

May 2021

# **Green economic recovery: Draft decisions**

## About this document

This consultation sets out our draft decisions on proposals received from five companies to facilitate a green economic recovery. It sets out how we have assessed the proposals, our proposed allowances for each scheme and our proposed arrangements for cost recovery and customer protection.

## Responding to this consultation

We welcome any comments on this document. Please email them to [greenrecovery@ofwat.gov.uk](mailto:greenrecovery@ofwat.gov.uk). The closing date for this consultation is **midday on Wednesday 9 June**.

We will publish responses to this consultation on our website at [www.ofwat.gov.uk](http://www.ofwat.gov.uk), unless you indicate that you would like your response to remain unpublished. Information provided in response to this consultation, including personal information, may be published or disclosed in accordance with access to information legislation – primarily the Freedom of Information Act 2000 (FoIA), the General Data Protection Regulation 2016, the Data Protection Act 2018, and the Environmental Information Regulations 2004. For further information on how we process personal data please see our [privacy policy](#).

If you would like the information that you provide to be treated as confidential, please be aware that under the FoIA there is a statutory [Code of practice](#) which deals, among other things, with obligations of confidence. In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that we can maintain confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on Ofwat.

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# 1. Introduction

In July 2020, we – alongside Defra, the Environment Agency, the Drinking Water Inspectorate (DWI) and the Consumer Council for Water (CCW) – invited English water companies to play their part in the green economic recovery from Covid-19.<sup>1</sup> We set out our ambition to build back greener from the pandemic: delivering lasting environmental improvements for current and future generations, while meeting the economic and social challenges England faces.

In January this year, we were pleased to receive formal proposals to enhance the environment and public health from five companies: Severn Trent Water, South Staffs Water, South West Water, Thames Water, and United Utilities. Over the past few months, we have collaborated with government, regulators and CCW to assess carefully each proposal and maximise the benefits it offers. In this document we set out our draft decisions on the green recovery proposals we have received and explain how we came to those decisions. Overall, our draft decisions allow five companies to invest an extra £862 million, on top of their existing five-year PR19 packages, to help the green economic recovery. Customers will not start to pay for the majority of this investment until 2025, when the economy is likely to be stronger.

These companies, along with seven others in England, have also brought forward £1.9 billion worth of additional statutory environment schemes into the 2020–25 period.<sup>2</sup> A number of companies are also accelerating parts of their existing 2020–25 plans, investing hundreds of millions more when it matters most for the green recovery, at no extra cost to customers.

**Overall, our proposed green recovery package results in an additional £2.8 billion of environmental investment, on top of the existing five-year PR19 package.**

We consider that the proposed schemes add up to a positive and exciting package for customers, communities and the environment. The schemes offer a wide range of benefits, including action on the most significant environmental issues, such as improving river quality and reducing carbon emissions. Several projects will see companies embrace innovative approaches, including co-funding and partnership working, to deliver nature-based solutions and catchment management schemes. And we have approved a number of trial schemes which will help us to understand the costs and benefits of innovations ahead of PR24. We set out the benefits of the proposals in more detail in our overview document.<sup>3</sup>

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<sup>1</sup> Ofwat, Defra, Environment Agency, Drinking Water Inspectorate and CCW, '[Green economic recovery – the water industry's role in building a resilient future](#)', July 2020.

<sup>2</sup> Affinity Water, Anglian Water, Bristol Water, Northumbrian Water, Severn Trent Water, Southern Water, South Staffs Water, South West Water, Thames Water, Wessex Water and Yorkshire Water will deliver £1.6 billion of formerly 'Amber' WINEP schemes in 2020–25, at no extra cost to customers. Severn Trent Water and Thames Water will also deliver an additional £109 million and £198 million of schemes, respectively, all of which will be funded at PR24.

<sup>3</sup> Ofwat, '[Green economic recovery: Overview of draft decisions](#)', May 2021.

This document also sets out our draft decisions on arrangements for providing funding to companies, cost sharing rates, scheme delivery and reporting requirements, and adjustments to PR19 performance commitments.

We are now consulting on our draft decisions. We will consider all responses in our final decisions, which will be published in July 2021. To respond to the consultation, please email your comments to [greenrecovery@ofwat.gov.uk](mailto:greenrecovery@ofwat.gov.uk). The closing date for responses is midday on Wednesday 9 June.

## 2. Our proposed allowances

Our draft decisions allow Severn Trent Water, South Staffs Water, South West Water, Thames Water, and United Utilities to invest an extra **£861.898 million**, on top of their existing five-year PR19 packages, to help the green economic recovery. We set out our proposed allowances for each scheme below. All figures in this document are in 2017-18 Financial Year Average CPIH prices, except where otherwise stated.

**Severn Trent Water** will invest £564.627 million to deliver six schemes and contribute to the **ceramic membrane at Hampton Loade** scheme in South Staffs Water's region.

