of the most significant innovations we introduced at the 2014 price review (PR14). Alongside the introduction of the total expenditure (totex) approach to cost assessment, the outcomes approach has sharpened companies' focus on delivering what matters to customers and society, while giving them greater flexibility in how they deliver them. This has enabled companies to improve efficiency. For PR19, we want to build on the success of the outcomes framework by asking companies to:

- make more stretching performance commitments to their customers;
- have stronger incentives to deliver on their commitments; and
- better reflect resilience in their commitments.

This appendix sets out our approach and decisions for our PR19 Draft Determinations regarding the outcomes framework for slow track and significant scrutiny companies. In this document, we focus on our overall approach to sector-wide issues and the results of our comparative analysis across companies. The focus is therefore on common and comparable<sup>1</sup> performance commitments and outcome delivery incentives. Where there are common themes from the company-specific analysis that apply across a number of companies, we provide an overview of those decisions in this document. Our company-specific decisions can be found on the [draft determinations webpage](#).

### 1.1 Our draft determinations

Our PR19 methodology outlines our approach for the outcomes framework. This builds on the framework introduced at PR14 and includes some changes to incentivise companies to address the future challenges that the industry faces and

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<sup>1</sup> 'Comparable' performance commitments refer to bespoke performance commitments that apply to multiple companies and have the same or similar characteristics such as the bespoke asset health performance commitments from the long list of metrics with standard definitions outlined in the PR19 methodology.

better aligns the interests of company management and investors to those of customers.

**Components of PR19 Outcomes Framework**

**Common performance commitments** – common performance commitments with common definitions covering customers’ key priorities and stretching performance levels.

**Bespoke performance commitments** – Companies propose **bespoke** performance commitments to reflect their own customers’ preferences.

**Standard Outcome delivery incentives for common and bespoke performance commitments** – incentives that aim to align the interests of company management and investors with those of customers.

**Enhanced outcome delivery incentives** - intended to incentivise companies to improve performance beyond the best level currently achieved by any company to deliver benefits for all customers over the long term.

**Customer protection** – measures to protect customers in cases where outperformance payments are much higher than their expected.

Companies propose 638 performance commitments of which 410 are bespoke performance commitments. In line with our PR19 methodology, which states that ODIs should be financial rather than reputational as the default, companies’ propose financial incentives for 71% of the proposed performance commitments. We also state that they should be settled annually in-period as the default rather than at the end of the five–year period. Companies propose that 84% of financial incentives are in-period.

We have reviewed and, where necessary, are making interventions to the performance commitments and outcome delivery incentives proposed by companies to ensure customers are protected. Our draft decisions build on the outcomes of our initial assessment of plans (IAP) where we assessed companies’ September 2019 business plans in the Delivering Outcomes for Customers test. The results of this assessment and the specific actions that were specified for companies can be found at the [initial assessment of plans webpage](#).

For fast-track companies, we published our draft determinations 11 April 2019. At the end of each section and in section 8 of this document, we provide an overview of the implications for fast track companies of the decisions relating to the Outcomes framework we have made for slow-track and significant scrutiny companies.

## 1.2 Our approach

We have considered views provided by stakeholders in response to our IAP actions, companies' resubmitted business plans<sup>2</sup> (April 2019) and representations received on fast-track company draft determinations<sup>3</sup>.

All of the responses to the initial assessment of business plans, including all of the companies' revised business plans, provided by the 1 April 2019 are taken into account in our decisions where relevant. Where appropriate, we explicitly set out our response to points and issues raised by respondents.

Our decisions also take into account the representations made on the fast track draft determinations where the points and issues raised are relevant to the slow track and significant scrutiny draft determinations. We will deal with the other elements of the representations to the fast track draft determinations as part of the final determinations.

We have not necessarily been able to take full account of all late evidence, submitted after the 1 April 2019 business plans, and we will consider this information for the final determination.

In making our draft decisions, we consider the results of the customer engagement that companies undertook to inform their proposed performance commitments and ODIs. As part of the IAP, we assessed the quality of the customer engagement undertaken by companies. Where companies provide insufficient evidence of customer engagement to support their Outcome proposals, we specified actions for companies to address this in their revised business plans. We acknowledge the significant work that companies, along with the Customer Challenge Groups, have done to engage with their customers in developing their proposed Outcomes packages. We note that the quality of customer engagement and how it was used to support proposed Outcomes packages was mixed. In coming to our draft decisions on performance commitments and ODIs, we consider a range of evidence including the results of this customer engagement. We have also undertaken extensive comparative analysis across companies and are making decisions considering all evidence in the round.

For common or comparable **performance commitments levels**, we use comparative analysis to assess how stretching company proposals are. We assess the evidence provided by companies in support of their proposals. For **outcome**

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<sup>2</sup> Slow-track and significant scrutiny companies were required to submit revised business plans on 1 April 2019. We set the 1 April 2019 deadline to ensure that we would have sufficient time to consider the information we received.

<sup>3</sup> The deadline for Ofwat receiving representations on those draft determinations was 24 May 2019.

**delivery incentives**, we assess the evidence, including customer support, provided for the type of incentive selected e.g. non-financial incentive, or outperformance and/or under payments.

We use comparative analysis to assess company proposed **outcome delivery incentive rates** for common and comparable performance commitments. We consider that rates of financial incentives for the same performance commitment might be expected to vary between companies, for example because of the different values customers place on service improvement, but we do not consider that large variations that neither we nor companies can satisfactorily explain are appropriate.

In setting outcome delivery incentive rates for common or comparable performance commitments, we differentiate between 'customer-facing' and 'non-customer facing' performance commitments<sup>4</sup> in our approach. For customer-facing performance commitments, where possible, we use customer willingness to pay research undertaken by companies to inform our interventions where we consider it necessary to intervene. For those performance commitments that relate to outcomes that are not directly customer-facing, where engaging with customers is more challenging, we use on data other than willingness to pay information provided by companies such as estimates of marginal cost as well as our comparative assessment to inform our interventions.

**Bespoke performance commitments** by their nature may be unique to one company or be similar across a number of companies. They may also involve new definitions. There may be a lack of historical data on performance, as well as an inability to compare across companies, which means that assessing the stretch of these performance commitments and the appropriateness of any financial incentives is challenging. In order to address these challenges, we use multiple sources of evidence to assess companies' proposals. Our starting point is the quality and strength of customer support including customers' willingness to pay for the performance commitment and any financial incentives associated with it. We combine this with an assessment of the technical evidence supporting the performance commitment, including any sector comparators or similar performance commitments, and historical evidence and precedents where available.

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<sup>4</sup> Non customer facing performance commitments are Mains Repairs, Unplanned outage, Sewer Collapses, Sewer Blockages (a comparable bespoke performance commitment), Water quality compliance (CRI – DWI's compliance risk index), Treatment Works Compliance.

## **1.3 Document structure**

We provide details of our approaches and decisions for the following areas:

- Performance commitment definitions (Section 2)
- Common and comparable bespoke performance commitment service levels (Section 3);
- Common and comparable bespoke outcome delivery incentives (Section 4);
- Enhanced ODIs (Section 5);
- Bespoke performance commitments (Section 6);
- Customer protections (Section 7)
- Summary of implications for fast-track companies (Section 8)
- Long-term performance forecasts (section 9)

## 2 Performance commitment definitions

Common performance commitments are commitments with standardised definitions that all companies must have. The common performance commitments rely on good-quality, consistent definitions so that stakeholders can compare companies and use this information to challenge companies on the ambition of their proposed performance commitment levels and on their performance throughout the period.

### 2.1 What we said in our PR19 methodology

The definitions of seven of the common performance commitments (leakage, supply interruptions, internal sewer flooding, PCC, unplanned outage, mains bursts, sewer collapses and external sewer flooding) were developed through a joint project with Water UK, which was completed in early 2018<sup>5</sup>. Three performance commitments are set out by regulators: compliance risk index (CRI) is set out by the Drinking Water Inspectorate (DWI); and treatment works compliance and pollution incidents are set out by the Environment Agency and reported as part of the Environmental Performance Assessment (EPA) published annually by the Environment Agency.

The two risk-based resilience measures (risk of sewer flooding in a storm and risk of severe restrictions in a drought) were developed in collaboration with the industry.

Definitions of all common performance commitments and the additional asset health long-list performance commitments set out in our PR19 methodology are available on our website<sup>6</sup>.

For bespoke performance commitments, we set out certain areas that should be covered. These include: the different price controls; vulnerability; the environment; resilience and the abstraction incentive mechanism (AIM). We also state that the bespoke performance commitment definitions should be clear and contain no or very few exemptions.

### 2.2 Our actions at IAP

All the common performance commitments, except C-Mex and D-Mex and those set by and reported to the DWI and Environment Agency (CRI, treatment works compliance and pollution incidents) have been subject to shadow reporting as part of

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<sup>5</sup> The definitions for unplanned outage and sewer collapses were further refined in February 2019.

<sup>6</sup> <https://www.ofwat.gov.uk/outcomes-definitions-pr19/>

the companies' Annual Performance Reports (APR). As part of this, companies must show compliance with the definition for each performance commitment through a 'Red, Amber, Green' (RAG) rating. We have used this RAG reporting as the primary means to determine the status of compliance with definitions for each performance commitment.

Where companies had multiple amber or red ratings against performance commitment definition compliance, we required them to submit a plan of how they would be compliant by 2020. In some cases, we requested intermediate calculations.

The majority of actions associated with definitional compliance were associated with **leakage**, as well as three new common performance commitments, i.e. **unplanned outage** and the two **resilience performance commitments**, that have only been shadow reported on for one year. Since the unplanned outage performance commitment has financial incentives, we requested companies provide an early APR submission including fully audited 2018-19 performance data for the unplanned outage performance commitment by 15th May 2019. For the two resilience performance commitments, we actioned companies to provide further information including intermediate calculations and assumptions used in the proposed performance commitment level to help us assess whether companies would be ready to report fully against the performance commitment definitions by 2020. For example, for the drought risk performance commitment, we asked companies to submit the intermediate calculation outputs and to provide further evidence to demonstrate that the risk presented is reflective of the Water Resources Management Plan (WRMP) position. For leakage, we asked companies to confirm compliance with the definition they had been shadow reporting against since 2017.

As part of our IAP, we set a new common performance commitment for **vulnerability**, based on the number of households on the priority services register (PSR). The performance commitment has three main features: a minimum of 7% of households on the PSR by 2024/25 (PSR reach); contact<sup>7</sup> a minimum of 90% of registered customers every two years to check for changes to circumstances; and be reputational only. Those companies that did not propose a performance commitment related to the PSR were given actions to adopt one. Where companies proposed performance commitments related to the PSR, they were given actions to adopt the features of the common performance commitment.

For **bespoke performance commitments**, we checked:

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<sup>7</sup> 'Contact' was defined as a proactive interaction in which contact was made with the customer and their personal information updated as a result (including confirmation of whether or not they need to remain on the register).

- that the performance commitments covered all the required areas set out in our PR19 methodology - where this was not the case, the companies were actioned to propose new performance commitments;
- whether they were clear and easily understandable and did not contain exemptions - where we found this was not the case, we challenged companies to refine the definition or remove the performance commitment;
- company rationale for removing PR14 performance commitments – where this was not sufficient we challenged companies to either provide better evidence or reinstate the performance commitment.

## 2.3 Summary of responses in company April 2019 revised business plans

On the whole, the companies are compliant with the majority of common performance commitment definitions, or plan to be by 2020.

**Leakage** – reporting against the new definition has been part of shadow reporting since 2017. All companies state they will be compliant with the new guidance by 2020. The ones that were actioned during the IAP stage have set out clear plans to show how they will achieve this.

**Sewer collapses** – whilst all companies will be compliant by 2020, the change in definition for PR19 results in a large change in reported figures for some companies compared to the previous definition. This means that performance data reported in business plans cannot be compared to historical values for this performance commitment. This impacts some companies more than others.

**Unplanned outage** – We received companies' early APRs for the unplanned outage performance commitment. These submissions show a significant improvement in compliance with the definition. Only 11% of 204 component ratings are left with red rating and 28% as amber for 2018-19 data. Those with amber ratings either already achieve green status part way through 2018-19 or identify improvements needed to achieve green status by 2019-20. Where available, companies include a supporting statement from an external auditor on compliance with reporting guidance. Only one company, Thames Water, does not plan to be compliant by 2020. South East Water does not provide enough evidence to demonstrate compliance by 2020.

**Risk of severe restrictions in a drought** – The quality of company responses varies greatly, although most provide information on the intermediate steps in their calculation.

**Risk of sewer flooding in a storm** – The quality of company responses varies greatly. Some companies provide the assumptions used and the intermediate steps requested, while others do not.

**Priority service register** – In addition to responses in revised business plans submitted in April 2019, we held meetings with stakeholders, including a customer group roundtable and an industry-focussed workshop to discuss the PSR performance commitment. Stakeholders seemed generally satisfied with our target on PSR reach and the non-financial nature of the performance commitment. With respect to data checking, some stakeholders commented that, judging by current response rates and approaches to keeping PSR data accurate, there is space for companies to innovate and raise the response rate for their requests (e.g. through greater use of tailored language and alternative communication channels). Some stakeholders, including a number of companies, provided comments on definitional aspects of the performance commitment. These are outlined in the table below.

Concern	Who raised it?
Several stakeholders argued that having a 'proactive interaction' with 90% of customers would be very challenging given response rates to previous campaigns have been significantly lower	Company and CCWater comments at stakeholder workshop
The level of data checking is inappropriate as the threshold is reliant on customer response and so somewhat beyond the control of the company	Company comments at stakeholder workshop
The data-checking target should make greater allowance for the fact that some customers will not respond to the company's request, particularly given the relative difficulty companies have in reaching some customers in vulnerable situations	Company and CCWater comments at stakeholder workshop
Further information needed regarding the definition of reasonable endeavours when it comes to attempting contact with customers and what a company should do with the registration if a customer does not respond	Company comments at stakeholder workshop
Using the term 'proactive interaction' could limit the sources from which updates to data could be counted (e.g. companies might be reluctant to include updates from third parties)	Water UK

Further information on our consideration of company responses to our proposal and our draft decisions on this performance commitment can be found in section 3.

**Bespoke performance commitments** – individual company responses to bespoke performance commitment actions related to definitions are set out in the relevant ‘Delivering outcomes for customers actions and interventions’ document.

## 2.4 Our assessment approach

As at IAP, we use the RAG reporting as the primary means to determine status of compliance with the definition for each common performance commitment and focus on responses to IAP actions.

For the **drought risk** and **flooding risk** resilience performance commitments, we assess whether the companies provide the required calculations which are detailed in the guidance documents.

For the new **PSR performance commitment** introduced at IAP, we consider the issues raised in responses to the IAP regarding the definition of ‘contact’ and assess the merit of amending the definition to address issues raised whilst meeting the objectives of the performance commitment.

For **bespoke performance commitments**, we assess the suitability of the definition and the quality of evidence provided by companies for:

- Introducing a new bespoke performance commitment - we intervene on the individual components if we do not find them to be suitable.
- Retaining an existing performance commitment - we intervene where we find the evidence provided is not sufficiently compelling to justify retaining the performance commitment.
- Changing a performance commitment definition - we intervene if these are not clear, easily understandable or have unjustified exemptions. To change the definition, we use definitions from other related/similar performance commitments where possible.
- Discontinuing a PR14 performance commitment - we intervene to retain the performance commitment where we find the evidence provided is not sufficiently compelling to justify discontinuing the performance commitment.

## 2.5 Our draft decisions

Our decisions regarding definitions for **bespoke performance commitments** are set out in the relevant ‘Delivering outcomes for customers actions and interventions’ documents and the resulting definitions are set out in the relevant ‘Outcomes

performance appendix'. The 'Outcomes performance commitment appendix' is a technical document to specify clearly the company's performance commitments and outcome delivery incentives. It is not intended to substitute the information that a company should provide to its customers on its outcomes and performance commitments.

For bespoke performance commitments that are similar across companies, we are seeking consistency of wording where appropriate in definitions to enable comparison across companies and provide transparency for customers.

Our interventions in relation to compliance with definitions for **common performance commitments** are set out below. Detailed decisions for each company are set out in the relevant 'Delivering outcomes for customers - actions and interventions' document.

**Unplanned outage** – where companies report they will not be compliant with the definition by 2020, we intervene to require companies to be compliant with the standard definition by April 2020.

**Risk of severe restrictions in a drought** – we have some concerns around companies' interpretation of the definition. Only Portsmouth Water provides a clear understanding of the performance commitments and definition as well as the intermediate calculations. All companies must be compliant by 2020.

**Risk of sewer flooding in a storm** – we have improved the definition and reporting guidance on this performance commitment since our IAP actions were issued<sup>8</sup>. For the majority of companies, sufficient information is provided. However, for some companies there is insufficient information provided to give confidence that definitions and reporting are comparable. All companies must be compliant by 2020.

We are asking all companies to confirm that they are:

- using the updated parameters in the catchment vulnerability assessment (and setting out any additional criteria that it intends to use);
- reporting the extent to which it uses 2D or simpler modelling; and
- adopting FEH13 rainfall as standard and if not when it expects to do so.

We are requesting this updated information from all companies, as well as requesting model coverage and any other relevant additional information.

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<sup>8</sup> We updated the guidance on 4 April 2019 <https://www.ofwat.gov.uk/publication/reporting-guidance-risk-of-sewer-flooding-in-a-storm/>

**Priority service register**– We are changing the definition of this performance commitment in relation to the data checking aspect by splitting the measure into ‘attempted’ (i.e. an outbound contact that has not received a response) and ‘actual’ contacts (i.e. updates to data based on contact with the customer). We set performance levels for these two aspects of the data checking component of this performance commitment. These are outlined in the later section on performance commitment levels. We retain the definition of PSR reach (i.e. number of households on the PSR) as outlined at IAP. We publish draft guidance for this performance commitment alongside our draft determinations (see ‘Reporting Guidance – Common performance commitment for the Priority Services Register’).

### **2.5.1 Implications for fast track companies**

Common and comparable performance commitment definitions are not subject to the early certainty principle so our decisions on common and comparable performance commitment definitions apply to all companies, including fast track companies.

### 3 Common and comparable bespoke performance commitment service levels

To maintain customers' trust and confidence in the outcomes regime it is important that they can be sure that companies' performance commitment levels are appropriately stretching, and that any outperformance payments are only available for outperformance beyond those stretching levels. Stretching performance commitment levels challenge companies to achieve both a higher level of service, and a more resilient service performance. They encourage companies to improve their services to current customers, future customers and the environment. Working together with our cost assessment tests, more stretching performance commitment levels should help drive greater efficiency in service provision.

In this section we outline our PR19 methodology, actions from our IAP, company responses in their revised plans, and our assessment and decision.

We consider the following common and comparable bespoke performance commitments in this section:

- **upper quartile measures** – supply interruptions, pollution incidents and internal sewer flooding;
- **reducing water demand** – leakage and per capita consumption;
- **statutory measures** – compliance risk index and treatment works compliance;
- **asset health measures** – mains repairs, unplanned outage, sewer collapses, external sewer flooding, sewer blockages, water quality and low pressure;
- **resilience measures** – risks of sewer flooding in a storm and severe restriction in a drought;
- **vulnerability measures** - the priority services register; and
- **customer experience** – C-MeX and D-MeX

We outline our approach and decision at a sector-level for each category of performance commitment. Further details are provided in the sections below.

**Table 3.1: Summary of approach to setting performance commitment levels**

Category	Performance commitments	Approach to setting performance commitment levels
Upper quartile measures	Water Supply Interruptions, Internal Sewer Flooding, Pollution Incidents	<p>PC levels are common to all companies and stretching performance is set at the forecast industry upper quartile (UQ). We assess a broad set of evidence including the historical rate of improvement to test whether forecast UQ is a reasonable expectation for the sector and set levels reflecting a stretching but achievable level of service improvement by 2025.</p> <p>For internal sewer flooding and pollution incidents we calculate forecast upper quartile values for each year of the 2020-25 period based on all companies' September 2018 business plans and set the performance levels to reflect the values we calculate for each year of the 2020 to 2025 period. For water supply interruptions performance levels, we apply a glidepath to reach upper quartile performance in 2024/25</p> <p>We consider company specific circumstances and allow exceptions to the common performance levels of these performance commitments if well justified.</p>
Reducing water demand	Leakage, Per Capita Consumption (PCC)	<p>We assess whether the proposed performance commitment levels are justified taking into account the following: where the 2024-25 performance level is relative to the forecast upper quartile (on leakage this is normalised by both properties and km), whether the levels align as expected relative to WRMP levels unless compelling reasons are provided. For <b>leakage</b>, specifically, we also take into account: whether the annual percentage reduction is above 15%, along with historic performance as well as the levels we consider should be delivered by base cost allowances. For <b>PCC</b>, specifically, we also take</p>

		<p>into account water resource challenges faced, rainfall, demography, and metering penetration.</p> <p>Our interventions are to increase performance levels for some companies and to push laggards further to larger percentage reductions to close the gap between them and the UQ.</p>
Asset health	<p>Mains Repairs, Unplanned outage, Sewer Collapses, Sewer Blockages*, External Sewer Flooding*, Low pressure*, Water quality customer contacts: taste and odour and discolouration*</p> <p>(* are comparable bespoke performance commitments)</p>	<p>We expect companies to propose stretching performance levels on asset health. We also want to see companies achieving and maintaining good levels over the longer term.</p> <p>Our decisions differ for those that are comparatively good performers and those that are comparatively poor performers. Good performers are those which are either close to industry UQ or to our expected good level. To derive an expected good level, we extrapolate improving industry performance over 2020-25. For comparatively good performers, we are pushing companies to achieve the average of their 3 best historical years since 2011. Using 3 years gives a balance between a challenging expectation of companies continuing with best performance and understanding that circumstances in some years might yield performance that would costly to replicate for those at already comparatively good levels. Where we do not have good historical data we use a different approach. For comparatively poor performers, we are expecting significant percentage reductions to close the gap between them and the sector.</p>
Statutory measures	<p>Water quality compliance (CRI – DWI's compliance risk index) and Treatment Works Compliance<sup>9</sup></p>	<p>We require full compliance with these measures. We also consider deadbands are appropriate for these performance commitments with full compliance to provide for some fluctuation in performance, whilst providing a strong incentive to minimise compliance failures. For these</p>

<sup>9</sup> Treatment works compliance is also considered to be an asset health performance commitment

		performance commitments, we consider deadbands should be the same across all companies. We consider company specific arguments and allow exceptions if well justified.
Resilience measures	Risk of severe restrictions in a drought, risk of sewer flooding in a storm	We are ensuring that companies are reducing customer risk over the longer term as well as improving their understanding of their resilience challenges in these areas (e.g. by increasing model coverage) in the nearer term.
Vulnerability	Priority Service Register	This performance commitment was introduced at IAP and our work since then leads us to amend what we expect from companies contacting customers. We are ensuring that all companies deliver above a specified level of reach as well as attempted <b>and</b> actual contacts.
Customer Service	C-MeX and D-MeX	C-MeX and D-MeX policy decisions are outlined in the March 2019 policy decision and shadow year guidance documents <sup>10</sup> . Where further information is available from the early part of the Shadow Year, this is included in annex 5.

## 3.1 Upper quartile performance commitments

### 3.1.1 What we said in our PR19 methodology

We said we expect companies to propose forecasts of upper quartile performance levels for each year to 2024-25 for three common performance commitments – **supply interruptions**, **pollution incidents** and **internal sewer flooding**. This is because these performance commitments are both important to customers and supported by good quality comparative information.

<sup>10</sup> These are available at <https://www.ofwat.gov.uk/regulated-companies/company-obligations/customer-experience/>

While we said there is no clear reason why companies should not achieve the same stretching level of performance, we stated that we would consider company-specific adjustments.

### **3.1.2 Our actions in our initial assessment of plans**

In our IAP, we said all companies should adopt the performance levels we provided. These were calculated using the upper quartile of the levels forecast by companies in their September 2018 business plans for each year of the price control period 2020-21 to 2024-25 for these three performance commitments.

### **3.1.3 Summary of company responses in the April 2019 revised plans**

A majority of companies apply or partially apply our proposed levels for these three performance commitments. Those that partially apply them either adopt alternative profiles, apply deadbands to manage their exposure to the proposed levels or propose less stretching levels earlier in the 2020-25 period:

- for supply interruptions, five companies (Northumbrian Water, Bristol Water, Portsmouth Water, SES Water, South East Water) accept our proposed level, four partially apply it (Affinity Water, Hafren Dyfrdwy, Southern Water, Wessex Water) and five (Anglian Water, Yorkshire Water, Dŵr Cymru, Thames Water, South Staffs Water) do not accept our performance levels;
- for pollution incidents, four companies (Northumbrian Water, Southern Water, Thames Water, Wessex Water) accept our proposed level, one company (Hafren Dyfrdwy) partially apply it and three companies (Anglian Water, Dŵr Cymru, Yorkshire Water) do not; and
- for internal sewer flooding, four companies (Hafren Dyfrdwy, Southern Water, Wessex Water, Northumbrian Water) accept our proposed level, one company (Anglian Water) partially applies it and three companies (Thames Water, Dŵr Cymru, Yorkshire Water) do not.

In their responses, four companies (Anglian Water, Thames Water, Dŵr Cymru and South East Water) challenge our methodology and approach to calculating the forecast upper quartile level. In particular, they argue that some companies put forward unrealistic, overly ambitious forecasts, and consider that taking the upper quartile of upper quartile forecasts results in performance levels that are too stretching. A number of companies (Affinity Water, Hafren Dyfrdwy, Yorkshire Water, Anglian Water, Southern Water, Thames Water and Dŵr Cymru) argue there are company-specific issues such as geographical differences, factors outside

management control or lack of customer support which make it inappropriate to apply single industry-wide performance levels for these three performance commitments. These companies propose different performance levels, or the use of deadbands.

Two companies (Yorkshire Water and Wessex Water) argue that our base cost allowance will not sufficiently cover improvements required to meet the proposed levels for these performance commitments, and other companies ask for additional funding to meet the performance commitment levels.

### **3.1.4 Our policy approach**

In line with our PR19 methodology, we have set a single performance level based on company forecasts of upper quartile performance in each year from 2020-21 to 2024-25 for these three performance commitments. Where companies propose levels that would deliver better performance than the upper quartile level, we set the performance commitment level to our calculated upper quartile level. Similarly, where companies propose lower levels of performance, we set their performance level at the upper quartile level. Where companies propose adjustments to the performance commitment levels for company-specific reasons, we set a high evidential bar to allowing these. We consider whether the evidence for any such adjustments is compelling and also whether the evidence quantifies the adjustment to the performance-level that is proposed to address these company-specific issues.

We retain our approach at IAP to calculating the performance commitment levels using the upper quartile of company proposed performance levels. While there are other methodological options, we consider this approach takes into account that there is information asymmetry between us and companies. Forecast levels can be unrealistic in both directions (too high or too low) and we note that there are incentives on companies to forecast performance that is worse than expected in the later years of the current period. Our experience at PR14 was that many companies accepted performance commitment levels based on current upper quartile performance that they outperformed in the run-up to, and the first year of, the 2015/16 – 2019/20 period. The sector has continued to outperform against PR14 levels over the first 3 years of the current period, and continues to forecast to do so at sector level for the remainder of the period on each of these three performance commitments.

Some companies argue that we should exclude some forecasts from the upper quartile calculations as they consider them unachievable or over-ambitious and using these would result in a forecast upper quartile level that would be unachievable

or over-ambitious. We do not exclude any forecasts since we recognise that there is potential for companies' forecasts to be unrealistic in both directions (either too high and ambitious or too low and under ambitious). To address these concerns however, we analyse the performance levels that are derived from our estimation approach to ensure that they are stretching yet achievable. To test whether our the performance levels are stretching yet achievable we take into account the historical rate of improvement across the industry, and set levels reflecting the expected efficient level of service improvement by 2025.

We consider the following factors when we assess how stretching yet achievable the levels are:

- the sector's past performance against PR14 levels
- the scale of improvement over time (both in PR14 and in previous periods where historical, comparable data was available)
- the improvement required to reach the forecast upper quartile level both in the first four years of the period and in the final year 2024-25. This includes looking at the "overnight" change from 2019-20 forecast levels to the forecast upper quartile level in 2020-21.

For supply interruptions, there have been significant improvements in performance for this measure over time with some of the better performing companies improving by more than 50% in the first three years of PR14. However, the step change at the beginning of the 2020-25 period from 8.25 minutes (sector average in 2019/20) to 4.17 minutes appears very challenging and requires an improvement of close to 50% in year one of the period. In addition, there is substantial dispersion across companies in both historical performance and company forecasts for the 2020-25 period. The 64% reduction in the upper quartile for 2020-25 (from 2019/20 forecast levels) appears achievable given improvement in earlier periods.

For internal sewer flooding, we consider the upper quartile performance level is stretching but achievable at a sector level. Although there is some dispersion across companies in both historical performance and company forecasts for the 2020-25 period, this dispersion is less than for supply interruptions. The 40% reduction for 2020-25 (from 2019/20 forecast levels) appears similarly challenging to longer term improvement trends from earlier periods (around 25% during 2005-10 and around 37% during 2010-15). We set companies an 11% challenge for 2015-20, based on historical upper quartile and after three years they have achieved 19%.

For pollution incidents, the upper quartile looks stretching but achievable at a sector level (with the exception of Hafren Dyfrdwy, which we address in our interventions), even though there is some limited dispersion across the other companies in both

historical performance and company forecasts for the next period. The approximate 35% reduction proposed for 2020-25 (from 2019/20 forecast levels) is broadly consistent with longer term improvement trends from earlier periods. We set the industry a 17% challenge during 2015-20 and, to date, it has achieved a 28% improvement in performance.

Three companies indicate that their customers support different performance levels for some of these performance commitments. In our PR19 methodology we said companies should engage with their customers on appropriate performance commitment levels, but also challenge themselves to achieve at least the forecast upper quartile for each year of the price control period. Our draft determinations take into account customers' views on performance levels where these have been based on high-quality customer engagement, as well as historical and forecast performance levels across the sector. We are satisfied that our decisions provide strong customer protection and appropriately incentivise companies.

We also apply a high evidential bar for deadbands for these performance commitments, as deadbands reduce companies' incentives to outperform the performance levels and reduce transparency of performance commitments. We want to ensure companies are incentivised to mitigate the risk of service failure during severe weather. Customers experience the down- and up-sides of the fluctuations in terms of their service, so it seems reasonable that the appropriate adjustments are made to bills. Companies are able to manage the financial consequences as part of considering the impact of ODIs for their in-period ODI determinations.

### **3.1.5 Our draft decisions**

We set performance commitment levels for all companies at the forecast upper quartile, as shown in annex 2. These levels are the same as at IAP, except for supply interruptions.

For supply interruptions, we recognise that the step change required in the first year of the period is challenging and, in response, set a common glidepath for all companies. The glidepath is calculated using the upper quartile of companies' views of their future performance in 2019-20 and decreases at an even rate to the forecast upper quartile level in 2024-25. This is a transparent approach which closely aligns levels each year to a profile that we consider is more achievable and consistent with our approach at PR14.

We do not consider glidepaths or variations to the performance levels are necessary for pollution incidents and internal sewer flooding. However, we make an adjustment

for Hafren Dyfrdwy, for pollution incidents, setting the performance level for this performance commitment at the company's proposed level. We consider that it is not appropriate to set a performance commitment level at the forecast upper quartile levels, as this would lead to the company being restricted to having very low numbers of category 3 pollution incidents in absolute terms due to the small size of its sewerage system. Category 3 pollution incidents have minor or minimal impact or effect on the environment, people and/or property whereas for category 2 the impact is significant and for category 1 the impact is major. . The company sufficiently demonstrates that its proposed performance commitment level is stretching by proposing one of the highest improvements (39%) amongst the industry.

Companies raise a number of company-specific factors which they state would prevent them from achieving the proposed performance levels. Based on our assessment of the evidence provided, we do not consider that the company-specific factors are sufficiently justified, account for other relevant factors that may have an opposite impact on performance levels, or are unique to that company. None of the evidence provided sufficiently quantifies the impact of these factors on the forecast upper quartile level. (See individual company 'Delivering outcomes for customer actions and interventions' documents for more detail.) Therefore we do not adjust performance levels in light of company-specific factors except for Hafren Dyfrdwy as explained above.

We do not allow deadbands for performance levels for any companies. We do not consider the evidence on company-specific factors put forward by companies to be sufficiently compelling to justify deadbands. We consider that the proposed factors are either not unique to the company, or do not present a valid reason for why customers would accept a lower level of performance or do not quantify the impact on the proposed levels adequately. (See individual company 'Delivering outcomes for customers actions and interventions' documents for more detail.)

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.

### **3.1.6 Implications for fast track companies**

Common performance commitment levels are not subject to the early certainty principle so our decisions on these performance commitment levels apply to all companies, including fast track companies.

## **3.2 Leakage and per capita consumption (PCC)**

### **3.2.1 What we said in our PR19 methodology**

We said in our PR19 methodology that we expect companies to challenge themselves to set stretching performance levels for these common PCs.

For leakage we expected companies to propose stretching performance levels, or justify why it is not appropriate to achieve:

- forecast upper quartile performance (in relation to leakage per property, per day and leakage per kilometre of main per day);
- at least a 15% reduction in leakage; and
- the largest actual percentage reduction achieved by the company since PR14.

For PCC we said that when assessing performance commitment levels we will pay particular attention to the level of ambition that companies have shown, including in relation to customer participation, and how they have reflected government policy and expectations in this area. We expected the companies to explain how their five-year performance commitment levels and long-term projections for leakage relate to their water resources management plans (WRMPs).

We expected the performance commitment levels for these performance commitments to be set as three-year average values to smooth annual variations due to weather impacts.

### **3.2.2 Our actions in our initial assessment of plans**

In our IAP, we assessed companies' proposals on a comparative basis against normalised leakage upper quartile values and their WRMP targets. We gave actions to those companies that proposed insufficiently stretching leakage reductions to reconsider the proposed performance level and ensure that it is stretching and aligns with WRMP targets or provide compelling evidence to demonstrate why the upper

quartile level could not be achieved. We required the companies to clearly set out their evidence and rationale for the performance levels.

For PCC, we asked companies that had proposed insufficiently stretching reductions and/or high performance levels in 2024-25 based on a comparative assessment, to reconsider the proposed levels and ensure that they are stretching, and clearly set out the evidence and rationale for the proposed levels.

We also challenged the use of deadbands which we did not consider were sufficiently justified.

### **3.2.3 Summary of company responses in the April 2019 revised plans**

#### **Leakage**

Several companies make changes to proposed performance levels as a result of our IAP actions. Some changes are related to the companies updating their baseline levels with the latest available information and/or due to the companies adjusting their proposed performance levels.

All companies continue to propose at least 15% reduction by 2024-25 from base level of leakage on an annual average basis.

Two companies (Anglian Water and Yorkshire Water) retain deadbands for leakage. Anglian Water states that deadbands are required because its customers support a smooth bill profile, they could mitigate the impacted of extreme weather on its performance and also provides additional evidence that customers support their inclusion as part of the overall package. Yorkshire Water retains the underperformance deadband and states that it applies to performance commitments where the proposed target level goes beyond 15% reduction, since it considers that this is the level funded and hence underperformance payments for above 15% reduction is not appropriate.

Some companies argue that our base allowances and partial allowance of enhancement expenditure for leakage reduction at IAP are not sufficient to attain more stretching performance levels.

#### **Per Capita Consumption**

Several companies make changes to proposed levels as a result of our IAP actions. Some changes relate to the companies updating their baseline levels with the latest

available information and/or due to the companies adjusting their proposed performance levels.

In their responses, South East Water and Dŵr Cymru challenge the validity of comparisons of companies' PCC levels. They claim that differences at a company level can be explained by other factors such as differences in customer bases, water resource constraints, future supply-demand challenges, demand management optimised costs and further potential for metering. Dŵr Cymru raises a concern that incremental reductions in PCC are not always in customers' interests, for example, increasing tap water consumption over single-use plastic bottled water consumption.

Only Wessex Water retains its deadband for PCC, stating that the three-year average approach does not fully normalise for the influence of the weather, and that a deadband is required to address the high uncertainty in performance as a result of the weather.

### **3.2.4 Our policy approach**

#### **Leakage**

In line with our PR19 methodology, we check if the companies' proposed performance levels achieve at least 15% reduction on annual average basis in the 2020-25 period. We compare the companies' normalised forecast upper quartile levels for 2024-25 in relation to leakage per property per day and leakage per kilometre of main per day. We consider that cross-company comparisons are valuable to identify company performance levels that are outliers, and choose the upper quartile as we consider that this reflects a stretching level. We also compare companies' proposed percentage reductions. We assess whether the companies' proposed performance levels are supported by compelling evidence including its rationale for the proposed levels and the level of stretch proposed.

We consider whether the company demonstrates consideration of appropriate approaches in setting the proposed levels: cost benefit analysis, comparative information, minimum improvement, maximum level attainable, historical information and expert knowledge. In line with our PR19 methodology, we expect all of these approaches to have been taken into account. We consider whether the company provides convincing evidence that the proposed levels are stretching and supported by its customers. This is demonstrated by considering

- how the proposed reduction compares with achieved historical reductions and best ever levels achieved,

- quality of customer engagement and the feedback from the companies' CCG, and
- demonstration of understanding of the societal benefits of reduced leakage.

We consider whether the companies provide well justified reasons supported by their own empirical evidence that achieving greater reduction than proposed is not attainable. The evidence should explain specific challenges the company faces in reducing leakage that cannot be overcome during one five-year period.

We also consider whether the company's proposed levels are more stretching and therefore not included in base costs.

Our decision whether or not to **intervene** on the proposed performance commitment levels for leakage is based on our assessment against the following considerations as well as the following:

- comparison with our PR19 methodology challenge, of a 15% reduction by 2024-25 (measured by comparison between 2025 and 2020);
- normalised forecast upper quartile levels are the maximum we consider to be achievable under base cost allowance;
- companies that have comparatively poor performance should have greater than 15% reductions.

Where companies propose leakage reductions of greater than 15% by 2024-25, we consider whether these reductions are deliverable within base funding and adjust performance commitment levels where appropriate. Consistent with our approach to setting efficient costs, we disallow company claims for enhancement funding to deliver base service including stretching reductions in leakage. We encourage companies to challenge themselves to go beyond stretching levels in 2020-25 period and note that companies can earn outperformance payments for delivering beyond stretching performance levels. Our cost assessment approach allows additional enhancement expenditure to those companies that propose performance levels beyond the upper quartile in 2024-25.

We consider that the three-year average approach<sup>11</sup> to setting the performance commitment level for leakage (and PCC) reduces the impact of extreme weather on out- and underperformance payments and hence any impacts on customer bills. We also note that companies have other ways of considering the impact on bills for example via the in-period ODI determinations.

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<sup>11</sup> Our approach to using a three-year average for leakage and PCC performance levels is outlined in appendix 2 of our PR19 methodology.

## Per Capita Consumption

We **assess** companies' proposed PCC performance levels against a range of criteria. This assessment takes into account cross-company comparisons and company-specific factors such as metering penetration. We consider that cross-company comparisons are valuable to identify company performance levels that are outliers. We recognise that company-specific factors are also relevant and therefore do not use the cross-company comparisons deterministically in assessing or intervening in PCC performance commitments. Companies are challenged to the upper quartile (UQ) where appropriate with the assessment also taking account of company-specific circumstances and the distance of the company from the upper quartile.

The assessment considers the following:

- Whether the performance commitment level is better than the WRMP target for PCC. This is because the PCC levels in WRMPs are for planning purposes only (i.e. how much water does a company need to supply in a dry-year) and may not reflect a stretching level of performance.
- Whether the performance commitment level is worse than the upper quartile absolute level of 128.6 litres per person per day in 2024-25 since we consider this a stretching benchmark against which to measure companies.
- Whether the proposed reduction is at least upper quartile percentage reduction of 6.3%, which we consider to be a stretching benchmark against which to measure whether companies are challenging themselves to improve performance on PCC.
- The consistency of a company's proposed levels with neighbouring or similar companies.
- Whether the company has a supply/demand deficit in its region.
- Other company specific factors such as demography, historical PCC, total percentage reduction across PR19 and metering penetration (as metering is a key means of reducing PCC).
- Whether the company provides well-justified reasons, supported by its own empirical evidence, that achieving greater reduction than proposed is not attainable. The evidence should explain specific challenges the company faces in reducing consumption that cannot be overcome during one five-year period.
- We also consider if the company's 2020-25 performance commitments fit in with longer term forecasts (refer section 9) although this is not a significant factor in determining interventions.

Our decision whether or not to **intervene** on the proposed performance commitment levels for PCC is based on our assessment against the considerations above. We accept proposals from companies which forecast upper quartile performance commitment levels or better in 2024-25, or propose upper quartile percentage reduction and if their 2024-25 performance commitment level is below 140 l/h/d.

We intervene, where companies propose performance commitment levels that are worse than either the upper quartile absolute level or upper quartile percentage reduction, and where we have assessed there to be concerns relating to the other assessment criteria, in particular the supply demand balance deficits and level of ambition shown. We expected companies with supply demand balance deficits to show more ambition and propose more stretching service levels. In most cases we set the levels to the closer of the upper quartile absolute service level or upper quartile percentage reduction, although in a few cases we choose different values depending on company-specific factors.

As with leakage, we consider that the three-year average approach to specifying the performance commitment level reduces the impact of extreme weather on out- and underperformance payments and hence reduces impacts on customer bills. We also note that companies have other ways of smoothing the impact on bills for example via the in-period ODI determinations.

We consider that given the increasing importance of making best use of precious water, there is a case for going further than the proposed interventions above. The leading reductions in the sector, proposed by Affinity Water of 12.5% and Yorkshire Water of 8.9% suggest that more ambitious reductions are deliverable by the sector. International comparison suggests that water consumption in England and Wales is high relative to other European countries, many of which achieve water consumption levels below 120 litres per person per day. We therefore invite stakeholders to consider the case for requiring companies to deliver a 10% reduction over the 2020-25 period or forward looking upper quartile performance.

### **3.2.5 Our draft decisions**

**Leakage** – We intervene for Thames Water to set a more stretching performance level of a 25% reduction based on the highest percentage improvement proposed by all other companies. Thames Water's proposed performance level of a 20% improvement is already a requirement arising from the enforcement action we took against the company under section 19 of the Water Industry Act 1991 and it has significantly worse performance than other companies.

In line with our approach, we intervene to reduce the proposed levels for Affinity Water and Yorkshire Water to achieve 20% reductions, which we consider sufficiently stretching and suitable to be covered by base cost allowances. We welcome Yorkshire Water's and Affinity Water's ambition to go beyond the stretching level covered by base service. Companies can earn outperformance payments for delivering beyond stretching performance levels.

We remove the proposed deadbands by Anglian Water and Yorkshire Water. For Anglian Water, we consider its customers were not given sufficient technical information by the company to make an informed judgement. For Yorkshire Water, we intervene to reduce its leakage reduction to that which is covered by base funding which was its rationale for the deadband. We accept the removal by Bristol Water of its proposed deadband.

### **Per Capita Consumption**

We intervene to revise the performance commitment levels for nine companies.

#### **3.2.6 Implications for fast track companies**

Common performance commitment levels are not included in the early certainty principle for fast track companies, so our decisions on these performance commitment levels could impact all companies, including fast track companies.

The implications of our assessment for slow-track and significant scrutiny companies for these performance commitments for fast track companies are:

- Our comparative assessment for leakage does not highlight any changes to the performance levels included in fast track company draft determinations.
- An implication of our assessment comparative assessment for PCC would be more stretching performance level for United Utilities' performance levels. We set the company's performance commitment to achieve 5.2% reduction by 2024-25 from baseline level. The company's WRMP target is lower than the proposed performance level and, despite not forecasting any supply demand balance deficit during the planning period, the company announced and nearly introduced a Temporary Use Ban (a Hosepipe ban) for its domestic customers during the summer in 2018. Therefore, we now consider that the upper quartile percentage reduction of 6.3% would be more appropriate.

### **3.3 Performance commitments relating to statutory measures**

The Drinking Water Inspectorate regulates compliance with statutory obligations in relation to drinking water quality for companies across England and Wales. Compliance with statutory obligations relating to waste water discharge quality is regulated by the Environment Agency and National Resources Wales for England and Wales respectively.

#### **3.3.1 What we said in our PR19 methodology**

The two common measures used to monitor compliance with the statutory obligations are the **compliance risk index (CRI)**, which measures water quality across the asset base, and **treatment works compliance**, which measures the ability of the company to treat effluent effectively. CRI is defined and calculated/reported by the DWI, treatment works compliance is defined and calculated/reported by the Environment Agency and NRW.

#### **3.3.2 Our actions in our initial assessment of plans**

In the IAP, we said all companies should adopt these compliance levels for both performance commitments as the performance levels. This is 100% for treatment works compliance and a level of 0 for CRI. Due to the performance level being set at the maximum value, we set a standard deadband for all companies to allow for some fluctuation in performance, whilst providing a strong incentive to minimise compliance failures. The values of the deadband is set at 99% in all years for treatment works compliance and at 1.5 in all years for CRI.

#### **3.3.3 Summary of company responses in the April 2019 revised plans**

##### **Compliance Risk Index (CRI)**

All companies (except for Thames Water) propose a performance level of '0', as set out in our IAP actions. Thames Water retains the two additional bespoke performance commitments for CRI (one for metaldehyde and one for all other CRI components).

In June 2020 the ban on use of metaldehyde as a pesticide on farmland comes in to force across England and Wales. Anglian Water removes the CRI sub-measures it proposed in its September 2018 business plan due to the change in legislation, as it

does not now consider this an issue from 2020. Thames Water, however, retains its sub-measures, stating that there may be some residual illegal use of the pesticide due to current stockpiles and considers that it should still measure CRI without metaldehyde so it is not disadvantaged by this.

Six companies accept the standard deadband of 1.5. The other eight companies do not adopt the standard deadband and challenge our level. Of these eight companies, five set a static level over the period (worse than 1.5). The other three have a reducing profile over the period (worse than 1.5 in all years).

Companies provide a wide range of reasons as to why the deadband should not be set at 1.5. The majority state that it is a new measure that could be subject to volatility as the reporting becomes established, and that a wider deadband is warranted to protect them from this uncertainty. Some companies also suggest that a very stretching deadband level will result in many companies failing, which may cause a public perception issue and reduce consumer confidence in water. Thames Water also consider that residual illegal use of the pesticide should mean a wider deadband is set.

### **Treatment works compliance**

All companies except Yorkshire Water accept that they should have 100% compliance on the treatment works compliance measure and so set their proposed performance levels to that value. Yorkshire Water bases its performance level on historical performance and argues that customers do not support an improvement in service. It also argued that achieving 100% compliance would require more investment and would result in increased customers' bills.

Two companies do not accept the standard deadband of 99% compliance. Hafren Dyfrdwy state that, if only one of its treatment works is in breach of compliance requirements, it will fall below the deadband. Anglian Water retains its deadband level from its September 2018 business plan, suggesting that customers supported this level in its research. However, the company did not ask customers about the 0.4% change required in the deadband to ensure it is aligned to the regulatory requirement and all other companies.

### **3.3.4 Our policy approach**

#### **Compliance risk index (CRI)**

In assessing companies' proposed performance levels, we maintain our approach to setting the performance level at 0% for CRI. We do not consider it appropriate to add sub-measures to the CRI performance commitment.

In contrast to our approach on other performance commitments, we consider a deadband is appropriate on performance commitments where the performance commitment level is set at full compliance. This has no bearing on the companies' statutory obligation to be fully% compliant all of the time, it simply allows a margin in performance, before an underperformance payment applies. We consider that the shadow reporting data does not show significant volatility. Therefore we do not expect any substantial volatility in performance that would warrant a wider deadband. We also do not consider impacts on customer perception as a valid reason for having a more lenient deadband. We consider that public perception is a matter of how the performance against targets is communicated.

Regarding Thames Water's argument that illegal metaldehyde use still warrants the measurement of CRI separately without metaldehyde, our view, is that it is not appropriate to set a deadband on the basis of suspected illegal activity. DWI considers that it is not appropriate to plan for illegal activity especially metaldehyde as screening arrangements for all pesticides should be an inherent part of the Company's on-going operational arrangements that are already in place.

However, we do recognise there may be a need to retain some flexibility for new metaldehyde legislation to be implemented before performance levels reach 100% compliance. Therefore, we increase the deadband for the first two years of PR19. The deadband level will be set at a CRI score of 2 in years 1 and 2 of the period and at 1.5 in years 3, 4 and 5.

### **Treatment works compliance**

We maintain our approach to setting performance levels at 100%. We do not consider customer support for a lower level a valid argument: when the statutory requirement is 100% compliance, there can be no exceptions. However, we consider that a deadband of 99%, before an underperformance payment applies, is in line with the Environment Agency guidance, where performance of less than 99% is considered not acceptable and attracts an amber rating.

We accept Hafren Dyfrdwy's argument that a deadband of 99% will not allow it any variation around the target, unlike the rest of the companies, and therefore apply a proportionate deadband in our intervention of 97.9%.

### **3.3.5 Our draft decisions**

#### **Compliance Risk Index (CRI)**

We set the performance level for all companies at 0% for each of the years 2020/21 to 2024/25. The only intervention is for Thames Water, where we remove the two sub-measures proposed and apply the standard levels to the main CRI measure.

The new deadband profile we are setting in recognition of a potential lag in metaldehyde legislation adherence means that interventions are required for all slow track and significant scrutiny companies, to adopt this new profile.

#### **Treatment works compliance**

We set the performance commitment level for all companies of 100% in each year from 2020-21 to 2024-25. We intervene for Yorkshire Water to set its performance levels at 100%.

We set a standard deadband of 99%, before underperformance payments apply, for all slow track and significant scrutiny companies, except Hafren Dyfrdwy. We set a deadband for Hafren Dyfrdwy of 97.9% equal to a single failing site. This is in recognition of the fact that, as a small company with fewer than 100 sites, a deadband of 99% would be disproportionate in comparison with other companies as, in effect it would mean that if even one of Hafren Dyfrdwy's sites fell below 100% compliance, its underperformance payments would apply.

### **3.3.6 Implications for fast track companies**

Common performance commitment levels are not included in early certainty for fast track companies, so our decisions on these performance commitment levels apply to all companies, including fast track companies.

Our decisions on deadbands, apply to United Utilities and Severn Trent Water, since they opted out of the early certainty principle in relation to deadbands for CRI and treatment works compliance. Our decisions on deadbands will not apply to South West Water which opted into early certainty entirely.

## 3.4 Asset health performance commitments

Asset health is a key area of network and service resilience. It focuses on the ability of assets to provide services now and into the future, which is what matters to customers.

### 3.4.1 What we said in our PR19 methodology

We said that we expect companies to include four common asset health performance commitments as part of their asset health commitments, as well as additional performance commitments reflecting their own asset health challenges. We expected companies to engage with their customers on asset health performance commitments to protect current and future customers and the environment. We also said that we expect companies to propose stretching performance levels and that companies should aim to improve performance, which is different to the past, when companies were only expected to maintain stable performance.

There are four common asset health performance commitments. They are **mains repairs** (also known as mains bursts), **sewer collapses**, **unplanned outage** and **treatment works compliance** (the latter is covered in the section above). Several companies also selected four of the asset health long-list comparable bespoke performance commitments (using the standard definitions) outlined in our PR19 methodology. These performance commitments are **external sewer flooding**, **sewer blockages**, **low pressure** and **customer contacts** (both taste and odour and discolouration).

### 3.4.2 Our actions in our initial assessment of plans

We challenged companies to propose improved performance levels where we did not consider the levels proposed in September 2018 business plans to be sufficiently stretching. To determine which performance levels were not stretching for mains repairs, sewer collapses, unplanned outage and external sewer flooding, we considered comparative performance and compared forecasts to historical performance. For sewer blockages, low pressure and customer contacts we did not conduct a comparative analysis at IAP, actions were based on the level of stretch proposed in comparison to the company's own historical performance.