- **Accelerating environmental improvements:** £168.872 million to improve river quality by upgrading sewage treatment works, treating and reducing spills from storm overflows, and installing river quality monitoring;
- **Building sustainable flood resilient communities:** £75.675 million to protect homes from flooding through nature-based solutions;
- **Creating bathing rivers:** £78.484 million to trial the creation of two bathing rivers, including reducing harm from storm overflows by reducing spills into the area during the bathing season;
- **Decarbonising water resources:** £139.841 million to increase water supplies in a low-carbon, reduced-chemical way, through a combination of supply- and demand-side solutions;
- **Smart metering:** £20.120 million to help customers save water by installing smart water meters; and
- **Taking care of supply pipes:** £74.626 million to replace and repair customer supply pipes, reducing health risks from lead pipes in two trial areas.



We explain our decisions for Severn Trent Water in [section 5](#).

**South Staffs Water** will invest £14.850 million to improve water quality while reducing carbon emissions through its **using ceramic membrane at Hampton Loade** scheme. South Staffs Water will contribute £7.841 million of the total project cost and Severn Trent Water will contribute £7.009 million, included in its investment total above, under existing agreements for this shared resource.



We explain our decisions for South Staffs Water in [section 6](#).

**South West Water** will invest £81.042 million to deliver five schemes.

- **Catchment management:** £9.000 million to use nature-based solutions to reduce flood risk and enhance natural habitats;
- **Knapp Mill water treatment works advancement:** £24.877 million to upgrade the Knapp Mill water treatment works;
- **Smarter, healthier homes:** £17.401 million to trial ways to help customers save water, protect customers from the costs of supply pipe failures, and reducing health risks from lead pipes;
- **Storm overflows:** £7.062 million to reduce harm from storm overflows and improve river quality; and
- **Water resource grid enhancement:** £22.702 million to increase water supply resilience by supporting water transfers.



We explain our decisions for South West Water in [section 7](#).

**Thames Water** will invest up to £145.518 million to help customers save water by installing smart water meters, including in areas that currently use water from chalk streams.

We explain our decisions for Thames Water in [section 8](#).



**United Utilities** will invest £62.870 million to deliver three schemes.

- **Accelerating partnerships to deliver natural solutions:** £13.411 million to develop nature-based solutions through partnership working;
- **AMP8 WINEP investments at Bury:** £44.060 million to improve the river environment by increasing sewer capacity; and
- **Tackling storm overflows:** £5.399 million to investigate ways to reduce harm from storm overflows.



We explain our decisions for United Utilities in [section 9](#).

## 3. How we made our draft decisions

In this section, we provide an overview of the criteria we used to assess green recovery proposals for additional customer funding. We also explain our approach towards providing in-period and end of period funding, applying cost sharing rates, setting reporting requirements, and making adjustments to performance commitments. We set out our draft decisions in full in the remainder of this document.

### 3.1 Assessment of proposals

In November 2020, we set out our assessment criteria for green recovery proposals requiring additional customer funding.<sup>4</sup> We asked companies to consider where they could deliver further and faster, over and above the significant commitments already included in their price control settlement. At the same time, we also set out that all proposals should take account of their impact on affordability, as well as the timing of cost recovery from customers. Our criteria aimed to strike a balance between ensuring proposals delivered maximum benefits for the green recovery and being sensitive to the financial impacts of Covid-19 on customers.

To assess the proposals, we collaborated with Defra, the Environment Agency, the DWI and CCW, and took their views into account in our assessment. In particular, where proposals arose from a statutory requirement the Environment Agency or DWI assessed the need for the investment. We worked closely with CCW to assess the evidence of customer support and acceptability of bill impacts.

Our assessment criteria covered a range of key issues to protect customers and maximise the benefits of the proposals. Firstly, we set out that companies had to provide assurance that **existing PR19 investment programmes and performance commitments were on track in the round**. It would be contrary to the aims of the green recovery if companies were distracted from their current programmes by taking on additional schemes, as overall this may not result in extra investment into the economy, improve service for customers, or enhance the environment. Where a company did not provide sufficient assurance, we either set out that it needed to provide assurance around when it would be back on track, or made any green recovery allowance conditional on delivering existing commitments. We set out our assessment for each company in section 4.

We also required assurance around the **delivery of schemes** so that we could be confident that companies would be able to deliver additional schemes without putting either their PR19 investment programmes or their financial resilience at risk. We asked companies to show that they had delivered similar volumes of efficient expenditure in previous periods and that

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<sup>4</sup> Ofwat, Defra, Environment Agency, Drinking Water Inspectorate and CCW, '[Green economic recovery: Regulatory assessment process](#)', November 2020.

they could finance the proposed schemes while maintaining an appropriate level of financial resilience.

We asked companies to consider how any bill increases would impact **affordability** for customers. Companies needed to demonstrate that the investment would not adversely impact on affordability, or otherwise how they would manage any resulting affordability pressures for customers in the short and long term. This included considering whether they could recover costs at PR24 rather than in-period, as well as considering any impacts on the availability of social tariffs. We expected companies to engage with their customers to explore their views on the acceptability of the proposals and the associated bill impacts.