For mains repairs, many companies' September 2018 business plans proposed a deterioration in service due to increased leakage targets for the 2020 – 2025 period.

Some companies argued that more pro-active mains repairs would be required in order to reduce leakage. This meant that companies could not be expected to reduce leakage and mains repairs over the same period. No companies provided sufficient evidence of this, so we challenged them to provide the evidence or improve their proposed performance levels.

We also challenged the use of deadbands that were not sufficiently justified.

### **3.4.3 Summary of company responses in the April 2019 revised plans**

**Mains repairs** – All five companies (Affinity Water, South East Water, Thames Water, Wessex Water and Yorkshire Water) that were challenged at IAP do not propose improved performance levels for this common performance commitment. They all provide more evidence to demonstrate that the levels they propose are suitable, in many cases highlighting the link between mains repairs and reducing leakage. Anglian Water propose a bespoke performance commitment for reactive mains repairs because of the link between mains repairs and leakage reduction.

Two companies, Anglian Water and Bristol Water, retain deadbands for mains repairs, whereas Southern Water and Hafren Dyfrdwy remove theirs. Both companies state that deadbands are required because of the impact of extreme weather on the performance and because their customers support their inclusion.

**Sewer collapses** – Three companies were challenged at IAP to improve their proposed performance levels to be more stretching (Northumbrian Water, Wessex Water and Yorkshire Water) in relation to this common performance commitment. Out of the three companies, only Northumbrian Water provide an improved performance level. Both Wessex Water and Yorkshire Water (which have the worst comparative performance) state that it would not be cost beneficial to improve performance any further than the stable level.

Only Anglian Water retains its proposed deadband for this performance commitment. It provides evidence to show customer support for this and the company also argues that it protects customers from bill volatility.

**Unplanned outage** - At IAP, we asked 16 companies (all companies except Wessex Water) to submit updated 2018-19 performance information and updated forecasts by 15th May 2019 in relation to this common performance commitment, in order for us to have an additional year of information to assess in setting performance commitment levels. All companies complied with this action. Seven companies propose an improved performance level compared to their September 2018 business

plan. Seven companies do not change their proposed performance levels. Three companies propose a worse level of performance. Severn Trent provides the largest change in this case but from a very ambitious level of performance proposed in its September 2018 business plan.

Two companies (Affinity Water, Bristol Water) that proposed deadbands in their September 2018 business plan remove them. Anglian Water retains its proposed deadband and Northumbrian Water proposes a new deadband. Both companies state a deadband is needed because it is a new measure and performance could be volatile.

**External sewer flooding** – this comparable bespoke performance commitment was selected by all companies except Thames Water. Four companies were actioned at IAP to improve proposed performance levels (Anglian Water, Northumbrian Water, Dŵr Cymru and Yorkshire Water). No company changes its levels in its April 2019 revised business plan. Anglian Water and Northumbrian Water provide evidence to show why their original levels are stretching. Northumbrian Water undertook some additional customer engagement which shows a high level of support for its proposed levels. Dŵr Cymru and Yorkshire Water provide no additional information to show why their proposed levels are adequate.

Only Anglian Water includes a deadband for this performance commitment, stating that its customers support the deadband and it protects against bill volatility.

**Sewer blockages** – this comparable bespoke performance commitment was selected by six companies. Hafren Dyfrdwy was actioned at the IAP stage to improve its proposed service level. The company has not changed the 2024/25 forecast in its April 2019 revised business plan but worsens the forecast 2019/20 level, so it is now proposing an improvement over the period.

No company proposes deadbands for this performance commitment.

**Customer contacts** – There are two customer contact comparable bespoke performance commitments that are part of the asset health long-list: customer contacts – appearance and customer contacts – taste and odour (both are related to water treatment and distribution). Some companies propose two separate performance commitments and others propose a combined performance commitment, which is also acceptable. Only four companies were challenged at IAP to improve their proposed performance levels for their customer contact performance commitments (Portsmouth Water, SES Water, Wessex Water and Yorkshire Water). The majority of actions for this performance commitment were associated with definition and coverage. Portsmouth Water provide a revised performance

commitment with new service level targets and SES Water provide additional evidence to justify its proposed performance levels. Both Dŵr Cymru and Yorkshire Water provide further explanation to justify the proposed performance levels in their September 2018 business plans. Dŵr Cymru states that there are factors outside of its control that impact the performance of this measure such as its geology and topography. Yorkshire Water states that certain operating conditions have impacted performance such as periods of high demand (leading to disturbance of sediments) and active leakage control (leading to appearance issues) and these are reasons why it does not propose a more stretching level of performance.

No company proposes deadbands for this performance commitment.

**Low pressure** – Three companies were given actions at the IAP for this comparable bespoke performance commitment level. These companies were Affinity Water, Anglian Water and Southern Water. Anglian Water does not change its proposed service level from its September 2018 business plan and provides additional evidence to demonstrate why its performance level is stretching. Affinity Water were asked to introduce a new low pressure (DG2<sup>12</sup>) performance commitment due to past performance issues and they comply with this action. Southern Water does not change its proposed service level from its September 2018 business plan. The company states that its customers do not consider low pressure as a high priority issue therefore it is not proposing an improvement in performance.

### 3.4.4 Our assessment approach

Asset health performance commitments can be categorised into two types. The first category comprises the core asset health performance commitments that reflect the actual performance of the asset and in most cases do not have an immediate direct customer impact when failures occur ('non-customer facing' performance commitments). Those performance commitments are mains repairs, sewer collapses, unplanned outages, treatment works compliance and sewer blockages the latter from the bespoke performance commitment asset health long-list. The approach to setting performance commitment levels for treatment works compliance is set out in section 3.3, above and not repeated here. The second category comprises performance commitments where performance can be as a result of asset issues/failures and they have a direct customer impact. These are the bespoke performance commitments of external sewer flooding, customer contacts and low pressure. It should be noted that asset issues/failures can and do impact performance for leakage, internal sewer flooding and pollution incidents. The

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<sup>12</sup> DG2 refers to 'Director General 2', which was terminology used by Ofwat for historical performance measures.

assessment approach for those performance commitments is covered earlier in this sections. For all the performance commitments listed here, common definitions are used by companies and hence we are able to undertake comparative analysis as part of our assessment of proposed levels. On mains repairs, many companies propose flat or worsening performance based on their assumption of the link between mains repairs and leakage reduction. We do not consider there to be enough evidence to support this link (see annex 1) and have therefore taken the same approach to setting performance commitment levels for mains repairs as for other asset health performance commitments.

The next three sections outline our approach to assessing and intervening on asset health performance commitments.

### **Non customer facing asset health performance commitments**

Asset health is central to the delivery of service to current and future customers. It is vital that customers have confidence that companies are maintaining assets in high quality condition. For the asset health performance commitments that, in most cases, do not have a direct immediate impact on customer service (i.e. mains repairs, sewer collapses, and sewer blockages), we carry out a comparative analysis by assessing companies performance against a 'good' level of performance. The 'good' level of performance is determined by using the average of all companies' historical performance to project forecast performance. The projection is done using a logarithmic trend line<sup>13</sup>.

The 'good' level for each performance commitment is provided in table 3.2 below. We note that the 'good' level of performance is used to aid the comparative analysis: it is only an indication of what constitutes good performance<sup>14</sup>. While we consider it is important to use comparative data to assess stretch of performance commitments, we note that we only use good performance levels to identify which companies are comparatively poor performers and that we do not use good performance levels to set the level of the performance commitment because we consider that interventions based on what the company has achieved in the past if we have good historical information or based on percentage reductions proposed by companies should deliver achievable and stretching interventions.

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<sup>13</sup> A logarithmic trendline is used here since we consider this is appropriate in the circumstances we have, where the rate of change in the data is likely to decrease over time and then level out.

<sup>14</sup> We do not exclude any companies or reporting years from the average calculation, as we consider any impacts of external influences such as extreme weather could occur in the future and therefore should be taken into account when determining the projection. It also does not take into account any future influences that may impact performance.

For mains repairs, we are able to complete data gaps in the business plan historical data using performance information from company annual performance returns. We do not consider there are any factors such as extreme weather which would result in us altering the historical performance dataset or should not be included in the forecast projection since extreme weather events are likely to continue to happen in the future. For sewer collapses, the definition has changed and not all companies have provided back cast data so we are unable to fully complete the historical dataset but consider we have sufficient information to base the 'good' level as it is an assessment tool to aid the comparative analysis. Six companies have sewer blockages, as a performance commitment so the data set we use has been more limited but we consider we are able to base our projections on this data. For unplanned outage, there is not enough historical data to base a projection on, so we use the median value from the 2024/25 forecasts as the 'good' level as using median eliminates the impact of outliers on the average.

### **Customer facing asset health performance commitments**

For the asset health performance commitments that have a direct customer impact (external sewer flooding, customer contacts and low pressure), we use the upper quartile values of the 2024/25 forecasts as the 'good' level of performance. This is in line with the direct service-related measure discussed above e.g. supply interruptions and internal sewer flooding and leakage. We consider that the forecast upper quartile reflects a stretching performance level. For customer contacts, we analyse companies based on the comparative assessment that combines the two separate performance commitments i.e. the two customer contact performance commitments are 'taste and odour' and appearance.

### **Interventions on asset health performance commitments**

We decide whether or not to **intervene** on companies whose proposed performance levels are comparatively poor (worse than the good level) based on:

- Whether a company has provided compelling evidence, underpinned by customer engagement, that its forecast service level is appropriate; or
- Whether a company is already proposing a significant improvement compared to historical or current performance.

The **approach to intervention** for all asset health performance commitments depends on the quality and availability of historical performance information and the gap the company has to close to be performing at the good level.

With good historical information we are able to base interventions on what companies have been able to achieve in the past. We use the best three years of performance data after 2010 to ensure that the company performs at a level that will improve the resilience of customer service and is achievable for the company. For these interventions we use a flat profile because we consider that companies have achieved this before and therefore should be able to achieve this from year 1 in the period. Where we do not have good historical information, or companies have comparatively very poor performance, we use percentage reductions based on the percentage reductions proposed by leading companies. We use either maximum or upper quartile percentage reductions depending on an assessment of what would be achievable. For example, performance on sewer blockages can be improved significantly from year to year (for example) with increased CCTV surveys and cleaning programmes and improved customer education. This can be seen through analysis of historical performance (around 10% over the last 5 years on average).

Due to the lack of data for unplanned outage and the wide variety of proposed reductions we use the median as a 'good' level against which to assess performance.

A summary of our approach to assessment including the intervention methods are set out in the following table:

**Table 3.2: Summary of assessment approach and interventions**

<b>Performance Commitment</b>	<b>Calculated 'good' level</b>	<b>Historical data completeness</b>	<b>Intervention methods</b>
Mains repairs – a common performance commitment	120 repairs per 1000km	100% complete 2011-18	Flat profile from 2020-2025 based on the average of 3 years of best historical performance from 2011-2018
Sewer collapses – a common performance commitment	7.5 collapses per 1000km	70% complete from 2013-18	An improving profile from 2020-2025 based on the maximum % reduction proposed by other companies. In this case Northumbrian Water and South West Water propose a

			28% reduction <sup>15</sup> (from 2019/20 to 2024/25)
Sewer blockages – a comparable bespoke performance commitment	420 blockages per 1000km	95% complete from 2013-18	An improving profile from 2020-2025 based on the maximum % reduction proposed by other companies, which is 16.7% (from 2019/20 to 2024/25)
Unplanned outage – a common performance commitment	2.34% - median level of 2024/25 forecasts	Only 2 years	An improving profile from 2020/21 to the median level of 2.34% in 2024/25
External sewer – a comparable bespoke performance commitment flooding	15 incidents per 10,000 connections (upper quartile)	NA – historical data not used to determine 'good' level	An improving profile from 2020-2025 based on the UQ % improvement from 2019/20 to 2024/25 proposed by all companies, which is 25%.
Customer contacts (combined measure) – a comparable bespoke performance commitment	0.67 contacts per 1,000 population (upper quartile)	NA - historical data not used to determine 'good' level	An improving profile from 2020-2025 based on the UQ % improvement from 2019/20 to 2024/25 proposed by all companies, which is 34%.
Low pressure – a comparable bespoke performance commitment	0.55 properties per 10,000 connections (upper quartile)	NA - historical data not used to determine 'good' level	An improving profile from 2020-2025 based on the UQ % improvement from 2019/20 to 2024/25 proposed by all companies, which is 29%.

### 3.4.5 Our draft decisions

**Mains repairs** – for all the companies that were challenged at IAP to explain their proposed deterioration or lack of stretch in performance levels, we intervene to set more stretching performance levels. No company provides compelling evidence that

<sup>15</sup> This significant improvement is only applied to the two companies that have comparatively the worst performance (see the next section of this document). For those two companies, it is not possible to use their historical best performance as this would not result in an improvement in performance levels.

performance in mains repairs should deteriorate or not improve due to active leakage control. We set out our reasoning for this in detail in Annex 1.

**Sewer collapses** – based on our comparative analysis Wessex Water and Yorkshire Water are the two clear outlier companies that lag other companies. Wessex Water does not propose an improvement in performance in the period between 2020/21 and 2024/25 and Yorkshire Water proposes a very small improvement. Both companies state it is not cost beneficial to improve performance, however they do not appear to balance the long-term resilience of the assets and the service they provide and given their comparatively poor performance, whether their costs to improve service are efficient. We are therefore intervening to introduce an improvement level that two other companies have proposed.

**Sewer blockages** – based on our comparative analysis two companies, Hafren Dyfrdwy and Thames Water, have poor performance. Hafren Dyfrdwy do not provide adequate evidence to demonstrate their proposed level is suitably stretching. We intervene to set improved performance commitment levels based on the maximum reduction proposed by other companies.

**Unplanned outage** – Eight companies have comparatively poor forecast performance against the median level. These are Northumbrian Water, Portsmouth Water, South East Water, Southern Water, Severn Trent, Thames Water, United Utilities and Yorkshire Water. Thames Water are still by far the biggest outlier in terms of current and forecast performance. They are also currently not compliant with the definition, which means we are unsure of the accuracy of their proposed performance level. We intervene for all those companies to set 2024/25 forecast performance levels in line with the median value, except Southern Water, which proposes a considerable improvement (81%) from current levels. Therefore, we consider the level of stretch proposed by Southern Water to be adequate.

**External sewer flooding** – Anglian Water and Northumbrian Water provide adequate evidence to show that their proposed levels are suitably stretching. We intervene for Dŵr Cymru and Yorkshire Water to set more stretching performance levels based on the upper quartile percentage improvement proposed by all other companies.

**Customer contacts** –. Based on our comparative analysis of the combined performance commitment, we are intervening for four companies to set more stretching performance levels. Those companies are Anglian Water, Wessex Water, Dŵr Cymru and Yorkshire Water. Both Dŵr Cymru and Yorkshire Water provide company specific reasons why their performance is different to others, but we do not consider these arguments to be compelling. For Anglian Water and Wessex Water,

we find that on a comparative basis their proposed performance is not suitably stretching.

**Low pressure** –Based on the comparative analysis we are intervening to set more stretching performance levels for Southern Water and Bristol Water due to the small improvement proposed and for Hafren Dyfrdwy due to their poor comparative performance.

We do not find any evidence submitted by companies on deadbands to be convincing and therefore intervene to remove all deadbands.

### **3.4.6 Implications for fast track companies**

Common performance commitment levels are not included in early certainty for fast track companies, so our decisions on these performance commitment levels apply to all companies, including fast track companies.

Our decisions on comparable bespoke performance commitments levels (listed in table 3.2, above), do not apply to Severn Trent Water and South West Water who opted into the early certainty principle but do apply to United Utilities which opted out of early certainty.

These are the implications of our assessment for fast track companies on performance commitment levels:

- United Utilities Water: An implication of our assessment would be more stretching performance commitment levels on mains repairs, customer contacts and low pressure
- Severn Trent: An implication of our assessment would be more stretching performance commitment levels on mains repairs only

There are no impacts on fast track companies on deadbands

## **3.5 Resilience performance commitments**

### **3.5.1 Sewer flooding in a storm**

This measure requires companies to measure the percentage of population in their area that is at risk of being flooded in an extreme 50 year rainfall event. The performance commitment requires that companies use hydraulic models, where available, to quantify

the risk. The metric has been designed with a view to assessing existing and future resilience to an extreme wet weather event causing sewers to flood based on the percentage of population at risk in a 1-in-50-year storm event.

## **What we said in our PR19 methodology**

We expected all wastewater companies to use this common performance commitment at PR19 because the potential for sewer flooding in a storm is important to customers. This was one of two forward looking measures looking at the future risk to customers. The other was risk of severe restrictions in a drought and is discussed below. The measure was designed such that if a company improves its understanding of its catchments by increasing its model coverage, performance on the metric would improve.

## **Our actions in our initial assessment of plans**

At IAP, we asked companies to clarify whether they had complied with the common definition and to provide detail of their modelling assumptions and any intermediate reporting tables to enable us to better assess the stretch of their proposals.

## **Summary of company responses in April 2019 revised business plans**

There was a mixed level of detail provided by companies on the intermediate reporting tables, modelling assumptions and vulnerability criteria in response to our actions. Yorkshire Water did not amend its performance commitment levels since it does not consider the metric is sufficiently developed to support setting levels.

## **Our assessment approach**

We follow a 2 stage approach in assessing the companies' proposed performance commitment levels:

- model coverage – do sewer models exist for catchments at risk, and what proportion of the population are covered by the models;
- level of risk – what is the proportion of the population that is estimated to be at risk, calculated from models or estimated by an alternative method. What is the company's long-term forecast of the level of risk and is it improving.

As this a new performance commitment that is measuring long-term resilience we do not consider that a performance commitment level implying a reduction of risk over the 2020-2025 period is necessarily required. For companies with a high percentage of models we consider that companies should show consideration of improvement in the longer term.

However, in the case of companies that do not appear to understand the resilience in their catchments well (ie they do not have many relevant models) we consider that companies should be aiming to take measures to both improve model coverage and reduce the level of risk by 2024-25 at the latest.

In any event, we do not consider that increasing customer risk over the 2020-25 period is appropriate.

We consider intervention as follows:

- if a company has a risk that is increasing over time - we intervene to set a flat profile over the 2020/25 period;
- If a company has a risk that is flat over time - we consider intervention if the company has under 70% model coverage and the company has a relatively high risk (greater than 12% population at risk) – if the company does not have a plan to improve model coverage and/or if the risk is not reducing over the long term;
- If a company has a decreasing risk over time - we consider intervention if the proposed performance commitment level does not appear to fit with the potential to decrease based on the company's model coverage and level of risk.

## **Our draft decisions**

Following our review and assessment of evidence put forward by the companies, we accept the performance levels for this performance commitment proposed by 12 of 14 companies. The exceptions are Yorkshire Water, where we do not accept an increasing risk profile and intervene to set a flat profile at the 2019/20 forecast level, and Thames Water, where we intervene to set annual target levels (as opposed to a single end-of-period target) in line with all other companies.

We are asking companies that did not provide model coverage / intermediate calculations to provide this information as part of their response to their draft determination.

### **3.5.2 Risk of restrictions in a drought**

This performance commitment measures the percentage of the customer population at risk of experiencing severe restrictions (eg, standpipes or rota cuts as part of Emergency Drought Orders) in a 1-in-200 year drought, on average, over 25 years.

The population is considered to be 'at risk' if the supply-demand balance calculation in each water resource zone (as used for water resource planning) for the 1-in-200 year drought event results in a shortfall (deficit). This will occur when the theoretical deployable output minus outage allowance (available supply) is less than the dry year demand plus base year target headroom (demand plus uncertainty). The data and assumptions used for this metric should be consistent with those forecast and reported for the water resources management plans (WRMPs).

### **What we said in our PR19 methodology**

We expected all water companies to use this common performance commitment at PR19 because it is important to customers and a good measure of future resilience. The design of this measure aims to give a comparative view of companies' drought resilience and is more comparable across companies than the levels of service that are used for water resources planning. This was one of two forward looking measures looking at the future risk to customers. The other is the risk of severe flooding in a storm discussed above.

### **Our actions in our initial assessment of plans**

At IAP it was unclear whether companies had understood and followed the reporting guidance. Many had not provided intermediate calculations which did not give us certainty that the performance commitment levels proposed were stretching. We gave a generic action to most companies to explain level of stretch and submit the intermediate calculation outputs as shown in the common definition guidance published on our website for the drought resilience metric. The intermediate calculations give us confidence in the levels they have proposed.

### **Our assessment approach**

Our approach to assessing the companies' proposed performance commitment levels for 2020-25 is to look at the levels forecast to 2040, consistency with WRMP forecasts, and the intermediate calculations provided by the company where available (as they give us further confidence in the quality of the company's proposals). However, the quality of the evidence provided varies widely.

As this is a new performance commitment that is measuring long-term resilience we do not consider that a performance commitment level implying a reduction of risk over the 2020-2025 period is necessarily required. However, we consider that companies should show consideration of improvement in the longer term.

Our approach to interventions at the draft determination stage is:

- To intervene where starting risk does not align with the WRMP. This is not the case for any company;
- Accept proposed performance commitments levels supported by high quality evidence in either September 2018 or April 2019 business plans;
- Accept very stretching levels of performance even when the quality of evidence provided in intermediate calculations is low and we are sceptical about the achievability or accuracy of the company's proposals.
- To intervene where we consider that the evidence provided by the company is low quality, and there is no planned improvement in the performance commitment level by 2030 (ie over 10 years). Since this is a long-term resilience performance commitment, we consider 2030-31 is an appropriate date for schemes to reduce customer risk to have been implemented.

## **Our draft decisions**

Southern Water, Affinity Water and South East Water have all forecast non-zero risk in 2019-20 dropping to a performance commitment level of zero in the first year of the period. We consider these proposed levels may be unachievable or inaccurate but we accept them at this stage since we do not have enough information to base an intervention on and the proposed performance commitment levels are very stretching.

We intervene for Bristol Water as the evidence provided by the company is low quality, and there is no planned improvement in the performance commitment level

by 2030 (ie over 10 years). We set the performance commitment level at the forecast 2019-20 level for the first four years of the period, reducing to zero in 2024-25.

We are asking companies to provide updated information on intermediate calculations and other data as part of their response to their draft determination.

### **3.5.3 Implications for fast track companies**

Common performance commitment levels are not included in early certainty for fast track companies, so our decisions on these performance commitment levels apply to all companies, including fast track companies.

We are asking the fast track companies to provide updated information on the data, models and coverage underlying these measures, particularly flooding resilience, in line with our actions on the slow track and significant scrutiny companies.

## **3.6 Measures of experience - Customer Measure of Experience (C-MeX) and Developer Services Measure of Experience (D-MeX)**

### **3.6.1 What we said in our PR19 methodology**

In our PR19 methodology we decided to replace the Service Incentive Mechanism (SIM) with new financial and reputational incentives on water companies to provide an excellent customer experience to residential and developer services customers. These new incentive mechanisms are called the customer measure of experience (C-MeX) and developer services measure of experience (D-MeX).

We made final decisions on the high-level features of C-MeX and D-MeX in our PR19 methodology but did not make final decisions on all aspects of the design of C-MeX and D-MeX. This was because both measures were piloted in 2018-19 and are being run in shadow form in 2019-20.

In March 2019, we published the results of the pilot year and our decisions for the shadow year and, in some cases, decisions on the design and operation of C-MeX and D-MeX for the 2020-25 period. We did not make decisions on all aspects of C-MeX and D-MeX for the 2020-25 period, as we are testing some issues during the shadow year before making final decisions as part of our final determinations in December 2019. We will produce final guidance for both incentive mechanisms by March 2020.

We did not action any companies in relation to C-MeX and D-Mex as part of the IAP as we are using the information gathered from the pilot phase and shadow year to inform our final decisions on C-Mex and D-Mex. However, some companies did outline views on C-MeX and D-MeX in their April 2019 business plans. These are outlined in annex 5, along with other views that have been provided by stakeholders since the release our March 2019 decision documents and shadow year guidance.

### **3.6.2 Our assessment approach and draft decisions**

Since publishing our decision documents and shadow year guidance, we have undertaken further assessment on some issues relating to C-MeX and D-Mex. This enables us to make some draft decisions on issues where we are not dependent on the information from the shadow year. We outline the detail of our assessment approach and these draft decisions in annex 5. Where the information to make decisions is not yet available, we note our “minded to” approach, and will base our final decisions on feedback from this draft determination and other evidence received prior to the final determinations in December 2019.

### **3.6.3 Implications for fast track companies**

As common performance commitments, the final decisions for the design of C-MeX and D-Mex will apply to fast-track companies. Final determinations for all companies will include a performance commitment for both C-MeX and D-MeX with standard definitions and parameters that will apply to all companies.

## **3.7 Priority services register performance commitment**

### **3.7.1 What we said in our PR19 methodology**

Our PR19 methodology did not include a common performance commitment relating to vulnerability. At IAP, we decided to introduce a common performance commitment for PSR as there was wide variation across companies on the proposed level of PSR reach in September 2018 business plans.

### **3.7.2 Our actions at IAP**

Depending on whether or not companies had included a performance commitment related to PSR in their September 2018 business plans, they were given actions to add or amend a performance commitment on the PSR to meet the following criteria:

- Companies to register a minimum of 7% of households for the PSR by 2024-25;
- Companies should contact a minimum of 90% of registered PSR customers every two years – we have defined this as proactive interaction; and
- Companies should remove any outperformance payments from their PSR performance commitments.

### **3.7.3 Summary of company responses in April 2019 revised business plans**

All companies accept our action for PSR reach performance level and seven companies proposed performance levels for PSR reach above the minimum level of 7% of households. Four companies propose to increase reach to 10% or above including Yorkshire Water, Anglian Water, South East Water and Northumbrian Water.

However, two companies (Wessex Water and SES Water) reduce the ambition from the proposed performance levels in their September 2018 business plan which were greater than our 7% minimum level. In response to queries, Wessex Water explain that its original target was aspirational and subject to significant uncertainty, meaning the lower target is more appropriate. SES Water explain that its September 2018 business plan was based on incorrect data and therefore it revises its proposed performance level. This demonstrates the need for companies to base their proposed performance levels on high quality, considered and accurate data.

All companies state they accept the data checking element of our proposed performance commitment. However, four companies (Thames Water, South Staffs Water, Bristol Water and Dŵr Cymru) argue for a different interpretation of 'proactive interaction' than we set out at IAP.

Although Dŵr Cymru proposes to check 100% of PSR data every two years, it proposes to only check the data of customers where they are the source of the registration (rather than other third parties, for example an energy network).

Anglian Water does not accept our action to remove outperformance payments from its performance commitment.

Northumbrian Water submits two separate performance commitments; one covering PSR reach and the other covering the data-checking component.

See section 2.3 of this document for a summary stakeholder responses that were raised other than through April 2019 revised business plans.

### **3.7.4 Our assessment approach**

We undertake a comparison exercise of response rates to previous water company campaigns to update PSR data and similar requests made to customers by energy networks. This assists us in coming to a view on the appropriate arrangement and level of stretch for our data checking requirement.

Additionally, we review the suitability of our 7% target for household reach of the PSR. Through this exercise we consider whether supplementary data we received from companies through our initial assessment of plans should have a bearing on the minimum target we set for household reach.

We have held a number of meetings and discussed the performance commitment with stakeholders from the water sector, energy sector and consumer groups. Through these meetings, which included a workshop with water companies and a roundtable with consumer representatives, we have gathered different perspectives on the challenges associated with the performance commitment and its customer benefits.

### **3.7.5 Our draft decisions**

We retain two of the three main features of the performance commitment as per our IAP: the requirement to reach 7% of households, and the non-financial nature of the commitment.

However, we amend the data checking aspect of the performance commitment as follows:

- Splitting the measure into 'attempted' (i.e. an outbound contact that has not received a response) and 'actual' contacts (i.e. updates to data based on contact with the customer); and

- Changing the performance levels to 90% and 50% respectively.

We set the levels at 50% for 'actual' contact as our comparative assessment revealed this to be at the high end of performance for what electricity networks have achieved. It is also the second highest level any water company had achieved over the previous two years prior to submitting their business plans. We set the level at 90% as the target for 'attempted' contacts as, while it is in the company's control to contact all of its customers, we want to reflect that contact may not be desirable in all cases and some customers may wish to opt-out of the exercise.

We publish a draft guidance document for this performance commitment, 'Reporting guidance – Common performance commitment for the Priority Service Register' alongside our draft determinations. This document provides guidance on the definitions, reporting and other requirements associated with this performance commitment. We welcome stakeholders' views on the draft guidance for this performance commitment

### **3.7.6 Implications for fast track companies**

Common performance commitment levels are not included in early certainty for fast track companies, so our decisions on performance commitment levels for PSR apply to all companies, including fast track companies.

## 4 Outcome delivery incentives (ODIs)

### 4.1 Introduction and approach to assessment

This section covers ODI types, ODI timings and ODI rates for common and comparable bespoke performance commitments. Our responses and interventions on individual companies are set out in the relevant ‘Delivering outcomes for customers actions and interventions’ document

### 4.2 ODI types

This section covers our policy approach to assessing and intervening in the ODI types proposed by companies for common and comparable bespoke performance commitments, covering both customer-facing performance commitments and non-customer facing asset health performance commitments.<sup>16</sup>

ODIs are the incentives that are used to focus company performance on delivering outcomes. ODI type refers to whether an ODI incentive is financial (associated with underperformance and/or outperformance payments) or non-financial. Non-financial incentives can provide a reputational incentive on companies.

#### 4.2.1 What we said in our PR19 methodology

Our PR19 methodology we stated that we are placing a greater onus on financial incentives. The expectation is that ODIs should be financial rather than reputational as a default, and we said that companies should justify, with supporting evidence, whenever a performance commitment is not supported by a financial ODI.

A financial incentive should at least have an underperformance rate. For an ODI outperformance payment to be appropriate, the company must:

- be proposing a stretching performance commitment level so that outperformance payments are for strong outperformance and not for carrying out the “day job”;
- demonstrate there are benefits from improved performance; and

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<sup>16</sup> Non customer facing performance commitments for the purposes of ODI rates are: CRI, treatment works compliance, mains repairs, low pressure, sewer collapses, sewer blockages and unplanned outage. Customer facing performance commitments are supply interruptions, internal sewer flooding, pollution incidents, leakage, PCC, external sewer flooding and customer contacts.

- have customer support for its proposed outperformance payment.

For asset health performance commitments, in our methodology we said we would allow outperformance payments on asset health performance commitments for the first time to encourage improvement in asset health over the long-term, but only if companies could demonstrate customer support for them. All companies were also required to have underperformance payments on all common asset health performance commitments.

#### **4.2.2 Our actions at IAP**

Companies proposed a mixture of financial and non-financial incentives for non-asset health common performance commitments. At IAP, we raised actions for a number of companies to provide further evidence to justify the use of an outperformance payment or a non-financial incentive.

Companies also proposed a mixture of financial and non-financial incentives for asset health performance commitments. At IAP we assessed, in particular, the evidence provided by the companies to support the inclusion of outperformance payments. We checked if customers had been specifically asked about asset health performance commitments and the inclusion of outperformance payments, not just indicated by providing willingness to pay evidence. In many cases we found this evidence to be lacking or weak, therefore our actions focussed on asking companies to provide more or better quality evidence of customer support for outperformance payments. We also challenged some companies to propose underperformance payments for some asset health performance commitments where they had originally proposed non-financial incentives.

#### **4.2.3 Summary of responses in company April 2019 revised business plans**

Hafren Dyfrdwy and Dŵr Cymru had actions on PCC to provide a financial incentive where they had previously proposed a reputational incentive. Hafren Dyfrdwy proposes an underperformance only ODI whereas Dŵr Cymru retains its reputational incentive claiming that a higher proportion of customers (44%) agree with non-financial incentives compared to disagree (35%) for PCC. Hafren Dyfrdwy also removes all outperformance payments on non-asset health performance commitments on which it was challenged. All other companies provide additional information or evidence to support inclusion of the outperformance payment on their non-asset health performance commitments.

For asset health performance commitments, almost all companies that were challenged to provide a financial incentive where they had previously proposed a reputational incentive comply with the action. Dŵr Cymru and Yorkshire Water retain their proposed reputational incentives for unplanned outage, stating that as the performance commitment is new and likely to be subject to performance fluctuations a financial incentive would not be appropriate. Anglian also retain a reputational incentive on its mains repairs performance commitment, but include a financial ODI on its reactive mains repairs bespoke performance commitment (see annex 1 on link between mains repairs and leakage reduction). Thames Water provide no ODI on its CRI measure, instead choosing to put financial incentives on its bespoke CRI sub-measures (see section 3.3 on CRI).

Of the companies that were challenged to provide more evidence to justify outperformance incentives or remove them, three companies (Portsmouth Water, Hafren Dyfrdwy and Yorkshire Water) remove outperformance incentives entirely from their non-customer facing asset health performance commitments. The remaining companies provide additional evidence to demonstrate why they consider outperformance incentives are appropriate.

#### 4.2.4 Our policy approach

We assess suitability of proposed ODI types in the same way as we did at IAP, hence our approach for draft determinations for all performance commitments has been to accept company proposals on ODI type where we did not raise an action at IAP.

Where we raised an action for non-asset health performance commitments, we **assess and intervene on company proposals** based on the criteria set out in our PR19 methodology. The criteria for allowing an outperformance incentive are as follows:

1. **The performance commitment has a stretching level of performance** – we assess whether performance levels are stretching as part of the performance commitment levels assessment covered in section 3. Where we consider performance levels to be not stretching we adjust the performance levels, rather than automatically intervening to remove the outperformance payment.
2. **The company has demonstrated customer benefit from an outperformance payment** – we assess customer benefit as part of the ODI rate assessment covered in section 3. This is because companies typically demonstrate customer benefit through their customer willingness to pay

research used to set their ODI rates. Where evidence of customer benefit is not shown, we intervene to remove the outperformance incentive.

3. **There is customer support for outperformance payments** – we assess evidence on customer support for outperformance incentives directly. Where we consider evidence demonstrates that customers do support outperformance payments, we accept outperformance payments, provided the first two criteria are met. Where we consider evidence demonstrates that customers do not support outperformance payments, we reject outperformance payments, regardless of whether the previous two criteria are met. This is because we place greatest weight on direct customer views about their lack of support for outperformance payments, compared to indirectly sourced evidence from willingness to pay research. Where we consider evidence for customer support is unclear, we undertake additional checks to avoid rejecting outperformance incentives outright and causing undesirable unintended consequences, such as lost customer benefit resulting from reduced incentives for companies to outperform, or unduly skewed incentives for companies. If past performance or forecast performance levels are considered good (in the upper quartile of industry performance) then we accept outperformance payments where evidence for customer support is unclear. Where past or forecast performance is not good (not in the upper quartile) then we reject outperformance payments where customer support is unclear. The rationale for this is that customers of companies with poor past / forecast comparative performance are more exposed to the risk of unwarranted outperformance payments. The evidence for customer support in these cases therefore needs to be high.

For non-financial incentives, we consider both customer support and company performance on the basis that if a company is a poor performer, underperformance payments protect customers from poor service.

To determine if the evidence for proposed outperformance payments for asset health performance commitments is sufficient and the outperformance payment justified we apply a similar approach and apply the following criteria:

- **The performance commitment has a stretching level of performance** – we assess whether performance levels are stretching as part of the performance commitment levels assessment covered in section 3. Where we consider performance levels to be not stretching, we adjust the performance levels, rather than automatically intervening to remove the outperformance payment.
- **Whether the company has engaged specifically with its customers** on the outperformance element of the ODI, whether the engagement is of sufficient quality and whether customers support this given the potential impact on their

bills. If a company does not meet this criteria, we intervene to remove the outperformance incentive. If the company shows customer support for outperformance payments we consider keeping it depending on the outcomes of the next two checks.

- **If the company has any past performance or past delivery issues** which have not been addressed, we consider further whether to remove the outperformance payment to ensure that companies are not rewarded for improvements on poor performance that should already have been undertaken. To make our decision we look at historical performance and whether funding allowed has been used effectively to deliver increased performance.
- A check to ensure there is **no double counting** of outperformance incentives between asset health and service-related performance commitments.

We require all common asset health performance commitments to have underperformance incentives. Reputational incentives for bespoke asset health performance commitments may be appropriate if the company provides a compelling reason to have reputational only incentives (which includes how a non-financial incentive is in the best interests of customers).

Where non-financial incentives are proposed by companies for asset health performance commitments we either intervene directly to introduce an underperformance financial incentive (for common performance commitments) or assess the customer engagement evidence for bespoke performance commitments and intervene to introduce a financial underperformance incentive where the evidence is not compelling.

## 4.2.5 Our draft decisions

### Non-asset health performance commitments

We intervene to change Dŵr Cymru's non-financial ODI for PCC to underperformance only since the company fails to justify sufficient customer support for a non-financial ODI – the customer evidence shows only 44% agreed with a non-financial ODI with 35% in support of a financial ODI. The customer evidence also lacks underlying detail.

As discussed above, where we consider evidence for customer support is unclear for an ODI-type, we undertake additional assessments. In these circumstances if a company is a good performer we retain the outperformance financial incentive but reduce the rate in recognition of the unclear evidence using a similar approach to our assessment of ODI rates where we evaluate the customer evidence in support of

ODI rates. We adjust the outperformance rate based on the willingness to pay triangulation, using the nearest bound of the reasonable range which is discussed below. We are intervening on three performance commitments.

- On pollution incidents, we reduce the outperformance rate for Southern Water and Dŵr Cymru due to lack of compelling customer support and remove the rate for Thames Water since the evidence provided in their September business plans on pollution incidents showed customers did not support outperformance on this measure.
- On leakage, we reduce the outperformance rate for Southern Water, Affinity Water and SES Water due to lack of compelling customer support.
- On PCC, we adjust the rate for Southern Water and South Staffs Water due to lack of compelling customer support and remove the rate for SES Water since although it provides high quality willingness to pay information, specific customer support for outperformance payments is not identified.

The interventions on rates are discussed in the ODI rates section below and also shown in the charts in annex 2.

### **Asset health performance commitments**

We intervene to change reputational ODIs to financial (underperformance) for the common asset health performance commitments. This includes applying a financial ODI on Thames Water's CRI performance measure and Anglian Water's mains repairs performance measure.

Of the four companies (Northumbrian Water, SES Water, South Staffs Water and Thames Water) that continue to propose outperformance payments for asset health performance commitments, we consider that Northumbrian Water, South Staffs Water and Thames Water provide compelling evidence to demonstrate that their customers support outperformance payments for these specific performance commitments and therefore accept outperformance incentives. We intervene to remove the outperformance payment for SES Water as it has not undertaken specific customer engagement on outperformance payments for the performance commitment. We also remove the outperformance payment Thames Water proposes for its unplanned outage performance commitment as it is currently not compliant with the reporting requirements and it does not consider it will be until 2026.

We consider that outperformance payments for asset health performance commitments that are supported by customers can provide the company an incentive to improve performance which can be achieved through more innovation and improved asset management practices.

## 4.3 ODI timing

### 4.3.1 What we said in our PR19 methodology

Our PR19 methodology states that we consider in-period ODIs (i.e. ODI payments that are paid after each year's performance rather than at the end of a price control period) to be more appropriate than end of period ODIs as they bring payments closer to the time to when customers receive the service performance. In-period ODIs sharpen the focus of company management on service delivery whilst also resulting in customers being compensated more quickly for poor performance by the company.

Our specific decisions on in-period ODIs were:

- Companies should adopt in-period ODIs as a default for all their ODIs, unless they can justify why an in-period ODI is not appropriate against a set of criteria we set out.
- All the common performance commitments should have in-period ODIs attached to them, with the exception of the two resilience common performance commitments (because they are at relatively early stages of development).
- Companies will need to explain their overall balance between in-period and end-of-period ODIs in their business plans<sup>17</sup>.
- Companies must set out how they propose to manage bill volatility over the period; and we will set out our process for assessing in-period ODIs for PR19 in an information notice, learning from the 2015-20 experience. We will make sure that this approach is proportionate and transparent.<sup>18</sup>

We recognised in our methodology that there may be instances where the use of in-period ODIs may not be appropriate for companies. This might include instances where an in-period ODI is not in the interest of the company's customers, for example where future customers should pay/benefit from incentives relating to service performance affecting current customers. Companies could also propose end-of-period ODIs where annual incentives are not appropriate, for example on performance commitments that relate to long-term objectives.

Any end-of-period ODIs proposed by companies should be linked to revenue rather than the RCV by default as this brings outperformance and underperformance

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<sup>17</sup> When justifying the use of end-of-period ODIs we expected companies to explain the balance between in-period and end-of-period ODIs in their business plan.

<sup>18</sup> In-period ODI determinations are a way for companies to manage bill volatility since companies can defer outperformance payments or penalties to later years if they have evidence to support this such as expected underperformance in subsequent years.

payments closer in time to the performance that generated them. Adjustments to the RCV can take more than 20 years to have a full financial effect on a company. This means that the impact of current performance is felt far in the future, when the customer base will have changed considerably.

### **4.3.2 Our actions at IAP**

A small number of companies proposed end-of-period ODIs for a sub-set of performance commitments. At IAP, where companies had proposed end-of-period ODIs we assessed the rationale and evidence why an in-period ODI would not be appropriate for the performance commitment against the criteria set out in our PR19 methodology.

We actioned companies where they had proposed an end-of-period ODI where we considered there was insufficient reasoning or evidence for an end-of period ODI. Our actions were for the company to provide additional justification and evidence for the application of an end-of-period ODI, or revert the ODI to in-period. This applied to only a small number of performance commitments across a sub-set of companies.

### **4.3.3 Summary of responses in company April 2019 revised business plans**

We received a mixed response from companies in response to our IAP actions.

South Staffs Water propose end-of-period ODIs on 9 of its common performance commitments. The company does not provide specific justification for individual performance commitments but provides high level evidence that their customers support flat bills in nominal terms and limiting the total bill increases to more than £3 per annum.

In response to our IAP actions on end-of-period ODIs on bespoke performance commitments, the majority of company responses retain the end-of-period ODI on the performance commitment and provide additional evidence and justification as to why it is more appropriate than an in-period ODI.

### **4.3.4 Our assessment approach**

We assess the additional evidence provided to determine if there are compelling reasons as to why an end-of-period ODI is more appropriate for a particular

performance commitment than an in-period ODI. We do not consider that bill smoothing in general is a legitimate reason for end-of-period ODIs since this can be done through the in-period ODI determination. However, if a company has a very large incentive rate that would significantly impact bills, then we consider the evidence relating to whether this should be end-of-period, for example in order to limit bill volatility.

For our draft determinations we accept companies' proposals where they have reverted ODIs to in-period in response to our actions at IAP.

For common performance commitments we require particularly strong rationale from companies proposing end-of-period ODIs. South Staffs Water is the only company to provide additional evidence in response to our IAP action.

#### **4.3.5 Our draft decisions**

We do not consider there is sufficient evidence to depart from our view of in-period ODIs for common performance commitments and therefore we are intervening to set the ODI type to in-period for South Staffs Water's common performance commitments. The company's performance may lead to only small changes in bills over the period. If this were not the case, we consider that there is potential for bill smoothing throughout the period through the company's in-period assessment and therefore we do not consider that bill smoothing in general is a sufficient reason for end-of-period ODIs. In-period ODIs sharpen the focus of the company on service delivery whilst also resulting in customers being compensated more quickly for poor performance by the company.

On bespoke performance commitments we allow companies' proposed end-of-period ODIs on performance commitments where the company provides a well-justified, evidence-based rationale as to why an end-of-period ODI is more appropriate than an in-period ODI.

We intervene to set Southern Water's ODI on its treatment works compliance performance commitment to in-period and revenue-linked. This end-of-period ODI was not actioned at IAP but has been reassessed for draft determinations. Southern Water proposes the ODI as an end-of-period RCV adjustment that is justified because of the large incentive rate that the company attaches to the performance commitment and the link the performance commitment has to long-term asset health. However, the large rate is capped on an annual basis and as such we do not consider this to be sufficient justification for an end-of-period ODI. RCV adjustments can take 20+ years to fully compensate customers for poor performance, and the

company has had serious performance issues in this area<sup>19</sup>. An in-period, revenue-linked ODI provides a stronger incentive on Southern Water to improve its performance on this measure and brings the payment closer to the time customers experience the service.

## 4.4 ODI rates

This section covers two types of performance commitments:

- Customer-facing common performance commitments: leakage; per capita consumption (PCC); water supply interruptions; pollution incidents; internal sewer flooding and comparable bespoke performance commitments: water quality contacts (combined measures) and external sewer flooding.
- Non-customer facing asset health-type common performance commitments: Compliance Risk Index (CRI); mains repairs; sewer collapses; unplanned outage; treatment works compliance and comparable bespoke performance commitments: sewer blockages and low pressure.

We separate these performance commitments to assess ODI rates due to the different methodologies required. The standard approach of using willingness to pay values in setting ODI rates is more difficult to apply to the non-customer facing performance commitments given the inherent challenges in ascertaining robust willingness to pay information from customers for these measures. We therefore use a variation of the customer-facing methodology for non-customer facing ODI rates, which we describe in the following sections.

### 4.4.1 What we said in our PR19 methodology

In our PR19 methodology we set out our expectation that companies set their ODI rates on a bottom-up basis using evidence of customer valuations for service increments and the forecast efficient marginal cost of delivering them<sup>20</sup>.

We also said that in assessing companies' proposed ODIs, we would compare ODI rates (and the underlying marginal benefit and marginal cost components) across

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<sup>19</sup> <https://www.ofwat.gov.uk/investigation-into-southern-water-to-consider-whether-enforcement-action-is-required-against-the-company/>

<sup>20</sup> In appendix 2 of the PR19 Final Methodology we noted: "The outperformance payment rate formula means that customers cannot be worse off, and will be better off if a company can deliver its service improvements at a lower cost than customers' incremental benefit."

companies and challenge companies on their proposed outperformance and underperformance payment rates, where necessary.

Specifically for asset health performance commitments, we said that companies should clearly present in their business plans their approach to asset health and which of their performance commitments and ODIs relate to it. We also expected companies to provide evidence of customer support for individual asset health performance commitments, not just on asset health as a whole. Companies were expected to engage with customers on all aspects of the performance commitment, including the ODI type and the size of the financial incentive.

We said that we expected companies to demonstrate that they understand their asset health challenges and that the incentives proposed should reflect those challenges. The asset health ODI package should protect customers both now and in the long-term; this should be achieved through appropriately sized incentives. Companies were required to demonstrate this by providing an indication of the return on regulatory equity (RoRE) exposure of their asset health package.

#### **4.4.2 Our actions at IAP**

At IAP we found wide variation in normalised by number of households (and absolute) ODI rates across companies for the same increments in performance. The degree of variation observed implied large differences in marginal costs and/or underlying customer preferences for incremental changes of the same unit of performance. We are often unable to explain this variation by differences across operating areas in factors such as comparative and current performance, water stress, metering penetration and household income.

In order to set a benchmark against which to assess companies' proposed ODI rates, we therefore set an initial view of a reasonable range of ODI rates (on a normalised basis) based on variation around the industry average<sup>21</sup>, and requested additional supporting evidence from companies that proposed rates outside this range.

For asset health performance commitments, we additionally asked companies to explain and evidence how their proposed ODI rates are coherent with the rates

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<sup>21</sup> For non-asset health performance commitments the reasonable range was defined as  $\pm 0.5$  standard deviations around the industry mean. For asset health performance commitments we adopted a more conservative approach and defined a lower bound for underperformance rates equal to upper quartile (in absolute value) and an upper bound for outperformance rates equal to the median. This was to indicate that we expected companies' rates to provide adequate customer protection on asset health.

proposed for performance commitments relating to the associated customer-facing impacts of the asset failure and to demonstrate how the package of ODIs across the relevant group of asset health performance commitments appropriately incentivises performance in the long and short-term.

#### **4.4.3 Summary of responses in company April 2019 revised business plans**

Some companies challenge the premise that ODI rates would be expected to converge and express a concern that the approach to defining the IAP reasonable range was arbitrary. Similarly, many companies (Anglian Water, Bristol Water, SES Water, South East Water, Wessex Water, Yorkshire Water) respond that the evidence on which their rates are based is robust and the best basis for setting ODI rates as it is more likely to be reflective of the views of their own customers.

Some companies (Bristol Water, Portsmouth Water, SES Water) offer reasons why their ODI rates might be higher/lower compared to the industry average (including differences in average bill size, average income of customers, existing performance levels and marginal cost) but do so without providing supporting evidence to demonstrate or quantify the effect.

One company (Hafren Dyfrdwy) challenges our approach to normalising ODI rates, arguing that while comparing rates on a per household basis is appropriate, a comparison using normalised performance increments does not work for smaller companies (as it implies a higher rate is appropriate than would be the case if performance increments were not normalised and generates what it describes as a “double aggregation effect”). The company argues instead that the appropriate basis of comparison is rates expressed in £/household/per non-normalised performance increment (e.g. £/household/incident basis rather than £/household/ incident per 10,000 connections).

Some companies (Affinity Water, Hafren Dyfrdwy, Northumbrian Water, Portsmouth Water, Southern Water, Dŵr Cymru) use the information on other companies’ proposed rates revealed at IAP as an additional input on which to triangulate their own ODI rates. This results in a large degree of convergence in proposed ODI rates for many performance commitments relative to IAP; however substantial variation remains ([see annex 2](#)).

For the non-customer facing asset health performance commitments, the majority of companies challenged at IAP to improve their ODI underperformance rates do not change the rates from those included in their September 2018 business plans. Most

companies state that their method of calculation and customer engagement is sufficient. Some companies such as Portsmouth Water and Northumbrian Water increase their rates based on the reasonable range. Northumbrian Water adopts the upper quartile values for all performance commitments and reduces its rate for one performance commitment. Other companies reduce their rates without providing a reason. For example, for their CRI performance commitment<sup>22</sup>, South East Water moves the rate to the lower bound of the range.

A few companies (eg Affinity Water, Southern Water and Bristol Water) carried out additional customer engagement between the IAP publication and the submission of April 2019 revised business plans.

Two companies, South East Water on CRI and Southern Water on sewer collapses, amended their ODI rates significantly between September and April business plans.

#### **4.4.4 Our policy approach**

##### **Customer facing performance commitments**

While there has been some convergence in proposed rates following IAP, substantial variation remains across companies which neither we nor the companies are able to satisfactorily explain or justify. In principle, we are not opposed to variation in ODI rates, provided this variation is both explainable and due to legitimate factors such as differences in customers' underlying preferences for service improvements. Our concern arises from our inability to explain the variation in companies' rates and the potential that it is driven by factors which do not reflect differences in customer preferences (such as differences in research methodology, inappropriate triangulation or exploitation of consumer biases).

Whilst we use the reasonable range as a tool for identifying whether a company's proposed rates are materially different from the industry average, we are not imposing the restriction that rates must lie within this reasonable range, even where additional evidence is required to explain this difference. This is in recognition that there may be justifiable reasons for the variation in rates, provided that these are driven by legitimate factors.

Our approach is therefore to apply a series of horizontal and company-specific tests to assess companies' proposals and if necessary inform the basis of interventions.

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<sup>22</sup> Please note at IAP CRI used a reasonable range around the industry mean as a benchmark not upper quartile.

Our specific interventions are thus based on an in-the-round assessment of a range of evidence.

We continue our **approach of assessing** ODI rates on a £ per household per normalised unit basis. This reflects our starting position that, all else equal, a household should attach a similar value to an equivalent increment in performance. This approach also controls for the aggregation effect that is present in companies' raw ODI rates (such that all else equal a company that serves more households should have a greater ODI rate).

For the majority of common and comparable bespoke performance commitments, the performance commitment levels are already expressed in normalised units. However, for the external sewer flooding and water quality contacts performance commitments it is necessary to convert the ODI rates into normalised units in cases where companies have expressed the performance commitment in terms of absolute performance levels. This is to control for the fact that absolute performance levels represent different degrees of improvement in performance across companies.<sup>23</sup> For these reasons we do not agree with Hafren Dyfrdwy's argument that £/household/un-normalised unit is a more appropriate basis of comparison. For Hafren Dyfrdwy, this results in ODI rates which are materially lower than industry average.

The horizontal and company-specific tests that we use to assess companies' ODI rates for customer-facing common and comparable bespoke performance commitments are presented in the table below. Given the horizontal nature of our concern (i.e. variation across companies) we apply these tests to all companies' rates including those for which specific actions were not raised at IAP; and those fast track companies which opted out of early certainty, namely United Utilities (all performance commitments) and Severn Trent (supply interruptions only).

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<sup>23</sup> For example a reduction in external sewer flooding by one property affected represents a much smaller reduction in risk for a customer of a company that serves a larger number of properties (such as Severn Trent) than a company that servers relatively fewer (such as Hafren Dyfrdwy).

**Table 4.1: Overview of tests applied to proposed customer facing ODI rates**

Check	Description	Rationale
Horizontal check	Do companies' proposed rates differ materially from industry average (as defined by September business plan ranges which we refer to as a reasonable range). The reasonable range is defined as $\pm 0.5$ standard deviations around the industry mean	Identifies whether proposed rate is an outlier which requires further investigation.
WTP/ triangulation check	Does our deep-dive of company's marginal benefit values raise any concerns around the quality of WTP evidence or triangulation?	Assesses whether company has derived marginal benefit component of ODI rate appropriately. Assesses the quality of triangulation and underlying valuations research.
Past performance check	Has the company under- or outperformed on its equivalent performance commitment during the 2015-20 period?	Identifies whether the company has a credible incentive to under- or overstate the marginal benefit or cost components of its ODI rates given the likelihood of it out- or underperforming.
Symmetry check	Are underperformance rates at least as large as outperformance rates?	Checks that outperformance rates are not higher than underperformance rates.
Performance commitment level stretch check	Is the degree of stretch implied by the 2024-25 performance commitment level, relative to current performance, above or below industry average?	Identifies whether the company has a credible incentive to under- or overstate the marginal benefit or cost components of its ODI rates given the likelihood of it out- or underperforming.
2015-20 rate cross-check	Is the proposed underperformance (outperformance) rate lower (higher) than equivalent rate for 2015-20 period, in absolute terms?	Identifies whether company is proposing a materially lower level of customer protection against incremental underperformance relative to the 2015-20 period.
Overall quality of companies' customer valuation evidence and triangulation.	What is the overall quality of the company's valuations across its ODI package?	We can in general attach more confidence to a company's proposed rate if it has been judged to have carried out high quality research and triangulation across its entire package of ODIs.

Given the assumptions underlying each of these tests we do not apply them deterministically in deciding whether an intervention is required. Instead we arrive at an assessment for each company's ODI rate taking into account the following factors:

- the confidence we have in the results of each check (based on data quality, comparability of data and strength of assumptions required) - this varies by check for each performance commitment and company;

- how coherent the conclusions of each check are with each other, i.e. do they all point in the same direction;
- the number of tests failed; and
- the potential harm arising from intervening/not intervening given the specific tests failed.

The exception to the above is with respect to the WTP/triangulation check, for which we consider intervention is justified in itself where we identify that the company has not appropriately derived the marginal benefit component of its ODI rates.

Where our overall assessment leads us to conclude that a company's proposed rate is not appropriate, we **intervene** to amend the company's rate. The specific nature of the intervention depends on the nature of the concerns identified. We do not apply mechanistic interventions (for example by imposing the reasonable range).

Our general approach is to re-triangulate ODI rates across some of the following data points (where relevant and applicable).

- Re-triangulation of rate based on the output of the company's own customer research. This is most appropriate where a company has a range of (diverging) WTP inputs, and where we have confidence in the quality of the underlying research from which these inputs are derived.
- Re-triangulation of rate incorporating the company's equivalent PR14 rate. This is considered where a company has provided only a single WTP value, or where its multiple inputs are tightly converged or considered to be low quality.
- Re-triangulation of rate using external information, such as industry average (or an appropriate point on the distribution of rates across companies). This is considered where a company does not have any primary WTP values or where we have significant concerns about the quality of its valuations.

As such in our interventions we seek to reflect information on the preferences of the company's own customers, sometimes approximated by the preferences of customers across the industry more widely, in setting revised rates.

Where we intervene, we have set outperformance rates lower than underperformance rates in absolute terms (using a multiple of 1.2), to capture the likely diminishing returns of service improvement. This ratio is based on our assessment of company research provided to us.

In assessing ODI rates we keep totex-sharing rates at 50:50 for the purposes of the draft determinations, but will consider further whether this is appropriate in all cases for final determinations.

We also reduce outperformance payment rates if customer support evidence is unclear, in line with our decisions on ODI type above. Our general approach to doing this is similar to the re-triangulation described above. We reduce the outperformance rate based on our willingness to pay triangulation, using the nearest bound of the reasonable range as discussed in the section on ODI rates. The interventions for individual companies are set out in the relevant 'Delivering outcomes for customers actions and interventions' documents.

### **Non-customer facing asset health performance commitments**

For non-customer facing performance commitments, we adopt a variation on the methodology used for customer facing performance commitments to assess companies' proposed ODI rates. We maintain our view that there are significant challenges involved in obtaining accurate customer valuations for asset health-related performance commitments. In particular, there is a risk that customer valuations are elicited in a way which does not capture the long-term impact of companies failing to properly maintain their assets. We note that many companies share this view and companies largely base their rates on marginal cost.

We **assess** companies' ODI rates for non-customer facing common and comparable bespoke asset health performance commitments using a set of horizontal and company-specific tests, which differ in some areas from the tests we use to assess ODIs related to customer-facing performance commitments.

The first of these tests entails assessing whether companies' rates are within a reasonable range around the industry average. For this we use the same approach as the customer facing ODI rate assessment to define a reasonable range i.e. the reasonable range is defined as  $\pm 0.5$  standard deviations around the industry mean.

For those performance commitments where we provided our current view of reasonable underperformance payment rates in the IAP outcomes technical appendix, we use the September 2018 business plan data on a normalised basis to determine ODI reasonable ranges for CRI, mains repairs, sewer collapses and treatment works compliance. This is because some companies propose rates in April 2019 revised business plans that align with our suggestions. However, for unplanned outage we use the data provided in April 2019 revised business plans on a normalised basis to set a new range, as many more companies propose financial incentives for this performance commitment in April 2019. For sewer blockages and low pressure performance commitments we use April 2019 revised business plan data on a normalised basis to determine reasonable ranges since we made no suggestions on rates for these performance commitments As with the customer

facing performance commitments, we assess all ODI rates on a normalised basis (by normalised unit by the number of households) to ensure comparability between large and small companies. It should be noted that the upper quartile and median values set out in the IAP technical appendix are not used to determine intervention levels. Graphs of the reasonable ranges are in provided in annex 2.

For outperformance ODI rates, given the low number of companies proposing outperformance payments we do not consider it feasible to create a reasonable range for the assessment. Therefore our assessment of outperformance rates is limited to checking whether the rate is larger than the underperformance rate (in absolute terms). We also conduct a high level package test to ensure there is no double counting of incentives; all companies provide evidence in their IAP responses to demonstrate this.

The table below presents the horizontal and company-specific checks we use to assess companies' non-customer facing ODI rates.

**Table 4.2: Overview of checks applied to proposed non-customer facing ODI rates**

Check	Description	Rationale
1. Horizontal check	Are the proposed rates materially below the lower bound of the reasonable range?	Identifies whether the proposed rate is an outlier which requires further investigation. We are concerned to ensure a minimum level of protection for customers from the failure of companies to investing in and maintain assets and as such are focused on the lower bound of the range rather than the higher bound of the range.
2. Company specific evidence	Does the company have a compelling reason for the rate it has proposed, has it explained how that rate benefits customers?	Identifies if the rate the company has proposed takes into account a compelling company-specific reason.
3. Past performance and past delivery check	Has the company underperformed on its equivalent performance commitment during the 2015-20 and/or the 2010-2015 period? Does the company have a well-defined plan to improve performance?	Identifies whether the company requires a stronger incentive to ensure planned improvement is sustained.
4. Comparative performance/ stretch check	Is the comparative performance poor (worse than the 'good' level – refer previous section)? Is the degree of stretch implied by the 2024-25 performance commitment level relative to current performance above or below industry average?	Identifies whether the company requires a stronger incentive to improve closer to the 'good' level of performance of all other companies.

As with customer facing assessment of ODI rates, we make an in-the-round assessment of whether to intervene based on the above checks.

Our **approach to intervening** on non-customer facing performance commitments differs from customer facing performance commitments as the more limited range of alternative data such as willingness to pay data makes any re-triangulation of rates not feasible. In general, where we assess that an intervention is required on underperformance rates, we use the lower bound, upper bound or average of the reasonable range to determine intervention values, depending on the results of our assessment.

We intervene where companies have rates that are lower than our reasonable range and it is not possible to justify the rate proposed based on customer evidence or benefit. We are concerned that this rate will therefore afford low customer protection. Generally this intervention is to move the rate to the lower bound of the range or the average of the range based on the data spread and the relative position of the rates against the range.

Where companies have either got past performance issues or we have concerns about comparative performance or level of stretch, even when the rate is within the reasonable range, we intervene to a higher level (average or upper bound). For these companies, we are particularly concerned that the level the company proposes does not sufficiently incentivise it to maintain and invest in its assets and therefore does not adequately protect its customers.

Two companies, South East Water on CRI and Southern Water on sewer collapses amended their ODI rates significantly between September and April business plans with little justification. We intervene on these to use an average of the two rates proposed.

The table below sets out the approach used in deciding on an intervention.

**Table 4.3: Guide to interventions on non-customer facing ODI rates**

<b>Asset health performance commitment</b>	<b>1. Failed checks 1&amp;2</b>	<b>2. Failed check 3 or 4</b>
CRI	Lower bound of range	Average of range (other water quality measures used as proxy for past performance issues)
Mains repairs	Average of range	Upper bound of range
Sewer collapses	Lower bound of range	Average of range
Unplanned outage	Average of range	Upper bound of range (check 3 only)
Treatment works compliance	Average of range	Upper bound of range
Sewer blockages	Lower bound of range	Average of range
Low pressure (only those with the common low pressure, measure called DG2)	Lower bound of range	Average of range

Given the importance for companies to be sufficiently incentivised to maintain good asset health performance, our interventions also include adding underperformance payment rates to companies that have not proposed one. We set the rate for these performance commitments at the average rate proposed by all other companies.

We also remove outperformance payments where customers have shown that they do not support these, in line with our general approach to outperformance payments. Where customers do support outperformance payments but these are greater than underperformance payment rates, we intervene to reduce the outperformance rates to the level of the underperformance rates.

#### **4.4.5 Our draft decisions**

##### **Customer facing performance commitments**

For the seven customer facing performance commitments assessed, we make around 50 interventions across companies to ensure the underperformance and outperformance rates are appropriate. In line with our assessment and intervention approach described above, we adjust the rates of those companies:

- that have rates that are outliers i.e. outside a reasonable range around the average;
- that show some (but not fully robust) customer support;
- that may have an incentive to understate underperformance rates / overstate outperformance rates;
- that have past delivery issues;
- that propose outperformance rates that are higher than underperformance rates; and/or
- that make biased / incorrect use of bottom-up customer research or willingness to pay data.

We intervene for the following companies against the seven customer facing performance commitments:

- Leakage – Affinity Water, Bristol Water, Hafren Dyfrdwy, Northumbrian Water, Portsmouth Water, SES Water, South East Water, Southern Water, South Staffs Water, Thames Water, Wessex Water, Yorkshire Water
- PCC – Anglian Water, Bristol Water, Portsmouth Water, SES Water, Southern Water, South Staffs Water, Dŵr Cymru, Wessex Water, Yorkshire Water
- Supply interruptions – Anglian Water, Bristol Water, Hafren Dyfrdwy, Portsmouth Water, SES Water, South East Water, South Staffs Water, Thames Water, Dŵr Cymru, Wessex Water, Yorkshire Water
- Pollution incidents – Hafren Dyfrdwy, Southern Water, Thames Water, Dŵr Cymru
- Internal sewer flooding – Hafren Dyfrdwy, Northumbrian Water, Dŵr Cymru, Wessex Water
- External sewer flooding – Dŵr Cymru and Yorkshire Water
- Customer contacts – Affinity Water, Bristol Water, Hafren Dyfrdwy, Northumbrian Water, Portsmouth Water, South East Water, Southern Water, South Staffs Water, Thames Water, Wessex Water, Yorkshire Water

The rationale for each intervention is contained in the company 'Delivering outcomes for customers actions and interventions' document and further information is provided in annex 2.

### **Non-customer facing (asset health) performance commitments**

For the seven non-customer facing asset health performance commitments assessed, we make around 35 interventions to ensure the underperformance rates are appropriate. In all cases we examine the evidence provided by the company and

we consider that no company provides compelling evidence to demonstrate why its proposed rates are appropriate (if below the lower bound of the range).

The interventions follow our approach described above. We adjust the rates of those companies:

- that have rates that are outliers i.e. outside a reasonable range around the average;
- that have poor comparative performance (worse than the 'good' level);
- where there is evidence of past performance issues that may be a concern for the future;
- where there are past delivery concerns, which means a company may have higher risk of not delivering in the future;
- that propose outperformance rates that are higher than underperformance rates;
- where a company does not provide financial incentives; and/or
- where the company provides new, lower rates in April 2019 revised business plan with no compelling justification.

We intervene for the following companies against the seven non-customer facing performance commitments:

- Compliance Risk Index (CRI) – Portsmouth Water, South East Water, South Staffs Water, Thames Water, Dŵr Cymru
- Mains repairs – Affinity Water, Anglian Water, Bristol Water, Hafren Dyfrdwy, Portsmouth Water, South East Water, South Staffs Water, Thames Water, Dŵr Cymru
- Unplanned outage – Anglian Water, Hafren Dyfrdwy, Portsmouth Water, SES Water, Thames Water, Dŵr Cymru, Wessex Water, Yorkshire Water
- Sewer collapses – Hafren Dyfrdwy, Southern Water, Wessex Water, Yorkshire Water
- Treatment works compliance – Hafren Dyfrdwy, Yorkshire Water
- Sewer blockages – Hafren Dyfrdwy, Thames Water
- Low pressure (DG2) – Affinity Water, Hafren Dyfrdwy, Southern Water, Thames Water

For the outperformance payments that are retained, we reduce the rate for Northumbrian Water on its mains repairs performance commitment to ensure it is no larger than the underperformance rate.

The rationale for each intervention is contained in the 'Delivering outcomes for customers actions and interventions' documents and charts are provided in annex 2.

#### 4.4.6 Implications for fast track companies

Our decisions on ODI outperformance or underperformance rates would apply to United Utilities, which opted out of the early certainty principle, but not to South West Water which opted into early certainty<sup>24</sup>, Severn Trent Water opted out of the early certainty principle in relation to three common performance commitments (supply interruptions, unplanned outages and Compliance Risk Index), so our decisions on ODI rates for those performance commitments apply. Our decisions on ODI rates for all other performance commitments, do not apply to Severn Trent<sup>24</sup>.

In line with early certainty, these are the implications for fast track companies:

- United Utilities for PCC (both outperformance and underperformance rates increased), Leakage (outperformance rate only increased), Supply interruptions (both outperformance and underperformance rates increased), Pollution Incidents (underperformance rate only reduced), internal sewer flooding (outperformance rate only increased), water quality customer contacts (both outperformance and underperformance rates reduced), external sewer flooding (outperformance rate only increased), mains repairs (outperformance rate only reduced)
- Severn Trent for CRI, the underperformance rate increased due to poor performance.

#### 4.5 ODIs for cost recovery on common performance commitments

We allow leakage enhancement costs for companies that plan to go beyond the forecast upper quartile levels, which results in additional funding for Bristol Water, South East Water and Anglian Water. We also allow for Thames Water to improve its unplanned outage performance, expecting it to deliver the industry median performance level by 2025, with investment in resilience and asset health. We set out further information on our assessment of costs relating to common performance commitments in 'Securing cost efficiency technical appendix'.

We amend the ODI rates on these performance commitments to take into account the additional allowances. This is important for ensuring that a company does not benefit financially from keeping the allowance and incurring a standard underperformance payment.

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<sup>24</sup> except in circumstances where its relevant outperformance payment rate or underperformance payment rate is the highest or lowest, respectively, of all the companies

We apply a two-tier ODI rate to return the additional funding allowances for leakage to customers where the company does not deliver the above upper quartile performance commitment service level that the additional cost allowance is funding it to achieve. The first ODI rate is based on the standard ODI rate that will operate below the scope of the funding (this means for leakage that the standard rate applies below the upper quartile). Whereas, the second ODI rate is a combination of the standard ODI rate and the additional allowance, and this applies over the scope of the funding (that means for leakage it will operate between the performance commitment level and the upper quartile).

## **4.6 Past performance**

At the IAP we raised “required actions” for five companies (Southern Water, Bristol Water, South East Water, Hafren Dyfrdwy, Thames Water) to submit additional evidence of their deliverability, and an action plan for continuous performance monitoring and improvement for 2020-25.

We make adjustments to company’s underperformance rates where we continue to have concerns over the deliverability of the company’s business plans, given their past performance on some performance commitments and the evidence they provide in the lessons learned from past delivery. In deciding whether further adjustments are required we take into account companies’ proposed outcome delivery incentive rates and any adjustments that we are already making. Where we consider that further customer protection against poor performance is required, we intervene to increase its underperformance rate (for example by increasing the underperformance rate to align with the industry average). Further details of our assessment approach are set out in the ‘Accounting for past delivery technical appendix’, and details of our assessment in ‘Company- Past delivery actions and interventions documents’

## 5 Enhanced ODIs

We want to encourage companies to innovate to improve their performance beyond the best level currently achieved by any company. Enhanced outperformance and underperformance payments provide strong incentives and compensate companies for the extra effort and risk involved in delivering major performance improvements. Significant step changes in frontier performance through innovation will provide financial incentives to companies with enhanced ODIs in the short term while enabling more stretching benchmarks for future price controls, benefiting the customers of all companies.

### 5.1 What we said in our PR19 methodology

To incentivise a step change in performance, companies can propose higher outperformance payments for very high levels of performance. Due to better availability of comparative data, these will only apply to common performance commitments.

If a company proposes enhanced outperformance payments, it should also propose corresponding enhanced underperformance payments to protect customers from excessive company risk-taking (for example as a result of taking excessive risk to the detriment of customers).

Companies should propose the threshold at which enhanced outperformance and underperformance payments will apply. The outperformance threshold should preferably be higher than the current leading company's performance and include forecast improvements. We expect the underperformance threshold to be at least at lower quartile of industry performance.

Companies could take account of wider benefits of the increased service level when proposing enhanced outperformance and underperformance rates.

Companies that proposed enhanced outperformance and underperformance payments should also explain how they will share the knowledge behind their success with companies across the sector by the end of the 2020-25 period or soon after. Receiving enhanced outperformance payments will depend on whether the company has a credible plan for sharing its approach with the sector.

## 5.2 Our actions at IAP

Where companies had proposed enhanced outperformance rates greater than twice the associated standard rate, we asked them to provide further evidence to justify the level of the enhanced ODI outperformance and underperformance incentive rates proposed, or consider revising the enhanced rates to be based on a lower multiple applied to the standard incentive rates. We used the 2x multiplier as an assessment reference point as rates above this multiplier imply an enhanced ODI rate greater than the willingness to pay of a companies' own customers, and therefore denotes a point beyond which companies' own customers would be worse off as a result of it delivering enhanced outperformance.

We said we expect all enhanced ODI thresholds from 2020-21 to be at least as good as performance levels currently being achieved, or forecast, by the best performing company. For companies that are already leading performers, we said we expect the threshold to represent a step change on current performance levels. We said our assessment will consider whether companies have allowed for the likelihood that performance might in any case be expected to improve over time. For the threshold in 2024-25, we said we would have regard to the forecast improvement over the five years proposed by other companies. Based on this assessment we asked some companies to reconsider the thresholds for enhanced outperformance and underperformance payments, and either provide further evidence to demonstrate that they are appropriate or amend them to a more challenging level of performance. In either case the company should set out clearly its evidence and rationale.

We said caps on enhanced ODIs are appropriate to protect customers from higher than expected enhanced outperformance payments, and requested companies to propose caps on their enhanced outperformance payments in each year of the 2020-25 period where they had not done so. We requested that companies should provide evidence and rationale for the level of the caps proposed.

## 5.3 Summary of responses in April 2019 revised business plans

The following sections set out company responses to our approach to assessing enhanced ODIs, covering:

- Enhanced rates.
- Enhanced thresholds.
- Enhanced caps and collars.

### **5.3.1 Enhanced rates**

Companies generally respond to our actions at IAP by either defending the enhanced rates proposed, or removing their enhanced ODIs.

Yorkshire Water argues that the application of a limit on enhanced incentive rates at 2x the corresponding standard ODI rate is not supported by evidence, and could lead to customer detriment by underestimating the value of performance changes at the frontier or upper quartile levels. The company also argues that limiting enhanced rates at an “arbitrary” level may result in risk and return positions significantly outside Ofwat’s own guidance. Northumbrian Water also challenges the use of an arbitrary 2x multiplier to cap enhanced rates, and Wessex Water argues that a cap on enhanced rates equal to a company’s own customers’ willingness to pay is inconsistent with our PR19 methodology.

Other companies (Anglian Water, Northumbrian Water and Wessex Water) state that their rates are appropriate for a number of reasons, such as the proposed rates do not exceed certain measures of the willingness to pay of their own customers; the rates are consistent with the sector-wide benefits of frontier shifting performance; customers support the bill impact associated with the company’s enhanced ODI rates as well as the rates themselves; the approach adopted is consistent with that used by Ofwat to assess the impact on the industry/customers of small company mergers; and that they adopt a conservative approach to determining the rate multiplier.

Portsmouth Water remove enhanced rates across the board and Northumbrian Water remove enhanced rates for mains repairs and internal sewer flooding.

### **5.3.2 Enhanced thresholds**

The majority of companies that were requested at IAP either to provide further evidence to justify why their proposed enhanced performance thresholds reflected frontier performance, or to make the thresholds more stretching, choose to justify their chosen levels.

One company – Yorkshire Water – propose that we should set a single industry-wide enhanced performance threshold to ensure that companies are treated comparably.

For leakage, Northumbrian Water sets its enhanced performance threshold on a per property basis, and its underperformance threshold in line with water industry strategic environmental requirements (WISER).

Wessex Water bases its enhanced outperformance and underperformance thresholds on a fixed percentage adjustment to the annual percentage reductions for the related common performance commitment thresholds reflected in its plan.

### **5.3.3 Enhanced caps and collars**

Some companies continue to fail to apply a cap or collar to their enhanced outperformance and underperformance incentive payments. Yorkshire Water proposes instead to apply an overall cap on outperformance and underperformance payments beyond +/- 3% return on regulatory equity within the water and wastewater price controls. The company argues that, as with the approach to applying caps and collars on individual performance commitments where financial incentives apply beyond the P10 and P90 levels, the application of enhanced outperformance caps does not provide any additional protection benefits beyond that of the overall 3% return on regulatory equity cap.

## **5.4 Our policy approach**

The following sections set out our decisions on assessing and intervening on enhanced ODIs, covering:

- Enhanced rates.
- Enhanced thresholds.
- Enhanced caps and collars.
- Knowledge sharing.

### **5.4.1 Enhanced rates**

We have decided not to use our IAP threshold of 2x standard ODI rates as a binding cap on companies' enhanced ODI rates.

In our PR19 methodology we state that the enhanced outperformance payment rate can include wider externalities that might not be captured in the company's customer valuations, such as the benefits to all customers from the improvement in sector performance benchmarks. A 2x multiplier would not account for these benefits.

We also note that whilst the 2x multiplier was a useful assessment tool, as it implies an enhanced ODI rate greater than the willingness to pay of a companies' own customers, this condition only holds if the marginal cost of delivering enhanced

outperformance is equal to zero, so may understate potential issues in relation to company's own customers.

We estimate the benefits to all customers (or benchmarking externality) and assessed companies' proposed enhanced rates against this estimate. We consider that in general the benchmarking externality should not vary across companies as it reflects the benefits to the sector as a whole of frontier-shifting performance, regardless of which company achieves this. However, we recognise that customers of smaller companies may be disproportionately impacted (on a per household basis) if they are required to share the same industry-wide externality as customers of larger companies. This is because the size of the industry-wide externality is fixed but the customers paying the enhanced payments are only those of the company receiving the payment. We therefore apply a distributional adjustment factor to our quantification of the benchmarking externality to account for the relative number of households for each company compared to the industry average.

Further details of our approach to estimating the benchmarking externality are presented in Annex 4. In particular, the approach considers the following:

- The impact of enhanced outperformance in 2020-25 on performance commitment stretch benchmarks in 2025-30. This takes into account the probability of a company with enhanced outperformance influencing the upper quartile in 2025-30. Some companies assume a 1:1 relationship between enhanced outperformance in 2020-25 and performance commitment stretch benchmarks in 2025-30, which does not take into account these probabilities.
- Diminishing returns to outperformance. This provides for a downward adjustment to the value of an increase in performance commitment stretch benchmarks to capture the likely diminishing returns of improved service. Some companies assume a constant willingness to pay which is likely to overstate the benefits of outperformance.
- A discount for the delay in benefits being accrued. This accounts for the benchmarking externality not being realised until 2025-30. Some companies' rates implicitly assume that benefits would be realised in 2020-25.

Where companies' propose enhanced outperformance ODI rates that are greater than our estimate of the adjusted benchmarking externality, we intervene to set the rates at the level implied by our estimate of benchmarking externality, adjusted where necessary for distributional concerns. We do not intervene where companies' proposed rates are lower than our adjusted externality estimate. This is because we consider that there is information asymmetry between us and companies and hence where companies propose a lower ODI than us, this may be sufficient to incentivise innovation by them.

As with standard ODI rates, we consider that enhanced underperformance rates should be at least as large as enhanced outperformance rates. Symmetric rates provide balance to the enhanced outperformance payment which should reduce the chances that companies take unreasonable risks to achieve enhanced outperformance, which may inadvertently result in very poor performance for customers. We therefore apply symmetric rates for enhanced out- and underperformance payments in cases where we intervene on the outperformance rate, and intervene to set enhanced underperformance rates equal to enhanced outperformance rates where the outperformance rate is higher than the underperformance rate.

We also consider that customers who do not support standard outperformance payments for a performance commitment would not support enhanced performance payments. Where companies fail to provide convincing evidence of customer support for standard outperformance payments, we intervene to remove the enhanced ODI for that performance commitment.

#### **5.4.2 Enhanced thresholds**

We have taken a single industry view for each relevant performance commitment of the threshold level of performance beyond which companies should receive enhanced outperformance payments. We consider a single industry level is appropriate because it represents a level that improves the industry frontier as a whole, and does not reward companies that are behind for simply catching up with the rest of the industry.

To calculate **enhanced outperformance thresholds** for each performance commitment for the 2020-25 period, we apply three steps.

We first set a starting point for 2020-21 either at the current best performing company in 2017-18 or at the forecast frontier level for 2020-21, whichever is more stretching. This combined approach compensates for the risk that companies may underestimate performance forecasts such that forecast frontier levels are below the current frontier performance level.

Second, we apply an upward shift to the starting level of performance (the “frontier shift”) based on the historical annual percentage change in the (standard) upper quartile industry performance for the related service from 2014/15 to 2017/18. We consider that historical data provides a better view of how performance levels can shift compared to forecast views, and have chosen 2014/15 – 2017/18 due to the availability of comparable data across companies. We consider that the shift in the

upper quartile is an appropriate proxy for the rate of historical frontier change given the volatility in changes in frontier performance figures. We apply two years' worth of annual historical performance change to the starting point, to reflect the performance between 2018 (when companies submitted their plans) and 2020 (start of the price control period).

Third, in order to ensure that the enhanced threshold gets progressively more challenging as the frontier continues to shift throughout the price control period, we calculate the % year on year improvement in the (standard) upper quartile forecast values for each performance commitment between 2020/21 and 2024/25 and apply that profile to the shifted frontier starting point from 2020/21.

There are some differences in this approach for some specific performance commitments:

- Supply interruptions, pollution incidents and internal sewer flooding – we use September 2018 business plan to reflect company views of the forecast threshold rather than the April 2019 revised business plan, as the latter reflects our view of the upper quartile rather than companies' views.
- Per capita consumption – we use April 2019 revised business plan data to reflect companies' latest views.
- Leakage – to be consistent with our approach to setting performance commitment levels, we separately normalise the enhanced leakage thresholds by leakage per property and leakage by length of mains. To set the enhanced outperformance threshold we then equally weight these two measures to strike an appropriate balance for all companies with varying levels of population and network length. This results in a different threshold for each company.

Where companies propose less stretching enhanced outperformance thresholds than our single industry view for each relevant performance commitment, we intervene to set their thresholds at our industry view. Where companies propose more stretching thresholds we do not intervene and we accept these more stretching thresholds for these companies, since we consider that there is information asymmetry between us and companies and hence companies may have a better view on the extent of enhanced performance companies consider they can achieve.

In assessing **enhanced underperformance thresholds** for each performance commitment, we maintain our view set out in our PR19 methodology that the threshold should be at least at the lower quartile of industry performance, in order to reflect a deterioration in performance to very poor levels. For enhanced underperformance thresholds, we use the actual lower quartile performance of all companies applied to each year of the 2020-25 period. While companies have

generally proposed more demanding enhanced underperformance thresholds, we consider that the lower quartile of actual performance for all companies is still appropriate, and represents very poor performance for the subset of companies that have proposed enhanced ODIs.

We therefore intervene where necessary to set companies' enhanced underperformance thresholds to the current lower quartile performance (based on 2018/19 forecast, or 2017/18 actuals where not available).

### 5.4.3 Enhanced caps and collars

Our approach to assessing **enhanced outperformance caps** has regard to the following considerations:

- Companies require sufficient incentives to innovate and deliver frontier-shifting performance for the benefit of all customers.
- Customers should be protected from unduly high outperformance payments and from companies focusing on a single performance commitment to the detriment of other service areas. This is particularly relevant given the remaining uncertainty around customers' willingness to pay for service improvements and the risk of misspecification of standard and enhanced ODI rates. We also consider it appropriate to limit the extent to which any particular company's customers fund innovation to the benefit of all customers.

To achieve a balance between these considerations, our decision is that companies should be able to earn outperformance payments using standard ODI rates on performance up to the enhanced outperformance threshold. Beyond that threshold, we set a cap on the outperformance payments that can be earned from any one enhanced ODI in any year equal to 1% of either water or wastewater regulated equity as relevant. This combines the notional regulated equity in the network plus water and water resources price controls into a single 'wholesale water regulated equity' and the network plus wastewater and bioresources price controls into a single 'wholesale wastewater regulated equity'.

We consider this an appropriate cap as it is consistent with the aggregate sharing mechanism as a % of regulated equity. This mechanism operates alongside our wider customer protection approach, where a company's annual outperformance payments across all performance commitments greater than 3% of water or wastewater regulated equity in any year are shared with customers.

We consider this strikes the right balance between providing sufficient incentives for companies to advance the frontier while protecting customers from high outperformance payments. We consider that having individual caps on performance commitments with enhanced ODI payments provides additional customer protection over and above the general cap above 3% of RORE. Individual caps will mitigate the risk that the enhanced ODI rate may be mis-specified or that companies focus excessively on a single performance commitment to the detriment of their wider commitments.

In the same way as we use the lower quartile of recent sector performance for enhanced underperformance thresholds, we use the lower decile for each performance commitment to set **enhanced underperformance collars**. We set **enhanced underperformance collars** at the lower decile<sup>25</sup> of actual company performance for each relevant performance commitment. This balances limiting companies' financial exposure to enhanced underperformance payments the need to protect customers from excessive risk taking by companies which may lead to very poor performance. We consider a range of potential levels and consider this to be the most suitable. It ensures the collar is aligned to recent poor performance by all companies in the sector, while excluding outlier poor performance which may result in disproportionate exposure for companies. There are further complementary tools such as enforcement action to deter such low performance levels.

As with enhanced outperformance payments, standard underperformance payments will continue to apply to up to the enhanced underperformance threshold – this provides further incentives for the company to avoid significant underperformance.

#### **5.4.4 Knowledge sharing**

As set out in our PR19 methodology, knowledge sharing is an important element of the enhanced ODI framework. The exact nature of each knowledge sharing process is likely to depend on the innovation undertaken, the service area concerned and the industry circumstances at the time of the sharing.

We expect companies earning enhanced ODIs to share learning on what worked and what has not, consistent with knowledge sharing plans set out in their business plan. We also expect companies to assess the success of their knowledge sharing and be able to provide evidence of this to Ofwat, and we will take account of this when we determine ODI payments.

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<sup>25</sup> A decile is a form of a quantile which has ten categorical buckets. In this case we have used the lower decile out of the seventeen companies.

## 5.5 Our draft decisions

### 5.5.1 Enhanced rates

As set out in our policy approach above, we intervene where companies' proposed **enhanced outperformance ODI rates** are greater than our estimate of the adjusted benchmarking externality, and set the rates at the level implied by our estimate of benchmarking externality, adjusted where necessary for distributional concerns.

We do not intervene where companies' proposed rates are lower than our adjusted externality estimate.

We intervene to set **enhanced underperformance rates** equal to enhanced outperformance rates where the enhanced outperformance rates are higher than the enhanced underperformance rates.

We also intervene to remove enhanced ODIs where there is not sufficient evidence of customer support for standard outperformance payments.

### 5.5.2 Enhanced thresholds

As per our policy approach set out above, we intervene to set **enhanced outperformance thresholds** at the level of our single industry view where companies propose thresholds worse than this level.

The enhanced thresholds for leakage differ across each company as these are normalised by leakage per property and leakage by length of mains.

We allow more challenging enhanced thresholds where companies propose them – for Wessex Water and Sutton and East Surrey on supply interruptions and for Yorkshire Water on supply interruptions and per capita consumption.

For **enhanced underperformance thresholds**, for each performance commitment we use the actual lower quartile performance of all companies applied to each year of the 2020-25 period. We use forecast figures for 2018-19 (or 2017/18 actual where not available) for the draft determination and will adjust for actual figures for 2018-19 in the final determination. This results in the same thresholds for all companies except for leakage. Due to our normalisation approach, enhanced leakage thresholds vary for each company.

### 5.5.3 Enhanced caps and collars

Under the approach we have set out, **enhanced outperformance caps** operate for each year of the 2020-25 period. We will assess the levels of regulated equity in order to apply the caps on enhanced outperformance payments during the in-period determination of PR19 performance commitments. The cap applies separately for the combined network plus water and water resources controls ('wholesale water'), and for the combined network plus wastewater and bioresources controls ('wholesale wastewater').

**Enhanced underperformance collars** operate for each year of the 2020-25 period. For our draft determinations, we calculate collars for each performance commitment using 2018-19 forecast data provided by companies, except where the data are limited in which case we make adjustments or revert to 2017-18 data. For our final determinations we will use 2018-19 actual data as provided by companies in their July 2019 annual reporting.

### 5.5.4 Knowledge sharing

Our decision is not to intervene on companies' knowledge sharing plans in our draft determinations. However, we will take account of companies' evidence of their knowledge sharing activities when determining enhanced ODI payments.

## 5.6 Implications for fast track companies

We summarise, below, the implications of our assessment for fast track companies.

Severn Trent Water has an enhanced ODI on internal sewer flooding, South West Water has two enhanced ODIs on internal sewer flooding and leakage and United Utilities has an enhanced ODI on pollution incidents.

Common performance commitment levels are not included in early certainty, so our decisions on enhanced thresholds for these performance commitments apply to all companies, including fast track companies.

On the enhanced ODIs that the fast track companies have our decisions on enhanced ODI outperformance or underperformance rates apply to United Utilities only, since it opted out of the early certainty principle. Our decisions will not apply to the enhanced ODIs of South West Water or Severn Trent Water <sup>24</sup>

Our decisions on caps and collars for enhanced ODIs apply to United Utilities but not to Severn Trent Water, and South West Water who both opted into early certainty.

## 6 Bespoke performance commitments

Bespoke performance commitments provide companies with the opportunity to reflect their customers' preferences and develop innovative performance commitments. For example, this allows companies operating in Wales to reflect Welsh customers' priorities and government policy in Wales. Companies should engage with their customers and local stakeholders on their bespoke performance commitments.

Companies should make sure that the definitions of their bespoke performance commitments are clear. There should be no, or very few, exemptions included in the definitions. Any exemptions need to be well justified and supported by the company's customers.

We encourage companies to consider ways of making their performance commitments more challenging at PR19. This could include making bespoke performance commitments to their customers based on innovative metrics that genuinely challenge the company and lead to significant changes for the benefit of customers or the environment. It could also include performance commitments that involve working together with others, such as new approaches to catchment management.

Companies propose a wide range of bespoke performance commitments to reflect the challenges they face and their own customers' preferences and circumstances. In assessing these, we use multiple sources of evidence. This includes customer support and willingness to pay for the performance commitment and any financial incentives associated with it; technical evidence supporting the performance commitment, including any sector comparators or similar performance commitments; and historical evidence and precedents where available.

Our interventions relating to the bespoke performance commitments proposed by companies are outlined in our 'Delivering outcomes for customers actions and interventions' documents for each company.

There are several areas where all or the majority of companies propose bespoke performance commitments. This section outlines our approach to assessing and decision-making on performance commitments in these areas, where we have taken a common approach across companies. These areas are:

- Gaps and voids
- Scheme specific / cost recovery

- WINEP and NEP
- Carbon
- Retailer satisfaction
- Incomplete performance commitments

## **6.1 Gaps and voids**

### **6.1.1 What we said in our PR19 methodology**

We have concerns about water companies' management of gap sites and voids<sup>26</sup> and the incentives they have to manage them appropriately. Water companies have varying levels of voids and gap sites, manage them differently and face different circumstances.

Our PR19 methodology challenges companies to propose bespoke performance commitments on gap sites and voids, for residential retail and the business retail market, or justify why this is not appropriate.

### **6.1.2 Our actions in our initial assessment of plans**

At IAP, we requested several companies provide additional evidence to justify the use of a non-financial incentive for gaps and voids performance commitments by demonstrating why a financial incentive would not be in the interests of customers. We asked some companies to provide further evidence that their proposed ODI rates were appropriate, including providing more detail on the calculation of the rates.

We also asked some companies to propose more stretching performance levels where we considered their original proposed levels to be insufficiently stretching. In these cases we asked the companies to set out the evidence and rationale for the revised targets, or to clearly justify that retaining their proposed levels would be in customers' interests.

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<sup>26</sup> Voids are properties classed by water companies as being vacant. However, some voids are actually occupied, so they may, erroneously, not be billed. A gap site is a property where water and/or wastewater services are being consumed, but the property is not on a water company's system and is therefore not billed.

We did not propose a common performance level or ODI rates for companies to adopt so it was up to the companies to propose performance levels and ODI rates and justify them.

### **6.1.3 Summary of responses in April 2019 revised business plans**

Companies generally comply with the majority of our actions, usually providing further evidence to justify their original positions, and in some cases adopting our suggestions. Some companies withdrew ODI rates where they were unable to provide additional evidence.

### **6.1.4 Our policy approach**

We consider there are clear, direct benefits to customers of companies reducing **void** sites, in the form of bill reductions. We also consider that underperformance payments are necessary to incentivise companies to identify void sites where services are being used. For this reason, as there is clear benefit for customers from doing so, we have decided to set financial incentives (including both outperformance and underperformance payments) for void performance commitments, where companies have proposed non-financial performance commitments or underperformance only ODIs. If outperformance payments are earned, the positive impact on bills from the revenue requirement being spread across more customers will outweigh the cost of the outperformance payment.

In order to apply our decision regarding out and underperformance payments, we undertook an assessment of companies' proposed performance commitment levels and ODI rates.

#### **Performance commitment levels**

In assessing the performance commitment levels, we do not apply a common performance level across all companies, given the influence of exogenous factors on void rates, such as the level of housing availability and deprivation. We therefore assess performance levels on a case-by-case basis, taking into account:

- companies' business plan data on absolute void levels and the percentage reduction in voids proposed across the period;
- comparative performance levels of other companies; and
- Ministry of Housing, Communities and Local Government (MHCLG) data on total dwellings and empty dwellings as a cross-check.

Where companies propose performance levels that were not considered to be sufficiently stretching on the basis of the above analysis, we intervene to set more stretching performance levels.

We also assess the definitions proposed by companies and adjust these where necessary to ensure that the correct outcomes are being incentivised. For example, we amend some definitions to include unmetered properties, as unmetered properties are more difficult to identify as using services because the meter cannot be read and thus excluding them would not focus incentives on the more difficult issue.

### **Outcome delivery incentives**

Companies propose different methods in regards to calculating the outcome delivery incentive rates for identifying voids. These methods are mostly based on cost and expected benefit to customers and, in certain cases, include assumptions around default or false voids' rates leading to unsuitable incentives.

We decide to apply a common methodology for assessing and intervening in ODI rates for the void performance commitments, as the benefits to customers can be assessed in the form of bill reductions rather than relying on willingness to pay evidence. The calculation of ODI rates is based on the company's average wholesale residential bill to represent the benefit of a reduction in a false void, and an assessment of the efficient cost of identifying a false void. We do not adjust company average bills to take account of the likelihood of an identified false void bill being paid, as we consider that whether a bill is paid or not affects bad debt which is a cost that the company should largely control. Customers receive a benefit of bill reductions if the number of void properties reduce, regardless whether the bill is paid.

The outcome delivery incentive rate calculations are based on the following inputs:

**Average wholesale bill amount:** The company's latest bill amount following the residential adjustment. This adjustment is made by deducting the 10% residential element from the total bill. In cases where companies do not provide this figure, we use the latest figures available on '[DiscoverWater](#)'.

**Marginal cost:** The marginal cost of identifying a void. This figure is estimated at £30. We adjust this estimate in cases where companies provided a different marginal cost with sufficient justification and rationale.

**Cost sharing factor:** 50% consistent across all companies.

**1% of the total number of properties:** This is 1% of the total number of properties companies have quoted in their respective “App1a” data tables.

The calculations are as follows:

A. Underperformance rate:

*(Average wholesale bill – (Marginal cost × 50%)) × 1% of total number of properties*

B. Outperformance rate:

*(Average wholesale bill × 50%) × 1% of total number of properties*

For gap site performance commitments, our approach remains the same as at IAP, as there was no additional information (direct or proxy) to enable a consistent comparison of performance levels or rates across the industry. The nature of gap sites and difficulties in predicting how many may be identified over time across companies compounds the difficulties of cross-company comparisons.

Therefore, we undertake case-by-case assessments of gap site performance commitment levels and ODI rates following the approach we adopt for bespoke performance commitments in general, with comparisons between similar companies where possible.

### **6.1.5 Our draft decisions**

In line with our policy approach set out above, our draft decision is to apply an industry wide intervention to incorporate underperformance and outperformance rates to each void performance commitment where they were not already present.

We also intervene to apply more stretching performance levels to several companies where we assessed them to be forecasting poor performance against expectations.

For two companies, Hafren Dyfrdwy and Yorkshire Water, we intervene to change the definition of the performance commitment so that we can better challenge the stretch of the performance level by comparing performance to that of other companies and to comparable data. We also consider that the revised performance commitments are more focused on the benefit for customers.

## 6.2 Scheme-specific / cost recovery

### 6.2.1 What we said in the PR19 methodology

In the 2020-25 year period companies will invest in schemes to improve existing assets or build new assets. Schemes may include investment in natural capital approaches such as catchment management that avoid the need for traditional hard engineering investment, while providing wider benefits such as improving biodiversity.

Companies' incentives are best targeted on the end outcomes that matter to customers such as the service they receive. We want to see companies focusing on delivering what really matters to their customers, rather than the delivery of certain outputs and schemes and consider this is possible in most circumstances.

Scheme-specific performance commitments are performance commitments related to the delivery of a particular scheme, rather than a service or outcome delivered to customers. We agreed to a number of these performance commitments at PR14. This is a way of ensuring that customers are protected if the particular scheme covered by the commitment are not delivered in a timely manner. This can be necessary where scheme will deliver longer term benefits that are not fully captured by service in the five year price control period. Performance commitments just focused on short term service would not provide appropriate incentives to companies.

The situations where it might be appropriate to set scheme-specific performance commitments include:

- schemes with extended delivery times beyond 2025, or, that deliver inter-generational benefits to customers;
- schemes where the companies' existing performance commitments do not sufficiently cover the benefits of the schemes, and therefore, would not compensate customers sufficiently for delay and / or non-delivery; and
- schemes where there is a high degree of uncertainty associated with completion.

However, in all such cases, companies should consider whether their customer- and environment-focused performance commitments could capture the benefits of such schemes instead.

Companies' applications for special cost claims, should be accompanied by their proposed approach to protect customers (in the event of delay or non-delivery of the scheme).

### **6.2.2 Our actions at IAP**

At IAP, we raised company-wide actions for all companies to consider how their ODI rates related to adjustments in enhancement or cost claim allowances, including where rejected. In order to protect customers, we raised a number of actions for some companies to include ODIs where they had proposed material enhancement expenditure for specific schemes.

In some cases companies proposed ODI rates that were not properly based on customer evidence. For example Bristol Water uses customer willingness to pay evidence to improve supply interruptions without taking into proper account how the investment would improve service and so overestimated the benefits of the investment. We also raised a number of actions for Northumbrian Water in particular, as we considered that it did not adequately demonstrate how success measures for its scheme-specific performance commitments would work in practice.

We had concerns with some company proposals for their lead reduction performance commitments. For example, Hafren Dyfrdwy did not sufficiently justify why its performance commitment was stretching. We raised actions for companies to clarify the definitions of their measures and to further demonstrate that the proposed performance level was stretching.

We requested companies propose ODIs which protect customers against the late delivery or non-delivery of enhancement investment.

### **6.2.3 Summary of responses in April 2019 revised business plans**

In general, companies comply with the majority of actions relating to scheme-specific performance commitments. Companies propose underperformance payments which provide incentives for timely delivery. For example, ODIs for delayed delivery are proposed for resilience programmes, long-term supply demand schemes, cyber security, WINEP, and sewage treatment works enhancements, amongst others.

Several companies propose cost-based ODI underperformance rates for delayed delivery of investment. There is significant variation in how these rates are calculated. Some companies, such as Anglin Water, proposed using willingness to

pay values to estimate the foregone benefits from later delivery. Others, such as Northumbrian Water propose using cost based estimates such as multiplying the expenditure related to a scheme by the weighted average cost of capital. Some such as Southern Water used a mix of these approaches.

In some cases, companies propose to use performance commitments with outperformance-only ODIs to recover costs of certain schemes. This is especially when enhancement schemes are for innovations or for activities which are heavily dependent on customer uptake. In these cases the scale of beneficial delivery for customers is uncertain. Typically, the proposed performance commitment performance level is set at 0 and the companies propose no enhancement costs for these activities in business plans.

## 6.2.4 Our policy approach

### Performance commitments for late / non-delivery

Where companies propose performance commitments to incentivise the delivery of schemes which were being funded through another mechanism (e.g. an enhancement allowance), we assess these schemes against the approach in our PR19 methodology that we said companies should adopt. We assess whether a company has done the following:

- engaged with its customers and CCGs on any scheme-specific performance commitments, as part of its engagement process on all its performance commitments;
- submitted the details of a scheme-specific performance commitment alongside its special cost claim or enhancement line. This should include an explanation of how their performance commitments and ODIs will ensure customers will be compensated in the event of non-delivery or delay. The proposed compensation would be relative to the costs customers would be paying, and relative to the benefits of the scheme the customers would be foregoing; and
- explained what alternatives to scheme-specific performance commitments and ODIs it had considered and what engagement it had undertaken to support its approach. The company would be required to also explain why the company did not consider the alternatives were appropriate.

We assess **ODI rates for late delivery** using our methodology for developing an appropriate rate. We consider that ODI rates for late delivery should compensate customers for the forgone benefit of not receiving the scheme on time. Where

companies provide clear customer evidence on annual benefits to support an ODI rate, we have accepted this evidence. Where we do not have confidence in the company's proposed benefit, but we consider the annual benefit of delivering the scheme on time to be significant for customers, we estimate the benefit based on the annual accounting costs and impact on customer's bills. We assume that, on average, the annual benefits arising from scheme delivery are significantly greater than the annual impact on bills. Without a more reliable estimate we assume that the incremental benefit is reflected by the following formula:

*Scheme Totex \* [WACC + Run-off rate]*

This uses WACC and the run-off rate as proxy for forgone customer benefit from late delivery. We use company-wide assumptions on Run-Off Rate rather than scheme-specific, which is simpler and reflects the impact on customer bills. As ODI rates for late delivery are largely relevant for capex schemes, we consider it appropriate to use the cost of capital and run off rate to estimate lost benefits.

In addition, if at the next price review, we expect a company will not deliver a scheme by 31 March 2025, we will also recover any expenditure related to **non-delivery**. We will do this based on the latest estimate of performance at the next price review. The company will have to confirm the need for any further expenditure required as with other expenditure required post 31 March 2025. This excludes environmental schemes (WINEP and NEP) that were confirmed, 'green' on 1 April 2019 as set out below.

Where the main underperformance rate reflects late delivery we specify a further rate in the performance commitment definition to use at the next price review in case of non-delivery. We intend to recover both the lost benefit in period and the costs related to any non-delivery at the end of the period.

The approach to reconcile these ODIs for the final year 2024-25 post 31 March 2025 will be set out at the next price review, if any is required. Any further reconciliation may need to take into account the interaction with the reconciliation with cost assessment in the period post 2025 – i.e. we may not be able to take into account the interaction with allowed costs that is possible at a periodic price review. This recovery of costs may only apply at the next price review and not in future in period ODI determinations.

### **Cost recovery schemes**

We have decided to allow companies to retain their cost-recovery performance commitments where our standard criteria for accepting a performance commitment

are met (ie there is sufficient evidence of customer support and demonstrable customer benefit). We consider that this will incentivise innovative activity, as these schemes may not be undertaken in the absence of a cost recovery mechanism.

We allow companies to recover the costs of these schemes through setting an outperformance payment-only ODI type in cases where:

- there is clear customer benefit and customer support for the ODI type;
- where the activity would not be funded through another alternative mechanism (e.g. other ODIs or enhancement allowances), especially where the outcome of the proposed activity is uncertain, due to its innovative nature or dependence on customer uptake.

We have decided not to follow our general approach to ODIs by introducing underperformance payments for these performance commitments, as we do not wish to penalise companies for proposing innovative schemes.

We allow performance commitment levels to be set to zero, such that costs can be recovered through outperformance payments, where we consider that a cost-recovery performance commitment is the only appropriate means to deliver the proposed scheme. We decide that the ODI rates should be set to efficient marginal costs, or less (adjusted for customer sharing factor), rather than other measures like customer willingness to pay. This is because there is less transparency around willingness to pay values, and efficient costs are an appropriate basis for a cost recovery performance commitment.

### **6.2.5 Our draft decisions**

Our decisions are aimed at ensuring that the performance commitment definitions, including ODI rates and commitment levels for scheme-specific performance commitments, reflect the funding associated with the schemes. We make the following interventions:

- Where we consider that a company should have proposed a scheme-specific performance commitment, in the absence of any other suitable customer protections against under-delivery, we intervened to introduce one. This covers material investments (for example, smart metering programmes) and those with regulatory drivers (for example, reservoir safety compliance).
- We adjust ODI rates to ensure that they allow full recovery of the scheme costs in the event of non-delivery.