We were also clear that water customers could only be expected to fund schemes that are consistent with the proper carrying out of the functions of a water company or, where relevant, a wastewater company. Where proposals overlapped with third-party obligations, we expected third parties to cover their fair share of costs, according to their own responsibilities, and to work in partnership with the water company. We then assessed each scheme to ensure that each delivered value for money and that customers supported it. To do this, we used a similar approach to our deep dive assessments of enhancement proposals at PR19.<sup>5</sup>

- **Need for investment:** we expected to see clear, high-quality evidence of need, and for companies to demonstrate the incremental improvements for customers and the environment that it proposed to deliver.
- **Need for adjustment:** we expected to see evidence that the proposed investments were not for activities included in our base cost allowances.
- **Best option for customers:** we expected to see evidence that an appropriate range of options had been considered and were subject to a robust cost-benefit analysis, including consideration of wider environmental, societal and economic impacts.
- **Efficiency of costs:** we expected to see persuasive evidence that cost estimates were robust and efficient, including evidence of the outturn costs of similar or comparable projects and activity cost benchmarking.
- **Customer support:** we expected to see robust evidence to demonstrate that each scheme aligned with customer priorities. We worked closely with CCW to evaluate this evidence and took account of its view on the quality of customer engagement in our draft decisions.

Finally, we set out that all companies should explore **alternative funding** opportunities, such as third-party funding or government schemes, before seeking additional customer funding.

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<sup>5</sup> The deep dive process followed our assessment of cost adjustment claims (Ofwat, '[Delivering Water 2020: Our final methodology for the 2019 price review, Appendix 11: Securing cost efficiency](#)', December 2017, pp. 14-15, Box 2). We did not require that every proposal needed all the evidence listed in Box 2: different types of proposals may require different evidence to support them. We asked companies to provide appropriate evidence to support their proposals.

We set out our draft decision on each proposal in sections 5, 6, 7, 8 and 9.

## 3.2 Cost sharing

Since we are setting cost allowances for green recovery schemes in advance of the schemes being delivered, there is uncertainty about the true outturn cost of the schemes. This creates a risk that we will have set allowances too high or too low. Introducing cost sharing rates allows this risk to be shared between customers and companies. Where a company overspends or underspends against its allowance, it will share any overspend or underspend with its customers at a certain rate. For example, a company with a 60% cost sharing underperformance rate would incur £6 million of a £10 million overspend itself, with customers funding the other £4 million.

Cost sharing rates for green recovery allowances are listed in Table 3.1. These apply at a company level rather than a scheme specific level and show the proportions the company has to pay or gets to keep.

**Table 3.1: Green recovery cost sharing rates**

Company	Cost outperformance sharing rate	Cost underperformance sharing rate
Severn Trent Water	10%	50%
South Staffs Water	10%	55%
South West Water	10%	50%
Thames Water	10%	75%
United Utilities	10%	50%

To determine **cost outperformance rates** (which apply where companies underspend allowances), we aimed to protect customers and incentivise investment. The context of the green recovery is different to a normal price control, in that companies are being encouraged to invest in schemes that will help the green economic recovery, as well as benefiting the environment. We therefore consider it appropriate that cost outperformance sharing rates are weighted heavily in customers' favour, while still providing companies with an incentive to act efficiently. Our draft decision is therefore to set cost sharing outperformance rates at 10%.

To determine **cost underperformance rates** (which apply where companies overspend allowances), we aimed to balance risk between companies and customers. However, we considered that if we diverged from 2020–25 cost underperformance sharing rates, there is a risk that companies may face an incentive to over-allocate costs to the green recovery schemes, as customers will incur a higher proportion of any overspend than they would for PR19. Using the same rates as set at PR19 removes this incentive. The reverse incentive may apply to cost outperformance rates as well, however we consider that the risk is significantly higher regarding cost underperformance, where companies are sharing costs (rather than benefits) with customers. Our draft decision is to therefore apply the same cost underperformance sharing rates as we did at PR19: 50% for Severn Trent Water, South West Water and United Utilities, 55% for South Staffs Water and 75% for Thames Water.

### 3.3 Measuring delivery and reporting requirements

The package of green recovery schemes will provide a wide range of benefits for customers, communities and the environment. The schemes include a number of innovative trials, such as creating bathing waters, repairing customer supply pipes and replacing lead pipes, and holistic solutions to help conserve water resources. We require companies to share their learnings across the sector to inform plans for PR24. We will also ask companies to report outturn benefits and forecasts at their initial submission of PR24 business plans, and then to update as appropriate during the PR24 assessment process, to ensure an accurate position is available for our final determinations.

We also set out the metrics we propose to use to determine whether, and how far, a scheme has been delivered. This protects customers by ensuring that companies only receive funding when they deliver their schemes. We set out our **scheme delivery and reporting requirements** in **Appendix 1**.

We set out our proposed requirements for taking account of green recovery related information in **annual performance reporting** in our consultation on regulatory reporting for the 2021–22 reporting year.<sup>6</sup> As far as possible, we expect all companies to report their outturn costs and the impact of green recovery schemes on non-cost items in the existing annual performance reporting lines, as well as reporting the green recovery elements separately, in bespoke green recovery tables. We also expect companies to report the outturn benefits of green recovery schemes on each relevant performance commitment, in a bespoke green recovery table.

As part of the annual performance report submission, we expect all companies to provide an annual update on delivery in a **green recovery annual report**. Companies should include a concise update narrative for each proposal and report delivery progress against defined milestones in their plans. We also expect companies to report the outturn benefits on performance commitments against their forecast benefits, and to provide an additional

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<sup>6</sup> Ofwat, '[Consultation on regulatory reporting for the 2021–22 reporting year](#)', May 2021, pp. 8–10.

narrative where outturn benefits are materially different from ex-ante forecasts. We set out the performance commitments we expect companies to report against in Appendix 3.