- We also make changes to the ODI design, for example, setting incentives to underperformance payments only and changing the timing of payments to be revenue payments that are reconciled on an annual basis, in-period, before the next price revenue.
- We intervene on performance commitments which relate to investment proposals for schemes that have been rejected or are no longer material post-adjustment. This involves either removing performance commitments where there was no customer benefit from keeping it or making the performance commitment non-financial (for example, Bristol Water's Population at risk of asset failure).
- We are intervening to remove performance commitments that relate to the strategic regional water resource solutions. This is because we consider an end-of-period reconciliation mechanism would allow more flexibility as well as providing appropriate level of incentives and protections to the development of these schemes. Further details are set out in PR19 draft determinations: Strategic regional water resource solutions.
- We do not include any performance commitments in relation to the Havant Thicket reservoir. As outlined in the 'Havant Thicket policy issues appendix' we propose to take this scheme forward through a separate price control. As part of this work, we will consider what bespoke performance commitments are required to ensure that appropriate protections and incentives are in place, given the design of the price control.

## **6.3 WINEP and NEP**

### **6.3.1 What we said in our PR19 methodology**

The Environment Agency and Natural England's water industry strategic environmental requirements (WISER) document and Natural Resources Wales's 'PR19 expectations and obligations' paper set out certain statutory obligations on water companies operating in England and Wales respectively. These documents describe the environmental, resilience and flood risk obligations that water companies must take into account when developing their business plans.

A large portion of enhancement expenditure is driven by environmental requirements. These requirements will be set out in a release of the 'water industry national environment programme' (WINEP) in England, and the 'national environment programme' (NEP) in Wales, which were issued in March 2018. However, some requirements are not expected to be confirmed until December 2021 at the earliest. This means that these requirements were uncertain when companies

submitted their business plans to us in September 2018 and April 2019, and will still be so when we make our final determinations in December 2019. These as yet unconfirmed requirements are known as amber schemes. The confirmed schemes are known as green schemes.

In our PR19 Methodology we say we will fund the anticipated WINEP and NEP programmes, as long as companies propose an appropriate cost adjustment mechanism to account for any potential discrepancy between the scale of the assumed and confirmed programmes. This will remove the need for companies to propose scheme-specific performance commitments. Companies must clarify if amber schemes are not included in their business plans.

### **6.3.2 Our actions at IAP**

At IAP we verified that all companies included WINEP and NEP performance commitments in their business plans, apart from Northumbrian Water which about 70% of its programme relates to amber schemes.

We raised several actions relating to the definitions or stretch for WINEP and NEP performance commitments, where these were considered insufficient or targeting inappropriate outcomes. A number of actions required companies to clarify if amber schemes were included in their plans, or what the cost recovery mechanisms would be in the event of WINEP and NEP scope changes occurring (where amber schemes are included).

We also raised several actions relating to ODIs for WINEP and NEP performance commitments, including challenging companies to justify outperformance payments, to include underperformance payments, and to provide justification of the proposed ODI rates. We also challenged companies to adopt financial incentives where they had proposed reputational ones. In some instances we asked companies to consider changing their ODI timings from end of period to in-period.

Where companies proposed outperformance only payments for going beyond WINEP and NEP requirements, we challenged them for evidence of customer and stakeholder support for the outperformance payments, and also required further justification for the benefit to customers from implementing the additional schemes.

### **6.3.3 Summary of responses in April 2019 revised business plans**

Companies comply with the majority of our actions, usually providing further evidence to justify their original positions, and in some cases adopting our suggestions.

Thames Water argue that there is no benefit in having underperformance payments on WINEP performance commitments as there are already reputational incentives for the company to comply with environmental regulations.

Some companies make changes to their proposed performance commitments, eg as a result of new data or measurement errors coming to light after submitting their September 2018 business plan, rather than making changes due to an action we specified at IAP.

### **6.3.4 Our policy approach**

We consider that performance commitments with specific service levels for the delivery of WINEP or NEP schemes should, in general, only apply to schemes designated as green schemes by 1 April 2019. This is because including amber schemes (which might be removed during the period) may result in the performance levels being inaccurate, and may also result in inefficient investment in schemes that are no longer required. Exceptions may apply if the number of amber schemes is de minimis (less than 2% of total schemes) – in which case these would not need to be separated out from the performance commitment as their impact on the overall target would be negligible. We also consider exceptions where a company has a large number of amber schemes, in which case we consider that a separate performance commitment to dis-incentivise late delivery of the schemes could be warranted to protect customers. Given the uncertainties around amber schemes, we may also consider other reasons for setting performance commitments for amber schemes in the future.

We propose not to recover costs relating to elements of WINEP or NEP which will not be delivered by the end of the period as we will for other significant schemes. Once confirmed we expect schemes to be delivered. If a scheme is not delivered by 31 March 2025 no further allowance for costs will be made at the next review, but we will still expect the company to deliver any schemes that are still required.

We consider that performance commitments should not be used as a cost-recovery mechanism for amber schemes. This is because there is already a clear Cost Assessment framework (as set out in each company's 'Cost efficiency draft

determination appendix') for recovering expenditure for schemes that are no longer required, and recovering expenditure through the ODI framework is less transparent. The only exception is for one performance commitment for Hafren Dyfrdwy which only includes amber schemes. In this case, rather than remove the performance commitment, we will use the performance commitment as the cost adjustment mechanism as it will achieve the same policy objective.

However, where a company proposes to go beyond requirements (either green or amber schemes at 1 April 2019) with additional schemes, for which there is no funding framework under Cost Assessment, we allow outperformance payments for efficient cost recovery. We allow these only where the company provides high quality evidence of both customer benefit and customer support, and regulatory support (from the EA or NRW, as appropriate). Where we allow a cost-recovery performance commitment we ensure that this does not double count any funding provided through the cost assessment framework.

We consider that all performance commitments should have underperformance ODIs in order to incentivise timely delivery of WINEP and NEP schemes, as these hold significant benefits for the environment that customers' value. We decide to allow outperformance payments for early delivery only with:

- compelling customer support (specific to the performance commitment, meeting our normal criteria for high quality customer research); and
- compelling customer benefit, that there are clear benefits that customers value for any outperformance; and
- that outperformance is only earned for genuinely stretching performance – the company must demonstrate that the proposed performance levels are stretching and we do not consider that this is necessarily demonstrated by scheme delivery according the dates specified in NEP or WINEP.

In exceptional circumstances we allow non-financial performance commitments, where companies have provided clear evidence of customer support and evidence that this type of ODI would be to customers' benefit (eg evidence of skewed incentives resulting from a financial ODI).

Companies have WINEP and NEP requirements that are outside their proposed performance commitments. This is because of how they define their performance commitments or because we exclude amber schemes that were uncertain on 1 April 2019. In light of this we have added a further performance commitment to provide transparency on whether the company meets all its WINEP and/or NEP obligations or not each year. This has a binary measurement of "met" or "not met" each year and the ODI is reputational.

### **6.3.5 Our draft decisions**

In line with our policy approach set out above, we intervene in a number of ways on WINEP and NEP performance commitments. These include:

- Strengthening performance commitment definitions where appropriate, including clarifying that performance commitments relate only to green schemes under WINEP and NEP (for the majority of companies).
- Removing outperformance payments where companies did not sufficiently justify customer and stakeholder support or that it was not clear outperformance would result from going beyond stretching performance
- Increasing customer protections by imposing underperformance payments.
- Imposing a WINEP performance commitment on Northumbrian Water and Portsmouth Water with underperformance payments to protect customers against delivery delays.

## **6.4 Carbon**

### **6.4.1 What we said in our PR19 methodology**

Our PR19 methodology does not specifically require companies to include a performance commitment related to carbon emissions. Companies are required to include bespoke performance commitments which covered the environment. Bespoke performance commitments relating to carbon reductions are an option for companies to meet a part of this requirement.

### **6.4.2 Our actions at IAP**

At the IAP stage we included two actions for specific carbon performance commitments. These were:

- Portsmouth Water – We asked the company to provide numeric targets for their carbon performance commitment.
- SES Water – We asked the company to justify the use of a non-financial incentive for their carbon (and several other) performance commitments

### 6.4.3 Summary of responses in April 2019 revised business plans

The responses companies provide to the two actions at IAP are summarised below:

- Portsmouth Water provides numeric targets based on maintaining a performance level based on 3-year average of performance in the current period.
- SES Water argues its use of non-financial incentives is justified as it will have achieved the majority of the reductions it considers possible in the short-term through purchasing a 100% renewable energy by the end of the current period.

In April 2019 revised business plans, companies propose the following carbon reduction related performance commitments:

- seven companies (Anglian Water, Northumbrian Water, Portsmouth Water, Wessex Water, SES Water, South East Water, South Staffs Water) propose performance commitments related to reducing operational carbon emissions<sup>27</sup>; and
- two companies (Anglian Water, Yorkshire Water) propose performance commitments covering both capital and operational carbon.

The performance commitment levels (ie carbon reduction) proposed vary depending on the baseline from which they were measured and the activities the companies' had already undertaken to reduce their emissions in the current period. Companies also choose to report their emissions in different ways. The majority of water only companies report operational carbon normalised to emissions per megalitres (MI) put into supply. However, one company (South Staffs Water) also reports its operational carbon normalised emissions per connected properties. Others report absolute emissions or percentage reductions from a given baseline. Six of the nine performance commitments are proposed as reputational outcome delivery incentives. One company (Wessex Water) proposes an under only outcome delivery incentive and two companies (Northumbrian Water, Yorkshire Water) propose outperformance and underperformance payments.

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<sup>27</sup> Operational carbon refers to GHG emissions associated with the operation of infrastructure required to enable it to operate and deliver its service e.g. running pumps or chemical consumption for water treatment. Capital carbon refers to GHG emissions associated with the creation, refurbishment and end of life treatment of an asset.

#### **6.4.4 Our policy approach**

The challenges of climate change need to be addressed by the water and wastewater sectors in ways that offer value to consumers both now and in the future.

Operational emissions from water companies account for nearly 1% of the UK's total carbon emissions. In addition, as an asset intensive sector, water companies are responsible for significant emissions associated with construction and the manufacture of the products they use. We expect companies to understand their emissions and play their part in the UK's effort to reduce them.

We are committed to helping to mitigate climate change through our approach to regulation. We currently monitor each company's greenhouse gas emissions annually in line with Government guidance and we publish these figures in our annual service delivery report.

We welcome the sector's recent commitment to be net zero operational carbon emissions by 2030. The level of carbon reduction associated with the bespoke performance commitments do not reflect this latest commitment, however, we recognise that the performance commitments pre-date it. We encourage the industry to consider the role of these performance commitments in meeting its Public Interest Commitments.

We assess the relative emissions reductions companies propose through benchmarking measures that use comparable metrics and the associated reductions proposed. We take into account historic performance, including differences in baselines and level of reductions already achieved by companies in the current period. Where companies clearly demonstrate significant reductions in the current period we accept that additional reductions are likely to be more difficult, and allow for this when considering whether proposed reductions are sufficiently stretching.

It is each companies' responsibility to deliver its part in the net zero carbon emission commitment via its own unique opportunities and challenges in its region and for some this will mean going beyond the levels set in their performance commitments.

#### **6.4.5 Our draft decisions**

We decide:

- not to allow financial incentives for reductions in capital carbon. This is due to the fact we cannot appropriately assure the quality and representativeness of

capital carbon baselines proposed by companies. Therefore, we cannot accurately judge how stretching reductions that companies propose from such baselines are.

- to allow financial incentives for operational carbon because the UKWIR Carbon Accounting Workbook, along with appropriate assurance, provides a suitably standardised approach to operational carbon calculations that has been used by companies for several years. This standardised approach allows the comparative stretch of proposed carbon reductions to be judged more accurately. In assessing whether financial incentives for operational carbon were appropriate we assess evidence of customer support and whether proposed carbon reductions are sufficiently stretching based on our assessment across companies with similar measures.

We introduce additional assurance requirements for company's carbon reductions. This includes a requirement for companies to provide external third party assurance including that all data collection relating to greenhouse gas emissions is compliant with the international carbon reporting standard (ISO 14064, Part 1) and assured following an audit by the Certified Emissions Measurement and Reduction Scheme (CEMARS).

Individual company interventions include:

Portsmouth Water – We intervene to revise the definition and increase the stretch of the performance level for this performance commitment. The performance commitment measures percentage reduction in operational carbon emissions per megalitre from a 2019-20 baseline. The company proposes to measure the change from three year average of the performance from 2015-18, which does not take into account likely reductions in the last two years of the current period. We also increase the stretch from the company proposal of maintaining the emissions level (see 'Portsmouth Water - Delivering outcomes for customers actions and interventions').

SES Water– We intervene to introduce an underperformance payment for its operational carbon performance commitment. This is because the company proposes significant reductions in the last two years of the current period which had not yet been achieved. Therefore, the underperformance payment will protect customers if these reductions were not delivered (see 'SES Water - Delivering outcomes for customers actions and interventions')

Wessex Water– We intervene to set the underperformance rate using the average of the values for the traded cost of carbon for 2020 to 2024 rather than fixed 2017 cost, this is in line with Government policy appraisal guidance. This increases the company's underperformance payment rate, as the cost of carbon increases over

time (see 'Wessex Water - Delivering outcomes for customers actions and interventions').

Yorkshire Water – We remove the financial incentives for capital carbon reductions due to the fact we cannot appropriately assure the quality and representativeness of capital carbon baselines proposed by the company (as discussed at the start of this section). We therefore split the proposed performance commitment, which was focussed on total carbon emissions, into two separate performance commitments measuring operational carbon and capital carbon (including land emissions) reductions separately. This allows financial incentives to be maintained for the operational carbon component of the performance commitment. ('Yorkshire Water - Delivering outcomes for customers actions and interventions').

## 6.5 Retailer satisfaction

In our PR19 methodology we say we would continue to explore if and how wholesalers are incentivised in relation to the services they provide to retailers and if it is appropriate to introduce an incentive mechanism then we expect to do so in draft determinations.

Since then we have been encouraging the industry to consider ways to strengthen wholesaler performance and service in the business retail market. In November 2018 we published a [Call for inputs \(CFI\)](#), focused on strengthening wholesaler service and performance in the market.<sup>28</sup> In June 2019 we published our [CFI: Outcomes Report](#), which reflected on evidence received from the CFI and set out our specific expectations on what more needs be done – by whom and by when – to resolve market frictions arising from wholesaler performance.<sup>29</sup>

This report recognised the importance of introducing a qualitative measure of wholesaler performance in the market and noted that the Retailer Wholesaler Group (RWG) is currently developing a retailer satisfaction survey. We have set a clear expectation that all wholesalers agree to adopt a common measure of retailer satisfaction by the end of October 2019. The measure is to be fully implemented, and the results published, by April 2020.

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<sup>28</sup> 'Call for inputs: Strengthening wholesaler performance and service in the business retail market', November 2018. Available from: <https://www.ofwat.gov.uk/wp-content/uploads/2018/11/Final-CFI-Wholesaler-Performance-Nov18.pdf>

<sup>29</sup> 'CFI outcomes report – strengthening wholesaler performance and service in the business retail market', June 2019. Available from: <https://www.ofwat.gov.uk/wp-content/uploads/2019/06/Final-CFI-Outcomes-Report-Jun19.pdf>

In our November CFI we indicated that the Codes were our preferred method to drive improved wholesaler performance in the business retail market. Based on what we have seen in the responses to the CFI, and the progress made through the RWG, we still consider this to be the case and Ofwat is not proposing to implement a common performance commitment focussed on improving wholesaler service to retailers as part of PR19.

To avoid duplication with the existing market performance (incentive) framework for business retail, including how this may evolve in the future, we have intervened to remove financial incentives for any performance commitment addressing retailer satisfaction.

## **6.6 Incomplete performance commitments**

A number of bespoke performance commitments submitted by companies are not complete. For example, some lack full details around how the performance commitment is defined and what the levels of performance are.

Whilst we consider many of these performance commitments would be valuable, we do not include them in our draft determinations. We require sufficient detail from the companies on how these will be measured to include these performance commitments in final determinations. This is to ensure that the performance commitments, and any associated incentives, will result in customer benefits.

We therefore intervene to remove incomplete performance commitments from companies' draft determinations. We will reconsider these performance commitments for final determinations if companies provide sufficient detail on the definition and measurement.

### **6.6.1 Implications for fast track companies**

The application of the common approaches outlined above for bespoke performance commitments and ODIs for slow-track and significant scrutiny companies would have implications for United Utilities which opted out of the early certainty principle but not to Severn Trent Water and South West Water who opted into the early certainty principle.

In line with early certainty, these are the implications for fast track companies:

### **Strategic regional water resource solutions**

We are proposing to use an end-of-period reconciliation mechanism that will allow more flexibility as well as providing appropriate level of incentives and protections to the development of these schemes. Further details are set out in PR19 draft determinations: Strategic regional water resource solutions.

### **Gaps and voids**

United Utilities has the highest level of void properties, but its business plan set out that this would reduce by the third smallest expected reduction in the industry. It expects the percentage of residential properties that are void will be 7.1% in 2019-20, but the latest similar data from the Ministry of Housing, Communities and Local Government suggests a rate of empty properties of approximately 3.2% in 2017-18. United Utilities' performance commitment to provide incentives to manage void properties, Household occupancy verification, is not comparable to other companies.

If we applied the same assessment as for slow track and significant scrutiny companies we would change this performance commitment with a performance commitment that measures the percentage of void properties. Where we have done this for other companies we have set performance levels so that the proportion of voids in 2024-25 is halfway between the company starting void level and the current data from the Ministry of Housing, Communities and Local Government. Our standard calculations to calculate underperformance and outperformance rates are set out in section 6.1.

### **WINEP and NEP**

United Utilities do not have underperformance payments for late delivery of WINEP schemes. If we applied the same assessment as we have completed for slow track and significant scrutiny companies we would calculate underperformance payments using the calculation set out in section 6.2.

For slow track and significant scrutiny companies we have only included green WINEP schemes so that there is no need to change performance commitment levels if amber schemes are not confirmed. United Utilities performance commitments include both green and amber schemes, but they are specified in such a way as to not require amending if the amber schemes are not confirmed. There is therefore no implication that the scope of these performance commitments would need to change.

## 7 Customer protections

### 7.1 What we said in our PR19 methodology

We said in our PR19 methodology that we expect companies to propose approaches to protecting customers in case their ODI payments turn out to be much higher than expected. These could involve companies demonstrating their understanding of the drivers of potential returns and the probability of extreme outcomes, and proposing protections for customers from these extreme outcomes. These protections could include caps or sharing the returns from outperformance with customers.

We also said in the methodology that we would consider capping ODI outperformance payments – including down to zero – specifically for companies under significant scrutiny, given potential concerns about the quality of data related to the performance commitment stretch levels and ODI rates.

### 7.2 Our actions at IAP

**For caps and collars**, we said that we expect companies to put caps and collars on potentially financially significant performance commitments, both common and bespoke. We said we expect companies to put caps and collars at their P10/P90<sup>30</sup> performance levels on an annual performance basis, where:

- P90 payment value is forecast to be at least 10% of the total P90 payments for either wastewater (wastewater “network plus” activities and bioresources) or water (water “network plus” activities and water resources); or
- there is considerable uncertainty, e.g. where current industry data is likely to be unreliable or sparse

We raised actions for a number of companies where they had failed to propose approaches that would sufficiently protect customers.

We also said we expected all companies to commit to putting in place additional customer protection measures including the **aggregate sharing mechanism**. This would involve sharing with customers through bill reductions 50% of their

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<sup>30</sup> P90 and P10 are points on a risk distribution. The P90 point means there is only a 10% chance that the outturn RoRE will be above the threshold provided. Likewise, the P10 point means there is only a 10% chance that the outturn RoRE will be below the threshold provided.

incremental outperformance payments once the outperformance payments in any year reach 3% of their outturn wastewater or water RoRE for that year.<sup>31</sup>

Outperformance payments associated with performance commitments allocated to the retail controls are not included in the sharing mechanism.

### 7.3 Summary of responses in April 2019 revised business plans

A number of companies adopted **caps and collars** on their financial material performance commitments.

Some did not apply any caps and collars, or applied them to only a limited number of performance commitments, with no indication of whether these were considered to be the only material ones.

Some applied no additional caps or collars to individual performance commitments. SES Water states it considers that an overall cap and collar provides the appropriate level of protection.

In relation to our actions regarding the **aggregate sharing mechanism**, companies have either accepted our recommendation, or proposed alternatives including:

- Northumbrian Water proposes an aggregate sharing mechanism at a lower level than 3% of RoRE.
- Wessex Water and SES Water propose caps and collars (as opposed to a sharing mechanism) at 3% or another level of RoRE.
- Portsmouth Water consider the mechanism should apply over the 2020-25 period rather than annually.

Some did not adopt an aggregate sharing mechanism at all. Anglian Water consider that individual caps and collars are sufficient to protect consumers.

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<sup>31</sup> RoRE is calculated as the incentive impact divided by regulatory equity, where regulatory equity = RCV x (1 – notional gearing). A notional gearing assumption of 60% is used to calculate regulated equity. Water RoRE refers to the subset of appointee RoRE which is linked to either the water network plus or water resources price controls, whilst wastewater RoRE refers to the subset of appointee RoRE which is linked to either the wastewater network plus or bioresources price controls. Both water and wastewater RoRE are calculated as the incentive impacts linked to these respective price control categories divided by the regulatory equity associated with these respective price control categories. It should be noted that incentive payments accruing from an individual performance commitment may be split across multiple price controls, depending on the price control allocations assigned to that particular commitment.

## 7.4 Our policy approach

We maintain our view that **caps and collars** should be applied to common and comparable bespoke performance commitments which are financially material or where there is considerable uncertainty around the data. This includes if companies have discretion to increase delivery, such as where performance commitments relate to activities. Caps are intended to protect customers from unduly high outperformance payments in the event that ODI rates are not correctly specified (which could lead to companies undertaking improvements that exceed customers' willingness to pay), and to prevent companies from focusing on some performance commitments to the neglect of others.

Collars are intended to protect companies from disproportionate exposure in the case of very poor performance. We consider collars are justified to counter-balance the skew in exposure where we are applying a corresponding cap at the P90 performance level for customer protection purposes. We also consider that there is justification for applying collars to non-financially material performance commitments, where companies have proposed them and provided sufficient evidence of customer support.

Our approach to setting caps and collars for common and comparable bespoke performance commitments consists of the following stages:

- Adjust P90 and P10 performance levels for companies in line with performance commitment level interventions and conduct technical review to ensure these levels reflect those of a notionally efficient company and can be compared across companies.
- Select financially material performance commitments for each company, based on our view of the adjusted P90 performance levels.
- Apply caps for each financially material performance commitment at the notional P90 performance level.
- Apply collars for the financially material performance commitments. In some cases where we consider the performance commitment is directly proportionate to the costs incurred we do not include a collar so that customers are protected and will be compensated if a company chooses not to invest.

For common and comparable bespoke performance commitments, we take a further step of comparing between companies. We set out our decisions below and in the 'Delivering outcomes for customers actions and interventions' document for each company.

In order to **select financially material performance commitments**, we review the P90 performance levels for all performance commitments and adjust them to reflect the results of our interventions on performance commitment stretch and ODI rates. This involves adjusting companies' stated P90 levels to retain the same distance between a company's original P90 levels and the performance commitment levels in its business plan (i.e. where we intervene to change performance commitment levels, we adjust the P90 levels accordingly). We adjust P90 (and P10) ranges in this way in light of new performance levels to reflect our view that these should represent the expected ranges of a notionally efficient company. These adjustments also better enable us to compare P90 and P10 ranges across companies.

We then review the P90 levels for common and comparable bespoke performance commitments that are outside a reasonable range (where the ratio of the P90 level to the performance commitment level is outside the range given by the industry mean +/- 1 standard deviation<sup>32</sup>), adjusting P90 levels to the edge of the range where we did not consider them to be robust. This comparison to a reasonable range analysis is not possible for other bespoke performance commitments as there is no comparable data and for these we review the P90 level estimates on a case by case basis.

All performance commitments which have adjusted P90 payments higher than 10% of the sum of the company's P90 performance payments for all performance commitments within the relevant price control area (wholesale water or wastewater) are considered to be financially material.

We then apply **caps to the financially material performance commitments**, setting these at the notional P90 performance level. We consider the P90 level an appropriate level for the cap because this is the level that, based on the company business plan, it will only achieve in exceptional circumstances. Setting the cap at this level keeps the company incentivised to maximise performance, while protecting customers from higher than expected bill increases.

In **applying collars**, we maintain the policy we set out at IAP and only apply collars to the common and comparable bespoke performance commitments where the P90 payment is financially material, in order to act as a counterbalance to the caps at P90 levels, which we apply for customer protection purposes. We also apply collars where companies propose these and provide evidence of customer support. In these cases we also expect a cap to apply to outperformance. A consequence of this approach is that for some common performance commitments certain companies may not have collars (either because their P90 payment is not material or because their ODI is underperformance only). We consider this an appropriate approach as it

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<sup>32</sup> We select this range as a baseline against which to identify outliers.

ensures we do not apply company protection measures by default (ie where there is no overall package downside exposure problem), which could be the case if we apply collars by default, if the P10 is financially material. We deal with any residual concerns around downside exposure by conducting a review of the overall incentive package, which we describe later in this section.

We set collars as a multiple of the performance commitment level relative to the first year of the performance level, and then apply the corresponding multiplier value as the collar in every year of the 2020-25 period. This approach ensures that the annual financial consequences from failing to improve increase in each year of the 2020-25 period. We consider this better protects customers than an alternative approach of setting collars at the P10 level, which normally will mean that the maximum underperformance payment is the same each year. We decide to apply the above multiple approach as minimum (i.e. if a company proposes a looser collar then we accept this).

In addition, we consider that delinking collars from P10 performance levels improves resilience, by providing companies with incentives to manage against the risk of high impact, low probability events. We therefore set collars using multiplier values that capture worst levels of recent historic performance across the industry. We consider that this is an indication of the performance level under plausible circumstances against which a company should ensure that it is resilient.

We also decide to allow collars on **non-financially material** performance commitments (i.e. those for which their adjusted P90 payments are less than 10% of aggregate P90 payments for a company under the relevant price control area, as set out above) where companies propose these and where they provide sufficient evidence of customer support. Where we allow caps and collars on non-financially material performance commitments we set them at the same levels as if they were financially material.

For the **aggregate sharing mechanism**, we maintain our view that companies should share 50% of their outperformance payments with customers once the outperformance payments in any year reach 3% of their wastewater or water RoRE for that year.

We do not consider it appropriate to adopt an aggregate cap or collar at 3% of RoRE, as suggested by some companies. Whilst a cap at 3% should provide a more stringent restriction on outperformance and arguably greater customer protection, it would also dull incentives for further outperformance once the 3% cap is reached. An aggregate collar at -3% of RoRE would reduce incentives to limit poor

performance once the cap is breached and thus offers inappropriate customer protection.

We maintain our view that the aggregate sharing mechanism should be in-period rather than apply to the whole of AMP7. This will provide customers with more protection against bill volatility, as well as excessive returns where a company outperforms every year. This approach also provides additional protection if circumstances in a particular year lead to significant outperformance, such as benign weather.

Where companies propose alternative thresholds for the sharing mechanism, we accept these where they provide greater customer protection. In all other cases, we have applied the 3% RoRE threshold to companies.

We decide to apply the aggregate sharing mechanism threshold on a gross basis, such that outperformance payments in a year are limited to 3% of RoRE. Under a net approach, the threshold is breached only once outperformance net of underperformance payments incurred in that year exceed 3% of RoRE. We consider a gross approach more appropriate, as it provides a higher level of customer protection with a greater focus on minimising poor performance.

## 7.5 Limiting companies' exposure

Our approach to setting caps and collars includes wider decisions around limiting company exposure to downside risk, which we set out here. We review the **package level impact of the Outcomes interventions** for each company in order to assess whether our interventions result in companies being exposed to a disproportionate level of downside risk. We use the aggregate P10 and P90 payment values for each company across all performance commitments to construct P10 and P90 ranges as a % of appointee RoRE, and compare this to our target P10 range of +/-1% to +/-3% of appointee RoRE as outlined in PR19 methodology.

In constructing the **aggregate RoRE ranges**, we draw on two approaches for calculating ODI payments under P10 and P90 performance scenarios.

- A simple additive approach, which involves calculating P10 and P90 payments for each individual performance commitment and then adding these together to form overall package-level P10 and P90 payment estimates.
- A modelling-based approach, which accounts for covariances between performance commitments and across time to produce package-level

estimates of P10 and P90 payments by price control. This approach has been followed by companies to estimate their ODI payments.

As the probability of P10/P90 performance being achieved simultaneously across all performance commitments and across all years is likely to be very small, the modelling-based approach should yield narrower P10 and P90 range estimates than the additive approach.

The rationale for our combined approach is that it allows us to use data that we can check for robustness (the effect of interventions on individual performance commitments' P10 and P90 payments), but it also takes account of the interdependencies between performance commitments which companies have estimated themselves and which would be impracticable for us to model.

We use the additive approach to test the effects of our interventions on individual performance commitments' P10 and P90 payments, which yields a pre-intervention and post-intervention view of package-level P10 and P90 payments; and we then scale back this pre-post intervention ratio to the narrower modelling-based ranges submitted by companies in order to account for covariances and present a robust view of plausible P10/P90 outcomes. These ranges are then expressed as a % of RoRE.

Where companies' P10 RoRE % is greater than around -3%, we identify performance commitments that are driving the downside exposure, e.g.

- where P10 payments are high in absolute terms (around 1% regulated equity or above) to capture cases where a small number of high exposure performance commitments are driving downside exposure; and
- where P10 payments for the performance commitment as a % regulated equity are high compared to industry average to capture cases where a relatively large number of performance commitments with above average exposure are collectively driving downside exposure.

We consider a **range of interventions** to mitigate against the level of downside risk or increase the level of upside risk. These include:

- Reviewing the relevant P10 performance levels and adjusting them if necessary. This helps to ensure that we are only intervening to limit risk exposure where there is robust evidence for this approach. We consider an adjustment is necessary where the company's P10 performance estimate appeared to be an outlier or unrealistic; or

- Intervening to adjust ODI parameters such as ODI rates or underperformance collars. This is considered where we review P10 performance levels and do not consider them inappropriate.

Where we adjust the P10 performance levels, we apply the industry average proportionate distance between the performance commitment level and P10 level to the company's performance level where we have concerns about the company's P10 performance value being an outlier or unrealistic. The rationale is that the resulting P10 remains company-specific as it is centred on the company's own performance level, but reflects industry wide information on extent to which performance varies around target.

Where we adjust ODI parameters, we first consider whether our initial intervention on the ODI rate can be reasonably adjusted, for example by re-triangulating relevant data. This helps to ensure that company is not exposed to disproportionate risk due to inappropriate calibration of the ODI. Where this is not considered robust, we apply a graduated collar, with linearly increasing exposure over the AMP in order to preserve the company's incentives to manage underperformance. Typically, the starting level of exposure is defined as a proportion of the performance commitment level and converges to the P10 estimate of performance by end of the AMP. We expect the imposition of graduated collars to be limited to a few cases where there is material disproportionate exposure to risk and we are mindful of the importance of ensuring that all companies, particularly, poor performers, retain strong incentives to improve performance.

As part of their draft determination representations, we expect companies to provide us with updated post-intervention P10/P90 levels and payments for each of their performance commitments, and an updated post-intervention overall P10/P90 RoRE range for their ODI package. We will review the risk levels at Final Determination and make any necessary adjustments where the risk levels have changed. This may include removal of mitigating interventions at Final Determinations if the package level concerns are no longer present.

## 7.6 Our draft decisions

We intervene to apply **caps and collars** on financially material performance commitments where companies have not already done so. We also intervene to adjust or remove collars on non-financially material performance commitments where there is insufficient evidence of customer support or when the proposed collar is set at a better performance level than the level we determine to be appropriate.

We intervene to apply an **aggregate sharing mechanism** to all companies, such that companies share 50% of all gross outperformance payments with customers once these payments reach 3% of water RoRE or wastewater RoRE in a year, or a lower threshold if proposed by the company.

We intervene to further adjust ODI rates and introduce graduated collars in order to reduce the P10 percentage of RoRE to lower levels of downside risk for a number of companies as part of our work on **limiting companies' downside exposure**.

We decide not to undertake **interventions on ODI payment caps for companies under significant scrutiny**. In our PR19 methodology, the rationale for considering this was based on concerns that we would identify significant issues with the relevant data in these companies' business plans. However, we no longer consider this appropriate as we have assessed each company's ODI rates in sufficient detail – and intervened where necessary – to ensure that they are appropriate. We do not consider it necessary to undertake further interventions on significant scrutiny companies to reduce or cap their payment rates.

## **7.7 Implications for fast track companies**

We have already applied caps and collars on material performance commitments in the fast track draft determinations. We also included an aggregate sharing mechanism that companies will share 50% of their outperformance payments with customers once the outperformance payments in any year reach 3% of their wastewater or water RoRE for that year. The implication is that this will be calculated on gross outperformance payments.

## 8 Summary of implications for fast track companies

The three fast track companies (Severn Trent Water, South West Water and United Utilities) received an early draft determination in April 2019.

Three companies – South West Water, United Utilities and Severn Trent Water – produced overall high-quality business plans in September 2018. These companies are categorised as ‘fast track’, and received early draft determinations of their price, service and incentive package for 2020-25, a financial benefit and a boost to their reputation. The procedural benefit of an early draft determination for fast track companies is strengthened by early certainty on specified components of the draft determination related to outcomes and the cost allowance.

This section summarises the impacts that our assessment and draft determination decisions for slow track and significant scrutiny companies could have on fast track companies if the same draft determination approaches and decisions were applied to them, in line with the early certainty principle. In practice, the fast track companies will receive their final determination at the same time as the other companies in December 2019.

The elements of the early certainty principle were set out in our PR19 methodology and those relating to Outcomes are summarised below:

<p><b>Early certainty principle</b></p>	<p>We will not change our draft determination decision related to the company’s own cost claims.</p> <p>We will not change bespoke performance commitment levels.</p> <p>We will not change financial incentives on performance commitments<sup>33</sup>.</p> <p>We will not change the number of financial ODIs.</p> <p>We will not change the design of financial incentives in terms of deadbands, caps and collars. (Deadbands are levels of performance that do not lead to outperformance or underperformance payments. Caps and collars are limits on the maximum exposure by companies for their performance on one particular measure.)</p>
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<sup>33</sup> However, to protect customers, the early certainty principle will not apply if a company’s outperformance payment or underperformance payment rate was the highest or lowest, respectively, of all the companies. This is to protect customers against a company that has proposed ODI rates that are outliers compared to other companies

There was no early certainty on performance commitment levels for common performance commitments and hence all fast track companies could be affected by changes to performance commitment levels including enhanced ODI thresholds.

United Utilities decided to opt out of early certainty entirely. Severn Trent Water opted out of early certainty for CRI, unplanned outage and supply interruptions and out of early certainty on deadbands for all common Performance Commitments. South West Water has chosen to opt in to the early certainty principle entirely.

We highlight in the relevant sections of this document the implications if the decisions from our draft determinations for slow track and significant scrutiny companies were applied to fast-track companies. These are summarised for each fast track company in the tables below.

**Table 8.1: Summary of implications for United Utilities**

<b>United Utilities</b>	<b>Summary of changes as a result of our assessments and decisions for slow track and significant scrutiny companies</b>
Changes to performance commitment levels / deadbands	<ul style="list-style-type: none"> <li>• Supply interruptions</li> <li>• CRI deadband</li> <li>• Per capita consumption</li> <li>• Mains repairs</li> <li>• Customer contacts</li> <li>• Low pressure</li> <li>• Priority Service Register</li> <li>• Household occupancy verification (gaps and voids)</li> <li>•</li> </ul>
Changes to ODI rates	<ul style="list-style-type: none"> <li>• Supply interruptions (under and out)</li> <li>• Pollution incidents (under only)</li> <li>• Internal sewer flooding (out only)</li> <li>• Leakage (out only)</li> <li>• Per capita consumption (under and out)</li> <li>• Mains repairs (out only)</li> <li>• Water quality contacts (under and out)</li> <li>• External sewer flooding (out only)</li> <li>• Household occupancy verification (under and out)</li> <li>• Improving the water environment (under only)</li> <li>• Improving river water quality (under only)</li> <li>•</li> <li>•</li> </ul>
Changes to enhanced ODIs	<ul style="list-style-type: none"> <li>• Pollution incidents: intervention on all aspects <ul style="list-style-type: none"> <li>• Enhanced thresholds</li> <li>• Enhanced rates</li> <li>• Enhanced caps</li> <li>• Enhanced collars</li> </ul> </li> </ul>

**Table 8.2: Summary of implications for Severn Trent**

<b>Severn Trent</b>	<b>Summary of changes as a result of our assessments and decisions for slow track and significant scrutiny companies</b>
Changes to performance commitment levels / deadbands	<ul style="list-style-type: none"> <li>• Supply interruptions</li> <li>• CRI deadband</li> <li>• Mains repairs</li> <li>• Unplanned outage</li> <li>• Priority Service Register</li> </ul>
Changes to ODI rates	<ul style="list-style-type: none"> <li>• CRI (under only)</li> </ul>
Changes to enhanced ODIs	<ul style="list-style-type: none"> <li>• Internal sewer flooding <ul style="list-style-type: none"> <li>• Enhanced thresholds</li> <li>• </li> </ul> </li> </ul>

**Table 8.3: Summary of implications for United Utilities**

<b>South West Water</b>	<b>Summary of changes as a result of our assessments and decisions for slow track and significant scrutiny companies</b>
Changes to performance commitment levels	<ul style="list-style-type: none"> <li>• Supply interruptions</li> <li>• Priority Service Register</li> </ul>
Changes to enhanced ODIs	<ul style="list-style-type: none"> <li>• Internal sewer flooding <ul style="list-style-type: none"> <li>• Enhanced thresholds</li> </ul> </li> <li>• Leakage <ul style="list-style-type: none"> <li>• Enhanced thresholds</li> </ul> </li> </ul>

Another potential impact is the way performance commitment levels are set as percentage reduction from 2019-20 forecast baseline for leakage. For these draft determinations, outcome delivery incentives will be applied on a MI/d per day basis. The performance commitment levels expressed as percentage reduction will be applied to 2019-20 baseline. The difference between this value to one decimal place and actual three year average leakage will be used to calculate outcome delivery incentives. Companies will also report leakage as a three year average in MI/d to one decimal place, corresponding to the percentage reduction reported.

## 9 Long-term performance forecasts

### 9.1 What we said in our PR19 methodology

We expect companies to propose performance commitment levels for all performance commitments for five years (2020-21 to 2024-25), and provide projections for at least a further ten years (2025-26 to 2034-35). We also provide for companies to include longer-term projections, beyond our requirement of ten years, for the reporting years 2035-36 to 2039-40 and for the five years 2040-45, where these were available. Companies were able to provide this data as part of their business plan data submission.

The long-term projections are to encourage companies to consider their long-term ambitions and help customers and stakeholders engage on longer-term issues. This aligns with UK and Welsh Governments strategic priorities to secure long-term resilience.

In addition, we have a duty to set price controls in the manner we consider is best calculated to further the resilience objective to secure the long-term resilience of companies' systems, and to secure that they take steps to enable them, in the long term, to meet the need for resilient water supplies and wastewater services. The provision of long-term performance data helps us discharge this duty.

### 9.2 How we have used this information

The majority of companies provide data up to 2040 for all the established performance commitments. We queried companies and obtained data where the information was missing.

The performance commitments included in this analysis are:

- Leakage
- Per capital consumption (PCC)
- Supply interruptions – expected performance is upper quartile
- Pollution incidents – expected performance is upper quartile
- Internal sewer flooding – expected performance is upper quartile
- Mains repairs
- Sewer collapses

We use the data from the seven performance commitments listed to form a view of how stretching the forecasts are at a sector level. We outline some key messages and draw some broad conclusions as to the long-term ambition of the sector. The diagrams showing the long-term performance for these seven performance commitments are provided in Annex 3. The analysis shown below is based on business plan data and subsequent queries.

The performance commitments not included in this analysis are:

- compliance risk index (CRI) – expected performance is zero in all years, during the 2020-25 period and beyond;
- treatment works compliance – expected performance is 100% in all years, during the 2020-25 period and beyond;
- unplanned outage – although long-term data is available, this is a new measure, with only two years of shadow reporting, so long-term projections are likely to be unreliable;
- customer measure of experience (C-MeX), developer measure of experience (D-MeX) and PSR performance commitments are all new measures, hence long-term projections are likely to be unreliable; and
- risk of severe restrictions in a drought and risk of sewer flooding in a storm are new measures - we have considered the companies' long-term forecasts in assessing the companies' proposed performance commitment levels, but have not carried out comparative analysis across companies.

### 9.3 Key messages and conclusions from the analysis

**Mains repairs and sewer collapses** - Overall, companies forecast the least stretching longer-term performance levels for these performance commitments. The diagrams show stable performance levels over the long term for several companies. For mains repairs, some companies argue that performance is linked to leakage reduction (although this argument is currently not considered compelling as outlined earlier). For sewer collapses, there is a significant change in methodology and therefore uncertainty in the long-term forecasts, but the diagram shows stable performance (except for Yorkshire Water, which has an ambitious forecast that is not reflective of their historical performance).

**Leakage and PCC** – Overall, companies outline ambitious long-term forecasts for these performance commitments. For leakage, the average reduction planned from 2020-2040 is 35%; for PCC this is 13%. This is reflective of the level of ambition provided in the companies' water resources management plans (WRMP). Southern

Water has a particularly ambitious target for PCC, and SES Water has the most ambitious percentage reduction for leakage.

**Supply interruptions, pollution incidents and internal sewer flooding** – For these three performance commitments, we expect companies to forecast upper quartile performance in each year between 2020-21 and 2024-25. Not all companies accept this challenge, and this is reflective in their long-term profiles. Some companies that forecast the upper quartile position in those five years then revert to a worse level of performance from 2026 onwards. Of the three performance commitments, forecasts for supply interruptions show the least ambition. Wessex Water and SES Water are planning to reach zero interruptions (above 3 hours) by 2035. The majority of companies show strong ambition to improve for internal sewer flooding and pollution incidents. Southern Water and Yorkshire Water are planning to eliminate almost all internal sewer flooding. Yorkshire Water is forecasting to eliminate pollution incidents entirely by 2040.

In summary, the sector proposes ambitious long-term forecasts for leakage, PCC, internal sewer flooding and pollution incidents, with some companies proposing very ambitious targets to eliminate almost all internal sewer flooding and pollution incidents. Supply interruptions forecasts show a more mixed picture. The biggest area for improvement in ambition of long-term performance appears to be asset health, where companies' forecasts show a trend for stable, rather than improving, long-term performance. This is an area where the sector needs to show more ambition to improve as a whole, to ensure long-term resilience.

## **Annex 1 – Mains repairs (bursts) and leakage reduction**

### **Overview**

In their September 2018 business plans, seven companies (Affinity Water, South East Water, Severn Trent, Thames Water, United Utilities, Wessex Water and Yorkshire Water) proposed either maintaining or increasing the number of mains repairs due to the increased leakage reduction performance levels. In addition, one company (Anglian Water) proposed a bespoke performance commitment for reactive mains repairs only, with no financial incentives on the common mains repairs measure, for the same reason.

All eight of these companies argued that the increased leakage reduction performance levels in the next period means that they will need to find and repair more leaking mains, which will have a detrimental impact on mains repairs performance.

In our IAP feedback, we actioned these companies to provide further evidence to support their proposed performance commitment levels. In particular, we asked for evidence to support their proposal to maintain or increase the number of mains repairs whilst reducing overall levels of leakage.

In their September 2018 business plans, four companies (Bristol Water, Northumbrian Water, Southern Water and South West Water) stated they can improve their performance on mains repairs whilst also reducing leakage. Hafren Dyfrdwy stated that it is trying to balance the long-term stability of the network with the relatively high cost of mains renewal as a way of reducing leakage or preventing supply interruptions. South Staffs Water highlighted the uncertainty related with this measure as, in order to reduce leakage, the company is planning to increase its leak detection activity. As each detected leak also counts as a burst under this metric this will increase the number of bursts it reports. The remaining three companies (Portsmouth Water, SES Water and Dŵr Cymru) did not specifically state that leakage reduction will have an impact on mains repairs performance.

The industry has also commissioned research into this matter through a UK Water Industry Research (UKWIR) project, which is due to be completed later this year.

We are concerned that the approach proposed by some companies to reduce leakage by significantly increasing the number of temporary repairs on pipes may not improve the health of the assets over the long-term. We are also concerned that companies have not aligned their leakage reduction strategies with their asset health

strategies in order to ensure the best outcomes for customers and their assets over the long-term. The number of mains repairs is an indicator of mains asset health or condition. An increase in the number of mains needing to be repaired may indicate the worsening health of the assets.

Mains repair activity and, in particular, repeated mains repairs on the same assets, also results in unwanted economic and societal impacts. A comprehensive strategy to maintain short and long-term asset health should account for externalities such as vehicle and pedestrian delays, disruption to public and businesses, noise pollution, supply interruptions and flooding of properties as a result of a mains bursts, as well as additional carbon produced during traffic delays.

## Summary of responses in April 2019 revised business plans

We asked companies to provide evidence, using their own data, that an increase in leakage reduction activity impacts the total number of mains repairs. We also asked companies to explain the relationship between pro-active and reactive mains repairs. We said that, as a minimum, the evidence should show the historical correlation between mains repairs undertaken after active leakage control (i.e. pro-actively detected by the company) and those that are customer reported (reactive). The companies should also show the impact of this relationship on forecast repair rates from the output of their asset performance modelling.

**Affinity Water** states that increasing pressures and re-zoning to improve supply interruptions will lead to extra bursts and states it will become progressively more difficult to maintain a stable bursts profile. The company provides no data to demonstrate the link between mains repairs and a reduction in leakage. It also states that in AMP4, Ofwat allowed a temporary increase in mains bursts to allow for active leakage control.

**Anglian Water** states that the drought of 2010-12 and the subsequent harsh winter of 2012-13 caused a large rise in leakage. However, this rise is not apparent from the diagram of leakage vs proactive mains repairs included in the business plan. The company also provides no statistical correlation of the relationship between mains repairs and leakage.

**South East Water** states that since 2015 it has increased its proactive leakage detection work to find and fix leaks and this has resulted in a 5% reduction in leakage and an increase in proactive mains repairs. The company provides a diagram to show this relationship. The same diagram also shows a reduction in leakage and mains repairs between 2010-11 and 2013-14. The company also

provides a diagram showing modelled mains repairs against leakage levels, which shows an increase in detected bursts with reducing leakage. It is not clear if the leakage levels shown are modelled against the expected benefit from additional mains repairs or just the leakage performance level. No statistical or other mathematical correlation is provided.

**Thames Water** states that it will need to invest in 'calm networks' in order to reduce visible (reported) bursts to address the expected short-term rise in repairs from detected bursts due to active leakage control. It also states that in the long-term it will need to invest in a significant mains replacement programme to restore asset health. The company states that an increase in active leakage control activity does not necessarily result in a reduction in visible (reported) leakage, and provides statistical analysis to support this. It therefore concludes that its proposed stable performance is stretching, alongside its leakage reduction performance levels.

**Wessex Water** provides a consultancy report in which data is provided that shows a statistical correlation between a reduction in leakage and an increase in detected burst repairs. The report also shows a reduction in reported burst repairs (based on 15 years of data). However, for total mains repairs there is no statistical correlation between reduced leakage and mains repairs, as the two types of mains repairs (detected and reported) appear to cancel each other out. There is a small increase in total repairs, but this could be due to many other factors. A diagram showing predicted burst frequency is provided: this shows that the predicted burst frequency (which includes the impact of the leakage performance levels) is actually lower than the proposed performance level up until 2022-23. The report also highlights various other strategic options for reducing leakage and provides conclusions from other UKWIR reports on similar topics. The report concludes that the performance commitment level proposed by the company will be challenging post 2022-23 in the context of achieving leakage reduction.

**Yorkshire Water** provides a detailed statistical analysis of its leakage and mains data from a period of 10 years. This data shows a reasonable correlation between a reduction in leakage with an increase in the number of proactive (detected) mains repairs, but it also shows an inverse relationship with reactive (reported) repairs by almost exactly the same amount. The company states that freeze-thaw events, followed by hot weather and the increased activity for active leakage control in 2018 are the key cause of the overall increase in burst repairs during the current period (2015-2020). It states that the most economic bursts to repair are pressure-related bursts, so it will continue its 'calm networks' programme, as well as transients monitoring, pressure management and its mains replacement programme in order to improve its performance.

**Severn Trent** in its representation to our draft determination states it is investing in innovative solutions for leakage reduction, which it expects will reduce the reliance on mains repairs, but these will take time to come to fruition. It also states that to deliver a 15% leakage reduction in the short term, mains repairs will need to increase. Its assessment estimates that assuming the company applies the same historical mix of solutions this would equate to an increase of 327 repairs per year (equivalent to 119 repairs/1000km).

The company states its data demonstrates that it will need to do an additional 27 repairs to deliver a 1 MI/d reduction in leakage and 26% of the leakage reduction is achieved through mains repairs. A diagram provided by the company shows that between September 2018 and March 2019 (following the freeze/ thaw event and prolonged hot summer), the company increased the number of mains repairs to both address the increased breakout rate caused by the weather events and to drive further leakage reduction. During this seven-month period, the company states that mains repairs represented 50% of the leakage reduction volume.

The company also recognises that an increase in activity could raise concerns about deteriorating asset health. It is therefore committing to publish the split between proactive and reactive repairs to provide public assurance that a deterioration in the underlying asset health is not observed. It is also setting a long-term target consistent with stable asset health.

**United Utilities** states that its ability to demonstrate the link between leakage and mains repairs from its own data is limited by the fact that its leakage level has remained broadly constant over time. Previous reductions in leakage levels have been driven by other factors such as pressure management or previous extensive mains repair programmes. The company says it has re-estimated the impact of mains repairs on leakage levels and has used this estimate to determine a revised performance level. This analysis concluded that an additional 16 mains repairs would be required to make a step change in leakage of 1 MI/d, with around 67% of leakage reduction being driven by mains repairs. The company recognises the need to ensure that the performance of its mains network is maintained, and that tracking the number of mains repairs can contribute to measuring network performance. However, it states it would not be in customers' interests to adopt a sub-optimal approach to leakage reduction simply to keep the number of mains repairs stable and that an increase in repairs to reduce leakage does not reflect any deterioration in the network.

**Southern Water** is proposing to reduce the number of mains repairs and leakage. It states that it has assessed the risk of each kilometre of its network against leakage, mains bursts, interruption to supply and discolouration and this has been used to

develop a District Metered Area (DMA) mains replacement programme. The company states it is investing in smart transient technology to help identify and respond to transient trigger events which will help reduce bursts (it states a third of all bursts are caused by transient events). It also states that it plans to have live control of over 2000 pressure reduction valves to further reduce the risk of bursts.

**Northumbrian Water** is proposing to achieve upper quartile performance in mains repairs whilst reducing leakage. It will achieve this by investing in pressure management, which is expected to have a significant effect on both mains bursts and leakage. In addition, it will invest more in identifying and removing transient events, including sophisticated transient source tracking, creating transient risk maps and identifying the features that make a transient event particularly damaging to pipes of different sizes and materials. This is in addition to a targeted mains replacement programme, which also includes replacement of longer lengths of the network to ensure long-term sustainability.

Both **South West Water** and **Bristol Water** also state they will reduce mains repairs and leakage, but do not provide detail of how this will be achieved.

### **UKWIR study: The impact of reductions in leakage levels on reported and detected leak repair frequencies**

The objectives of this industry research were to investigate the impact of reducing leakage levels on the frequency of bursts, size and run-times of leaks. The project is currently listed as live on the UKWIR website so the results are not yet published.

### **Our conclusions about the evidence provided**

There is evidence to support the assertion that moving from operating a network at a higher to a lower leakage level will require more mains bursts to be found and fixed (proactive repairs). The evidence provided by at least two companies also suggests that as more mains are repaired proactively the number of repairs required for visible (or reported) bursts reduces by a similar amount, although the evidence from Thames Water suggests the relationship is more uncertain. There is also little, if any, compelling evidence from any of the companies to support their claims that maintaining lower levels of leakage must require a higher number of mains repairs.

We allowed a temporary increase in mains repairs for Affinity Water (then known as Three Valleys Water) in 2007 because of a large active leakage control programme. At the time, Three Valleys Water provided compelling evidence that proactive mains repairs resulted in lower leakage levels. However, since then, the company has

replaced many hundreds of kilometres of water mains. Also, new techniques and technologies are available to reduce leakage; therefore the impact of repairing mains as the main activity for leakage reduction in the future will be lower than it has been historically.

In summary, there is historical evidence to show that proactive repairing of mains results in a leakage reduction, there is also evidence to show that this additional activity, when conducted during a phase of moving leakage from a higher level to a lower level, can also result in a reduction in the number of repairs for visible (reported) bursts. Overall, during a period of leakage reduction, this may result in a slight increase in the total number of mains repairs. However, this does not apply during a period of maintaining leakage at a lower level. There is no clear evidence to suggest the most efficient mix of proactive mains repairs and other leakage reduction solutions.

The companies provide evidence to show that there are many other leakage reduction solutions that are proven (such as pressure management, transient event identification and removal, targeted mains replacement, communication and supply pipe leakage innovations). Companies identify other emerging capabilities (such as smart networks, 'calm networks' and innovative repair techniques) which could prove to be highly beneficial.

## **What evidence we expect companies to provide**

We expect companies to demonstrate what strategy and solutions they are going to undertake to reduce leakage and show what proportion of that is related to mains repairs and why that is the most effective and efficient solution (including quantifying the leakage reduction benefit). We also expect companies to consider how potential innovations and alternative solutions (like those being implemented by some companies) could reduce the need for mains repairs. The leakage reduction strategy should be set against the strategy to maintain long-term asset health and if companies continue to state that repairing mains is the best solution, they should demonstrate how this is cost beneficial, not just for leakage reduction but for the long-term health of the assets. For example, correctly targeted mains replacement may provide a larger leakage reduction benefit and improve the health of the network, so may be the most cost beneficial solution and/or have the lowest whole-life cost.

## Annex 2 – Common and comparable performance commitments: performance commitment level, ODI rate and enhanced collar, cap and threshold interventions

### Performance commitment levels

We present our draft determination performance levels below for common and comparable performance commitments.

**Water supply interruptions** – We present our draft determination performance commitment levels in the first graph. In the second graph we present, for each company the 2017-18 actual performance level, 2019-20 performance forecast and performance commitment level for 2024-25 from previous submissions. Values are expressed in minutes and seconds.

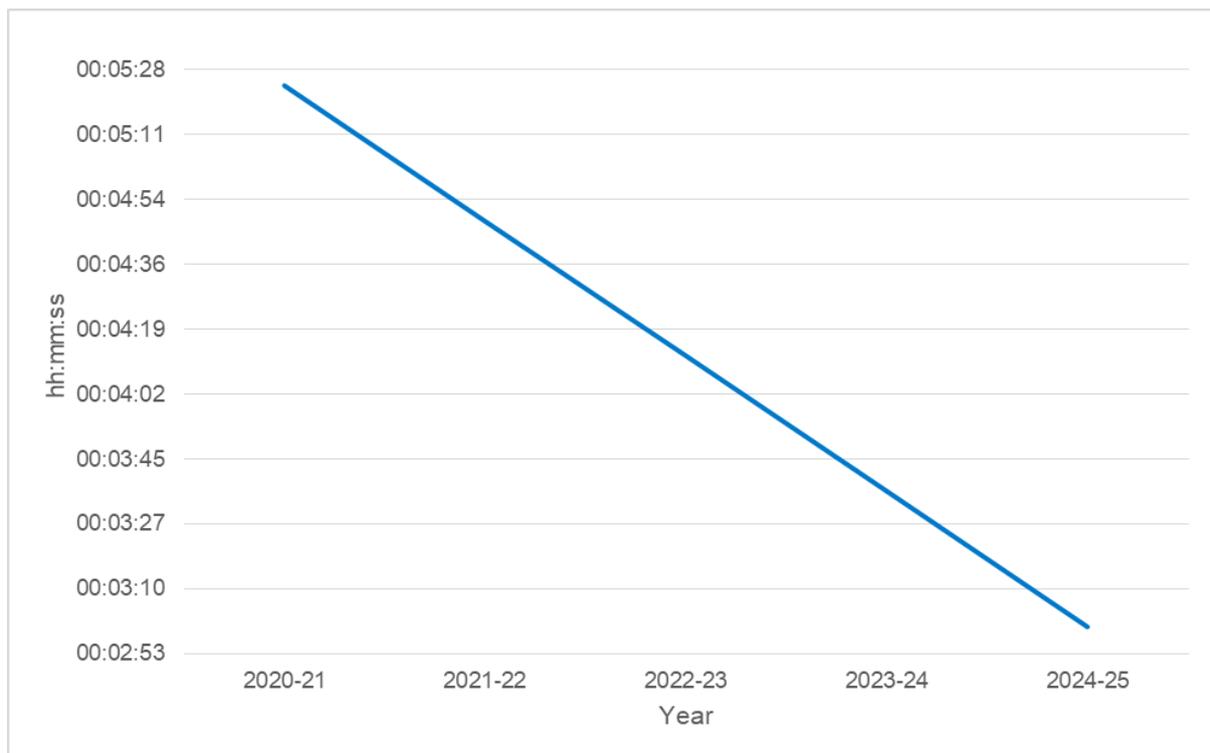


Figure 1 Water supply interruptions – draft determination performance levels

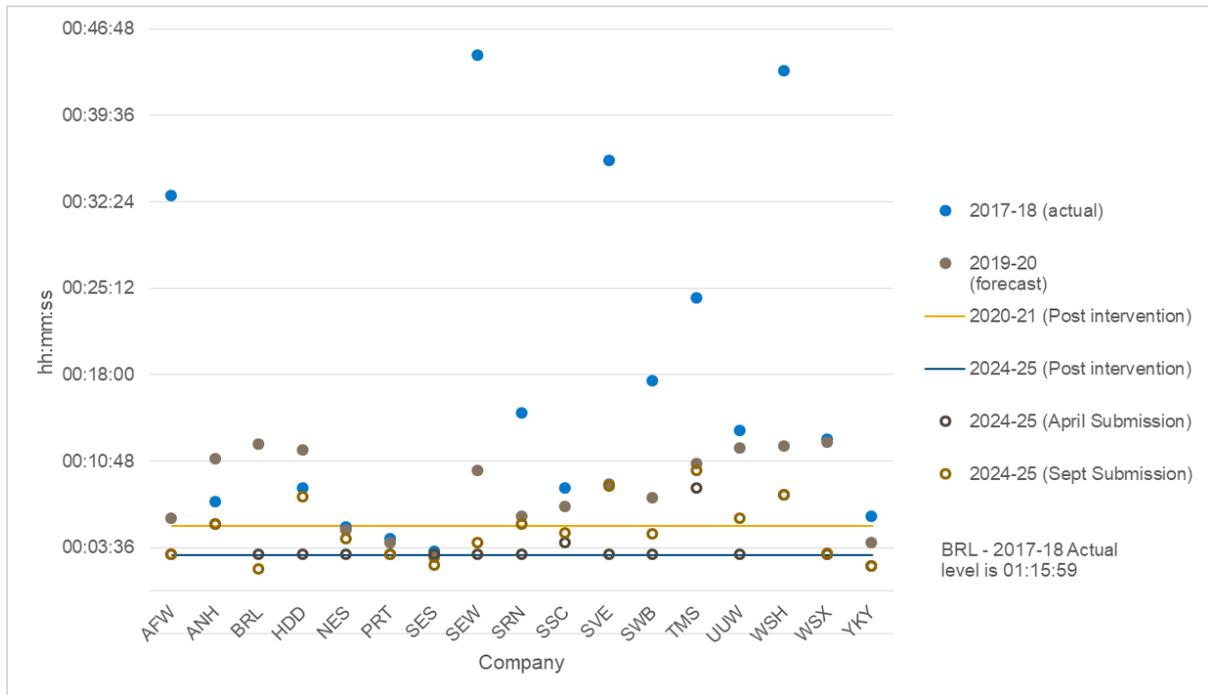


Figure 2 Water supply interruptions – actual levels, forecasts, 2020-21 and 2024-25 determination levels and 2024-25 commitment from previous submissions

**Pollution incidents** – We present our draft determination performance commitment levels in the first graph. In the second graph we present, for each company the 2017-18 actual performance level, 2019-20 performance forecast and performance commitment level for 2024-25 from previous submissions. Values are expressed in number of incidents per 10,000km of sewer pipe. Hafren Dyfrdwy has been excluded from the graphs since we have set a different performance level to the rest of industry - see section 3 of this document for further detail.

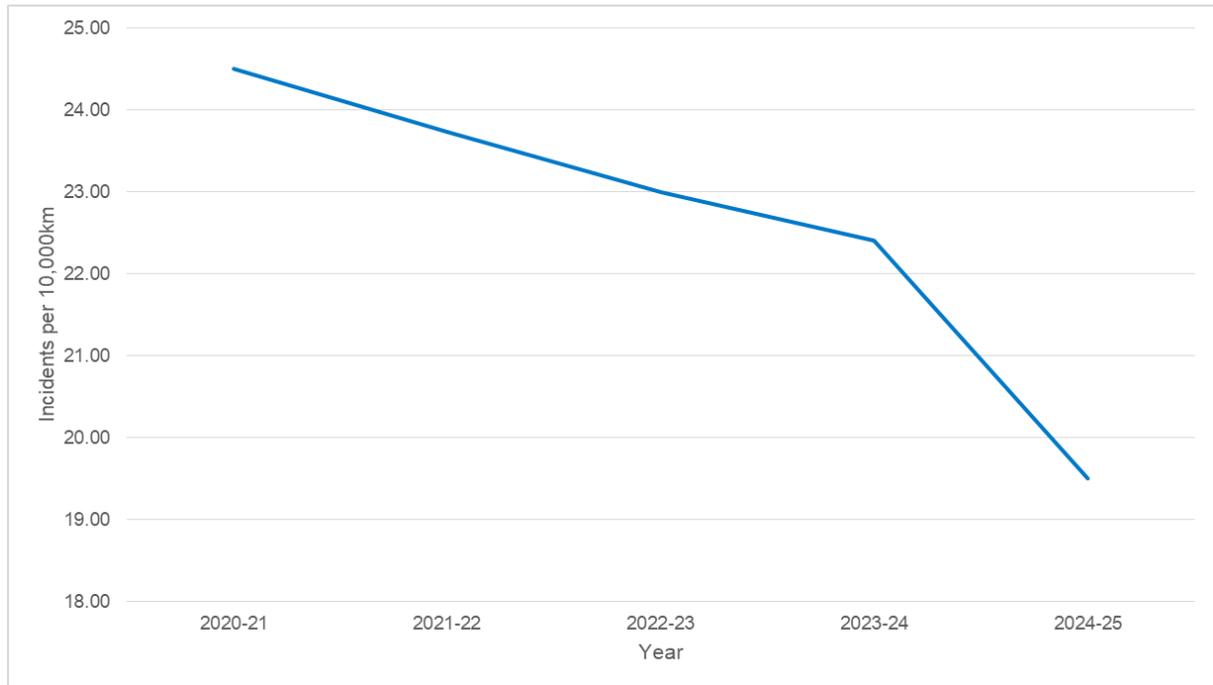


Figure 3 Pollution incidents – draft determination performance levels

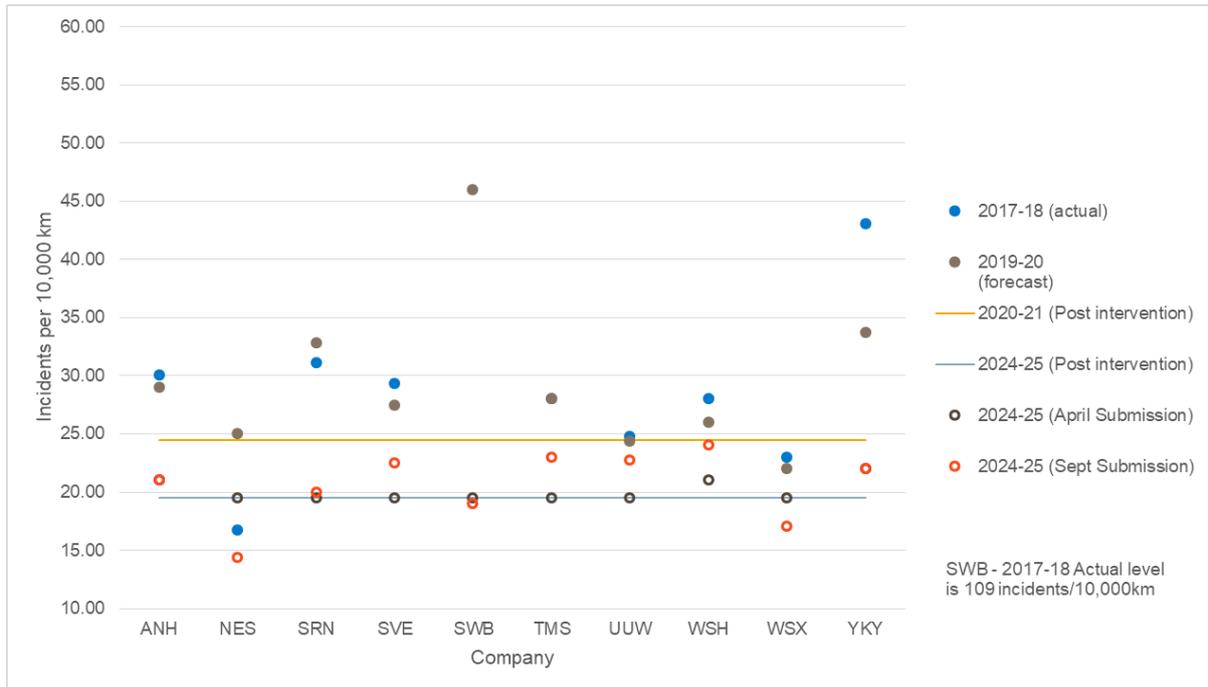


Figure 4 Pollution incidents - actual levels, forecasts, 2020-21 and 2024-25 determination levels and 2024-25 commitment from previous submissions

**Internal sewer flooding** – We present our draft determination performance commitment levels in the first graph. In the second graph we present, for each company the 2017-18 actual performance level, 2019-20 performance forecast and performance commitment level for 2024-25 from previous submissions. Values are expressed in number of incidents per 10,000 connections.

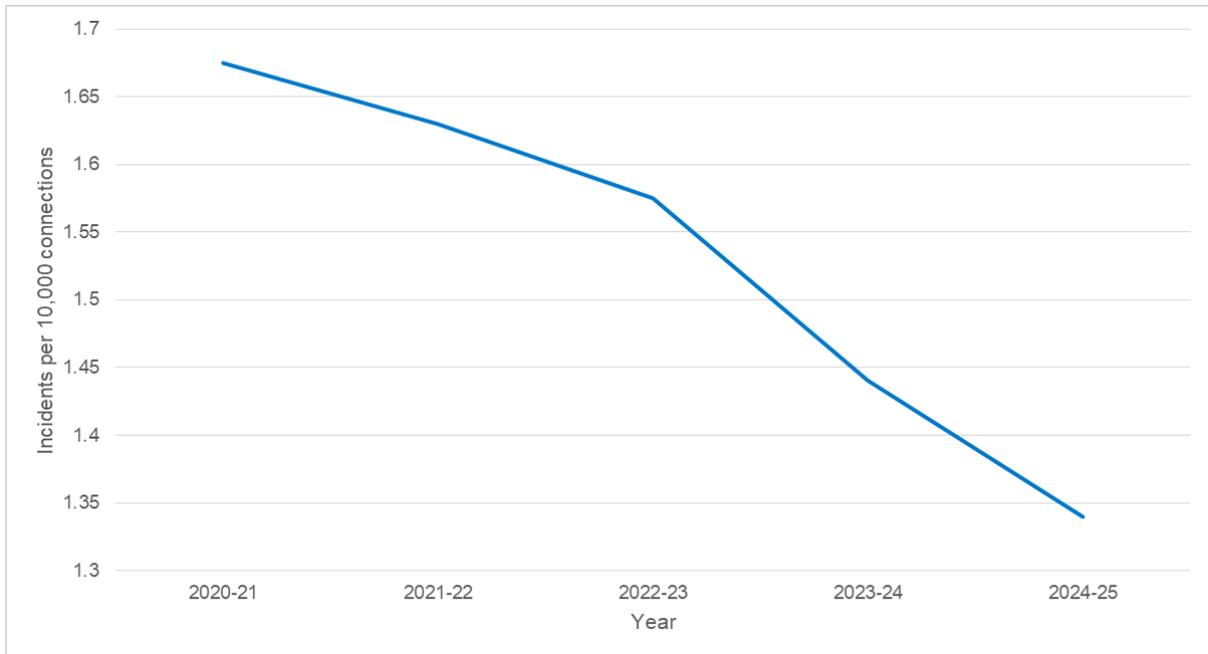


Figure 5 Internal sewer flooding – draft determination performance levels

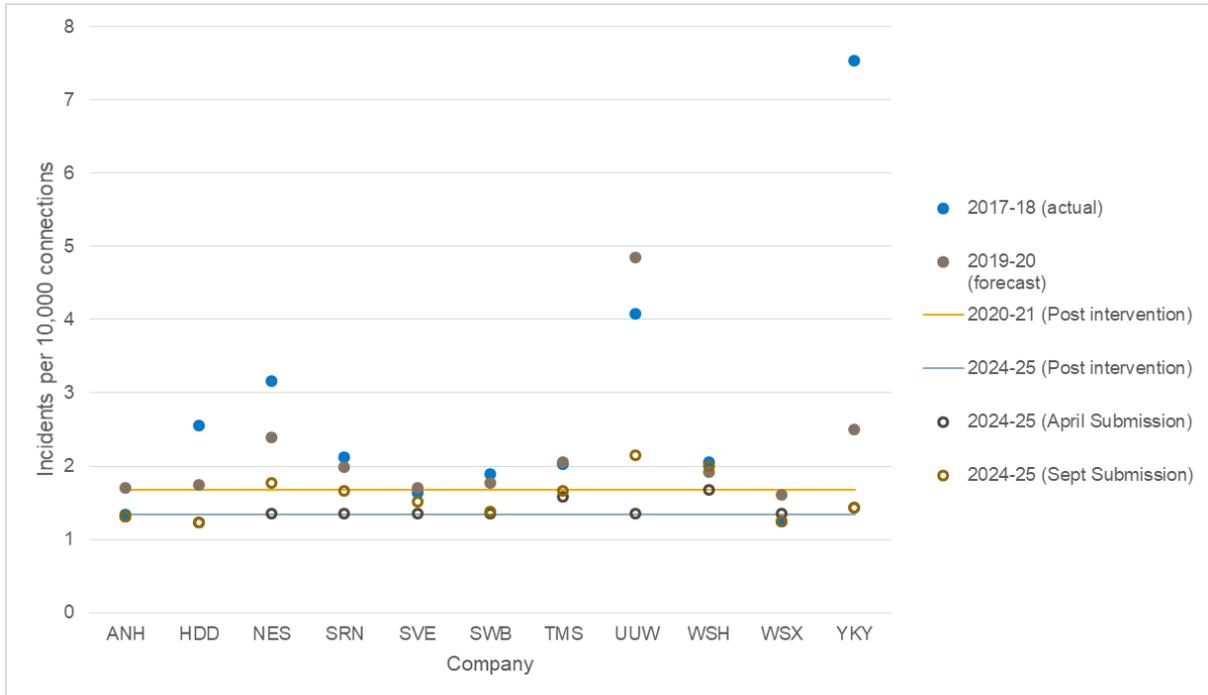


Figure 6 Internal sewer flooding - actual levels, forecasts, 2020-21 and 2024-25 determination levels and 2024-25 commitment from previous submissions

**Leakage** – We present our draft determination performance levels for 2024-25 in the first graph together with companies’ April 2019 revised business plan. In the second graph we present, for each company the 2017-18 actual performance level, 2019-20 performance forecast. Values are expressed in litre per property per day and in cubic meters per km of mains per day.

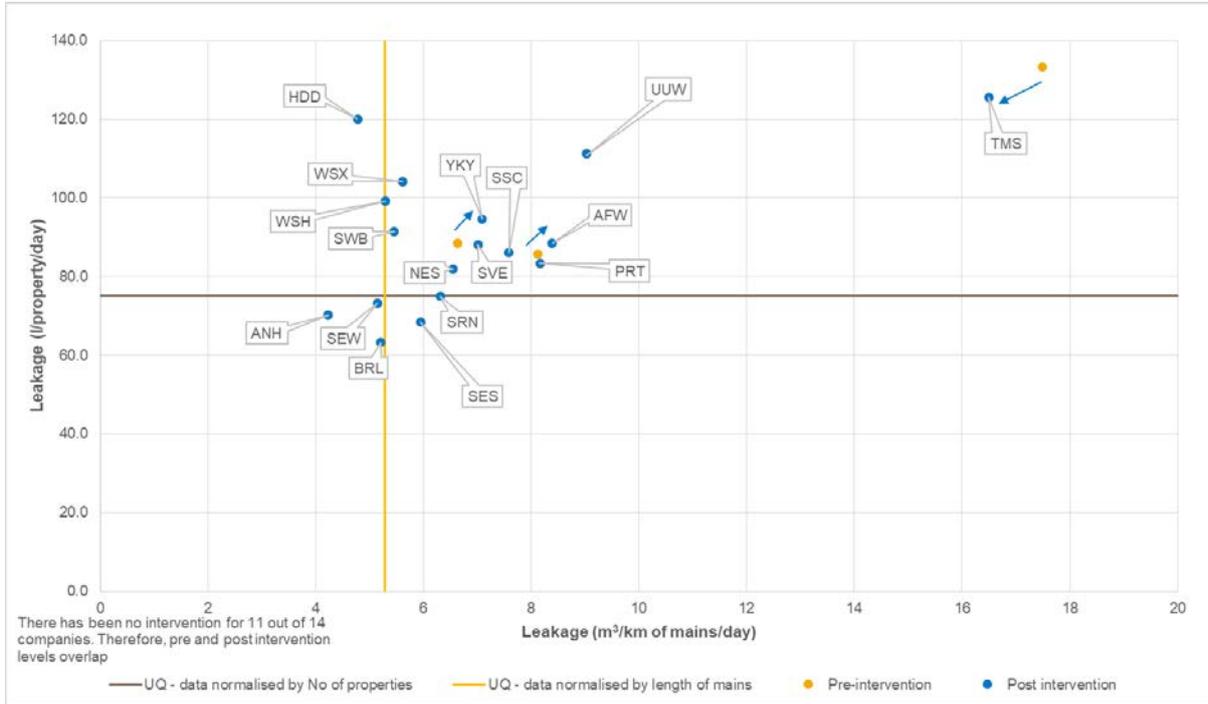


Figure 7 Leakage – 2024-25 performance commitment levels, pre and post interventions

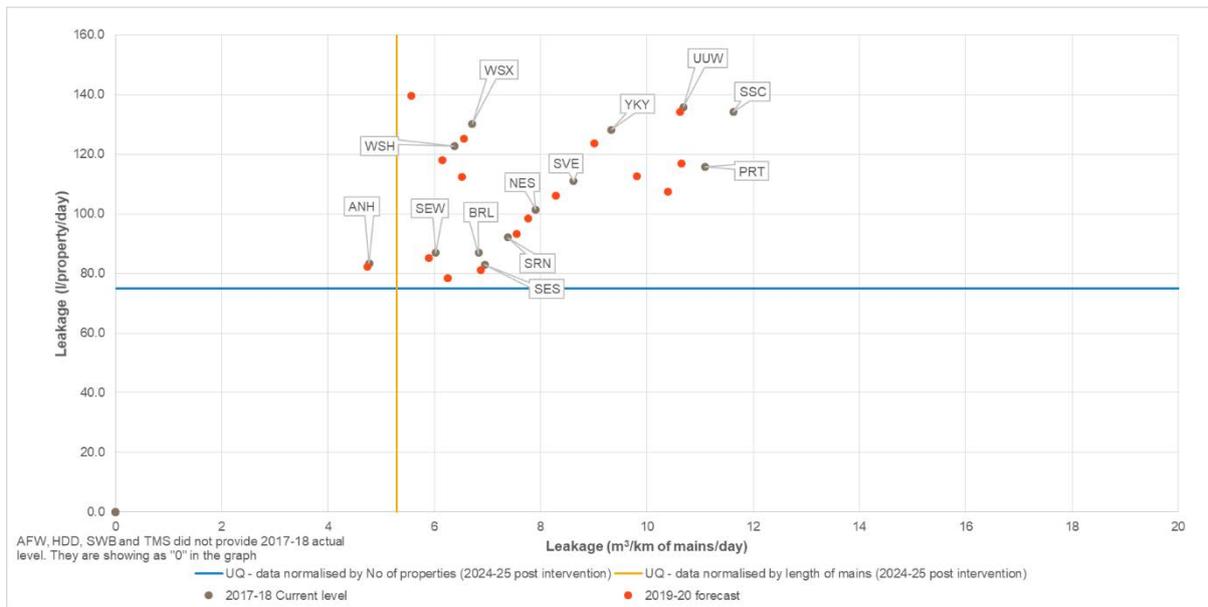


Figure 8 Leakage – 2017-18 actual levels and 2019-20 forecasts

**Per capita consumption** – We present our draft determination companies' performance levels for 2020-21 and 2024-25, together with companies' April 2019 revised business plan, 2017-18 actual levels and 2019-20 forecast level. Values are expressed in litre per head per day.

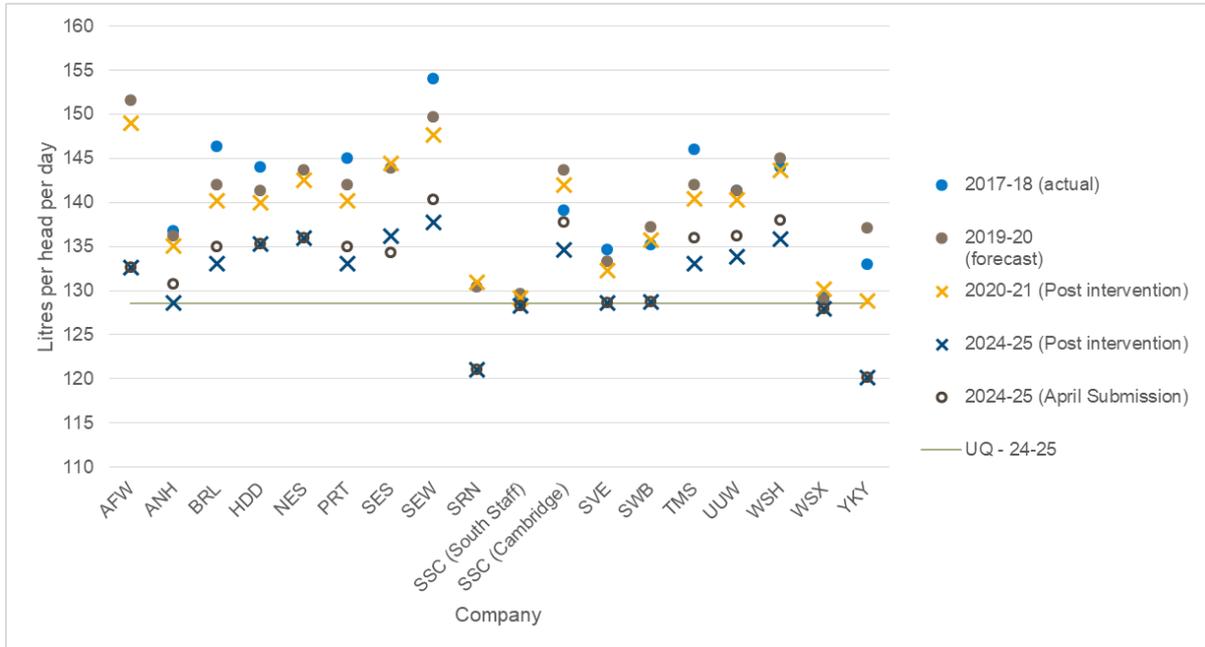


Figure 9 Per capita consumption - actual levels, forecasts, 2020-21 and 2024-25 determination levels, 2024-25 commitment from April submission and 2024-25 upper quartile level

**Unplanned outage** – We present our draft determination companies’ performance levels for 2020-21 and 2024-25, together with companies’ April 2019 revised business plan, 2017-18 actual levels and 2019-20 forecast level. The graph displays the industry 2024-25 median level and the industry 2024-25 upper quartile level. Values are expressed in percentage (lost capacity of company maximum production).

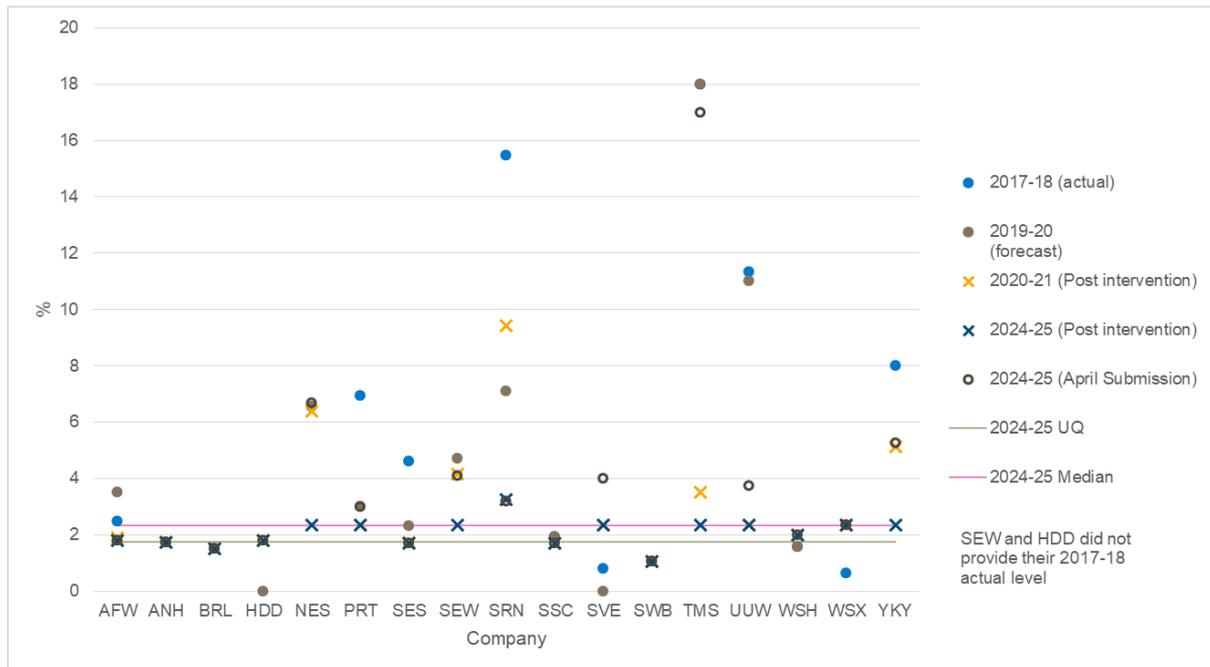


Figure 10 Unplanned outage - actual levels, forecasts, 2020-21 and 2024-25 determination levels, 2024-25 commitment from April submission and 2024-25 upper quartile and median levels

**Mains repairs** – We present our draft determination companies’ performance levels for 2020-21 and 2024-25, together with companies’ April 2019 revised business plan, 2017-18 actual levels and 2019-20 forecast level. The graph displays the industry 2024-25 median level and the industry 2024-25 ‘good’ level. Values are expressed in number of repairs per 1,000km of sewer pipe.

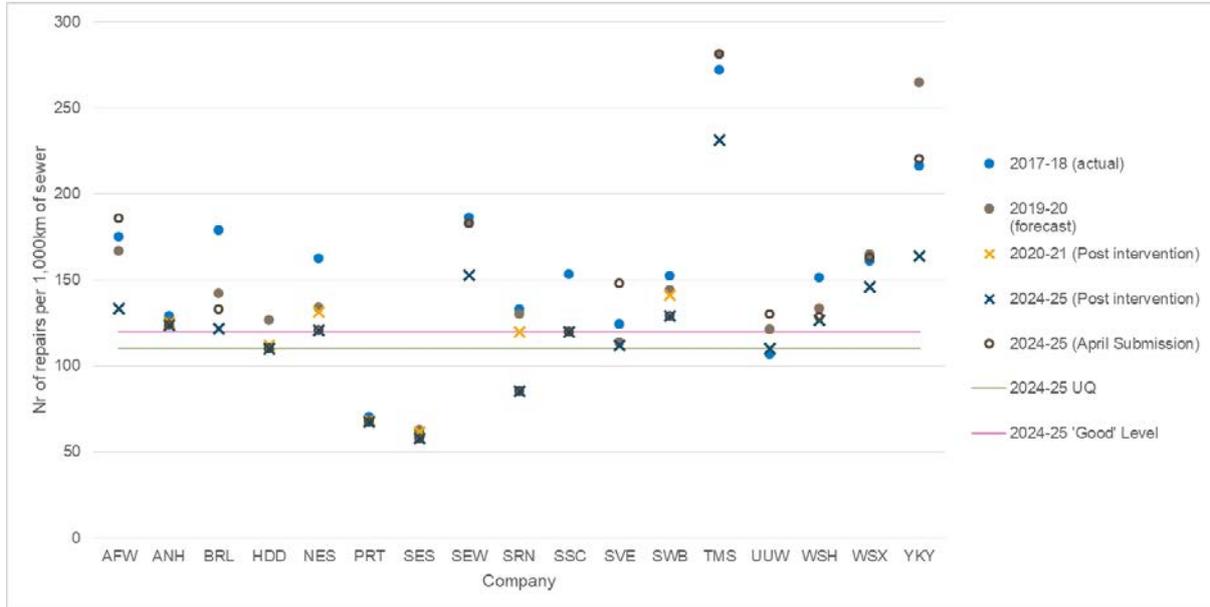


Figure 11 Mains repairs - actual levels, forecasts, 2020-21 and 2024-25 determination levels, 2024-25 commitment from April submission and 2024-25 upper quartile and ‘good’ levels

**Sewer collapses** – We present our draft determination companies’ performance levels for 2020-21 and 2024-25, together with companies’ April 2019 revised business plan, 2017-18 actual levels and 2019-20 forecast level. The graph displays the industry 2024-25 median level and the industry 2024-25 ‘good’ level. Values are expressed in number of collapses per 1,000km of sewer pipe.

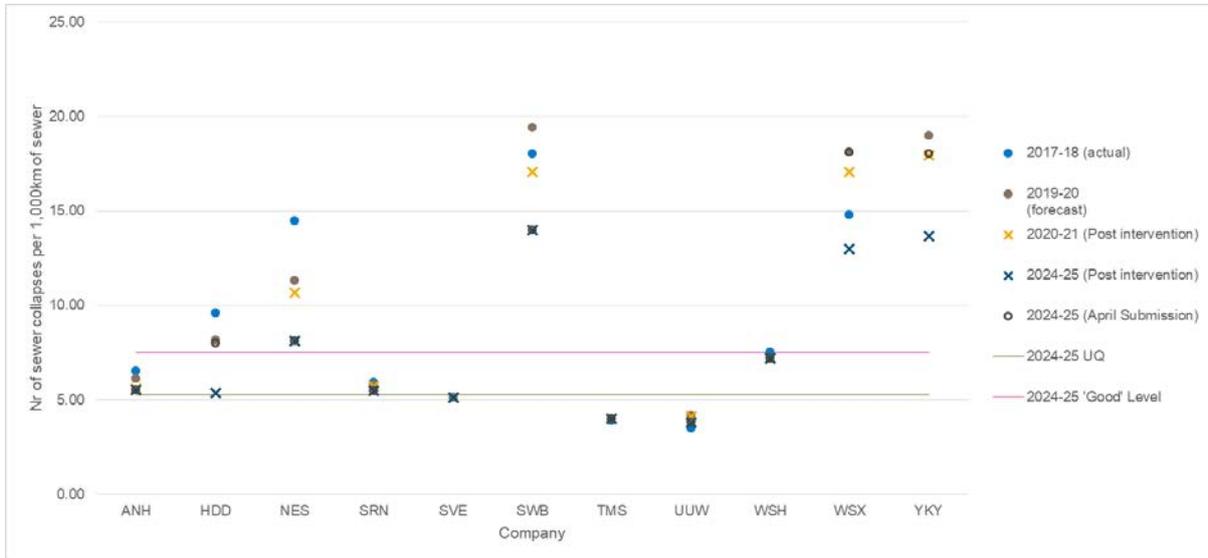


Figure 12 Sewer collapses - actual levels, forecasts, 2020-21 and 2024-25 determination levels, 2024-25 commitment from April submission and 2024-25 upper quartile and 'good' levels

**Sewer blockages** – We present our draft determination companies’ performance levels for 2020-21 and 2024-25, together with companies’ April 2019 revised business plan, 2017-18 actual levels and 2019-20 forecast level. The graph displays the industry 2024-25 median level and the industry 2024-25 ‘good’ level. Values are expressed in number of blockages per 1,000km of sewer pipe.

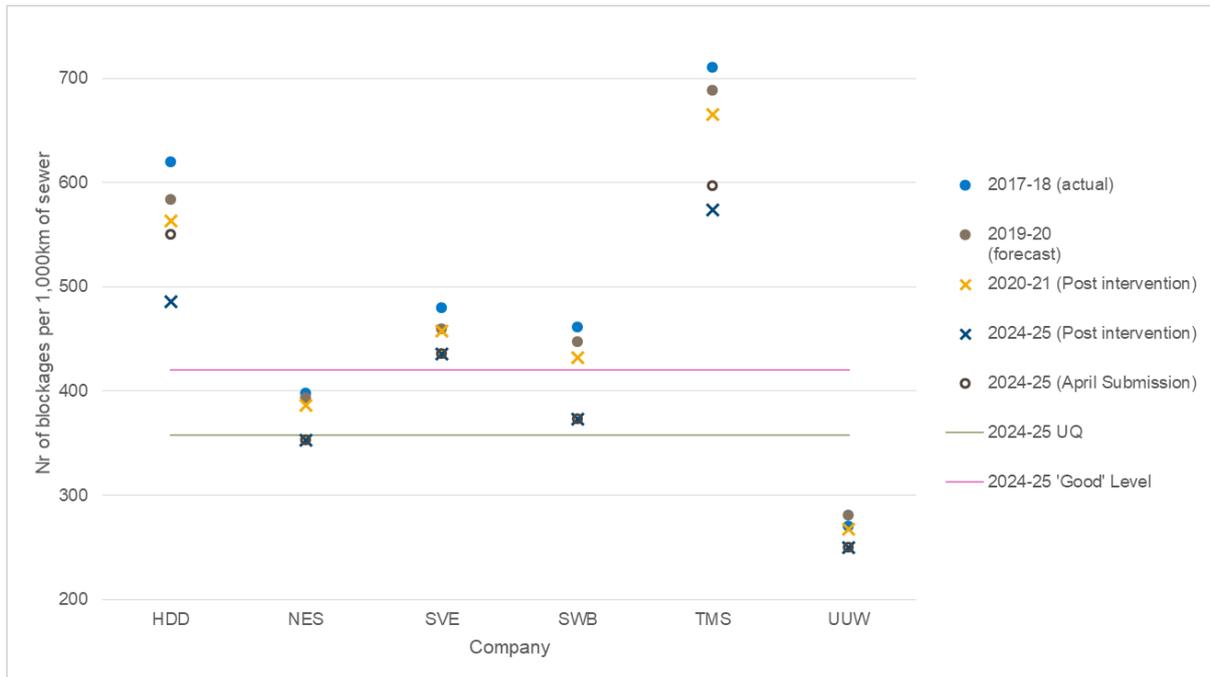


Figure 13 Sewer blockages - actual levels, forecasts, 2020-21 and 2024-25 determination levels, 2024-25 commitment from April submission and 2024-25 upper quartile and 'good' levels

**Low pressure** – We present our draft determination companies’ performance levels for 2020-21 and 2024-25, together with companies’ April 2019 revised business plan, 2017-18 actual levels and 2019-20 forecast level. The graph displays the industry 2024-25 median level and the industry 2024-25 ‘good’ level. Values are expressed in number of low pressure case per 10,000 connections.

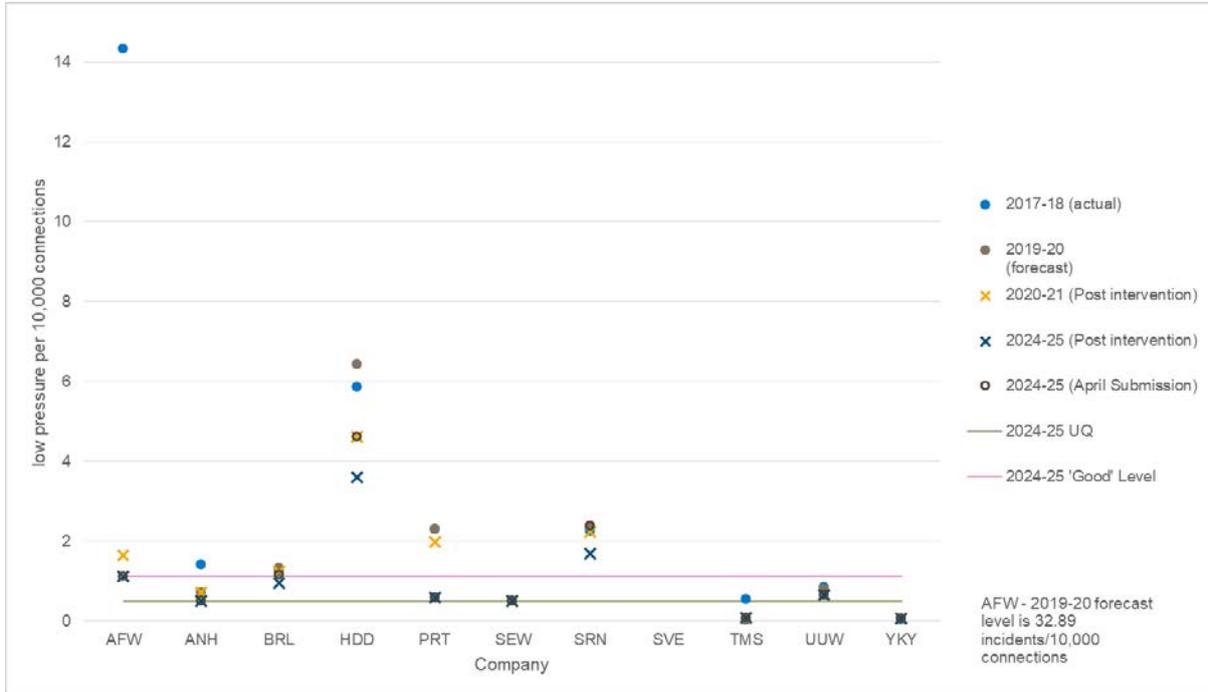


Figure 14 Low pressure - actual levels, forecasts, 2020-21 and 2024-25 determination levels, 2024-25 commitment from April submission and 2024-25 upper quartile and ‘good’ levels

**Customer contacts** – We present our draft determination companies’ performance levels for 2020-21 and 2024-25, together with companies’ April 2019 revised business plan, 2017-18 actual levels and 2019-20 forecast level. The graph displays the industry 2024-25 median level and the industry 2024-25 ‘good’ level. Values are expressed in number of contacts per 1,000 customers.

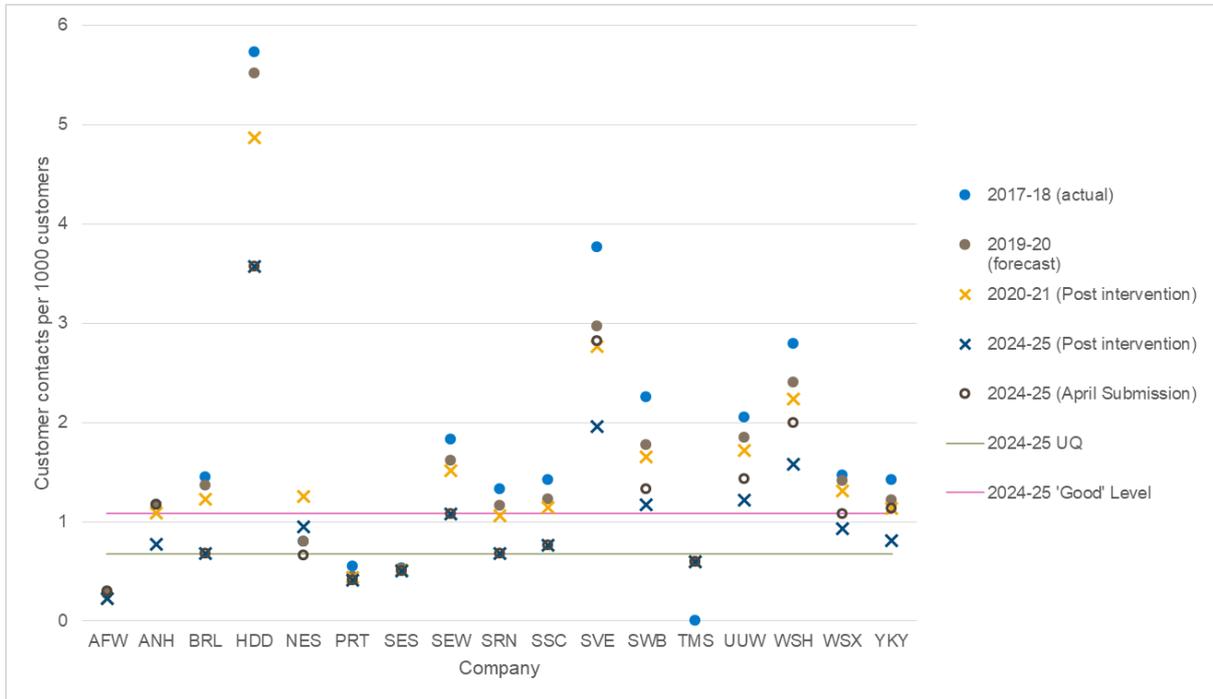


Figure 15 Customer contacts - actual levels, forecasts, 2020-21 and 2024-25 determination levels, 2024-25 commitment from April submission and 2024-25 upper quartile and ‘good’ levels

**External sewer flooding** – We present our draft determination companies’ performance levels for 2020-21 and 2024-25, together with companies’ April 2019 revised business plan, 2017-18 actual levels and 2019-20 forecast level. The graph displays the industry 2024-25 median level and the industry 2024-25 ‘good’ level. Values are expressed in number of incidents per 10,000 connections.

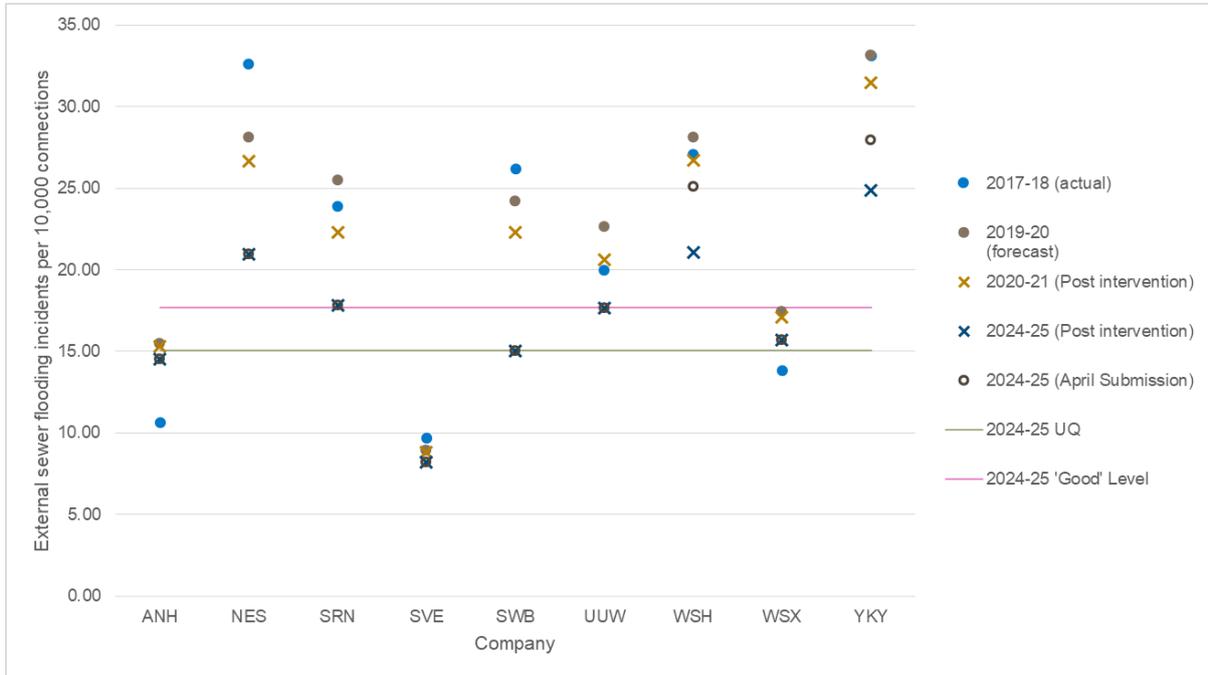
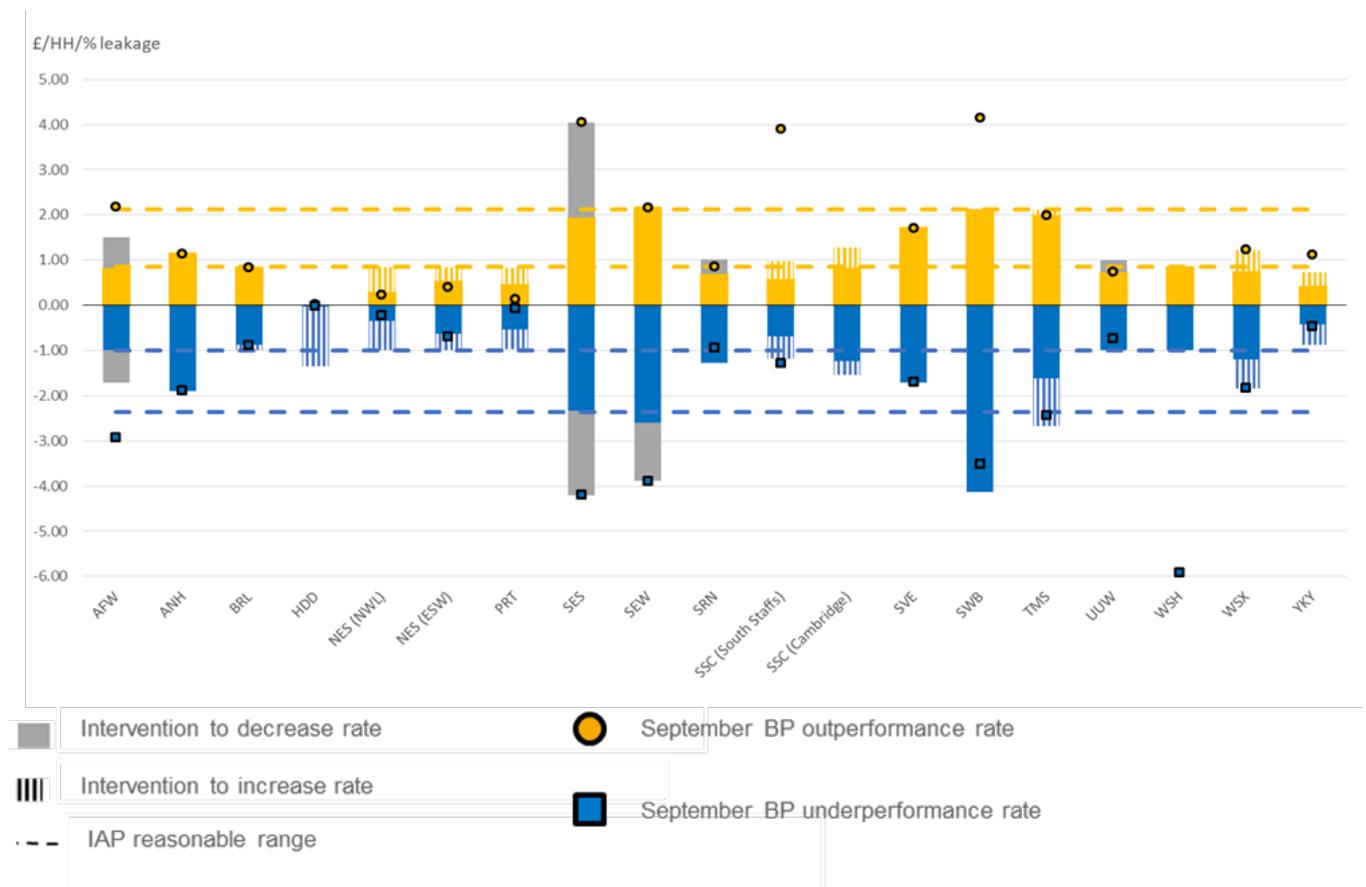


Figure 16 External sewer flooding - actual levels, forecasts, 2020-21 and 2024-25 determination levels, 2024-25 commitment from April submission and 2024-25 upper quartile and 'good' levels

## ODI rates

We present our draft determination outperformance and underperformance rates below for common and comparable performance commitments, as well as our interventions and reasonable ranges. Our reasonable range is based on ODI rates proposed by companies in September 2018 business plans except where otherwise referenced<sup>34</sup>. All ODI rates are expressed on a per household basis. For all charts, fast track company rates are those from their fast track draft determination. Interventions shown are the implications of our assessment for fast track companies.