### 3.4 Impacts on performance commitments

Where we expect that green recovery schemes will have a direct impact on a company's specific PR19 performance commitment levels, we need to take steps to avoid customers paying twice for improvements. Without accounting for these benefits, customers may pay once for the scheme itself, and then again for the outperformance payments companies would receive from the extra benefits provided by the investment.

There are two main ways that we could account for these benefits and protect customers:

- **Adjust the PR19 performance commitments.** We could update the current PR19 performance commitments in line with the company's forecasted impacts of the schemes on each performance commitment. This approach maintains the incentive properties of the performance commitment by encouraging the company to maximise delivery of outcomes for customers.
- **Exclude all green recovery benefits from PR19 performance commitments.** We could ask companies to report their PR19 and green recovery performance entirely separately for the remainder of 2020–25. This approach is particularly appropriate where benefits are difficult to forecast, so that making an adjustment now risks materially under- or over-estimating the benefits.

We asked all companies to set out the performance commitments that would be impacted by their green recovery proposals. We then decided the approach to take for each performance commitment.

To preserve the incentive properties of the performance commitments, we propose to make adjustments to PR19 performance commitments, except where:

- **outcomes are uncertain.** This particularly applies to innovative trials where the benefits cannot be estimated with reasonable confidence; or
- **outputs are uncertain.** This particularly applies where we are providing funding according to how many outputs are eventually delivered, rather than an upfront allowance; or
- **impacts are not material.** In some cases the potential impact on outperformance payments is minimal and so it would not be proportional to adjust the performance commitment now. We applied a materiality threshold to determine whether impacts were sufficiently material to warrant making an adjustment.

Where we do not make adjustments, we expect companies to keep the green recovery benefits for each relevant performance commitment separate from PR19 performance.

Companies should report these separate outturn benefits as part of their **annual performance reporting**.

For all performance commitments, we also expect companies to report the outturn benefits against forecast benefits in their **green recovery reporting**, and to provide an additional narrative where outturn benefits are materially different from the company forecasts.

We set out our assessment of impacts on performance commitments for each company in **Appendix 2**, how we expect companies to report against their performance commitments in **Appendix 3** and list the performance commitments we are proposing to adjust in **Appendix 4**.

## 3.5 Funding

### 3.5.1 In-period funding

Where relevant, we propose to deliver in-period funding to companies via an in-period outcome delivery incentive. This will ensure that affected companies will have access to the necessary revenue required over the course of the period. Further detail on how this mechanism will work and licence modifications needed to enable it are set out in **Appendix 5**.

### 3.5.2 End of period funding

All of the companies are proposing to recover costs in later periods, with three of the companies, South West Water, Thames Water and United Utilities, proposing to recover all costs in later periods. We will facilitate companies recovering costs from customers by including green recovery allowances within the RCV midnight adjustment at PR24.

Customers should be protected against the possibility of schemes being delivered late or not at all. Therefore, our draft decision is that the adjustment made to the RCV at the PR24 final determinations for green recovery allowances will be proportional to the amount of the particular scheme that is forecast to be delivered, by the time of the PR24 final determinations. For example, if a company is only forecast to have delivered 50% of a scheme by the PR24 final determinations, it will only receive an adjustment to the RCV that reflects 50% of the green recovery allowance for that scheme.

To allow us to make an assessment of how much companies have delivered, in Appendix 1 we set out a number of deliverables for each scheme which the company must meet to receive its allowance. We recognise that for schemes expected to deliver in 2024-25 and after, we will not have outturn measurements of delivery prior to the PR24 final determination. Therefore,

in these cases, we will rely on forecasts of delivery to make our decision on the size of the RCV adjustment. Any differences between the forecast and outturn delivery will be reconciled as part of the PR24 blind year adjustment.

The RCV adjustment made at PR24 will also include any cost sharing adjustments, and will account for the return of any in-period funding to customers where necessary. We will also apply a time value of money adjustment to any funding received at PR24, to reflect the difference between when expenditure is proposed to be incurred and when revenue is proposed to be recovered. However, we are not clear it would not be appropriate to apply time value of money adjustments to in-period funding and timing adjustments. We are minded not to make any such adjustments but will consider further before reaching final decisions. We are still considering our approach to tax, but we are concerned that companies might receive an unwarranted tax benefit. Therefore, we may account for this when making the RCV adjustment at PR24 and will discuss further with the affected companies. We will provide more detail on this in our final decisions document in July. Further detail on how the adjustment will work in practice is set out in [Appendix 6](#).

Some companies have proposed schemes which stretch into the 2025-30 period. In these cases, companies will need to recover the proportion of costs that are not added to the RCV at the PR24 final determinations later into the period. We propose to include these costs in companies' RCV profiles for the 2025-30 period, based on the expected delivery profile. Any differences between the expected and outturn delivery profile will be reconciled at PR29.

## 4. On track with 2020–25 commitments

Our green recovery assessment criteria set out that existing 2020–25 investment programmes and performance commitments must be on track for proposals to be approved. It would be contrary to the aims of the green recovery if companies fail to deliver their current commitments due to taking on additional schemes, which may not result in extra investment into the economy, improve service for customers, or enhance the environment. We therefore asked companies to provide assurance that their investments and performance commitments were on track in the round.