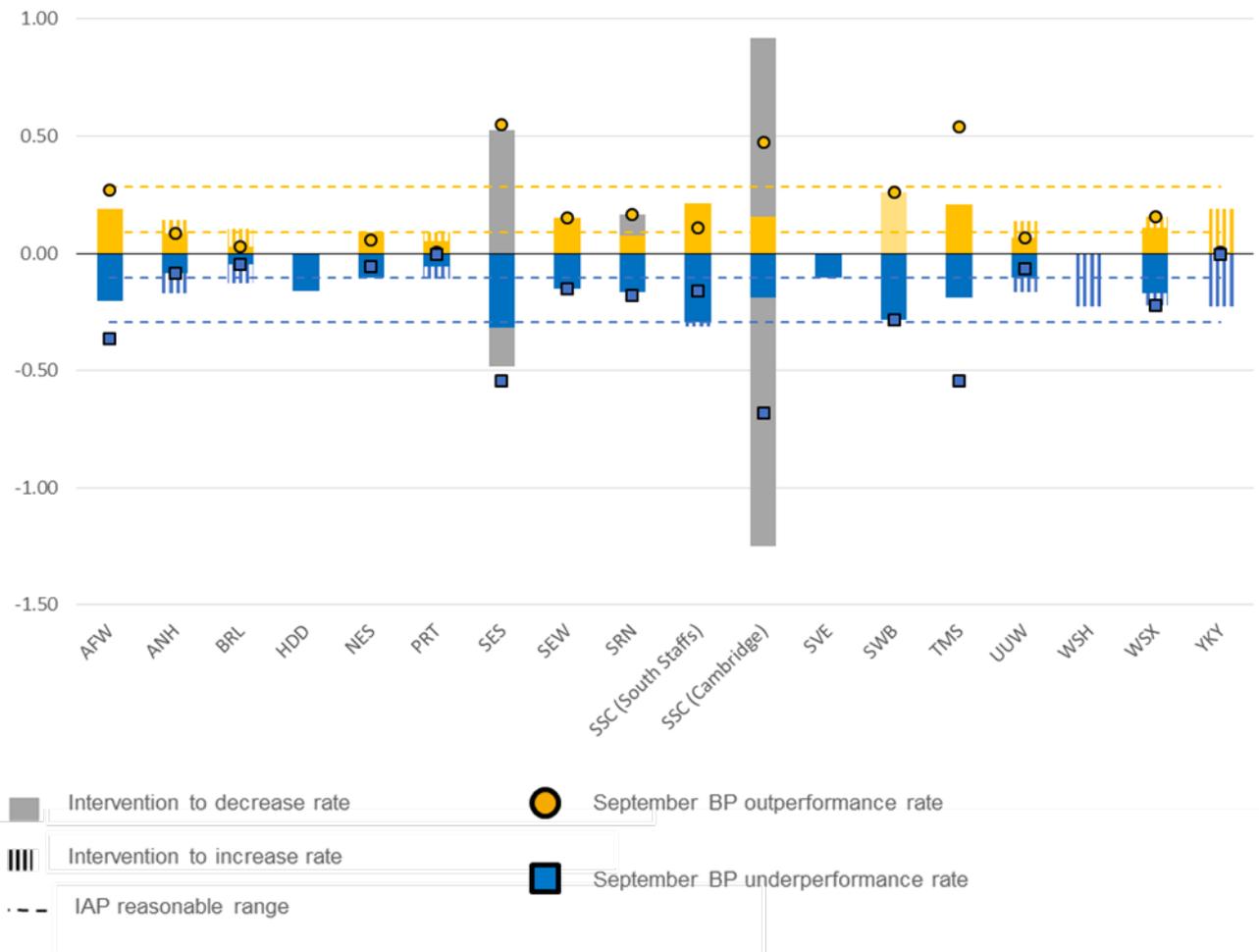
**Leakage** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.



<sup>34</sup> These are labelled IAP reasonable range on the charts even where the range itself was not presented in the IAP Technical appendix 1 – Delivering outcomes for customers

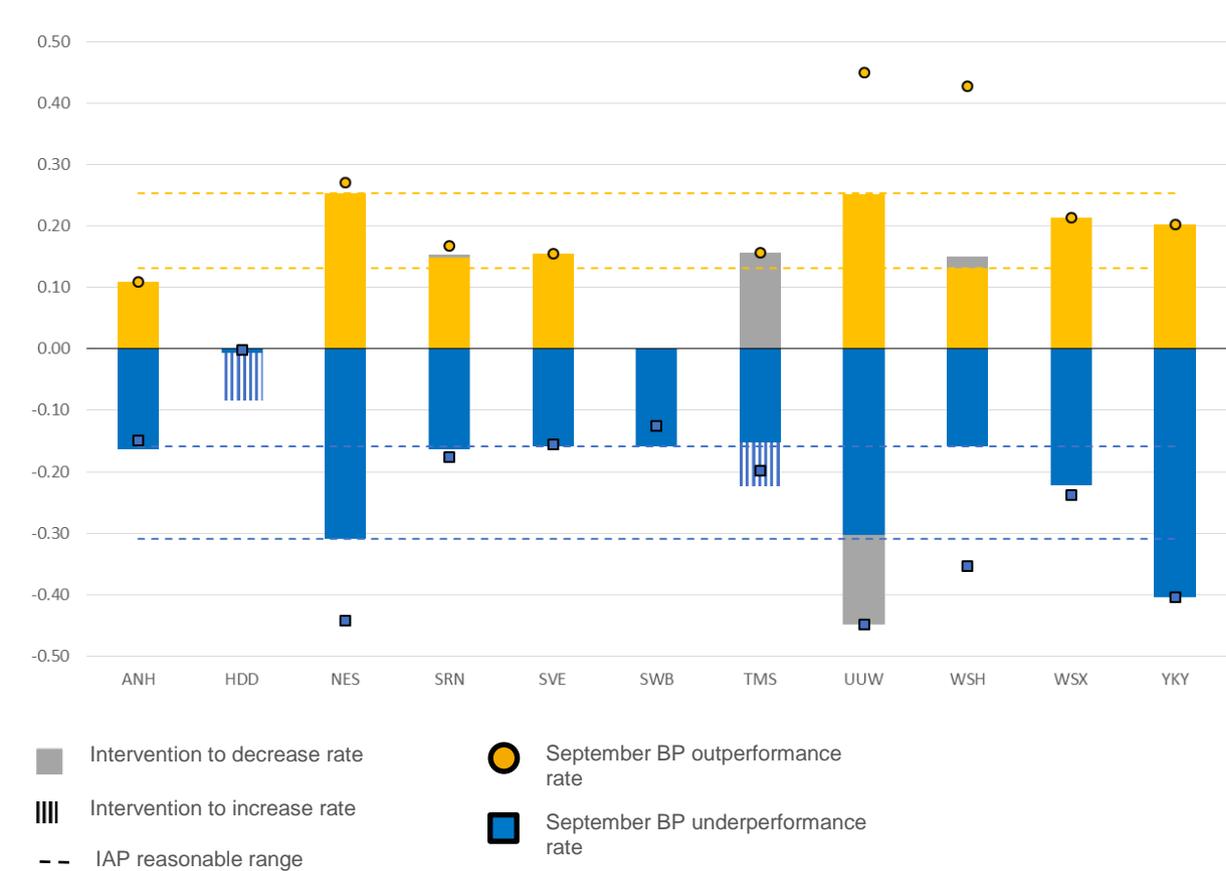
**Per capita consumption** – Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.

Normalised ODI rate, £/HH/Litres per person per day

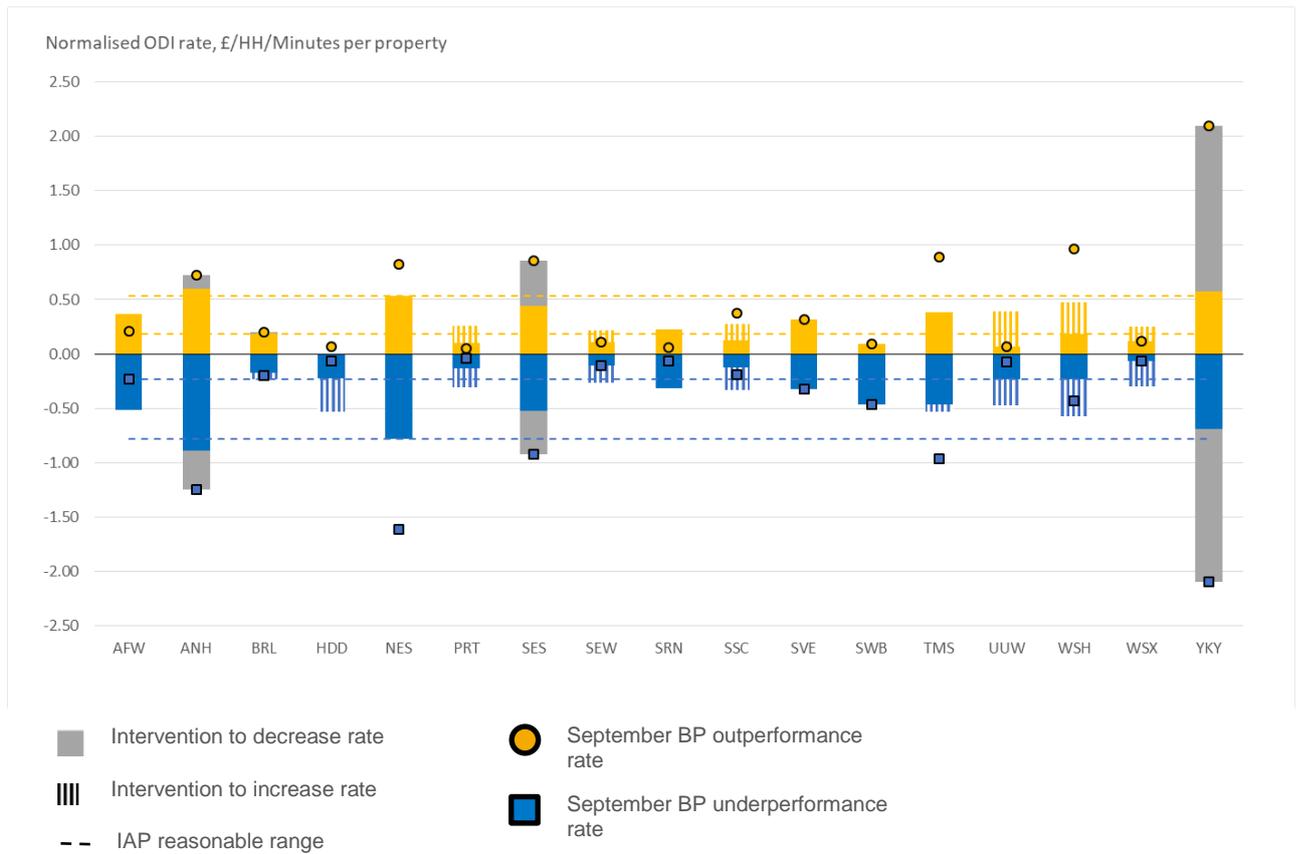


**Pollution incidents** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.

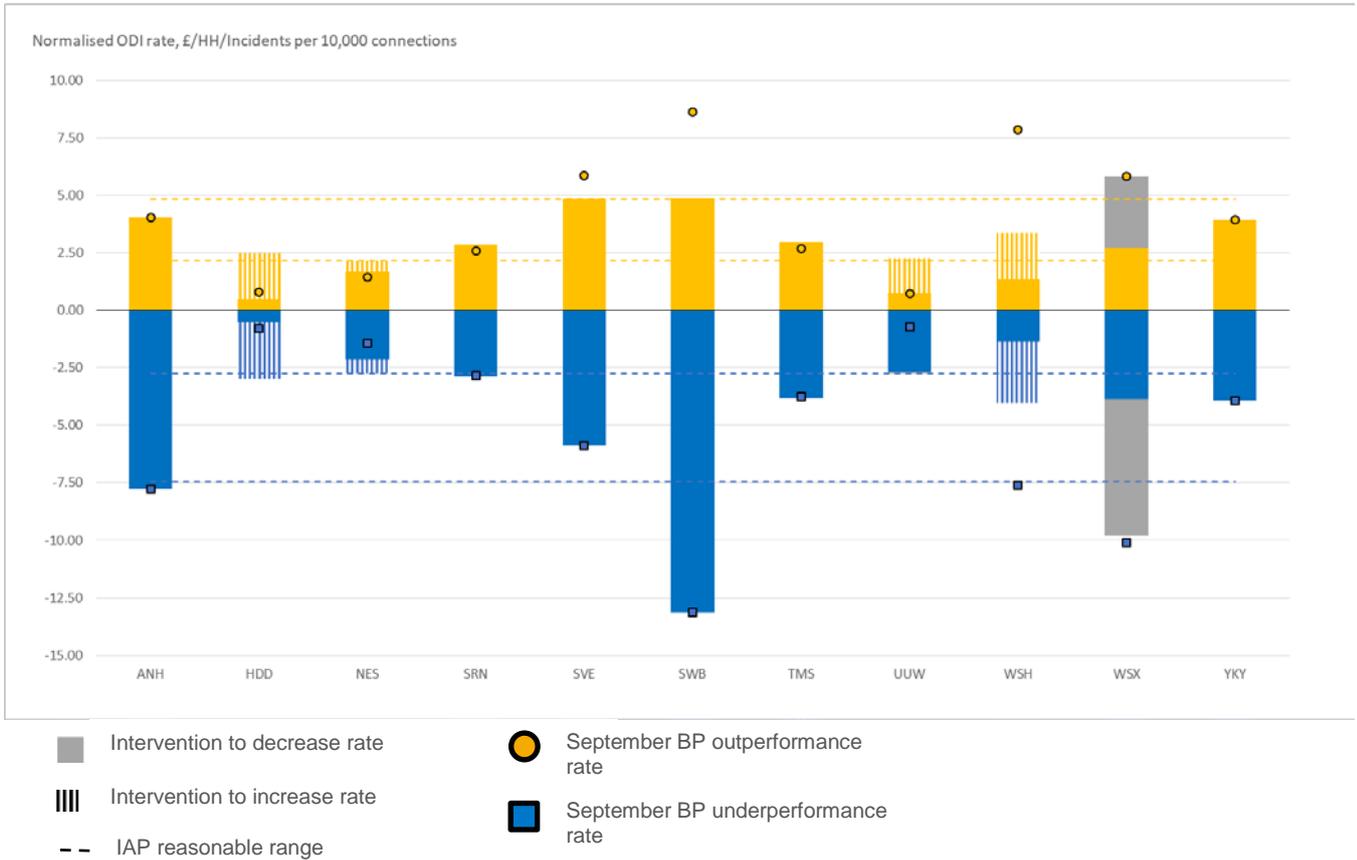
Normalised ODI rate, £/HH/Incidents per 10,000 km of sewer



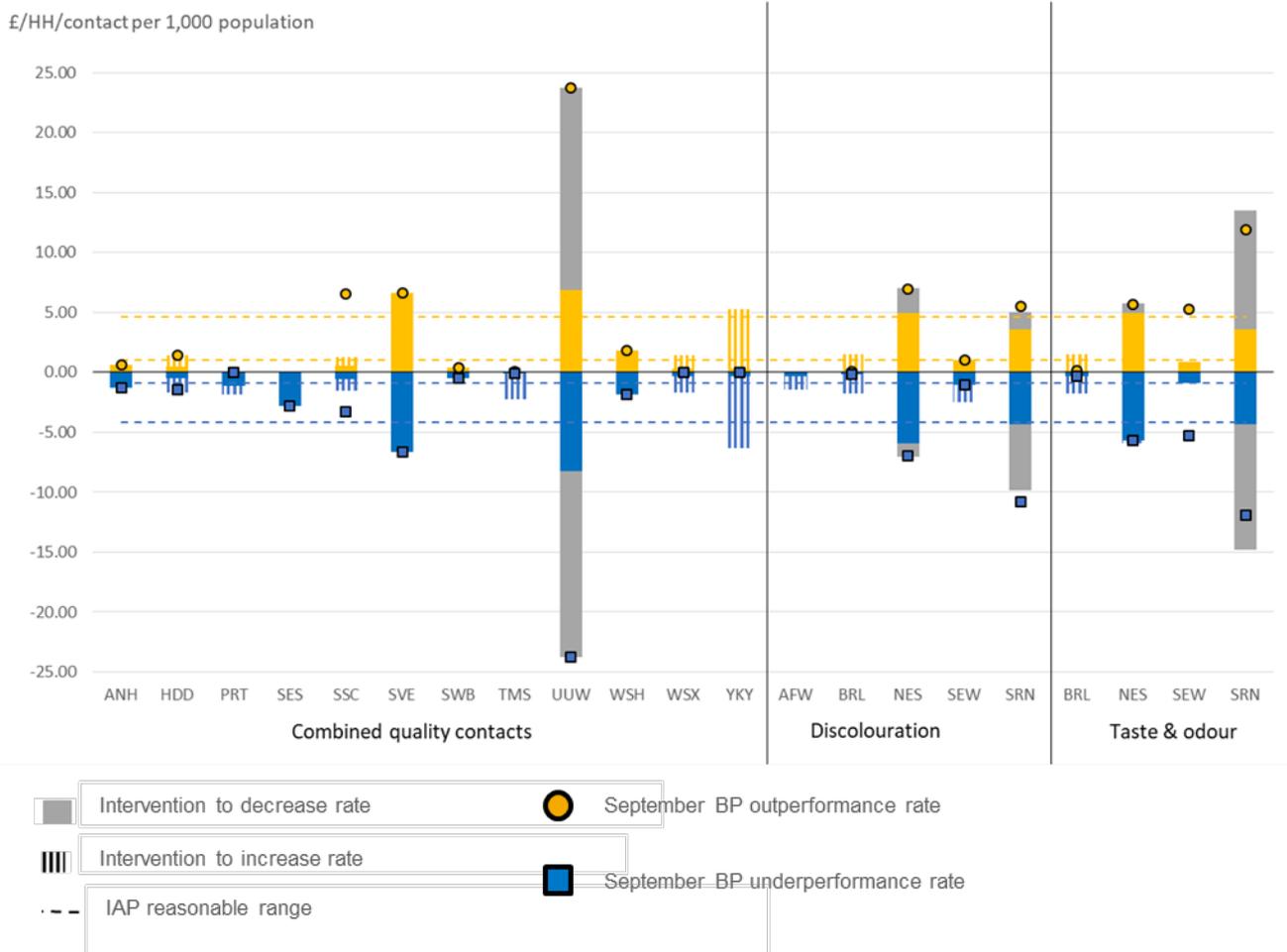
**Supply interruptions** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.



**Internal sewer flooding** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.

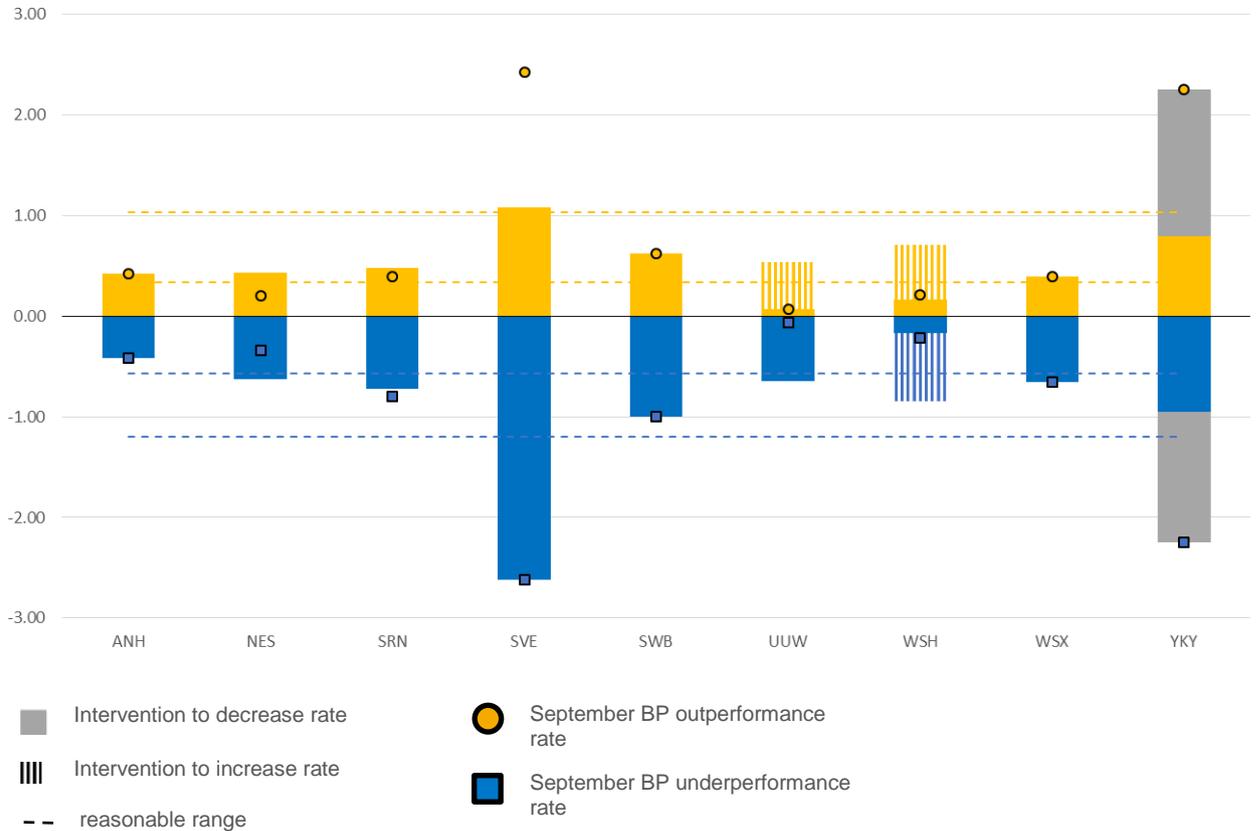


**Water quality contacts** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.

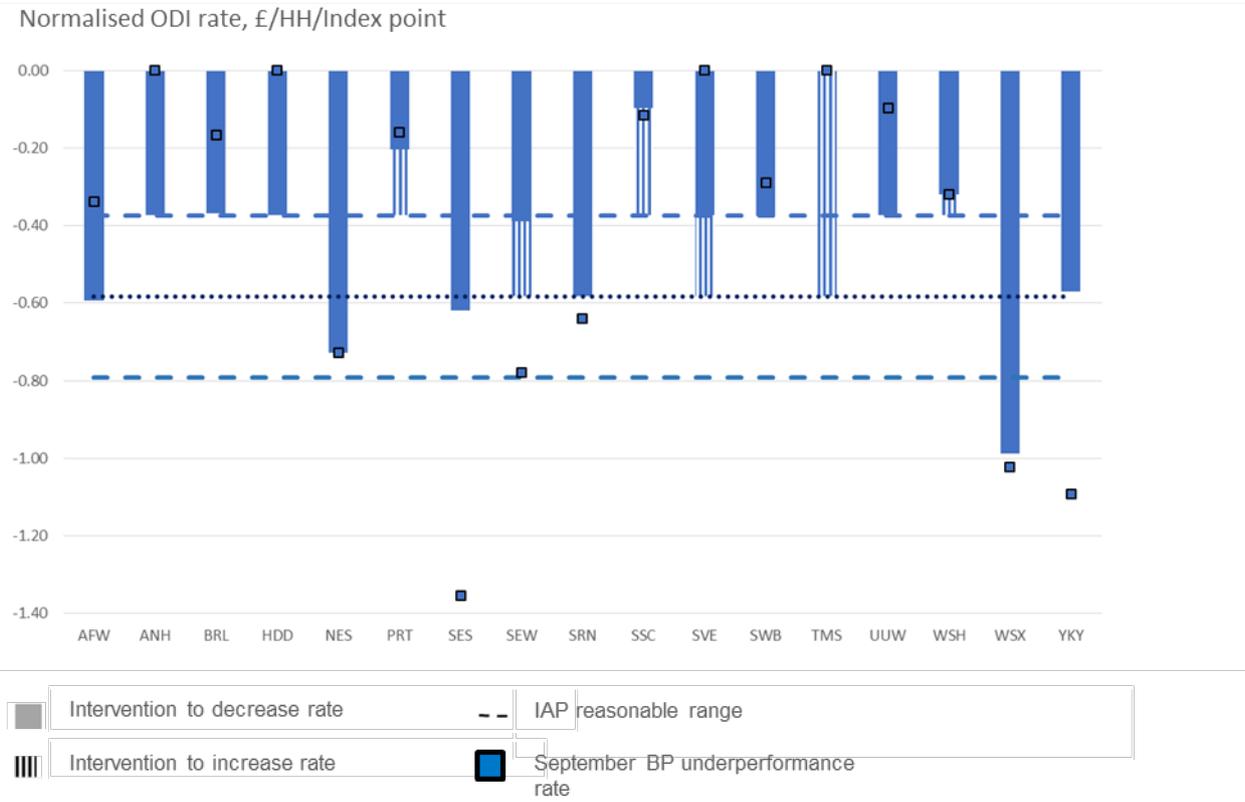


**External sewer flooding** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.

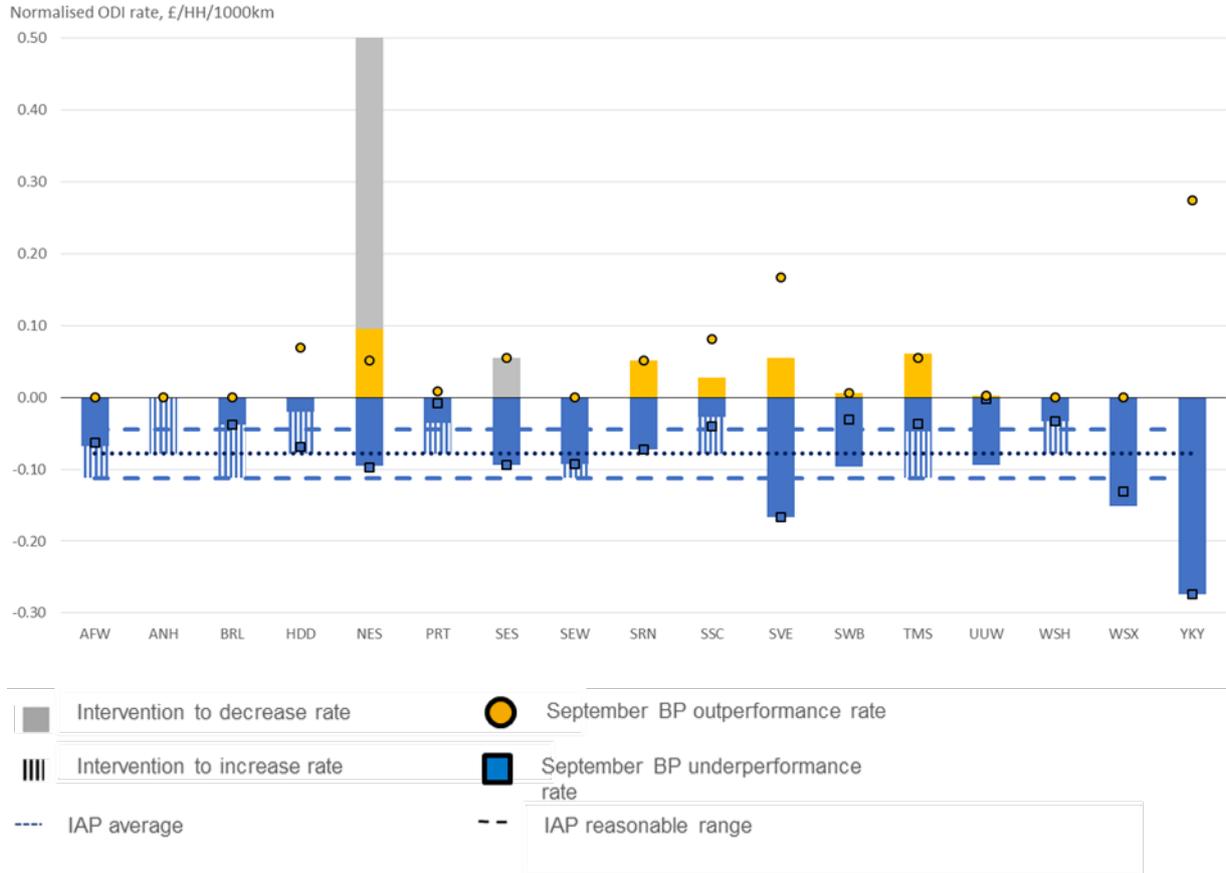
Normalised ODI rate, £/HH/10k connections



**Compliance risk index (CRI) -** Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.

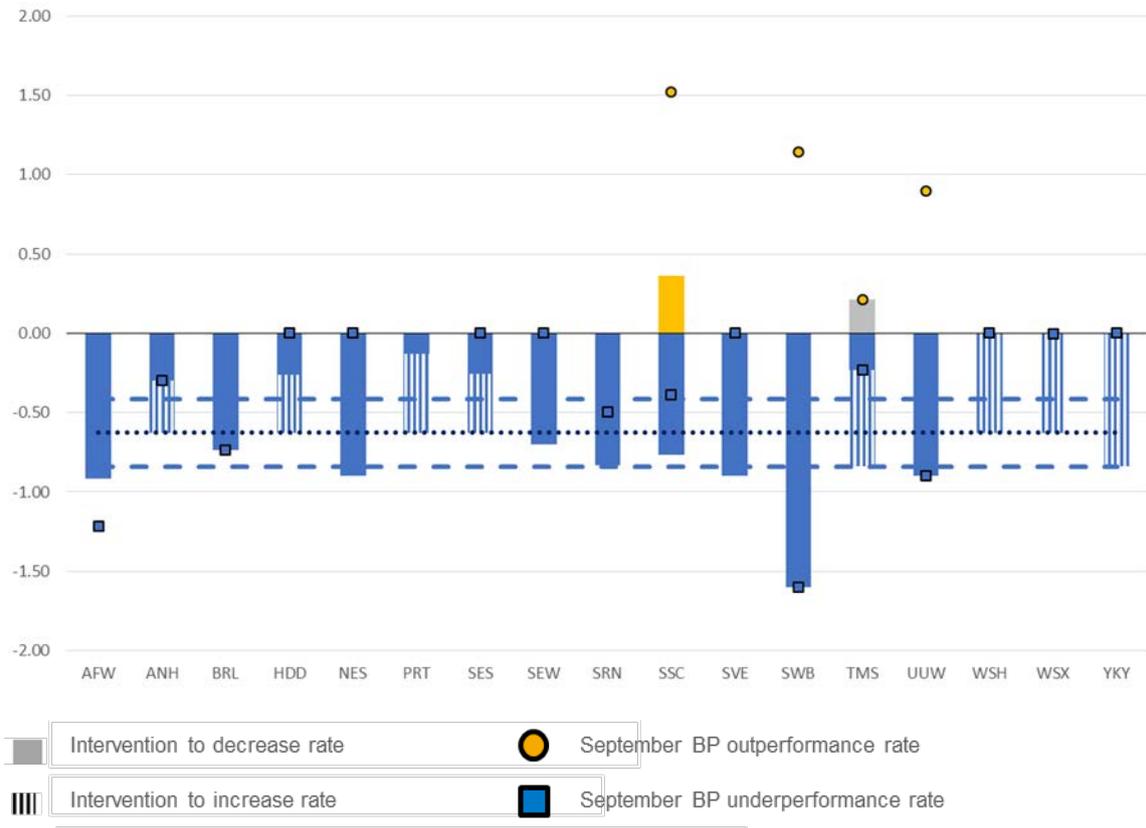


**Mains repairs** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.

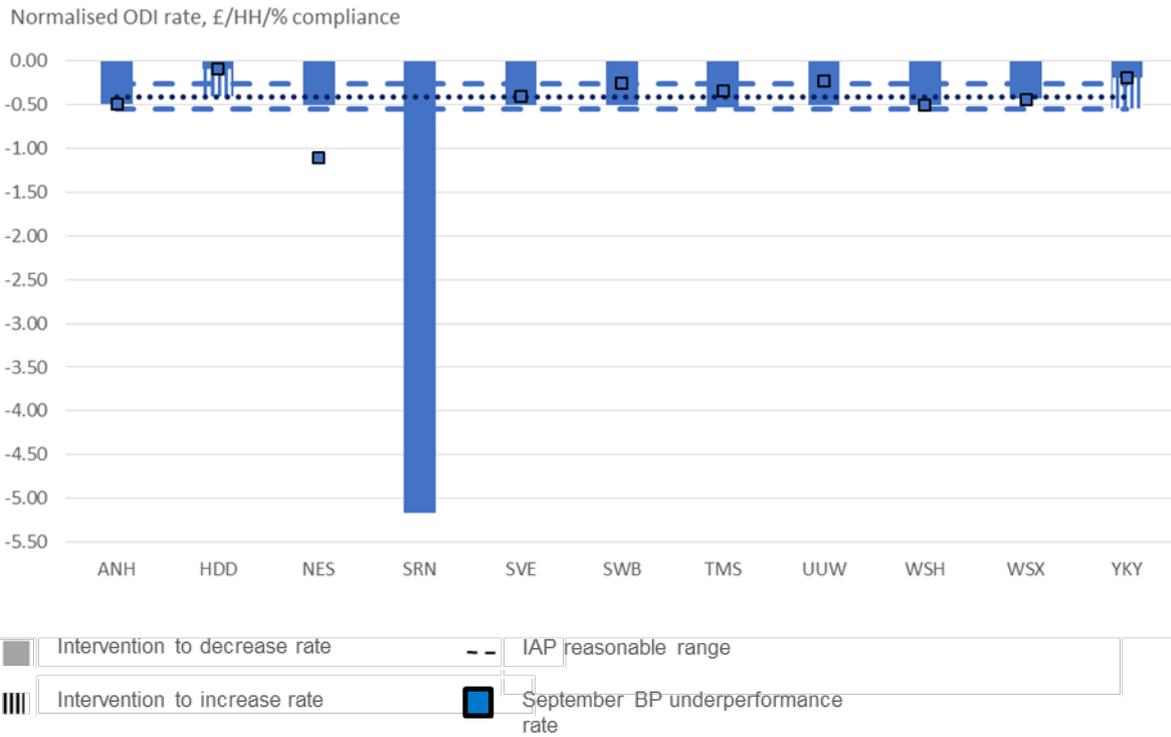


**Unplanned outage** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on April business plan data. All ODI rates are normalised.

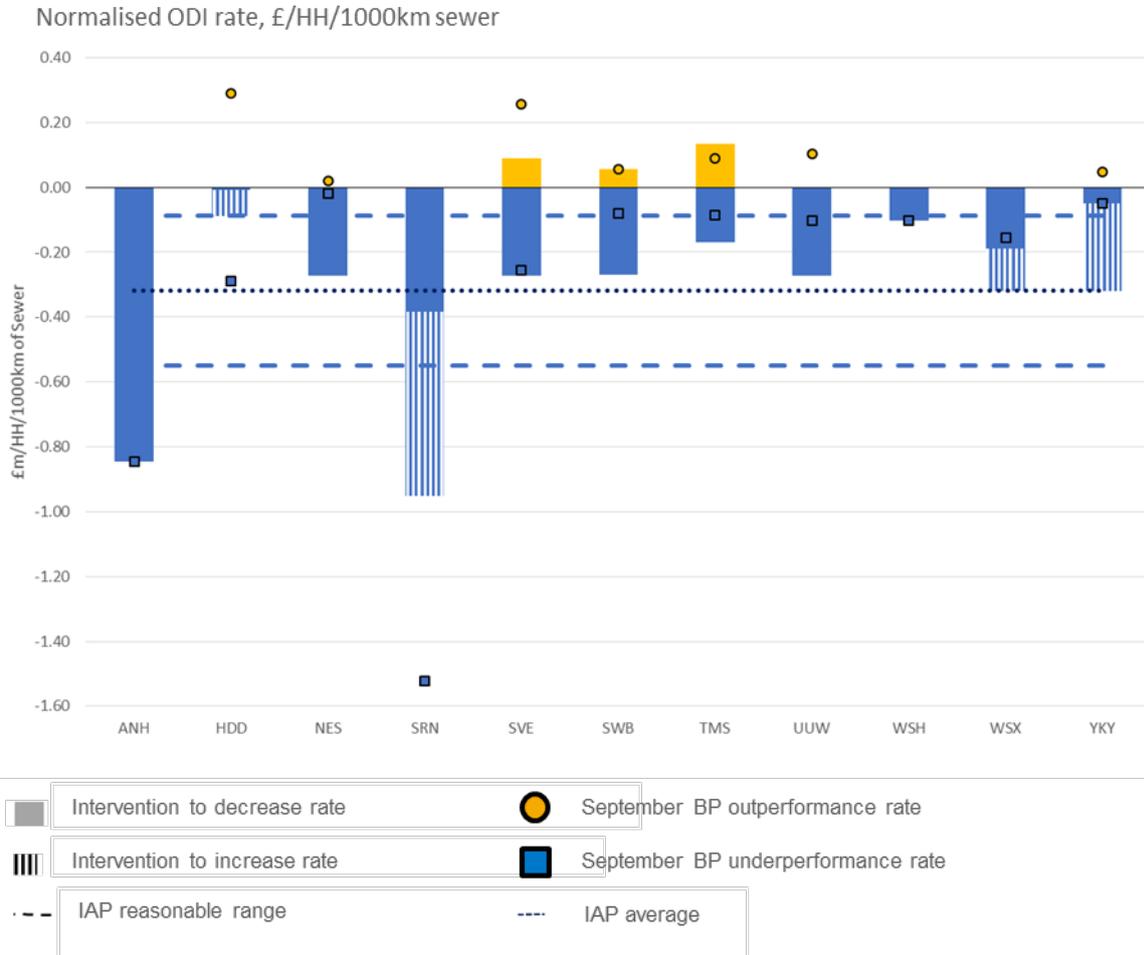
Normalised ODI rate, £/HH/% of maximum production capacity



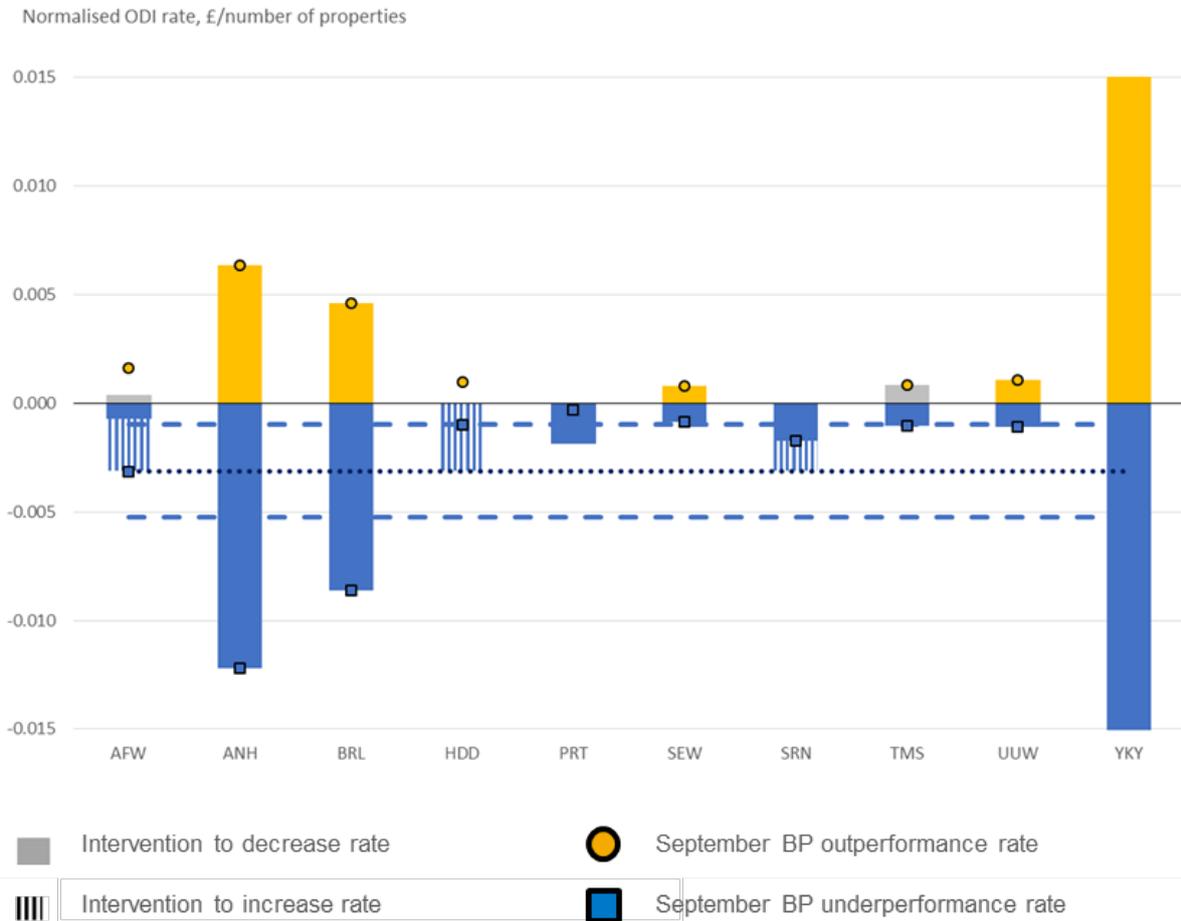
**Treatment works compliance** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on September business plan data. All ODI rates are normalised.



**Sewer collapses** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions, and reasonable range based on September business plan data. All ODI rates are normalised.

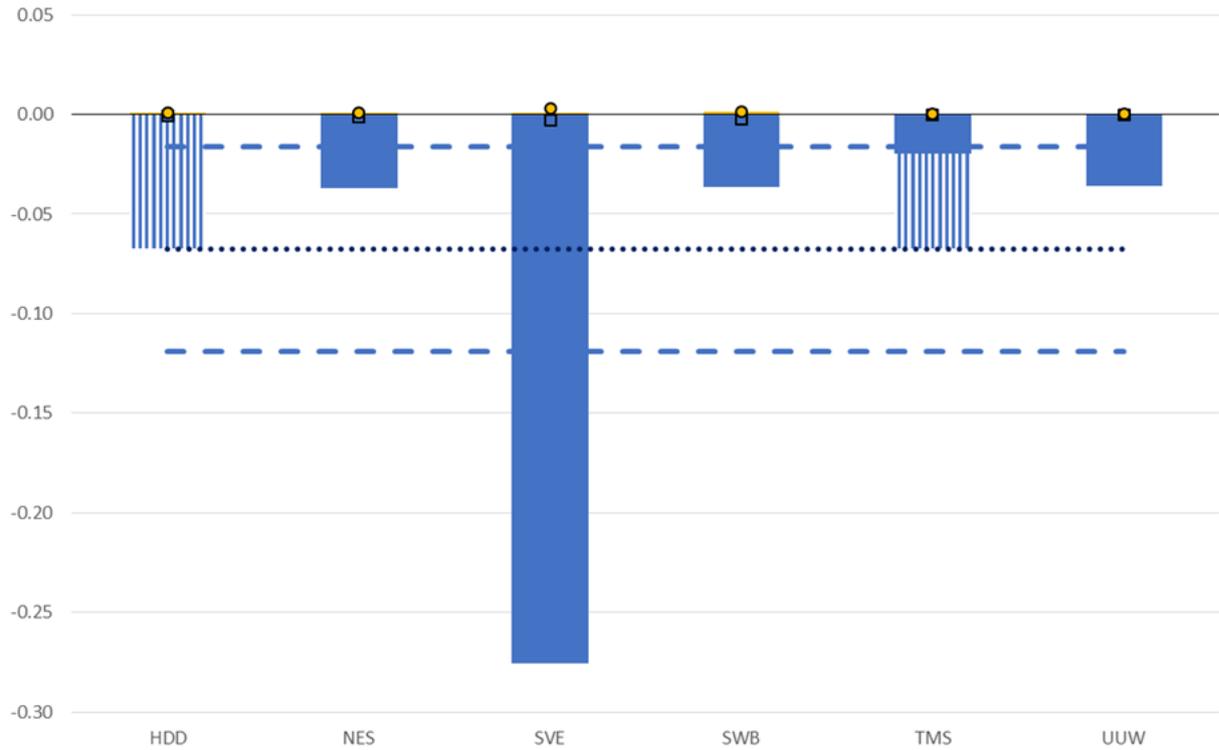


**Low pressure** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on April business plan data. All ODI rates are normalised.

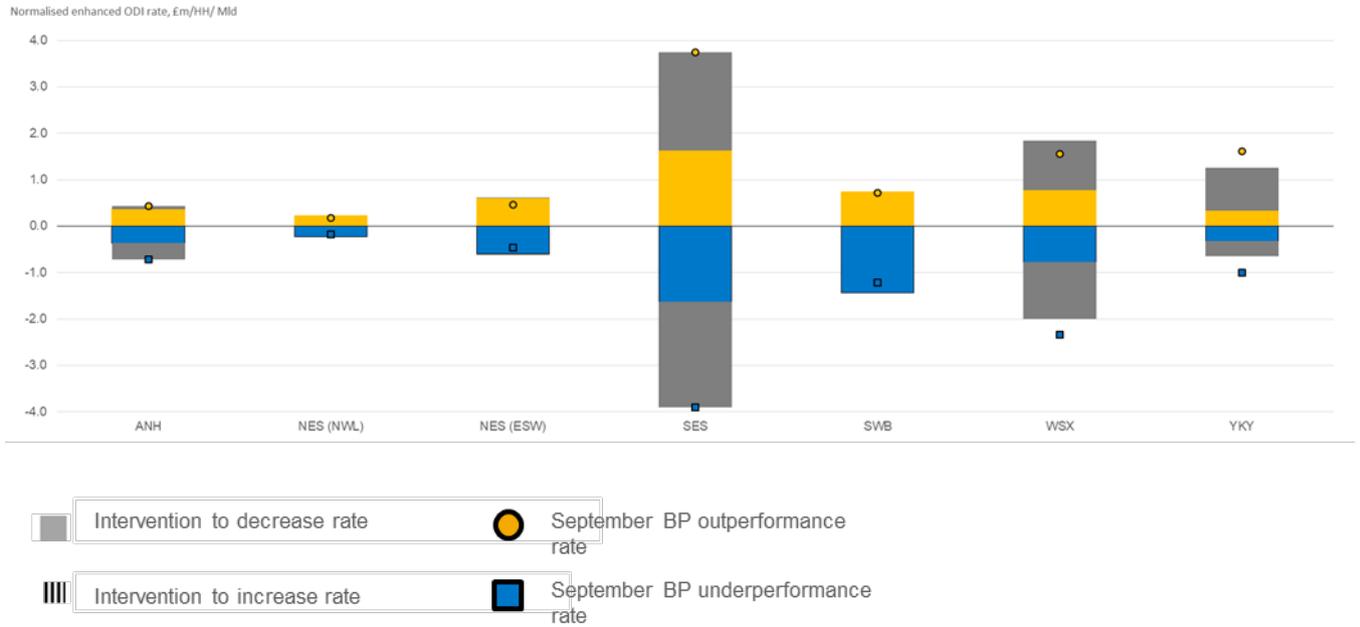


**Sewer blockages** - Our draft determination outperformance and underperformance rates are presented below, alongside our interventions and reasonable range based on April business plan data. All ODI rates are normalised.

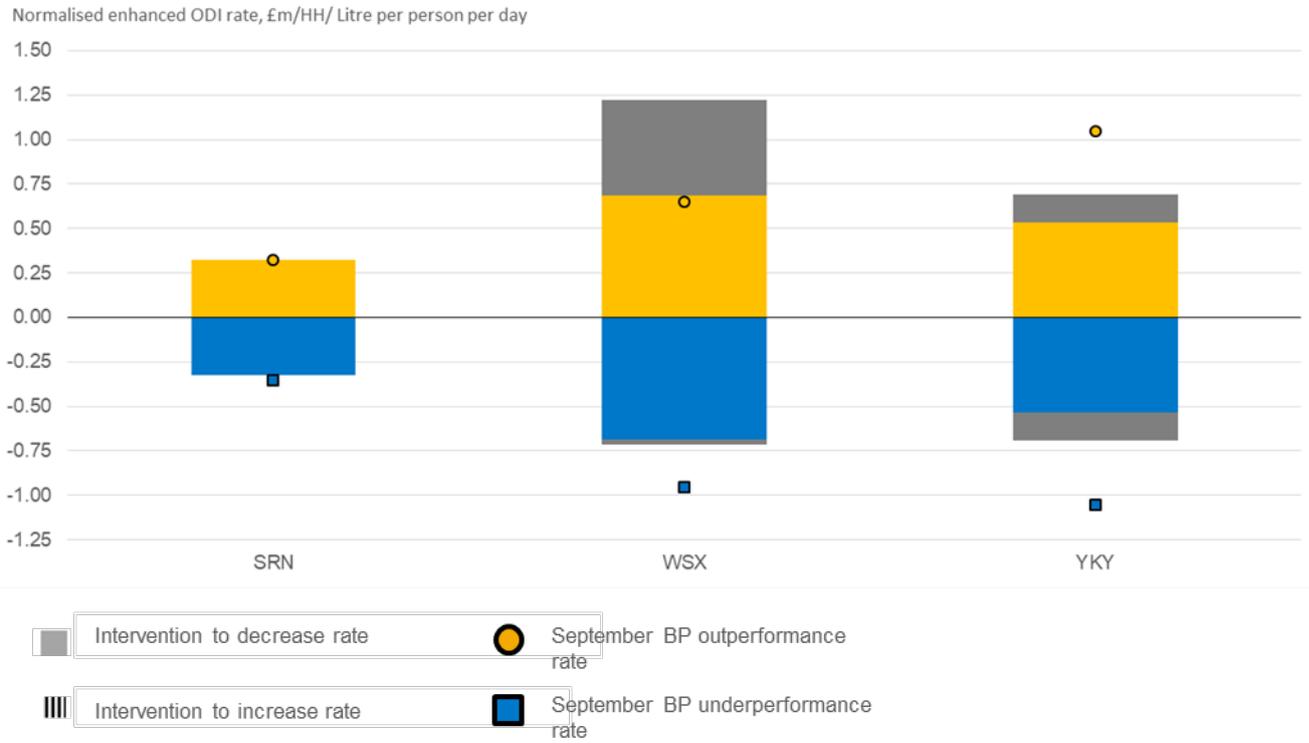
Normalised ODI rate, £/HH/1000km sewer



**Leakage** - Our draft determination enhanced outperformance and underperformance rates are presented below, alongside our interventions. All enhanced ODI rates are normalised by number of households.