### 4.1 On-track delivery of investments

We asked companies to provide at least six months' performance data to demonstrate that their investment programmes are on track across base and enhancement. If a company was not in a position to provide evidence that it is on track, then we expected it to provide Board assurance of when it expects to recover any shortfall and the steps it will take to do so. We assessed the extent to which each company had demonstrated it is on track across its investment programmes, taking account of Board assurance and corrective actions where necessary.

**Severn Trent Water** provides sufficient and convincing evidence that its delivery of investment programmes largely meets expectations and, in multiple areas, the company has brought forward investments planned for future years. Overall, we consider that Severn Trent Water is **on track** with its investment programmes in the round.

**South Staffs Water** falls slightly short of providing sufficient and convincing evidence that its delivery of investment programmes meets expectations. The shortfall is driven by limited progress on a major investment at a water treatment works while the company explores an alternative solution for which it seeks a green recovery allowance. The company has not provided assurance from its Board on when it will recover this shortfall. Without this assurance, we consider South Staffs Water is **not on track** with its investment programmes in the round. We set out in section 4.3 the additional evidence we require from the company to satisfy the on-track delivery of investments component of the assessment process.

**South West Water** provides sufficient and convincing evidence that its delivery of investment programmes largely meets expectations and, in multiple areas, the company has brought forward investments planned for future years. Overall, we consider that South West Water is **on track** with its investment programmes in the round.

**Thames Water** falls short of providing sufficient and convincing evidence that some of its investment programmes meet expectations. In particular, the company forecasts investment that is lower than its allowance and, during the first six months of the year, in the majority of

areas has delivered less than half of investment in this revised programme. The company has not advised how it will recover the shortfalls or provided assurance from its Board of when it will be on track to deliver. Overall, we consider that Thames Water is **not on track** with its investment programmes in the round. We set out in section 4.3 how we have taken account of these concerns in our draft decision on the company's green recovery proposals.

**United Utilities** provides sufficient and convincing evidence that, in the vast majority of areas, its delivery of investment programmes is ahead of plan and that it has brought forward investments planned for future years. We consider that United Utilities is **on track** with its investment programmes in the round.

## 4.2 On-track delivery of performance commitments

We asked companies to provide at least six months' performance data showing that their 'key' performance commitments were on course to be achieved in 2020-21, as well as Board assurance of on-track delivery of performance commitments for the remainder of the financial year. We defined 'key' performance commitments as those reported in our most recent service delivery report, which covers the key comparable areas of performance.<sup>7</sup> We then assessed how far each company could be reasonably considered on track, in the round, with its performance commitments.

**Severn Trent Water** provides evidence to show it is on track to meet the majority of its seven key performance commitments in 2020-21. Overall, a high percentage of its performance commitments are on track to be met this year, and it has provided sufficient Board assurance to this effect. The company is also forecasting a significant net outperformance payment for 2020-21. Therefore, we consider that Severn Trent Water is **on track** with its performance commitments in the round.

**South Staffs Water** provides evidence to show it is on track to meet the majority of its four key performance commitments in 2020-21. Overall, a high percentage of its performance commitments are on track to be met this year, and it has provided sufficient Board assurance to this effect. The company is also forecasting a small net outperformance payment for 2020-21. Therefore, we consider that South Staffs Water is **on track** with its performance commitments in the round.

**South West Water** provides evidence to show it is on track to meet the majority of its seven key performance commitments in 2020-21. Overall, a high percentage of its performance commitments are on track to be met this year, and it has provided sufficient Board assurance to this effect. However, the company is also forecasting a small net underperformance payment for 2020-21. This is partly driven by forecast underperformance on its pollution incidents performance commitment. The company states that it expects to meet this performance commitment by 2024-25. The Environment Agency states that it is 'cautiously

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<sup>7</sup> Ofwat, '[Service delivery report 2019-20](#)', December 2020.

optimistic' that South West Water's Pollution Incident Reduction Plan, along with its 2020-25 business plan, will bring about the required improvements to achieve this. Overall, therefore, we consider that South West Water is **on track** with its performance commitments in the round.

**Thames Water** provides evidence that shows it is not on track to meet the majority of its seven key performance commitments in 2020-21. Overall, a significant proportion of its performance commitments are not on track to be met this year, and the company has not provided sufficient Board assurance to demonstrate that it will be on track in the round by the end of 2020-21. The company is also forecasting a significant net underperformance payment for 2020-21. Overall, we consider that Thames Water is **not on track** with its performance commitments in the round.

**United Utilities** provides evidence to show it is on track to meet the majority of its seven key performance commitments in 2020-21. Overall, a high percentage of its performance commitments are on track to be met this year, and it has provided sufficient Board assurance to this effect. The company is also forecasting a significant net outperformance payment for 2020-21. Therefore, we consider that United Utilities is **on track** with its performance commitments in the round.

### 4.3 Next steps

Overall, we consider that **Severn Trent Water**, **South West Water** and **United Utilities** are on track, in the round, with their 2020-25 investment programmes and performance commitments, and are in a position to take on additional green recovery commitments.