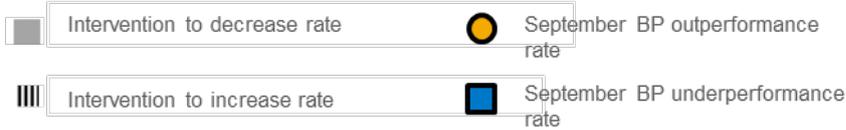
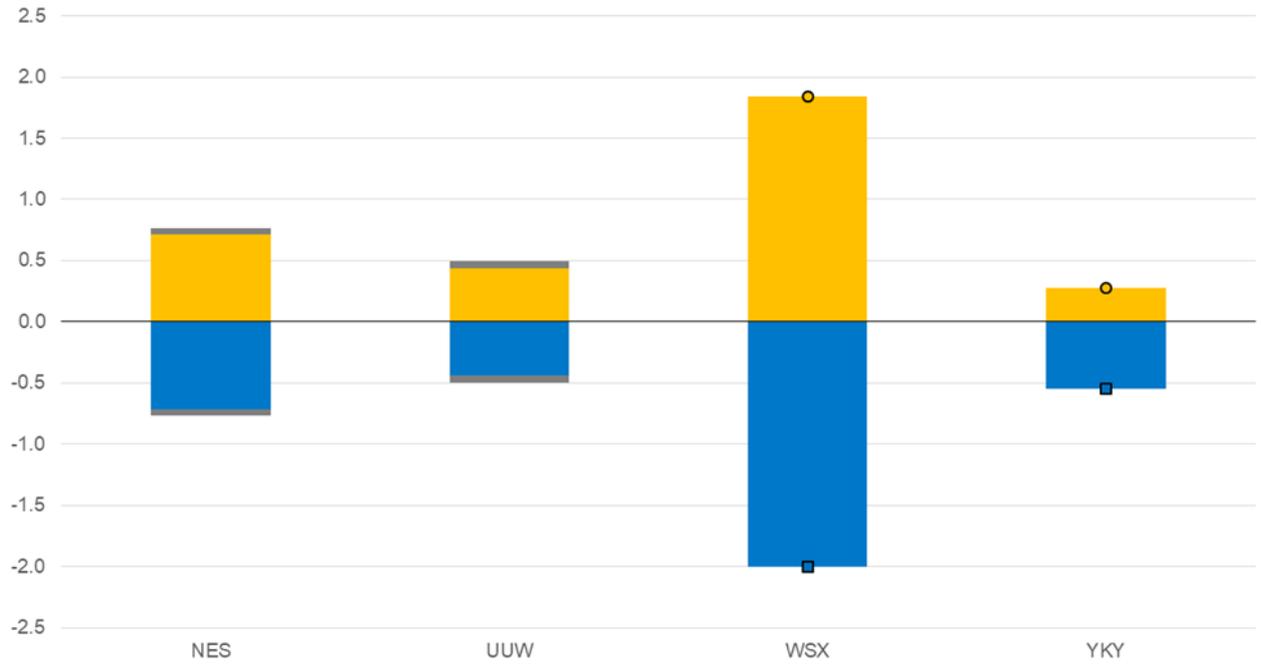


**Per capita consumption** - Our draft determination enhanced outperformance and underperformance rates are presented below, alongside our interventions. All enhanced ODI rates are normalised by number of households.



**Pollution incidents** - Our draft determination enhanced outperformance and underperformance rates are presented below, alongside our interventions. All enhanced ODI rates are normalised by number of households.

Normalised enhanced ODI rate, £m/HH/ Incidents per 10,000km of sewers



## Annex 3 – Longer-term performance detail

We analysed the companies' forecasts for a group of established performance commitments in order to establish their longer-term ambition. The performance commitments are:

1. Water supply interruptions;
2. Leakage;
3. Per capita consumption (PCC);
4. Mains repairs;
5. Internal sewer flooding;
6. Pollution incidents (categories 1, 2 and 3); and
7. Sewer collapses.

We summarise below the results of our analysis. Charts showing longer term projections are provided after this summary.

### Notes

- Base year is the 2020-21 reporting year (1 April 2020 – 31 March 2021)
- Averages are mean averages.

### Anglian Water

- The company proposes to reduce **leakage** by 35% by 2040 from the base year, which is in line with the sector average of 35%.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 10% by 2040, resulting in a level in-line with the sector average, however other companies are forecasting larger reductions.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is less stretching. It is forecasting a stable level of performance and no improvement up to 2040.
- The company's ambitions for its wastewater network assets (we have used **sewer collapses** as an indicator of this) are also very modest. It is forecasting a stable level of performance and minimal improvement up to 2040.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company's ambition is more mixed.

- For **supply interruptions**, the company has not accepted the upper quartile requirement for 2024-25. Instead, it proposes to achieve the 2024-25 upper quartile of three minutes by 2040.
- It forecasts sector upper quartile performance by 2040 for **internal sewer flooding**, a 65% improvement from base year levels.
- For **pollution incidents (category 1 to 3)** the company is proposing to reduce incidents by 52% from the base year – less than the sector average of 63% – and indicating that 2040 performance will be four times the upper quartile level for the sector.

## Dŵr Cymru

- The company proposes to reduce **leakage** by 42% by 2040 from the base year. This is better than the sector average of 35% and within sector upper quartile performance in 2040.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 19% by 2040, which is better than the sector average of 13% and in line with sector upper quartile performance in 2040.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is a 14% improvement by 2040, which is worse than the sector average of 16%.
- The company's ambitions for its wastewater network assets (we have used **sewer collapses** as an indicator of this) are very modest, it is forecasting a stable level of performance and no improvement up to 2040.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company's ambition is worse than the sector average for all three performance commitments.
  - For **supply interruptions**, the company has not accepted the upper quartile requirement for 2024-25 and has the worst base year forecast performance in the sector. It proposes to achieve the 2024-25 upper quartile of 3 minutes by 2040.
  - The company is proposing to reduce incidents of **internal sewer flooding** by 51% from the base year – worse than the sector average of 59% – and worse than the sector upper quartile performance in 2040.
  - For **pollution incidents (category 1 to 3)** the company is proposing to reduce incidents by 44% from the base year – less than the sector average of 63% – and indicating that 2040 performance will be more than four times the upper quartile level for the sector.

## Hafren Dyfrdwy

- The company proposes to reduce **leakage** by 44% by 2040 from the base year. This is one of the highest proposed reductions within the sector – better than the sector average of 35% – and within sector upper quartile performance in 2040.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 12% by 2040, which is below the sector average of 13%.
- The company’s ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is a 1.8% improvement by 2040, which is less than the sector average of 16%. The company is forecasting that all of the improvement will take place in the first five years (2020-25); it is not forecasting any further improvement in the following fifteen years (2025-40).
- The company’s ambitions for its wastewater network assets (we have used **sewer collapses** as an indicator of this) are very modest: it is forecasting a stable level of performance and no improvement up to 2040.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company’s ambition is below the sector average for all three performance commitments.
  - For **supply interruptions**, the company accepts the upper quartile requirement for 2024-25, but with a very significant deterioration in performance in 2025-26. It improves slowly from then to 2040, but remains well above its 2024-25 position throughout the period.
  - The company is proposing to reduce incidents of **internal sewer flooding** by 54% from the base year – worse than the sector average of 59% – and worse than sector upper quartile performance in 2040.
  - For **pollution incidents (category 1 to 3)** the company is proposing to reduce incidents by 49% from the base year, which is less than the sector average of 63%.

## Northumbrian Water

Note: for its mains repairs, sewer collapses, internal sewer flooding and pollution incidents performance commitments, Northumbrian Water has projected performance up to and including 2034-35 rather than 2039-40.

- In the Northumbrian Water area, the company proposes to reduce **leakage** by 36% by 2040 from the base year, which is in line with the sector average of 35%. In the Essex & Suffolk Water area, the company proposes to reduce **leakage** by 38% by 2040 from the base year, which is above the sector average.

- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 17% by 2040, which is better than the sector average of 13%.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is a 23% improvement by 2034-35, which is more than the sector average of 14% by 2034-35.
- The company's ambition for its wastewater network assets (we have used **sewer collapses** as an indicator of this) is a 75% improvement by 2034-35, which is more than the sector average of 22% by 2034-35.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company's ambition is better than average for supply interruptions and pollution, but less than average for internal sewer flooding.
  - For **supply interruptions**, the company forecasts upper quartile performance (approximately) in each year, with an overall improvement of 74% from the base year.
  - The company is proposing to reduce incidents of **internal sewer flooding** by 25% by 2034-35, which is worse than the sector average of 45%, and indicating worst performance in the sector in 2034-35.
  - For **pollution incidents (category 1 to 3)**, the company is proposing to reduce incidents by 73% by 2034-35, which is better than the sector average of 51% by 2034-35, and for its 2034-35 performance to be in the sector upper quartile for that year.

## Severn Trent

- The company proposes to reduce **leakage** by 43% by 2040 from the base year. This is one of the highest proposed reductions within the sector – better than the sector average of 35% – and within sector upper quartile performance in 2040.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 11% by 2040. This is worse than the sector average of 13% but within the sector upper quartile performance in 2040.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is very modest – a 1% improvement by 2040, compared with the sector average of 16%. This indicates a stable level of performance with minimal improvement up to 2040.
- The company's longer-term projections for **sewer collapses** indicate a step change deterioration in 2025-26 from the 2024-25 performance level and stable performance from 2025-26 up to 2040, with no improvement in these years.

- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company’s ambition is below the sector average for all three performance commitments.
  - For **supply interruptions**, the company accepts the upper quartile requirement for 2024-25, then proposes worse performance in 2025-26, with only a very minor improvement to 2040, but not to the upper quartile level of 2024-25.
  - The company is proposing to reduce incidents of **internal sewer flooding** by 33% from the base year – worse than the sector average of 59% – and indicating that 2040 rates of internal sewer flooding will be almost twice the upper quartile level for the sector.
  - For **pollution incidents (category 1 to 3)**, the company is proposing to reduce incidents by 34% from the base year – worse than the sector average of 63% – and forecasts that the 2040 pollution incident rate will be more than five times the upper quartile level for the sector.

## Southern Water

- The company proposes to reduce **leakage** by 38% by 2040 from the base year, which is better than the sector average of 35%.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 24% by 2040, which is the largest reduction across the sector and better than the sector upper quartile performance in 2040. The sector average reduction is 13%.
- The company’s ambitions for its water mains assets (we have used **mains repairs** as an indicator of this) are stretching: it is forecasting sector upper quartile performance by 2040, a 48% improvement from base year levels.
- The company’s ambitions for its wastewater network assets (we have used **sewer collapses** as an indicator of this) are modest: it is forecasting a stable level of performance and a 7% improvement up to 2040.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company’s ambitions are very stretching, better than average for all three performance commitments.
  - For **supply interruptions**, the company has forecast performance that is in line with sector upper quartile by the end of each five-year period, but with a step change profile. This represents an 84% improvement by 2040.

- The company is proposing to reduce incidents of **internal sewer flooding** by 96% from the base year – better than the sector average of 59% – and indicating upper quartile, sector-leading performance in 2040.
- For **pollution incidents (category 1 to 3)**, the company is proposing to reduce incidents by 90% from the base year – better than the sector average of 63% – and for its 2040 performance to be in the sector upper quartile.

## South West Water

- The company proposes to reduce **leakage** by 20% by 2040 from the base year, which is less than the sector average of 35% and the second lowest percentage reduction across the sector.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 10% by 2040, which is below the sector average of 13%.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is a 12% improvement by 2040, which is worse than the sector average of 16%.
- The company's ambition for its wastewater network assets (we have used **sewer collapses** as an indicator of this) is a 33% improvement by 2040, which is more than the sector average of 24%.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company's ambition is better than the sector average for supply interruptions and internal sewer flooding, but worse than the sector average for environmental pollution.
  - For **supply interruptions**, the company is forecasting a 78% reduction by 2040, which is better than the sector average of 54% and aligned to the sector upper quartile performance in 2040.
  - For **internal sewer flooding**, the company's forecasts are aligned to sector upper quartile performance by 2040, a 65% improvement from base year levels.
  - For **pollution incidents (category 1 to 3)**, the company is proposing to reduce incidents by 59% from the base year – below the sector average of 63% – and forecasts that the 2040 pollution incident rate will be more than three times the upper quartile level for the sector.

## Thames Water

- The company proposes to reduce **leakage** by 39% by 2040 from the base year, which is above the sector average of 35%.

- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 13% by 2040, which is in line with the sector average of 13%.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is a 20% improvement from base year levels, better than the sector average improvement of 16%. However, base year performance is the worst in the sector and a 20% improvement indicates that the company remains worst in the sector in each year to 2040.
- The company's ambition for its wastewater network assets (we have used **sewer collapses** as an indicator of this) is a 42% improvement by 2040, which is more than the sector average of 24% and better than the sector upper quartile performance in 2040.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company's ambition is worse than the average for supply interruptions and internal sewer flooding, but better than average for pollution incidents.
  - For **supply interruptions**, the company has not accepted the upper quartile values for 2024-25 and proposes to provide its customers with the worst performance in the sector for this performance commitment in each year from 2024-25 onwards without any improvement.
  - The company is proposing to reduce incidents of **internal sewer flooding** by 50% from the base year – worse than the sector average of 59% – and resulting in worse than the sector upper quartile performance in 2040.
  - For **pollution incidents (category 1 to 3)**, the company is proposing to reduce incidents by 67% from the base year – in line with the sector average of 63% – but indicating that 2040 performance will be more than twice the upper quartile level for the sector.

## United Utilities

- The company proposes to reduce **leakage** by 34% by 2040 from the base year, which is in line with the sector average of 35%.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 10% by 2040, which is below the sector average of 13%.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is a 15% improvement by 2040, which is slightly below the sector average of 16%.

- The company's ambition for its wastewater network assets (we have used **sewer collapses** as an indicator of this) is a 10% improvement by 2040 – less than the sector average of 24%, but resulting in better than the sector upper quartile performance in 2040.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company's ambition is below the sector average for all three performance commitments.
  - For **supply interruptions**, the company is forecasting a 30% reduction by 2040, which is worse than the sector average reduction of 54%. The company is forecasting that all of the reduction will take place in the first five years (2020-25); it is not forecasting any further reduction in the following fifteen years (2025-40).
  - The company is proposing to reduce incidents of **internal sewer flooding** by 29% from the base year – worse than the sector average of 59% – and forecasting that 2040 rates of internal sewer flooding will be more than twice the upper quartile level for the sector.
  - For **pollution incidents (category 1 to 3)**, the company is proposing to reduce incidents by 34% from the base year – worse than the sector average of 63% – and forecasting that 2040 rates of pollution incidents will be more than five times the upper quartile level for the sector.

## Wessex Water

- The company proposes to reduce **leakage** by 23% by 2040 from the base year, which is less than the sector average of 35%.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 4.4% by 2040, which is worse than the sector average of 13% and the lowest percentage reduction across the sector.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is a 1.2% improvement by 2040, which is less than the sector average of 16%. The company is forecasting that all of the improvement will take place in the first five years (2020-25); it is not forecasting any further improvement in the following fifteen years (2025-40).
- The company's ambitions for its wastewater network assets (we have used **sewer collapses** as an indicator of this) are very modest: it is forecasting a stable level of performance and no improvement up to 2040. Base year performance is the second worst in the sector and no improvement up to 2040 indicates that the company will be worst in the sector for most of the years to 2040.

- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company’s ambition is better than the sector average for all three performance commitments.
  - For **supply interruptions**, the company has the most ambitious targets of all: it is proposing to completely eliminate interruption events by 2034-35.
  - The company is proposing to reduce incidents of **internal sewer flooding** by 61% from the base year – better than the sector average of 59% – but for its 2040 performance to be slightly worse than the sector upper quartile.
  - For **pollution incidents (category 1 to 3)** the company is proposing to reduce incidents by 88% from the base year – better than the sector average of 63% – and for its 2040 performance to be in the sector upper quartile.

## Yorkshire Water

- The company proposes to reduce **leakage** by 43% by 2040 from the base year. This is one of the highest proposed reductions within the sector – better than the sector average of 35% – and better than the sector upper quartile performance in 2040.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 12% by 2040. This is worse than the sector average of 13% but better than the sector upper quartile performance in 2040.
- The company’s ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is a 62% improvement from base year levels by 2040, better than the sector average improvement of 16%. Base year performance is the second worst in the sector and the 62% improvement indicates that the company would be approaching sector upper quartile performance in 2040.
- The company’s ambition for its wastewater network assets (we have used **sewer collapses** as an indicator of this) is a 94% improvement by 2040, which is more than the sector average of 24% and better than the sector upper quartile performance in 2040. The company’s proposed performance commitment levels and longer-term projections indicate that it will be worst in the sector in the base year, but sector-leading by 2040.
- For the elements of service that directly impact customers and the environment the most – supply interruptions, flooding of sewers in the home and environmental pollution, the company’s ambition is very stretching, with better than average improvements forecast for all three performance commitments.
  - For **supply interruptions**, the company proposes a better than upper quartile performance in 2024-25, then stepped improvements every five years to

2040. Performance is forecast to be in line with sector upper quartile in each year through to 2040.

- The company is proposing to reduce incidents of **internal sewer flooding** by 93% from the base year – better than the sector average of 59% – and for its 2040 performance to be in the sector upper quartile.
- For **pollution incidents (category 1 to 3)** the company is forecasting continuing improvement in all years, leading to no incidents by 2040. This indicates upper quartile, sector-leading performance in 2040.

### Affinity Water

- The company proposes to reduce **leakage** by 34% by 2040 from the base year, which is in line with the sector average of 35%.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 20% by 2040, which is better than most other companies, but only because the company's base year water consumption per customer is one of the highest in the sector. The majority of the improvement is expected in the next 10 years.
- The company's ambitions for its water mains assets (we have used **mains repairs** as an indicator of this) is less stretching: it is forecasting a stable level of performance and no improvement up to 2040.
- For the element of service that directly impacts customers the most – **supply interruptions** – the company is forecasting a 53% reduction by 2040, which is in line with the sector average of 54%.

### Bristol Water

- The company proposes to reduce **leakage** by 17% by 2040 from the base year, which is less than the sector average of 35% and the lowest percentage reduction across the sector.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 17% by 2040, which is better than the sector average of 13% and better than the sector upper quartile performance in 2040.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is less stretching: it is forecasting a stable level of performance with a minimal improvement of 2.3% up to 2040.
- For the element of service that directly impacts customers the most – **supply interruptions** – the company is forecasting a 72% reduction by 2040, which is better than the sector average of 54%, but marginally worse than the sector upper quartile performance in 2040.

## Portsmouth Water

- The company proposes to reduce **leakage** by 28% by 2040 from the base year, which is less than the sector average of 35%. The majority of this improvement is expected in the first five years (2020-25).
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 9% by 2040, which is less than the sector average of 13%.
- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is an 8% improvement by 2040, which is worse than the sector average of 16%, but indicating better than sector upper quartile performance in 2040. This is due to its current performance being almost sector-leading.
- For the element of service that directly impacts customers the most – **supply interruptions** – the company is forecasting a 53% reduction by 2040, which is in line with the sector average of 54%. The majority of the improvement is expected in the first five years (2020-25).

## SES Water

- The company proposes to reduce **leakage** by 45% by 2040 from the base year. This is the highest reduction within the sector – better than the sector average of 35% – and within sector upper quartile performance in 2040.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 13% by 2040, which is in line with the sector average of 13%.
- The company's ambitions for its water mains assets (we have used **mains repairs** as an indicator of this) are stretching: it is forecasting sector upper quartile performance by 2040, a 33% improvement from base year levels.
- For the element of service that directly impacts customers the most – **supply interruptions** – the company has the most ambitious targets of all: it is proposing to completely eliminate interruption events by 2034-35.

## South East Water

- The company proposes to reduce **leakage** by 34% by 2040 from the base year, which is in line with the sector average of 35%.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 17% by 2040, better than the sector average reduction of 13%.

- The company's ambition for its water mains assets (we have used **mains repairs** as an indicator of this) is less stretching: it is forecasting a stable level of performance and no improvement up to 2040.
- For the element of service that directly impacts customers the most – **supply interruptions** – the company is forecasting a 30% reduction by 2040, which is worse than the sector average reduction of 54%. The company is forecasting that all of the reduction will take place in the first five years (2020-25); it is not forecasting any further reduction in the following fifteen years (2025-40).

### South Staffs Water

- In the South Staffs area, the company proposes to reduce **leakage** by 37% by 2040 from the base year, which is in line with the sector average of 35%. In the Cambridge Water area, the company proposes to reduce **leakage** by 32% by 2040 from the base year, which is below the sector average.
- The company proposes to reduce the average amount of water its customers use (**per capita consumption**) by 7% by 2040 in the South Staffs area and 10% by 2040 in the Cambridge area, both less than the sector average reduction of 13%.
- The company's ambitions for its water mains assets (we have used **mains repairs** as an indicator of this) are stretching: it is forecasting sector upper quartile performance by 2040, a 25% improvement from base year levels.
- For the element of service that directly impacts customers the most – **supply interruptions** – the company is forecasting a 77% reduction by 2040, which is better than the sector average of 54% and aligned to the sector upper quartile performance in 2040.

The charts on the following pages summarise 2020-25 performance commitment levels (PCLs) and either 2025-35 (10 year) or 2025-40 (15 year) projections, as proposed by the companies in their PR19 business plans, before draft determination interventions.

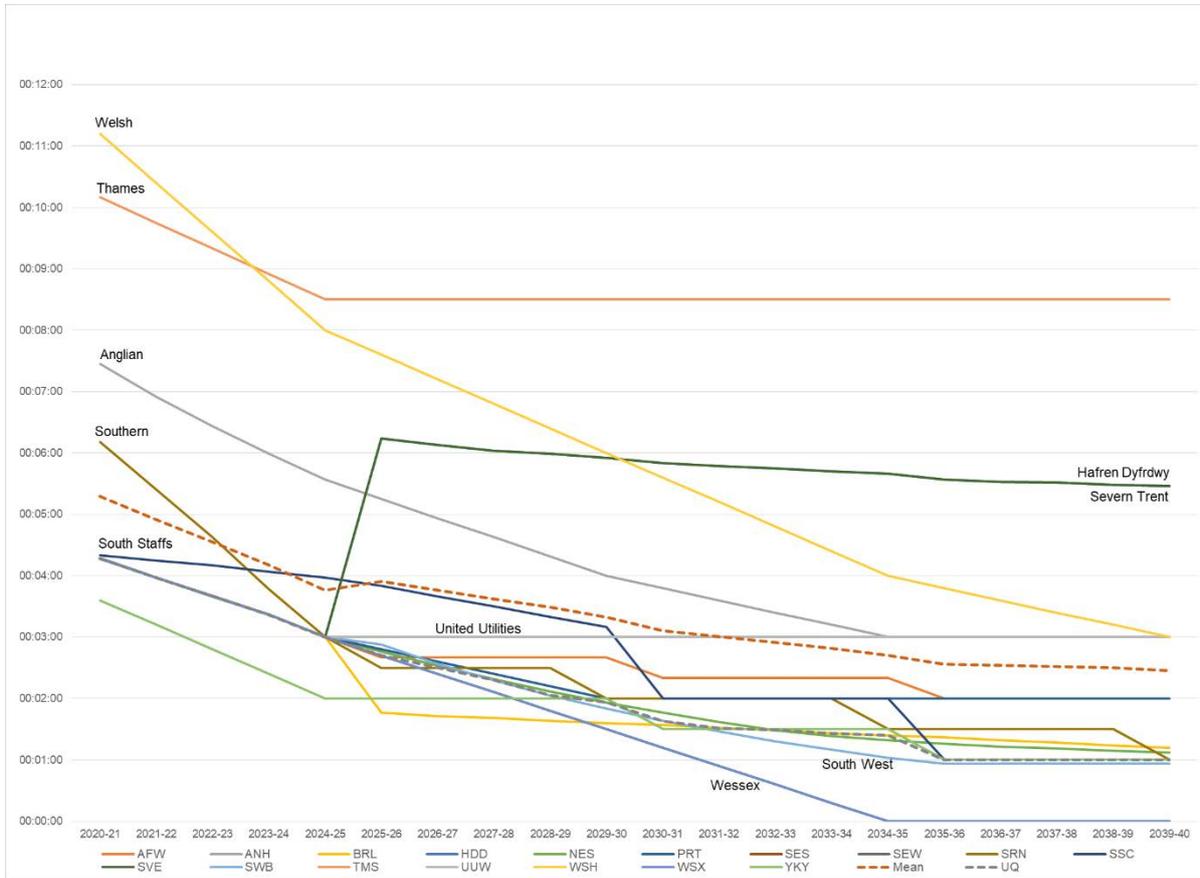
In the [PR19 methodology](#) (Appendix 2: delivering outcomes for customers) we said that we expect companies to set performance commitment levels for all performance commitments for five years (2020-25), and projections for at least a further ten years (2025-35). For some of their performance commitments, companies have projected their performance commitments more than ten years beyond the price review period. As a result, some of the projections in the following charts go up to the 2034-35 reporting year, while others extend to the 2039-40 reporting year.

Unless otherwise stated, the charts include all the relevant companies, and show mean and upper quartile (UQ) performance. Labels have been added, where possible, to identify individual companies. Where there is no label for a company, it is because its projected longer-term performance line overlaps with the lines of one or more other companies.

For all these performance commitments, common definitions are used by companies and hence we are able to do comparative analysis as part of our assessment of proposed levels. Links to the latest definitions can be found here: <https://www.ofwat.gov.uk/outcomes-definitions-pr19/>

## Water supply interruptions

Average supply interruption greater than three hours per property per year.

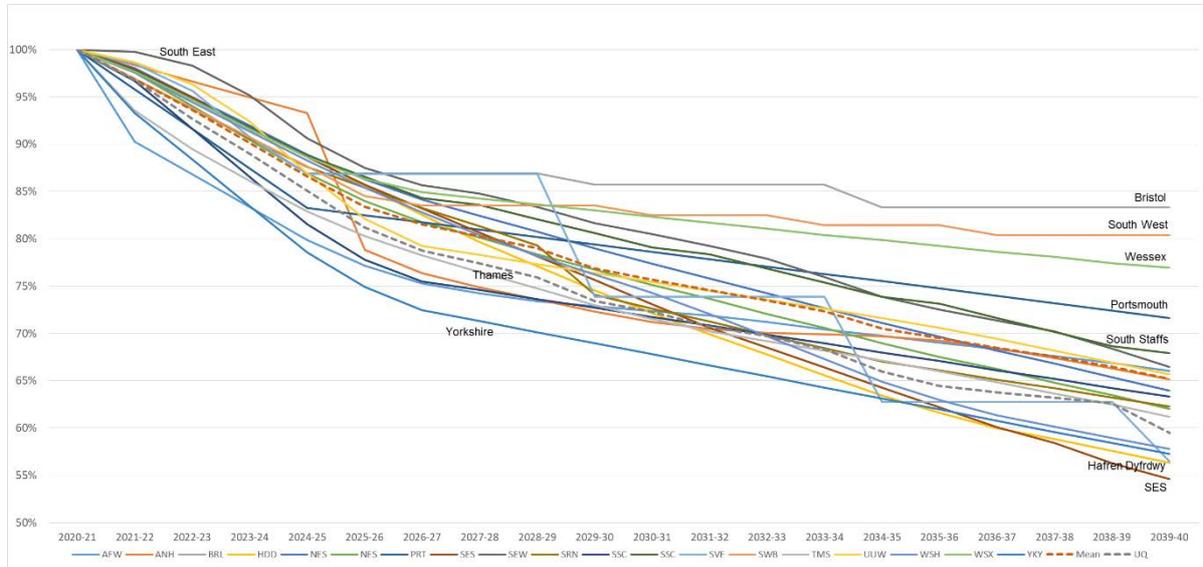


The y-axis unit is hours:minutes:seconds.

The performance commitment is reported as the average number of minutes lost per customer for the whole customer base for interruptions that lasted three hours or more.

## Leakage

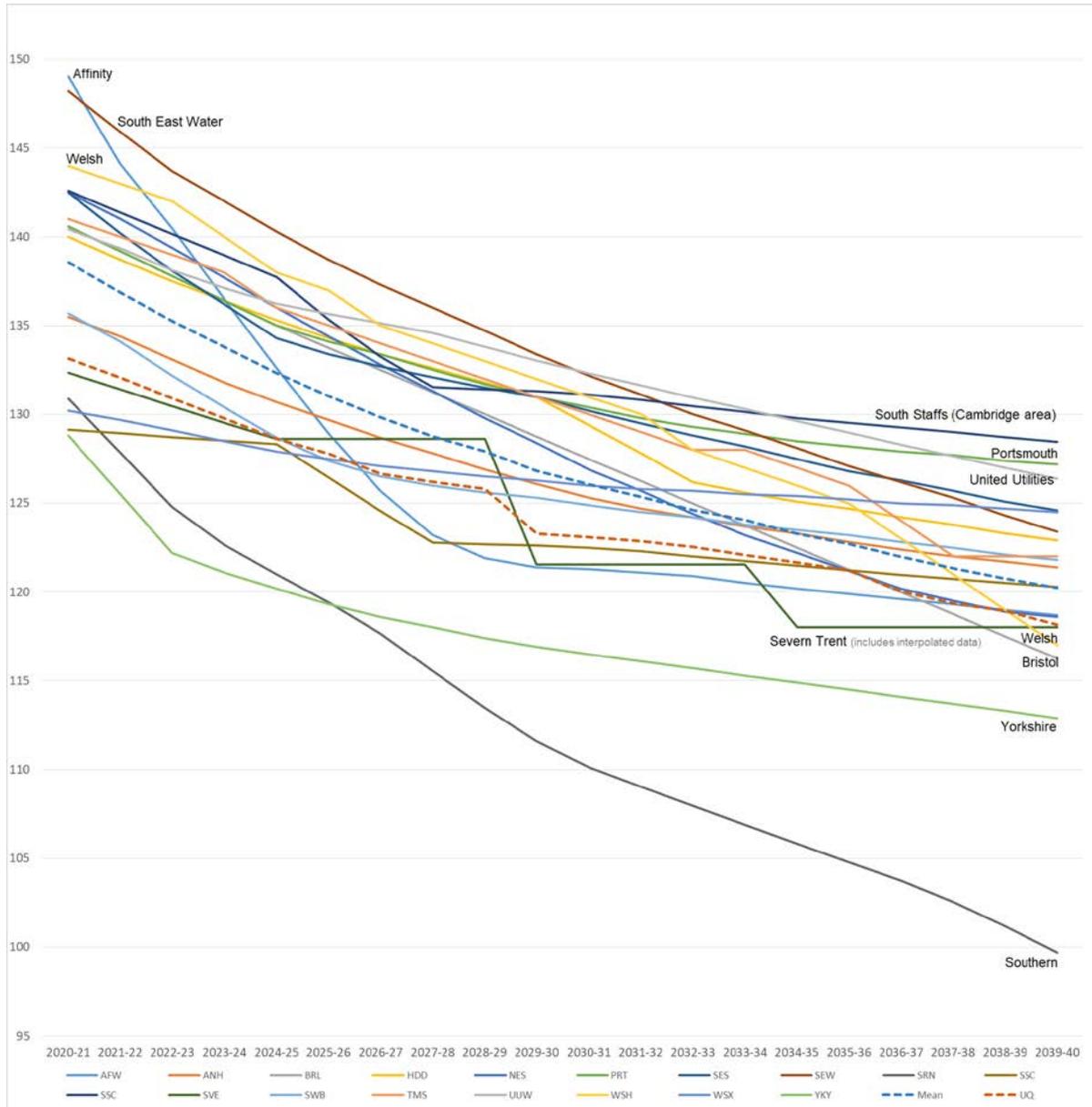
Leakage levels as a percentage of base year (2020-21)



This chart shows the companies proposed leakage reductions as a percentage from the 2020-21 reporting year.

## Per capita consumption (PCC)

Litres per head per day.

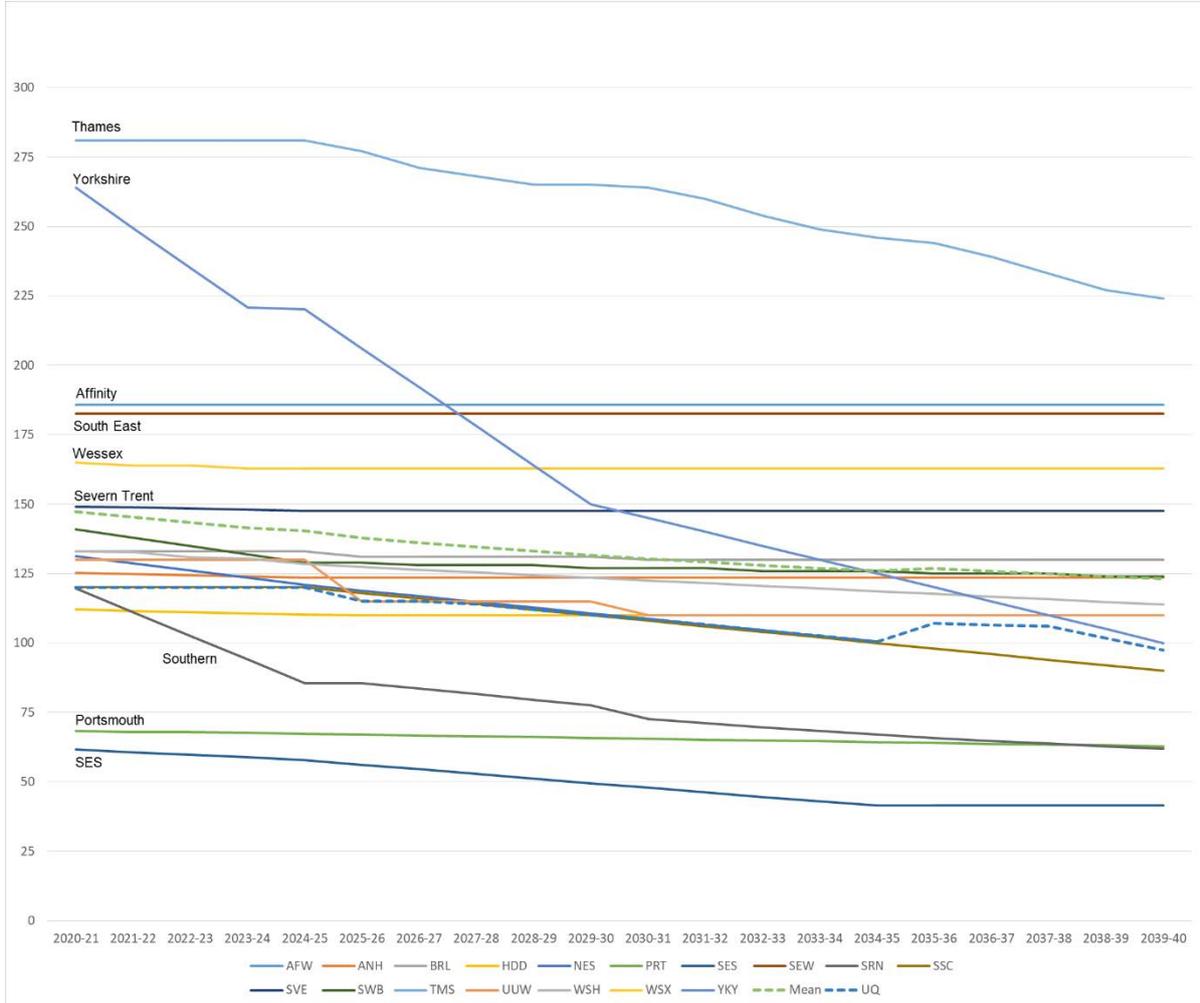


The y-axis unit is litres per person per day (l/p/d).

Per capita consumption is defined as the sum of measured household consumption and unmeasured household consumption divided by the total household population. It is the average amount of water used by each person that lives in a household property, measured in litres per head per day.

## Mains repairs

The number of mains repairs per 1,000 kilometres of water mains.

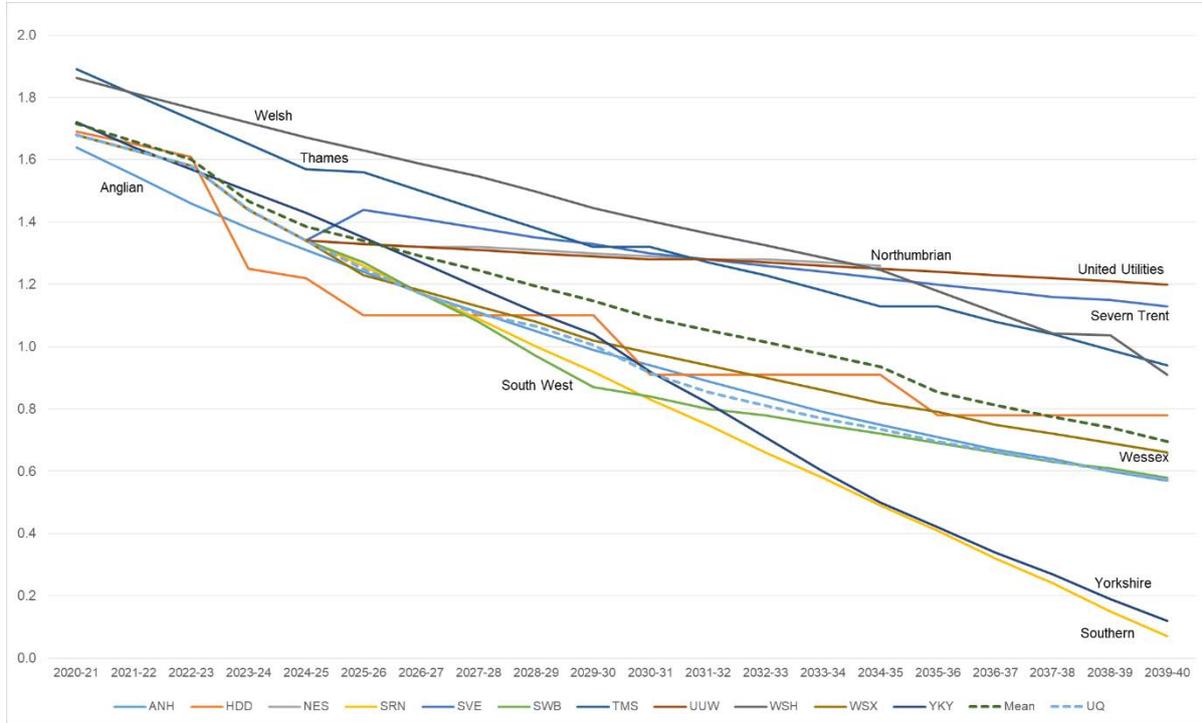


The y-axis unit is number of mains repairs per 1,000 kilometres of mains.

The performance commitment is reported as the number of mains repairs per thousand kilometres of the entire water main network (excluding communication and supply pipes). Mains repairs include all physical repair work to mains from which water is lost.

## Internal sewer flooding

The number of incidents per 10,000 sewer connections.

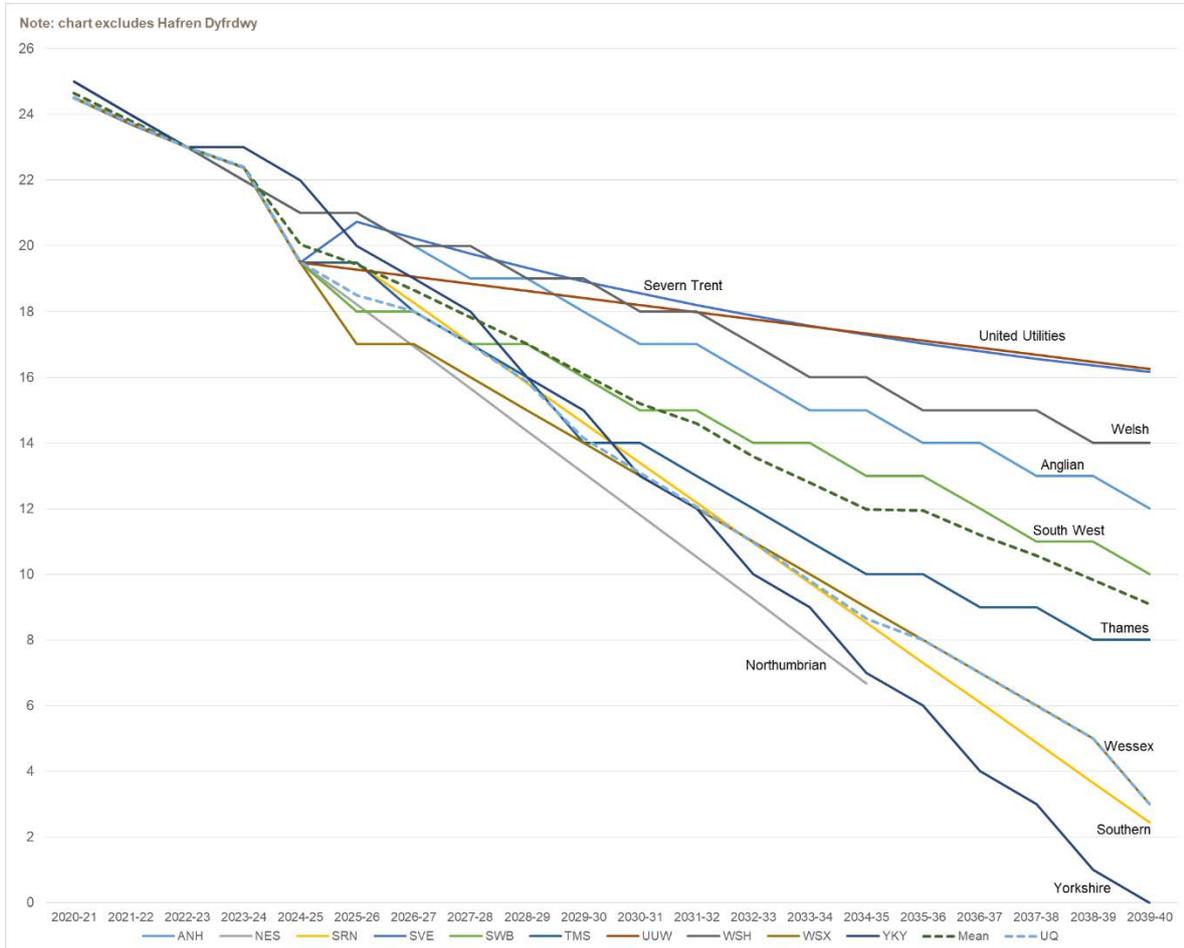


The y-axis unit is the number of internal sewer flooding incidents per 10,000 sewer connections.

The performance commitment is reported as the number of internal sewer flooding incidents normalised per 10,000 sewer connections, including sewer flooding due to severe weather events.

## Pollution incidents

The number of pollution incidents (categories 1 to 3) per 10,000km of sewer length.



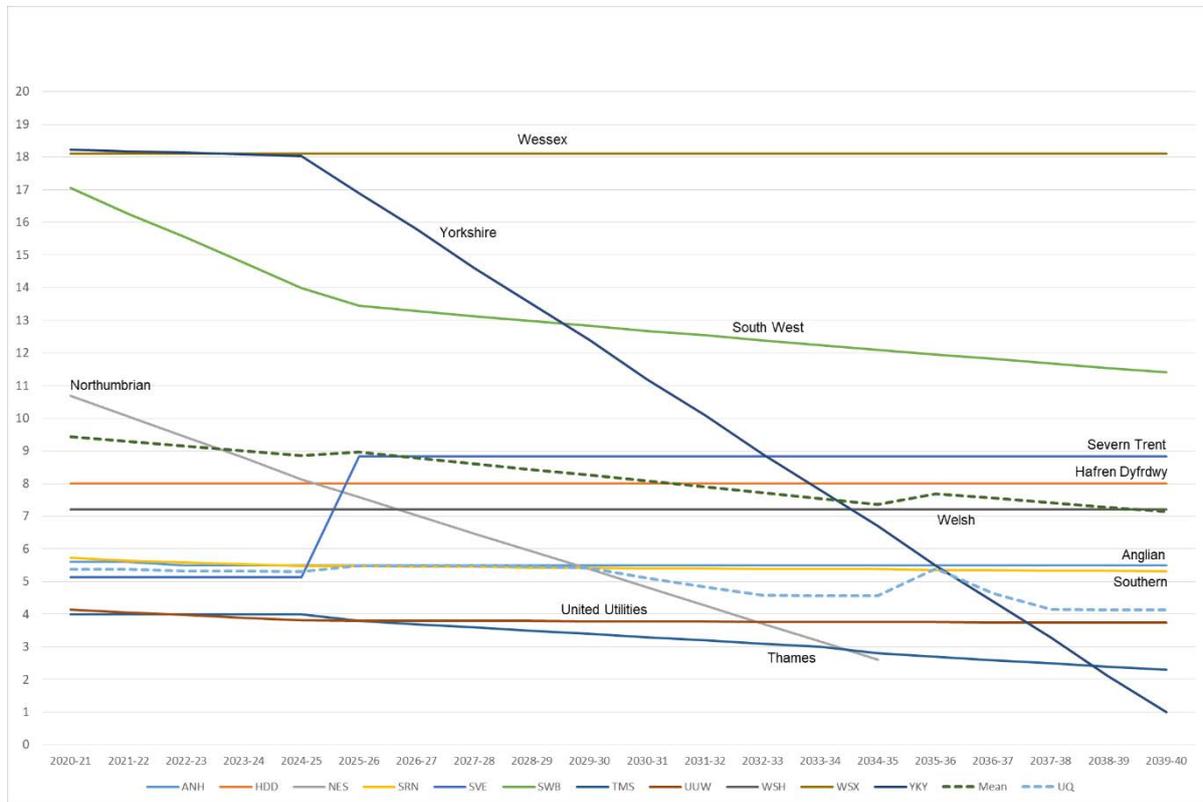
The performance commitment is reported as the total number of pollution incidents (categories 1 to 3) per 10,000km of sewer length for which the company is responsible in a calendar year.

Pollutions incidents are categorised by the Environment Agency and Natural Resources Wales based on their impact. A category 1 incident has a serious, extensive or persistent impact on the environment, people or property and may, for example, result in a large number of fish deaths. Category 2 incidents have a lesser, yet significant impact. Category 3 incidents have a minor or minimal impact on the environment, people or property with only a limited or localised effect on water quality.

Hafren Dyfrdwy has not been included in the graph above, or the mean and upper quartile (UQ) calculations, because on a normalised basis the company is an outlier.

## Sewer collapses

The number of collapses per 1,000 kilometres of the sewer network.



The y-axis unit is the number of sewer collapses per 1,000 kilometres of the entire sewer network.

The performance commitment is reported as the number of sewer collapses per 1,000 kilometres of all sewers causing an impact on service to customers or the environment. The measure includes the length of the entire network, including sewers that transferred to water company responsibility under the Transfer of Public Sewers Regulations 2011.

A sewer collapse is considered to be where a structural failure has occurred to the pipe that results in a service impact to a customer or the environment and where action is taken to replace or repair the pipe to reinstate normal service. The measure intentionally does not refer to the magnitude of the collapse. The measure includes rising mains.

## **Annex 4 – Approach to quantifying the benchmarking externality for assessment of enhanced ODI rates**

This annex outlines the approach we use to quantify the benefit to all customers when a company delivers excellent performance that will improve sector benchmarks and hence push the sector forward in the next price control period. We refer to this as “benchmarking externality” and have applied the same approach consistently across the different performance commitments that have enhanced ODIs.

We follow a seven step approach –

**Step 1:** Assessing the impact of enhanced outperformance in 2020-25 on performance level benchmarks in 2025-30.

We want to estimate how likely it is that a company that delivers enhanced outperformance in 2020-25 will influence the upper quartile levels in the next price control period. Only the companies directly above and below the upper quartile can impact the level (i.e. two companies). We assume that only a company that performs above the median performance in 2020-25 is likely to be one of the two companies that can influence the upper quartile in 2025-30. We assume that we will assess the level of stretch in performance commitments for PR24 by using upper quartile levels as stretching benchmarks.

For water, the median company is the eighth company and, for wastewater, the median company is the fifth company. Only the companies directly above and below the upper quartile can impact the level (i.e. two companies). Therefore we have estimated that the following factors should be applied to the value to customers of improving sector benchmarks to incorporate the likelihood of an increment in performance commitment levels in 2025-30 period arising from a company delivering a unit of enhanced outperformance in 2020-25.

**For water performance commitments, we have applied a factor of 2/8. Whereas for wastewater performance commitments, we have applied a factor of 2/5. This will vary depending on whether the performance commitment is water or wastewater.**

**Step 2:** Calculating the value to customers of the increased stretch in performance level in 2025-30.

We assume that standard ODI rates, from our draft determinations, reflect the value to customers' of outperformance. Therefore we use the average of standard ODI

rates to calculate the value to customers of the increased stretch in performance. As part of this calculation, we take into account that ODI rates are adjusted for cost sharing factors and remove this adjustment here to produce the value to customers of outperformance, the average household valuation.

**For this we have used 2 x industry average of the post intervention normalised ODI rate. This will vary across performance commitments.**

<b>Performance commitment</b>	<b>Average outperformance rate (draft determination)</b>	<b>Average household valuation (average outperformance rate x 2)</b>
Leakage	• £0.159 / Mld	• £0.319 / Mld
PCC	• £0.161 / litres per person per day	• £0.323 / litres per person per day
Water supply interruptions	• £0.391 / minutes per property	• £0.782 / minutes per property
Pollution Incidents	• £0.178 / Incidents per 10,000 km of sewer	• £0.357 / Incidents per 10,000 km of sewer
Internal sewer flooding	• £3.404 / Incidents per 10,000 connections	• £6.807 / Incidents per 10,000 connections

**Step 3:** Adjusting valuation to account for diminishing returns to outperformance

To capture the likely diminishing returns of increased service, we apply an adjustment factor. This is based on the difference between the unit willingness to pay research derived by companies when they tested one and two performance increases with customers.

**Adjustment factor calculated as average ratio of unit willingness to pay derived from +1 vs. +2 performance increments from companies' willingness to pay research. This will vary across performance commitments.**

**Step 4:** Discounting valuation to recognise the delay in benefits being accrued

This accounts for the benchmarking externality not being realised until 2025-30.

**We have used the social time preference rate (STPR) of 3.5%. This will not vary across performance commitments.**

**Step 5:** Adjusting for the total number of households to which benchmarking externality accrues

This component scales up the household value of benchmarking externality to all customers in industry.