To be assessed as on track with its 2020-25 investment programme, we require **South Staffs Water** to provide Board assurance around when it will recover its current shortfall in delivery of enhancement expenditure. We consider the company is on track, in the round, with its PR19 performance commitments.

We consider that **Thames Water** is not on track with either its 2020-25 investment programme or its package of 2020-25 performance commitments. In both cases, the company has not provided adequate Board assurance that it is on track, nor any assurance around when it will be back on track. This raises concerns about the potential for the company to be unable to deliver its core commitments to customers by taking on additional green recovery investment.

To address these concerns, and in order to protect customers by ensuring the company focuses on its 2020-25 commitments, our draft decision makes Thames Water's green recovery allowance conditional on the company's 2020-25 smart metering programme being delivered in full. We set out our draft decision in section 8.

Where appropriate, we expect **all companies** to highlight any potential delivery or underspend issues to us in advance of their Annual Performance Report (APR) submissions, and if necessary to provide evidence that statements made about on-track investment and performance commitments continue to be accurate.

## 5. Severn Trent Water

We propose to provide Severn Trent Water with a total allowance of £564.627 million to deliver an extensive suite of proposals for the green recovery to make improvements to the environment and services to customers, and to deliver this in a low carbon way. This funding is spread across the following areas:

- Accelerating environmental improvements – £168.872 million, to improve the quality of 500 kilometres of river;
- Building sustainable flood resilient communities – £75.675 million, to trial the use of blue-green interventions to deliver an urban catchment-scale flood resilience programme and a step change in the management of surface water;
- Creating bathing rivers – £78.484 million, to help to eliminate harm from 25 storm overflows and create two inland bathing water trials;
- Decarbonising water resources – £139.841 million, to create new low carbon water resources to help improve drought resilience;
- Smart metering – £20.120 million, to install 157,000 smart meters to improve water efficiency and reduce leakage;
- Taking care of supply pipes – £74.626 million, to repair/replace 26,000 supply pipe across two trial areas to remove lead and reduce leakage; and
- Hampton Loade water treatment works improvements – £7.009 million<sup>8</sup>, to improve water quality and reduce carbon emissions.

### 5.1 Deliverability

Severn Trent Water requests £732 million to deliver its green recovery proposals, as well as £7.930 million to contribute to South Staffs Water’s Hampton Loade ceramic membrane scheme. This represents a significant increase in expenditure over the 2021–25 period; approximately a 15% uplift on the company’s PR19 final determination wholesale cost allowance.

The levels of expenditure in 2021–25 that the company proposes are comparable to those achieved in the 2016–20 period. The company has also provided evidence of headroom within its supply chain to ensure it has the capacity available to deliver the schemes.

Given this, we consider that Severn Trent Water has provided sufficient evidence of its ability to deliver its proposed schemes. Our draft decisions reduce the size of Severn Trent Water’s package of green recovery schemes. Although we did not do this due to specific concerns over deliverability, this is likely to increase the company’s ability to deliver the expenditure.

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<sup>8</sup> Hampton Loade water treatment works is a shared resource between South Staffs Water and Severn Trent Water, as a result of this arrangement Severn Trent Water funds a third of all capital investment costs.

## 5.2 Financeability

Severn Trent Water sets out that a modest increase in customer bills in the current period is required to enable its green recovery proposals to be provided in a financially resilient way, and in particular to maintain its target BBB+/Baa1 credit rating on the basis of the notional company. Severn Trent Water provides analysis showing deteriorating financial ratios for the notional company on the basis of no cost recovery during 2020–25.

Severn Trent Water proposes to recover revenue equivalent to 15% of the wholesale investment during 2023–25, deferring RCV run-off related to the investment until after 2025. This is lower than the estimated 17% operating expenditure it plans to incur through this period. At this level of customer funding Severn Trent considers its proposed approach would be consistent with maintaining its target credit rating and strikes an appropriate balance between financeability and affordability pressures.

Severn Trent Water requests that green recovery expenditure not recovered in period is included in its RCV during the current price review period. This is in anticipation of an actual RCV midnight adjustment at the next price review. This is to avoid the company being disadvantaged in its gearing metric. The green recovery investment deferred to PR24 in Severn Trent Water's proposal represents 6.8% of RCV as at 31 March 2025. Based on our draft decisions, this is reduced to 5.2%. We propose that green recovery investment that is being recovered in future periods is included in the projected 'shadow' RCV reported in table 4C of the annual performance report. Companies can provide an alternative gearing calculation based on the shadow RCV within the commentary alongside the regulatory gearing measure reported in table 4H. Companies should note that the extent to which in period funding is retained by the company and unrecovered green investment is added to the RCV at PR24 is dependent on the proportion to which particular schemes have been delivered. We set this out in sections 'In-period funding protection' and 'end of period funding' in Section 3.5.

We estimate that 18% of our allowance is operating expenditure, compared to 17% in Severn Trent Water's submission. Therefore we propose to allow an amount of revenue equivalent to the 15% PAYG recovery that Severn Trent Water proposes for its green recovery investment. This equates to £84.355 million. We consider that Severn Trent Water will continue to be able to finance the proper carrying out of its functions over 2020–25 on the basis of the notional structure based on the draft decisions for green recovery investment and the additional revenue provided during 2020–25.

## 5.3 Managing affordability pressures

Severn Trent Water proposes to recover 15% of the costs of its green recovery schemes in 2020–25, with the remaining costs recovered at PR24. The company therefore proposes to increase average customer bills by £9 in 2023–24 and £15 in 2024–25 to facilitate this level of cost recovery.

The company presents acceptability research showing that 71% of its customers supported a bill increase of between £6 and £7.99 per year. It states that these findings demonstrate support for an average £6 bill increase over 2021-25, but its proposal instead spreads this increase over two years in 2023-25.

We consider that this research does not fully demonstrate that Severn Trent Water customers support the proposals on the basis of the proposed bill increase, for the following main reasons:

- customers were not presented with the profile of bill increases included in Severn Trent Water's proposal, which would see bills rise by £9 and then £15 in the final two years of 2020-25. Rather, customers responded on the basis of an average bill increase of between £6 and £7.99;
- the bill impacts presented to customers did not include the Severn Trent Water's contribution to the improvements at Hampton Loade water treatment works (£7.0 million, see section 5.4.7). The company considers that the bill impact of this investment is small, as the average bill increase over 2021-25 increases from £6 to £6.10 per year. It states that the increase remains within the range of £6 to £7.99 that it presented to customers in its research, and for which 71% of customers were willing to pay;
- the company did not provide an indication to customers of the impact of potential outperformance payments on customer bills in 2021-25. The company is currently forecasting a significant outperformance payment for 2020-21, which will materially increase bills; and
- if these elements had been presented to customers, we consider that fewer than the indicated 71% of customers would have expressed support for the proposals, although this is not possible to quantify using the evidence presented. CCW agrees that some customers may have come to a different view if the potential impact of outperformance payments had been set out in the survey. If these elements had been included, we consider the research may not have demonstrated sufficient customer support for Severn Trent Water's proposals on the basis of the proposed bill increase.

Given the continued impact of Covid-19 on customers' financial circumstances, and the potential impact of outperformance payments on bills in the remainder of the 2020-25 period, CCW recommends that a slower-paced start to the recovery of costs would be preferable.

Severn Trent Water considers that its existing support for those struggling to pay is sufficient and that additional measures to account for the impact of green recovery schemes are unnecessary.

In light of all the evidence available, we have taken affordability concerns into account in our draft decisions, by considering opportunities to reduce the scope of Severn Trent Water's proposals where evidence of need for adjustment or the benefits to customers and environment is less convincing. We expect Severn Trent Water to spread its in-period bill

increase over 2022–25, which, together with our reduced draft allowance compared to the company’s request, will allow it to increase bills in 2020–25 in line with the £6 to £7.99 range with which customers were presented in its research.

Severn Trent Water provides wastewater services to South Staffs Water customers. This means that South Staffs Water customers will pay for the wastewater elements of the Severn Trent Water green recovery schemes, as well as the South Staffs Water green recovery scheme. Both companies are proposing to recover at least some costs from customers during the 2020–25 period. CCW notes that it is not clear what proportion of the Severn Trent Water bill impacts will apply to its wastewater-only customers in the South Staffs Water region. We set out in section 6.3 the evidence we expect to see in order to demonstrate that customers in the South Staffs Water region find the combined bill impact acceptable.

## 5.4 Assessment of proposals

### 5.4.1 Accelerating environmental improvements

This proposal is a package of measures to deliver a further 500 kilometres of river improvement, five years earlier than previously planned, at a total cost of £167.550 million. It accelerates Severn Trent Water’s delivery of Water Framework Directive (WFD) objectives, focusing on river water quality through phosphorus removal. As with all green recovery proposals from Severn Trent Water, the company aims to deliver these interventions at net zero carbon by offsetting carbon through solar energy generation and tree planting. The company proposes to:

- bring forward 35 wastewater treatment works process upgrades for phosphate removal; and
- treat and reduce spills from storm overflows through additional spill event duration monitoring, storm overflow assessment framework (SOAF) investigations at 150 locations, deliver 100 low cost spill reduction interventions, and install permanent river water quality monitoring.

The company presents Warwick wastewater treatment works investment (£5.874 million) for 2025–30 Water Industry National Environment Programme (WINEP) delivery in its bathing river proposals. However, based on our approach to the bathing rivers proposal and due to this investment delivering WFD points (through phosphorus removal) which are used to measure delivery of accelerating environmental improvements, we move this investment into this area for assessment.

### Customer support

The company presents a suite of research showing that customers place a high priority in the improvement of local environments. However, no additional research was undertaken for the green recovery as it considers there to be an existing customer mandate existing for these outcomes. This proposal has strong support from the Environment Agency as a result of there being a clear need for environmental improvements, in particular the reduction of phosphorus levels through the company's identified activities. CCW's view is that while customer support indicates that the environmental programme should be accelerated, and Severn Trent Water does highlight that the schemes are delivered based on environmental impacts that are solely or largely caused by it, customers should only pay for schemes that resolve quality issues that are the responsibility of the company.