**We have used the total 2024-25 number of households served in the industry, water = 25,152,007 and wastewater = 24,291,249.**

**Step 6:** Calibrating for totex sharing incentives

We assume that a company will incur cost above its base allowance to deliver enhanced outperformance and that we should account for customers' share of cost overruns (relative to baseline) from companies' delivering enhanced outperformance.

**We have used 50% which is the factor for standard ODIs. This will not vary across performance commitments.**

**Step 7:** Adjusting for distributional concerns

We make an adjustment to account for the relative number of households for each company compared to the industry average. This means that the enhanced ODI payments per HH for the specific company's customers is no greater than that experienced by a customer of notional industry average-sized company

**We have used the following formula**  $\frac{\text{benchmarking externality}}{\text{industry average HHS served}} * \text{HHS served by company}$

**This will vary across companies and performance commitments.**

A worked example is provided below:

	Component	ANH	NES (NWL)	NES (ESW)	SES	WSX	YKY
A	Impact of 1 unit of enhanced outperformance in AMP7 on PC stretch benchmarks in AMP8	0.25	0.25	0.25	0.25	0.25	0.25
B	Average HH valuation for outperformance (£/HH/Mld)	0.319	0.319	0.319	0.319	0.319	0.319
C	Adjustment to valuation to account for diminishing returns to large increments of performance	0.68	0.68	0.68	0.68	0.68	0.68
D	Discount factor for delay in benefits being accrued	0.84	0.84	0.84	0.84	0.84	0.84
E	Number of households to which AMP8 benchmarking externality accrues (i.e. industry total)	25,152,007	25,152,007	25,152,007	25,152,007	25,152,007	25,152,007
F	Calibration for totex sharing incentives	0.5	0.5	0.5	0.5	0.5	0.5
G	Estimated value of benchmarking externality (£m/Mld) = (A x B x C x D x E x F) / 10 <sup>6</sup>	0.574	0.574	0.574	0.574	0.574	0.574
H	Distributional adjustment factor = min (company HHs / industry average HHs, 1)	1.00	0.81	0.56	0.20	0.42	1.00
I	Enhanced component of enhanced ODI rate (£/Mld) = G x H	0.574	0.462	0.322	0.115	0.241	0.574
J	Standard ODI outperformance rate (£m/Mld)	0.227	0.151	0.157	0.352	0.224	0.142
K	Enhanced ODI rate (£m/Mld) = I + J	0.800	0.614	0.479	0.467	0.465	0.715
L	Enhanced ODI rate (£/HH/Mld) i.e. incidence per HH of enhanced ODIs	0.37	0.53	0.60	1.63	0.78	0.33
M	Company's proposed enhanced ODI rate (£m/Mld)	0.941	0.266	0.488	1.076	1.100	2.740

## **Annex 5 – Customer and developer services measures of experience: C-MeX and D-MeX**

Customer service is one of the four key themes of our [2019 price review \(PR19\)](#). Providing a truly excellent experience for customers is fundamental for maintaining trust and confidence in the water sector.

As part of PR19, we are introducing the customer measure of experience (C-MeX) and developer services measure of experience (D-MeX). C-MeX and D-MeX are both financial and reputational incentive mechanisms designed to provide customers in the water sector with excellent levels of service. They will be effective from 1 April 2020, when they will replace the service incentive mechanism (SIM), which has been in place since 2010. During 2019-20, C-MeX and D-MeX are being run in shadow form (the “shadow year”).

The final design for both C-MeX and D-MeX should:

- encourage companies to improve customer experiences and innovate;
- be simple and meaningful for companies and customers;
- be proportionate;
- be practical to implement;
- measure performance across companies consistently, reliably and fairly; and
- reflect customer behaviour changes and market changes.

### **Customer measure of experience**

#### **Overview of C-MeX**

The customer measure of experience is a mechanism to incentivise water companies to provide an excellent customer experience for their residential customers.

During 2017, we consulted on the design of C-MeX and made decisions on the high level features of C-MeX that were set out in our PR19 methodology. During 2018-19, we piloted C-MeX, working with stakeholders to develop the mechanism and further inform the design decisions.

On 8 March 2019, we published our decisions and guidance (referred to as “March decisions”; “March guidance”; or “March documents”) for running the incentive

mechanism in shadow form during 2019-20 (from 1 May 2019 to 31 March 2020).<sup>35</sup> We also set out some decisions that would apply to C-MeX when it is operational and identified what issues were subject to further testing in the shadow year. The shadow year provides an opportunity to test C-MeX ahead of the 2020-25 period and to inform the remaining design decisions.

C-MeX will be a single score for each company calculated from responses to two surveys:<sup>36</sup>

- a **customer service survey** – which is a survey of residential customers who have contacted their water company; and
- a **customer experience survey** – which is a survey of randomly selected residential customers, i.e. not just those who contacted their company.

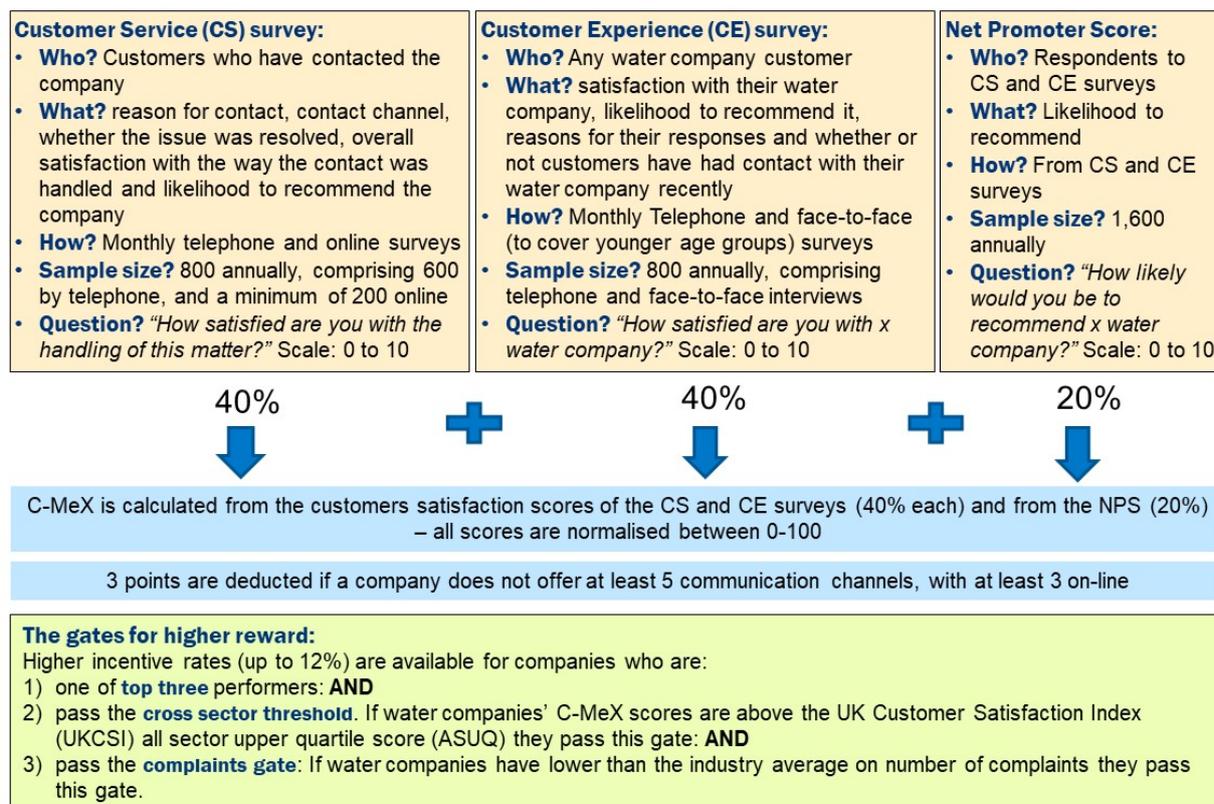
Each of these surveys will yield a customer satisfaction score and a Net Promoter Score (NPS). As shown in figure A5.1, the customer satisfaction scores and the NPS are combined to give the single C-MeX score for a company (from which a deduction of three points is made if a company fails to offer customers at least 5 communications channels, including at least three online channels).

C-MeX is an in-period ODI and we will determine performance payments annually. The largest underperformance payments for C-MeX are 12% of annual allowed residential retail revenues. The highest outperformance payments for C-MeX will be 6% of annual allowed residential retail revenues, with higher outperformance payments of up to 12% available to the best performing companies (passing three gates, as shown in figure A5.1). There are no financial incentives for C-MeX performance during the shadow year.

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<sup>35</sup> PR19 Customer Measure of Experience (C-MeX): Policy decisions for the C-MeX shadow year 2019-2020, Ofwat March 2019. <https://www.ofwat.gov.uk/wp-content/uploads/2019/03/PR19-cmex-shadow-year.pdf>. And PR19 Customer Measure of Experience (C-MeX): guidance for the C-MeX shadow year 2019-2020, Ofwat March 2019. <https://www.ofwat.gov.uk/wp-content/uploads/2019/03/C-Mex-Shadow-Year-Guidance-updated-12032019-1.pdf>

<sup>36</sup> This is a summary of C-MeX, further details are available from our March 2019 C-MeX policy decision document and our December 2017 PR19 methodology.

**Figure A5.1: Overview of C-MeX**

A company's C-MeX incentive rate in a given year will depend on how far its C-MeX score is from the average C-MeX score in that year (in technical terms, how many standard deviations (SD) the company's score is above or below the mean score). The thresholds and resulting incentive rates are shown in table A5.1:

**Table A5.1: Determination of C-MeX incentive rates**

SD away from mean	Incentive rate
• Above +1SD	• 6% (at least)
• From +1SD to +0.25SD	• 3% * SD away from mean
• Below +0.25SD and above -0.25 SD	• No payments
• From -0.25SD to -1 SD	• 6% * SD away from mean. <sup>37</sup>
• Below -1SD	• -12%

<sup>37</sup> Note: as the SDs away from the mean is a negative value, the term 6% x SD away from mean is also negative, hence a minus sign is not applied to the 6%.

We will finalise our detailed approach to C-MeX, taking account of responses to the draft determination, data from the shadow year, working groups with stakeholders, and recommendations by the agent engaged by us to operate the shadow year surveys. We will publish our decision on C-MeX incentive design for 2020-25 as part of final determinations in December 2019.

### **SIM Proxy in the shadow year**

We confirmed in our PR19 methodology that SIM will not operate in 2019-20. In our March guidance document, we described a proxy calculation for SIM that will enable companies to assess whether they have met their reputational incentives for the SIM in 2019-20. This calculation will rely on the customer service element of C-MeX (excluding on-line interviews) as a proxy for the qualitative component of SIM and will also use a proxy calculation for the quantitative component, as described in our guidance. Companies will report the proxy SIM data for 2019-20 through the existing APR table 3D. Details on the financial incentives for the household SIM in the period 2015-16 to 2018-19 are provided in 'Accounting for past delivery technical appendix'. The financial incentives for the non-household SIM for Dŵr Cymru and Hafren Dyfrdwy will be consulted on over the summer.

### **What we said in the March 2019 documents**

In the March documents, we set out decisions that will be applied to C-MeX. For completeness, we list these below. In some cases, we made decisions for the operation of C-MeX in the shadow year only, for example where we wish to test before making final decisions for the design and implementation of C-MeX for the 2020-25 period.

### ***Customer service and customer experience surveys***

- |   |
|---|
| <ul style="list-style-type: none"><li>• On the scale of customer satisfaction measure: we have decided to adopt a scale of 0-10 for both C-MeX surveys.</li><li>• On sample size: we have decided the appropriate sample size for both surveys is 200 interviews per company per quarter.</li></ul> |
|---|

## Customer service survey

- On sample and survey channels: we have decided the C-MeX customer service surveys will comprise 150 telephone interviews and a minimum of 50 online interviews per quarter.
- On online survey correction factor: we have decided to apply an upward 'correction factor' to the online customer satisfaction scores. In the shadow year, this upward correction is 5%. We will test in the shadow year the value to apply for the period 2020-25.
- On sample frequency: the customer service survey will be conducted monthly.
- On weighting of results: we will apply a 50% billing/ 50% operations weighting for C-MeX customer service survey results. We will also weight the results of the interviews by contact channel in the original sample.
- On reallocation of interviews by reason for contact: if there is a discrepancy between the water company's reason for contact and the respondent's then the interview will be re-allocated to contact type provided by the respondent.
- On Do Not Contacts (DNCs): companies should, in their samples provided to the Agent<sup>38</sup>, in the 2020-2025 period, include 'Company DNCs' (ie customers who have told their companies they do not want to be contacted for marketing or other purposes). In order to assess the potential impact on survey sample size if company DNCs are excluded, in April 2019 we issued companies with a request for information regarding their number of DNCs, and any "opt-out" wording that is currently used by companies (where they offer customers the option of not being contacted), and we are monitoring the number of DNCs in the shadow year. Ofwat is able to contact Company DNCs for the C-MeX survey as long as these customers have not expressly opted out of receiving surveys from Ofwat (Ofwat DNCs).<sup>39</sup> While Company DNCs are to be included in the sample, companies must ensure that all Ofwat DNCs are excluded from their samples provided to the Agent in the 2020-2025 period. The shadow year provides companies time to make any necessary preparations, including to refine any opt-out wording and clarify that this does not include opting out of Ofwat surveys, to be able to comply with this decision for the 2020-2025 period.<sup>40</sup>
- On Hafren Dyfrdwy: we have decided to combine the waste results for Severn Trent Water and Hafren Dyfrdwy to produce one waste water score for both companies.

<sup>38</sup> The Agent is the agent appointed by Ofwat to conduct the surveys for both C-MeX and D-MeX.

<sup>39</sup> Details of customers who are surveyed but request no further contact will be passed to the relevant water company by our agent on completion of each month's fieldwork. Companies must maintain an up to date record of Ofwat DNCs (ie customers who request no further contact from the appointed agent/Ofwat regarding the C-MeX incentive mechanism) as well as Company DNCs.

<sup>40</sup> The most straightforward approach is for companies to remove any reference in their DNC wording which suggests it includes contact by Ofwat/ the regulator. Alternatively, if a company's DNC wording suggests it includes Ofwat/ the regulator, it should be amended to i) expressly exclude contact by Ofwat/ the regulator; and ii) tell customers that if they wish to object to being contacted by Ofwat/ the regulator, they can opt out of contact with us in accordance with our [privacy policy](#). Because this places an onus on companies to maintain a working link to our website, we would recommend the first approach.

## **Customer Experience Survey**

- On survey channels and sampling: we have decided to adopt a predominantly telephone-based survey using a random digit dial (RDD), supplemented by face-to-face interviews to ensure sufficient interviews are achieved with younger age-groups. Quotas (based on census data for the local authorities served by each water company) will be set on gender and age to reflect each company's demographic profile.
- On survey frequency: we have decided interviews will be carried out continuously over the quarter.

## **Net Promoter Score**

- We have decided to include NPS as part of the C-MeX score calculation, although are monitoring the volatility and customer understanding of the measure in the shadow year.

## **Calculating C-MeX score**

- We have decided C-MeX will be calculated using the following formula:  
 **$C\text{-MeX score} = (40\% \text{ customer service CSAT}) + (40\% \text{ customer experience CSAT}) + (20\% \text{ combined customer service and customer experience NPS})$**
- We have decided to apply a three point downward adjustment to a company's C-MeX score if it does not offer at least five communication channels, including at least three online channels, to receive customer contacts and complaints.

## **Applying financial incentives**

- A company's C-MeX incentive rate in a given year will depend on how far its C-MeX score is from the average C-MeX score in that year (in technical terms, how many standard deviations (SD) the company's score is above or below the mean score). See table A5.1 above.

## Higher performance payments

- On the cross sector threshold for higher performance payments: we have decided to base it on an all sector upper quartile (ASUQ) from the UK Customer Satisfaction Index (UKCSI)<sup>41</sup> and to calculate it on an annual basis when reconciling the in-period C-MeX incentive. The C-MeX ASUQ will be calculated using the following formula:  

$$\text{C-MeX ASUQ} = \text{C-MeX Mean} + (\text{UKCSI ASUQ} - \text{UKCSI Mean}) / \text{UKCSI SD} * \text{C-MeX SD}$$
- On the complaints gate threshold for higher performance payments: we have decided to set this at the industry average number of complaints based on the total number of complaints for each company.
- We have decided that a company must be in the top three companies by C-MeX score to be eligible for higher performance payments.

## Exclusions

The company may exclude from the data provided to the appointed agent:

- contacts made to advise that a customer is deceased, or in relation to a deceased customer;
- non-customer contacts – for example, calls from contractors, suppliers and employees;
- non-household or private network customers;
- contacts dealt with by or with regard to developer services;
- those that the company knows to have been from a customer who has an ex-directory number;
- wrong numbers, including calls where a customer is referred to another company (that is, where the customer has contacted the wrong company);
- where the customer is calling about a non-appointed activity and the call has no connection with the appointed business – for example, insurance services and plumbing; private septic tanks/cesspits; highway gullies; hot water issues where it is confirmed there is no issue on the cold-water supply;
- about recreational and amenity activities which are not defined as duties imposed by the Water Act 1989 e.g. water skiing or angling facilities at visitor sites
- contacts with organisations acting as agents for the company – for example, local authority sewerage agencies, contractors and debt collection agencies can be excluded where the number of customer calls to an individual agency or contractor is below 0.5% of the total number received by the company

<sup>41</sup> UKCSI is a measure of customer satisfaction in the UK, run by the Institute of Customer Services.

for that particular operational area. The 0.5% is with a denominator of total calls for that particular operational area including the agency calls. E.g. a debt collections agencies contacts would be compared against the total number of billing contacts received including any agents dealing with billing contacts. This is to avoid undue data burden.

j) contact in response to feedback requests – returned in response to/alongside customer satisfaction survey questionnaires/ texts / calls / webforms / cards or research exercises where the outgoing company contact is solely a survey

k) enquiries from CCWater on behalf of a customer

l) if there are other exceptional circumstances where it would be considered by the company, appointed agent and also Ofwat that it wouldn't be in the best interests of the customer to be contacted for research purposes (e.g. customers who are part of an ongoing legal case / litigation process).

- In exceptional circumstances, it will be reasonable for us to ask companies to exclude customers from the samples they provide to us. Ofwat intends to keep its exclusions policy under review and may change its policy from time to time, to ensure the effective functioning of the customer service survey.
- In the case of customers who have told their companies that they do not want to be contacted for marketing or other purposes (Company DNCs), companies should include these contacts in their data samples.

## Stakeholders' views

Since March, stakeholders have had a number of opportunities to provide views on C-Mex. This feedback has informed our decision making, and will continue to do so in the lead up to final determinations. Stakeholders have provided views by:

- participation in the C-MeX working group
- some companies provided views on C-MeX in their April 2019 revised business plans
- representations on our fast-track company draft determinations.

A summary of stakeholders' views and our responses is provided below.

Thames Water, in their April 2019 business plan, outline a number of concerns with the C-MeX methodology detailed in our March policy decision documents. Its concerns are that relative scoring is unfair, metric results are not comparable and that the survey characteristics are not yet robust enough to justify significant financial incentives.

We consider that basing a company's C-MeX incentive rate on their relative performance is fair. In particular, a relative approach means that a company will not receive a higher outperformance payment (or lower underperformance payment) than another for providing a lower level of customer service, as could happen under an absolute approach. A relative approach still retains the incentive to improve absolute performance, i.e. other things equal, a company will receive a higher outperformance payment (or lower underperformance payment) for a higher C-MeX score.

Thames Water is concerned that metric results are not comparable, citing that each company will have a unique distribution of socio-demographic groups and differences in scores will arise from these. Our agent investigated, as part of the C-MeX pilot, customer satisfaction by socio-economic status and concluded that there was no statistically significant difference. They also stated that it will increase the difficulty of achieving the interviews and the cost of the survey. They did not recommend imposing a further quota on socio-economic status. We decided not to impose a further quota for socio-economic status, given the increased complexity and cost, and the absence of a statistical difference between the results.

We considered the sample size in the pilot study and concluded in our policy decision that a total of 1,600 interviews per annum, per company is appropriate for C-MeX (comprising 800 in each of the customer service and customer experience surveys). In particular, it provides a robust result, including an appropriate sample size for each contact type, at reasonable cost on an annual basis. The sample sizes are in line with the recommendation of our agent for the C-MeX pilot.

CCWater, in their responses to the fast track draft determinations, express a remaining concern on C-MeX that there may be insufficient weighting given to a company's complaint performance such that a company with poor or deteriorating complaints performance may earn a reward. In our PR19 methodology, we confirmed our intention to not include the quantitative number of complaints in calculating C-MeX because to do so can create a perverse incentive by deterring companies from proactively carrying out activities and initiatives that would benefit consumers but may generate contacts and complaints. We remain concerned that applying the financial incentive to the number of complaints could lead to a perverse incentive against good customer engagement and participation. We note that:

- While complaints performance is not a component of the C-MeX calculation, customers' overall satisfaction with their company, which is 40% of the C-MeX score, will undoubtedly reflect customers' complaints experience.

- Complaints performance is one of the three hurdles required to be met to receive higher performance payments (over and above the outperformance payments).
- The annual publication of industry complaints data by CC Water will also continue to provide a strong reputational incentive on companies to manage complaints effectively.

We confirmed in our PR19 methodology that companies could not earn higher performance payments unless they are performing satisfactorily on complaints. In our March policy decision we confirmed that this would be defined as having below the industry average number of complaints. We will monitor complaints in the shadow year prior to making final decisions for the 2020-25 period.

## **Our draft decisions**

The design of C-MeX has been developed over the period since proposals were first consulted on in 2017 and high-level decisions outlined in our PR19 methodology in December 2017. Since publishing the March 2019 documents, we have undertaken further analysis and engagement with stakeholders including via the C-MeX Working Group. This has enabled us to make some decisions on issues where we are not dependent on information from the shadow year. For some other issues, we will make our final decision based on feedback on this draft determination and other information gathered during the shadow year. We wish to draw your attention to the following issues in particular:

### ***Higher performance payments***

Under C-MeX, companies can earn up to 6% of allowed residential retail revenues in any year depending on their performance relative to other water companies, and can earn higher payments subject to passing three performance gates.

We stated in our PR19 methodology that the higher performance payments for passing the three gates are “of up to 12% of residential retail revenue” and are “between 6% and 12% of allowed residential retail revenues”.<sup>42</sup>

The three performance gates that a company needs to pass to be eligible for higher performance payments are that it:

- is one of the top three performers by C-MeX score; and

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<sup>42</sup> Pg 65, PR19 methodology.

- is at or above a cross-sector threshold of customer satisfaction performance; and
- has lower than the industry average number of complaints (per 10,000 connections).

If a company has not already achieved 6% under C-MeX but passes the three performance gates, its C-MeX incentive rate will be increased to 6%. This represents at least a doubling of the incentive rate had it not passed the three gates.

For companies that have already achieved 6% under C-MeX, the total incentive rates they can achieve for higher performance, by company position, are shown in table A5.2. For the avoidance of doubt, if only one company passes the three gates it will receive an incentive rate of 12%, regardless of whether it is has the highest C-MeX score across all companies, provided it was already earning 6% under C-MeX.

**Table A5.2: Determination of C-MeX higher performance incentive rates**

Company position	Incentive rate if already earning 6% under C-MeX	Incentive rate if <i>not</i> already earning 6% under C-MeX
• 1	• 12%	• 6%
• 2	• 10%	• 6%
• 3	• 8%	• 6%

This approach provides a simple and transparent means of determining higher performance C-MeX payments, whilst providing higher incentive rates for better performance incentivises companies to provide the best service to customers.

#### **Application of C-MeX in-period adjustments**

As an in-period ODI, we will be determining companies' C-MeX performance payments annually. In our PR19 methodology we referred to annualised incentive rates for C-MeX as being up to, and capped at, 2.4% (where  $2.4\% = 12\% / 5$  years).

For in-period adjustments, the annualised incentive rate (e.g. 2.4%) would be applied to the full five years' allowed residential retail revenue. However, as allowed residential retail revenues vary each year with customer numbers, it will not be possible to accurately determine C-MeX payments until the end of the price control, when customer numbers and allowed residential retail revenue are known for each year. Therefore, rather than apply an *annualised* incentive rate (e.g. 2.4%) to *five* years' allowed residential retail revenue, we have decided to apply the *full* incentive

rate (e.g. 12%) to *one* year's revenue. This approach makes C-MeX in-period adjustments simpler to apply and administer, whilst also determining the appropriate C-MeX performance payment closer in time to the performance.

For the avoidance of doubt, the largest underperformance payments for C-MeX in any year are 12% of annual allowed residential retail revenues and the highest outperformance payments (inclusive of higher performance payments) are also 12% of annual allowed residential retail revenues (and not 2.4% of five years' allowed residential retail revenue).

### ***Weighting between billing and operations; water and waste water***

In the March decisions we decided to apply an equal weight to the customer satisfaction scores from the customer service survey for billing and operations contacts (i.e. 50% each). This is the same approach as under SIM. Whilst the majority of customer contacts relate to billing, we prefer to weight them equally so that companies focus on providing excellent customer service in both business areas equally.

We will maintain the approach used in SIM of applying equal weights to water and wastewater satisfaction scores (for WASCs) *within* operations (i.e. 25% each). This weighting only applies to scores from the customer service survey.

Our agent running the C-MeX pilot year considered options for weighting water and wastewater and noted WOCs' concern that equal weighting was unfair.<sup>43</sup> This arises from two factors. First, wastewater satisfaction scores being, typically, higher than water scores. Second, equal weighting of water and wastewater attributing a higher weight to wastewater than if the weighting was based on the relative proportion of water and wastewater contacts.<sup>44</sup> The, typically, higher scores for wastewater applied to the higher weighting on wastewater (under an equal weighting approach) would result in higher absolute scores for WASCs (and relative to WOCs), than if weighting was based on the proportion of contacts.

Compared to SIM, C-MeX already places less weight on wastewater service, as satisfaction scores in the customer service survey contribute 40% of the score, compared to 75% in SIM (and the C-MeX customer experience survey focuses on water customers). Accordingly, to the extent wastewater scores are higher, the

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<sup>43</sup> C-MeX Pilot For PR19, Allto Consulting, 31 January 2019.

<sup>44</sup> Within operations, there are around twice as many water related contacts from customers as wastewater. If we were to base weights on the relative number of contacts, this would result in weights of around 33% water and 17% wastewater, reducing the weight of wastewater services compared to equal weighting.

difference in relative scores between WASCs and WOCs (attributable to the weighting of water and wastewater) will be less under C-MeX than in SIM.

Based on pilot year data, our agent noted that adopting weights based on the proportion of contacts reduced WASCs customer service survey satisfaction scores slightly, and that there was minimal impact on ranking. As the customer service satisfaction score contributes only 40% of the C-MeX score, the impact of the lower weighting on wastewater is even less at the C-MeX score level.

We are concerned that reducing the weight placed on wastewater services in operations, by applying weights based on the proportions of contacts, would weaken the incentive for WASCs to improve wastewater customer service, failures in which can have a profound impact on customers. We also note the relatively modest difference in scores from the pilot year across the two weighting approaches. For these reasons, we are minded to apply equal weight to water and wastewater contacts (for WASCs) within operations (i.e. 25% each) for C-MeX.

### ***Net promoter score***

We have decided to include NPS in C-MeX. We consider that NPS is a more demanding test for companies than customer satisfaction, is a strong comparative tool (including across companies in different sectors), and the results are easy to understand. However, data from the pilot year showed that the net promoter score (NPS) question was less well understood by respondents than the customer satisfaction question and there was volatility of NPS scores between the two waves of the pilot. In the shadow year, we are monitoring the volatility of the measure and how it is understood by consumers.

### ***Survey issues***

A number of issues have arisen that need to be monitored and reviewed before the survey methodologies are finalised:

- ***Customer service survey***
  - On-line correction factor – we decided to apply an upward correction factor of 5% to on-line survey results in the shadow year, in recognition of on-line survey results being significantly less positive than phone survey results. This correction factor was informed by evidence from the pilot study, as well as from a company. In the shadow year, the agent will test the on-line correction factor.
  - Accurate contact details – during the C-MeX pilot, some water companies had an unacceptably high level of digital contactors without email addresses. During the shadow year we will monitor the quality of samples supplied by

- water companies in terms of accurate contact details (particularly email addresses).
- Our agent will also monitor the rates at which digital contact is replacing non-digital contact.
  - **Customer experience survey**
    - Effectiveness of postcode verification – if a respondent does not know which their water company is, they are prompted as to their actual water company identified using their postcode. If there remains any doubt as to whether a respondent knows which their water company is, then the interview should not proceed. We are monitoring the effectiveness of using postcode verification in the shadow year.
    - Representative age bands – to ensure the results of the customer experience survey are reflective of each company's demographic profile, quotas are set on the number of interviews by gender and age. We proposed age quotas be set on the basis of three groups. In the shadow year we are investigating whether more age bands would give more representative results.

We will work with our agent to monitor these prior to final determinations and are also seeking feedback on these issues.

## **Developer services measure of experience**

### **Overview of D-MeX**

The developer services measure of experience is a mechanism to incentivise water companies to provide an excellent customer experience for developer services customers. These customers include small and large property developers, self-lay providers (SLPs), and those with new appointments and variations (NAVs). These customers can also include residential customers where they are installing new mains connections.

In 2017 we consulted on the design of D-MeX and made decisions on the high level features of D-MeX that were set out in our PR19 methodology. During 2018-19 we conducted a pilot of D-MeX, working with stakeholders to develop the mechanism and further inform the design decisions.

On 8 March 2019 we published our decisions (referred to as the “March decisions”, and “March guidance”, or the “March documents”) for running the incentive mechanism in shadow form during 2019-20 (from 1 May 2019 to 31 March 2020). The shadow year provides an opportunity to test D-MeX to inform some design

decisions and give companies an opportunity to prepare ahead of the 2020-25 period.

We outlined in the March documents that D-MeX will be a single score for each company calculated based on a combination of:

- **Qualitative component** – a score summarising the performance of the company in a customer satisfaction survey of developer services
- **Quantitative component** – a score summarising the performance of the company across Water UK level of service metrics.

**Figure A5.2: Components of calculation for D-MeX**



Financial incentives will apply to companies based on where they rank in a league table of D-MeX scores from all companies, and on the company's annual developer services revenue (DSR).

As an in-period ODI, we will be determining companies' D-MeX performance payments annually.

The highlighted rows in table A5.3 are included in the calculation of DSR for D-MeX.

**Table A5.3: Composition of DSR for D-MeX purposes**

C	Grants and contributions received ~ wholesale water service	
7	Connection charges (s45)	BC11271IN
8	Infrastructure charge receipts (s146)	BC11270IN
9	Requisitioned mains (s43, s55 & s56)	BC11272IN
10	Other contributions (price control)	BA1086PC
11	Diversions (s185)	BC11273IN
12	Other contributions (non-price control)	BA1086NPC
13	Total grants and contributions ~ wholesale water service	BA1090

G	Grants and contributions received ~ wholesale wastewater service	
24	Infrastructure charge receipts (s146)	BC11370IN
25	Requisitioned sewers (s100)	BC11372IN
26	Other contributions (price control)	BA2086PC
27	Diversions (s185)	BC11373IN
28	Other contributions (non-price control)	BA2086NPC
29	Total grants and contributions ~ wholesale wastewater service	BA2090

## What we said in the March 2019 documents

In our March documents, we set out decisions that will be applied to D-MeX.

For completeness, we list these below. Some of these we wish to test during the shadow year and these are identified in the discussion below on our draft decisions.

### ***D-Mex incentive design issues:***

- We said in our PR19 methodology that D-MeX performance payments will be up to 2.5%, and underperformance payments will be up to 5%, of a company's annual developer services revenue, but that there is a good case to increase the level of financial incentives because of the potential impact service performance can have on the wider economy/society. We will review the level of the financial incentive for D-MeX during the shadow year and will engage with stakeholders.
- We said that subject to the results of the review of the Water UK metrics, we are minded to apply an equal 50:50 weighting to both the quantitative and qualitative parts of D-MeX, however we will gather further information in the shadow year to inform our final decision, including the results of a review of the Water UK metrics.
- We set out the definition of developer services revenue for the purposes of D-MeX.
- We said we are not minded to treat companies differently, either in relation to differences in law or the developer market. We will, however, continue to monitor the impact of the D-MeX survey on companies in the shadow year before making a final decision.

### ***Quantitative component: Water UK level of service metrics***

- We said we will carry out a review of the Water UK metrics prior to their inclusion in D-MeX to ensure these are fit for purpose.
- D-MeX will use all of the existing Water UK Levels of Service metrics as the basis for the quantitative component of the D-MeX score.
- We said a simple average will be used across all of the existing Water UK Levels of Service metrics as the basis for the quantitative component of the D-MeX score.
- During the shadow Year we expect industry to improve and propose the metrics to be included in D-MeX for the period 2020-2025.
- During the shadow year we will test the approach of companies assuring their Water UK Levels of Service metrics data for the quantitative element of D-MeX and submitting it to Ofwat, using a similar process as is used for other Ofwat performance commitments.
- We said we will adopt a simple average approach (rather than volume weighted) for measuring each companies' performance on the quantitative metrics in the shadow year.

### **Qualitative component: the survey**

- The qualitative component of D-MeX will be a customer satisfaction survey for developer services based on transactions. That is, a selection of developer services customers who have received a service from a water company in the relevant period will be contacted to be part of the sample.
- The scoring scale will be 0-10.
- The surveys will be conducted by phone.
- SLPs, NAVs and the other developer customer types will be surveyed using the same survey methodology in D-MeX.
- The D-MeX survey will capture consultants and agents on behalf of developers, as well as developers.
- The sampling and fieldwork process for D-MeX will be ongoing throughout the year, with water companies providing monthly sample data to our appointed agent.
- A sample size equal to approximately 20% of each company's customer base will be used for the survey for D-MeX. This will be boosted to a minimum of 100 customers where 20% of the sample would yield less than 100 customers. We stated during the shadow year we will gather companies' annual population sizes (calculated from a count of unique customer contacts throughout the year), to confirm sample size and confidence interval estimates.
- We said D-MeX will not include a relationship survey component.
- We will endeavour to include metrics for NAVs in D-MeX, to ensure the views of NAVs are captured.
- The qualitative component of the D-MeX score will use the overall surveyed customer satisfaction score for the shadow year and we are minded to adopt this approach for the period 2020-2025.
- We said we are minded to incorporate a weighting system into D-MeX when it becomes operational from 1 April 2020. Over the shadow year we will work with stakeholders to investigate how customers should be segmented based on size, and how to best define these for consistency across companies.

### **Stakeholders views**

Since March, stakeholders have had a number of opportunities to provide views on D-Mex. This feedback has informed our decision making, and will continue to do so in the lead up to final determinations. Stakeholders have provided views by:

- participation in the D-MeX working group
- some companies provided views on D-MeX in their April 2019 revised business plans
- representations on our fast-track company draft determination.

A summary of stakeholders' views and our responses is provided below.

In its April 2019 revised business plan, Thames Water outline a number of concerns with the D-MeX methodology detailed in our March 2019 documents.

They raise the concern that without a relationship survey, and relying on a transaction survey only, the views of SLPs and NAVs would be under-represented given the low volume of self-lay and NAV transactions across the industry and that each customer contact would only be surveyed once in any 6 month period.

We do not consider that a relationship survey is the best response to this issue. The issue of relationship surveys was discussed in the March 2019 documents. Allto recommended that while a relationship survey can help capture a wider range of customer perspectives, the benefits of building relationships would be expected to show in the results of the transactional survey and that adding a relationship survey was unnecessary.

We agree, however, that by only surveying each customer contact once in any 6 month period the views of some customers, who either deal with more than one company, or have large and complex transactions, might be under represented. As outlined below, we are considering how to address this issue as part of the final decisions on the design of the survey element of D-MeX and have asked our appointed agent to advise on possible approaches to this.

Thames Water also raise a concern about ambiguity around data requirements. We are continuing to consider all data requirement issues through engagement with the working group. The data requirements for D-MeX for 2020-25 period will be outlined in the final guidance to be published by April 2020.

Thames Water also raise a concern with the proposed method of collating the Water UK metrics, which downplays large volume metrics, but could mean that undue weighting is placed upon measures with very low volumes.

Regardless of volume for any type of activity, D-MeX is about incentivising companies to provide a good service across the board. Our consideration of this issue is outlined in a section below.

Dŵr Cymru raises two main concerns. It considers that it operates under a significantly different operating environment in Wales; and that the league table approach will constrain potential industry collaboration.

Water companies whose systems are wholly or mainly in Wales are subject to different statutory and regulatory rules for developer activity. We also acknowledge Dŵr Cymru's view that some customers do not understand that requirements are imposed by the law rather than the company. Dŵr Cymru remains concerned that if no allowances are made in D-MeX for these differences, they would be materially disadvantaged compared with companies whose systems are wholly or mainly in England. We set out our consideration of this issue below.

We will continue to monitor this, and invite Dŵr Cymru and other stakeholders to continue to submit evidence relating to this issue.

We note the point that Dŵr Cymru makes about industry collaboration. However, we want companies to each strive to provide excellent service. D-MeX, by measuring relative performance in customer satisfaction, provides an incentive to do this.

## **Our draft decisions**

The design of D-MeX has been developed over the period since proposals were first consulted on in 2017 and high-level decisions outlined in our PR19 methodology in December 2017. Since publishing the March 2019 documents, we have undertaken further analysis and engagement with stakeholders via the D-MeX Working Group. This has enabled us to make some decisions on issues where we are not depending on information from the shadow year. For some other issues, we will make our final decisions based on feedback on this draft determination and other information gathered during the shadow year. We wish to draw your attention to the following issues in particular:

### **Incentive design issues**

#### ***Level of the financial incentive***

We state in our PR19 methodology that the D-MeX outperformance payments would be up to 2.5%, and underperformance payments would be up to 5%, of a company's annual developer services revenue. In the March 2019 documents, we noted that there is a good case to increase the level of the financial incentive to reflect the high impact service to developers can have on the wider economy and society, in particular housing supply.

We looked at how the financial incentives might apply in practice and considered that incentive rates of 2.5% and 5% would not be large enough to incentivise significant

performance improvement in developer services. We remain concerned about the potential wider impacts of poor performance for developer customers, but acknowledging that D-MeX is a new mechanism, we consider a reasonable compromise is to set the incentive rates at between 12% for underperformance and 6% for outperformance. We note also that we will have greater confidence in D-MeX following testing throughout the pilot year and shadow year, and the review of metrics. On this basis we have decided that the level of D-MeX outperformance payments will be up to 6% and the underperformance payments will be up to 12%, of annual developer services revenue.

### ***Applying the financial incentive: using quartiles***

We have decided to apply financial incentives to water companies based on their D-MeX performance relative to all other water companies. D-MeX financial incentives will be based on the quartile in which companies are placed in the D-MeX league table.

We recognise this is a different approach to that used in C-MeX, which applies the financial incentives using a standard deviation. Both approaches provide a good incentive to improve, and both have similar outcomes in addressing the impact of overlapping confidence levels (where a number of companies have similar scores). However a quartiles approach minimises the influence of extreme scores. Our data from the pilot year suggests greater variability in scores in D-MeX than C-MeX. If we used a standard deviation approach in these circumstances the financial incentives for a given company could be affected disproportionately by scores of other companies.

Table A5.3 provides a worked example of how the D-MeX score will translate into the financial incentives.

**Table A5.3: Example of D-MeX incentive rates**

D-MeX score	Payment type	Financial Incentive rate	Description
89.0	Outperformance payment	6%	Outperformance payment for companies with score equal/above the 3rd quartile (83.6)
87.5		6%	
85.5		6%	
85.2		6%	
83.6		6%	
83.3	No payment	0%	No payment for companies with score equal/above the 2nd quartile (82.9), but below 3rd quartile (83.6)
83.3		0%	
83.2		0%	
82.9		0%	
82.7	Under-performance payment	-6%	Underperformance payment for companies with score equal/above the 1st quartile (77.5), but below 2nd quartile (82.9)
82.2		-6%	
78.3		-6%	
77.5		-6%	
75.3	Highest under-performance payment	-12%	Highest underperformance payment for companies with score below the 1st quartile (77.5)
74.2		-12%	
73.6		-12%	
64.2		-12%	

### Welsh companies

We said in the March documents that we would consider the regulatory differences between English and Welsh water companies when designing D-MeX. We have considered this issue further, assessed evidence provided by companies and analysed responses from the pilot year survey.

Although we recognise there are differences in the regulatory frameworks that apply to English and Welsh companies, we have found little evidence to suggest such differences puts Welsh (or English) companies at a disadvantage in relation to D-MeX. In particular, our view is that legislative differences do not create any unwarranted and unavoidable customer dissatisfaction for Welsh companies.

The advantage of a league table approach, as opposed to setting bespoke performance commitment for individual companies, is that this provides a clearer, simpler and more effective way to provide the challenge that companies need to deliver for customers, on the basis of comparison across all companies. The results are also more readily understandable by customers, who can see clearly how their water company is doing when compared against others in the sector for the same services. Setting bespoke performance commitments for each company does not offer these advantages to customers.

As a result, we are minded to treat English and Welsh companies in the same way and we will continue to include both in a single D-MeX league table. We will, however, continue to monitor survey responses and invite stakeholders to submit evidence relating to this issue.

### ***Water only companies***

There have been concerns raised that water only companies (WOCs) are at a disadvantage compared to companies which offer both water and sewerage services (WASCs). This is because waste water activities have traditionally scored higher in customer satisfaction (in SIM). The same concern has been raised in the context of C-MeX. However:

- Based on evidence from the pilot year we find this difference is too small in D-MeX to affect rankings or the resulting financial incentives in any way; and
- We do not want to weaken the incentive to improve services in relation to waste water.

With this in mind, and observing our principles of using a simple and proportionate approach for D-MeX, we maintain our position to include both WOCs and WASCs in a single D-MeX league table.

### ***Companies with significant SLP and NAV activity***

Some stakeholders have raised a concern that companies with a high level of self-lay provider (SLP), or new appointments and variations (NAV), activity, and that rank high in the league table, will receive lower outperformance payments than companies with equivalent or similar rankings but with less SLP or NAV activity. This arises because the financial incentives are based on developer services revenue (DSR) i.e, a percentage of DSR. They argue that this may adversely impact competition, by incentivising water companies to discourage SLP or NAV activity in order to maximise DSR.

We agree that outperformance payments, for a given percentage incentive rate, will be lower for companies with lower DSR (e.g. due to high levels of SLP activity). However:

- While the financial incentives would be smaller for companies with lower levels of DSR, the reputational incentive remains strong, with the company's position on the league table unaffected.
- In relation to underperformance payment, companies with lower DSR will benefit compared to companies with higher DSR (noting that the incentive

rate for underperformance can be twice that of the incentive rate for outperformance.

- DSR varies across companies for a range of reasons, including how much development activity is going on in an area, as well as the amount of SLP and NAV activity.
- Ofwat has wider policies and other regulatory tools in place to enable competition in new connections and ensure a level playing field to new entrants, including using the charging rules, the code for adoption agreements and the work going on in the NAV market.

For these reasons we are minded to maintain the application of financial incentives on developer services revenue.

### **Qualitative component: the customer satisfaction survey**

#### ***Potential for under-representation of SLPs and NAVs through de-duplication of contacts for the purposes of the customer satisfaction survey***

The survey will be undertaken throughout the year. A selection of developer services customers who have received a service from a water company in the relevant period will be contacted to be part of the sample. In the shadow year, in order to ensure that no contact is surveyed more than once in six months, Ofwat's agent will remove from the sample any contacts who have been surveyed in the last six months (de-duplication). While in most cases this de-duplication is appropriate, some stakeholders have raised the concern that the views of some customers who deal with more than one company might be under represented.

NAVs and SLPs may work with multiple companies across England and Wales. If they are centralised, they may only be providing our agent with one contact name for the purposes of the D-MeX survey. Where this is the case, our policy on de-duplication means the SLP or NAV can only be asked about, at most, two transactions, for two companies, in a year. We agree that this could lead to under-representation of SLPs and NAVs experience of water companies.

One option is that when a SLP or NAV is surveyed, they are asked about more than one transaction or more than one company they have dealt with. We have asked the agent who is conducting the surveys on our behalf, to advise on possible approaches to this issue. We are also interested to hear from developers, including SLPs and NAVs, whether they would rather be contacted more often, or contacted only once every six months, but on a wider range of transactions and companies.

### ***Weighting by customer size for the purposes of the customer satisfaction survey***

A related issue is whether our survey methodology means large developers are under-represented in the customer satisfaction survey. Large developers are often responsible for multiple connections per development, but a large complex development might be recorded as one transaction. It has been suggested that the views of these developer customers should carry more weight in the survey, or that they should be able to participate in the survey more often than once in six months, because of the level of activity they undertake per transaction.

It has been suggested by some industry stakeholders that a relationship survey could resolve this but we do not agree. A relationship survey is designed to measure the nature of the overall relationship between the company and its customer. The qualitative component of D-MeX is transaction based and is designed to measure the quality of customer service rather than the quality of companies' overall relationships with developer services customers<sup>45</sup>.

We considered the approach of weighting by customer size. We asked companies to identify the size of each of its customers, defined according to the number of connections, as detailed in the March guidance. We found significant variation across companies in the size of their developer services customers. This would have meant using different weightings for each company which would have undermined the non-company specific approach adopted for D-MeX.

Further, some members of the D-MeX Working Group expressed the view that we should consider all customers equally important, regardless of their size or their level of business with the water company, as companies should deliver excellent customer service to all developers. In particular, poor service may have a greater impact on a small developer that is less able to absorb the impacts of poor service (e.g. higher cost of finance). For these reasons we have decided not to use weightings in the customer satisfaction survey to address this issue.

However, we do want to ensure that the customer satisfaction survey appropriately captures the views of large developers. A possible approach, similar to the SLP/NAV issue above, is to address this through the survey methodology. That is, when surveying a large developer that undertakes multiple or complex transactions, asking them to comment on more than one transaction (or more than one company) as part of the survey.

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<sup>45</sup> The reasons for not including a relationship survey are set out in the March documents.

We have asked the agent who is conducting the surveys on our behalf, to advise on possible approaches to this issue.

### ***Sample size in the customer satisfaction survey***

In the March 2019 documents we said that the sample size for D-MeX would be a proportion of around 20% of customers for each water company, boosting to 100 for those companies where 20% would fall below this minimum number. This maximises the reliability of the data within the bounds of what it will be practical to achieve, and ensures effective representation of the range of customer types that each company services.

In addition, during the shadow year we will gather companies' annual population sizes (calculated from a count of unique customer contacts throughout the year), to confirm sample size and confidence interval estimates. Subject to this, we are minded to maintain our approach of surveying 20% of customers for each company, boosted to 100 customers where 20% would fall below that number.

### **Quantitative Component: the levels of service metrics**

#### ***Review of the Water UK levels of service metrics***

We said in the March documents that we are minded to weight the quantitative and qualitative components of D-MeX equally, subject to further information gathered in the shadow year. We stated in our PR19 methodology that the quantitative component of D-MeX will be based on the Water UK Level of Service metrics ("the metrics"). In the March documents we outlined a number of problems with the metrics and stated we would undertake a review of the metrics to ensure they are appropriate for use in D-Mex.

Since the March documents we have clarified our position that for the quantitative component of D-MeX companies should report on the Water UK performance metrics (i.e. all metrics excluding information metrics).

We are aware that there is potential for change surrounding the quantitative component, for example:

- Work Water UK is doing with industry on the levels of service metrics, including NAV metrics being developed;
- Work on the Codes of Adoption Agreements that might necessitate change in the existing SLP metrics; and

- Ofwat's review of the metrics.

However it is our view that this uncertainty does not automatically lead to increasing the weighting on the qualitative component, noting that the survey it is based on is relatively new. Our final decision on weighting between the qualitative and quantitative components will be subject to both feedback on this draft determination, and the results of our review of the metrics.

The review will consider the following issues:

- the clarity of definitions of the Water UK current set of metrics;
- which metrics are most important for customers;
- the activities that underlie each of the metrics and more precisely the level of complexity or difficulty with which these activities can be undertaken;
- whether the current set of metrics are sufficiently stretching overall to differentiate between companies' performance; and
- reporting requirements for companies in relation to metrics.

We would like to hear feedback from stakeholders on these same issues.

This review and feedback on these draft determinations will inform our final decisions for the 2020-25 period on:

- The weighting to be applied to the quantitative component of the D-MEX score; and
- Which of the metrics should be included in the quantitative component.

The issue of how the quantitative component should be calculated is discussed below.

The review of the Water UK metrics will inform our final decision on the way the Water UK metrics are used in the D-MeX calculation. The metrics that will go into D-MeX for the period 2020-2025 will be the metrics that are in place at the time our final determinations are issued, in December 2019.

### ***Method for calculating the quantitative element of D-MeX***

In the March documents we stated the quantitative component of D-MeX will be calculated using a simple average of the Water UK metrics. Stakeholders have raised the concern that this could result in certain services to be under-represented in D-MeX.

We considered a number of alternative approaches, such as using a volume weighted average and weighting by number of plots served. Following engagement with stakeholders through the Working Group and analysing data submitted by companies through a Request for Information, we found these alternative options would have either resulted in the quantitative component to be reliant on only a few performance metrics, which would undermine the effectiveness of D-MeX in incentivising service-wide improvement, or would have significantly increased the complexity of D-MeX's design.

We agree that a simple average may not properly measure service delivery that is important to developer customers, and that some form of scoring may be appropriate. One possible approach is to categorise metrics according to a typology, and score each category as an average of the metrics within that category. The final quantitative score would be the average of those other scores - an "average of averages" approach. If the metrics can be categorised in a meaningful way and an average of averages applied this is a reasonably simple and transparent method of ensuring appropriate weight is given to the activities that are important to customers.

We have considered broadly the approaches of categorising the metrics by customer type (SLPs; NAVs; large developers; etc.). We have already outlined the problems inherent in agreeing appropriate customer size, and we note there are already separate metrics for SLPs, and metrics for NAVs are in development. It may be more appropriate to categorise the metrics by work type. This would ensure appropriate representation of, for example, work types that are most important for developer customers, and most complex for companies to undertake.

Ofwat's review of the metrics will help inform this. We are now seeking feedback on:

- the metrics to be included in the quantitative component of D-MeX. In the March documents we said this would be all of the Water UK performance metrics; and
- if people agree with the "average of averages" approach we are seeking feedback on how those metrics should be categorised, including which are most important to developer customers, and which are the most complex to be delivered.

We are minded to use an 'average of averages' approach to calculating the quantitative component of D-MeX, based on work type categories. Our final decision will be subject to the review of metrics and feedback on this draft determination.

### ***Treatment of services without activity in D-MeX***

In the March guidance we stated that the quantitative component of D-MeX was a simple average of Water UK performance scores which had recorded activity. The rationale behind excluding services without any activity from the simple average was to ensure companies were not penalised for not having any demand for those services.

Following feedback from stakeholders we reviewed this approach to consider whether it created any incentive for companies to restrict certain types of activity. We considered this issue but on balance remain of the view that companies' performance should only be assessed against activities they actually carry out. As a result we have decided maintain our approach of calculating the D-MeX quantitative element by excluding Water UK performance metrics which do not have any activity recorded against them.

### **Assurance**

We said that during the shadow year we will test the approach of companies to assurance of their Water UK Levels of Service metrics data, as used for the quantitative element of D-MeX.

The March guidance sets out proposed steps. We are interested in how companies propose to complete this assurance and welcome feedback on the guidance we provided.

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales. Our vision is to be a trusted and respected regulator, working at the leading edge, challenging ourselves and others to build trust and confidence in water.

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