### **Value for money for customers**

The requirement to deliver solutions to environmental needs identified through the WINEP is clear and the proposed investments (which are predominantly part of the 2025-30 WINEP programme) do not overlap with current enhancement funding. We note that there is a small risk that by accelerating delivery the company may reduce synergies and lose the opportunity to consider innovative or nature-based solutions. We would expect the company to keep its programme under review to reflect changes in the industry and incorporate its own lessons as quickly as possible.

There is an overlap with the requested funding for event duration monitors at storm overflows which is an activity the company has already agreed to deliver. Water companies committed to accelerate work to install monitors to provide full coverage by 2023 as part of the Storm Overflow Taskforce<sup>9</sup>. Therefore, we propose to not make any additional allowance for this as part of the green recovery.

Solar panel investments to develop renewable energy are not part of the appointed business and all trading should be on an arm's length basis. The appointed business should receive income for resources utilised by the project and a market derived price should be paid for the electricity generated. We therefore propose not to provide an allowance for this investment.

Tree planting, and other forms of carbon offsets, such as peatland restoration, will play a role in enabling some companies to offset their emissions where carbon free alternatives do not exist. However, at the present time developing low carbon solutions is likely to be more important. Severn Trent Water has not provided evidence that it needs to use offsets now to meet their overall carbon reduction targets. We have therefore funded Severn Trent Water's proposals to trial low carbon solutions but have not funded the proposals for tree planting.

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<sup>9</sup> [Taskforce sets goal to end pollution from storm overflows - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/taskforce-sets-goal-to-end-pollution-from-storm-overflows)

The company states that its costs are efficient based on bottom up costing and benchmarking against PR19 enhancement models. We consider that most of the costs submitted are efficient compared with our available data, this includes testing the wastewater treatment upgrades for phosphorus removal costs using the model driver data provided by Severn Trent Water in our PR19 phosphorus-removal model.

Several companies request SOAF investigation funding as part of the green recovery process. This enables us to compare SOAF cost information across these companies. Severn Trent Water's costs are similar to those of United Utilities' unit costs for standard SOAF investigations. However, there is an apparent overlap in the Severn Trent Water request for complex SOAF investigation costs and those for other modelling and monitoring activities.

## Proposed allowance

We propose to make an allowance of £168.872 million for the delivery of the environmental improvement programme described in the company's proposal. This is higher than the requested for this proposal as we have moved some investment from the bathing rivers request into this assessment. This is calculated as follows:

- We allow £150.000 million for the delivery of 35 wastewater treatment phosphorus removal upgrades, £5.874 million for upgrades to the Warwick wastewater treatment works (request made in bathing river proposal) and £8.400 million for river monitoring, low cost storm overflow interventions and overflow treatment trials.
- We allow the costs for 220 stage 1 SOAF investigations (at a unit cost of £3188), 120 standard SOAF investigations for stages 2-4 (at a unit cost of £9564) and 30 complex SOAF investigations (at a unit cost of £91,590). However, we remove £2.116 million for sampling, monitoring, and modelling costs that we consider would be covered by the complex SOAF and the high unit costs associated with them. This results in a proposed allowance of £4.598 million for the SOAF investigations.
- We do not allow the requested £0.835 million for increasing event duration monitoring coverage on storm overflows that has already been agreed by companies to deliver.
- We do not allow additional carbon offsetting costs of £1.620 million for the generation of renewable energy (considered a non-appointed business activity) and tree planting.

## Impact on 2020-25 performance commitments

As explained in Appendix 2 this scheme impacts on the company's **improvements in WFD criteria performance commitment**, and therefore we introduce a new performance commitment in Appendix 4. We set in Appendix 3 the reporting requirements against this performance commitment.

We set out our requirements for monitoring delivery and reporting progress of this programme in Appendix 1.

## 5.4.2 Building sustainable flood resilient communities

The company's proposal is to build an urban catchment-scale flood resilience programme utilising a suite of blue-green interventions<sup>10</sup> that aims to stimulate a step change in the management of surface water and developing flood resilient communities. The £84.990 million flood resilient communities green recovery proposal is to deliver the equivalent of up to 60% (58,000m<sup>3</sup>) of the anticipated future network storage required in Mansfield by 2050 through blue-green infrastructure. This includes partnership delivery of assets such as street planters, raingardens, detention basins and permeable paving. This will provide improvements to all flooding pathways (above ground and underground) and beyond that of just sewer flooding, as well as delivery of wider aesthetic and social benefits.

### Customer support

The company presents research showing that 82% of household customers (86% of non-household) support the flood resilience proposal, with only 2% of households being unsupportive. The most common reasons for support are about making a difference to people living in the region while also benefitting nature and wildlife.

When wastewater service fails, the impact is significant, often resulting in a discharge of sewage either to the environment or into customers' homes and gardens. The company's PR19 research identified the significant impact on customers caused by failings in the wastewater service, and sewage entering the environment or customers properties is a significant driver of dissatisfaction and distrust amongst customers. This research also found that customers recognise that other forms of flooding, such as highways flooding or river flooding, can impact on people's lives just as much. Customers consider that the company has a part to play here and can lead initiatives that may benefit wider society and the environment in some way.

The partnership working approach to delivering sustainable drainage systems receives clear customer support. The company also provides evidence to support Mansfield as the appropriate location for the trial, focussing on the need for economic stimulus and the scale of additional drainage capacity required in the future. On this basis CCW agrees that this proposal offers value to customers. The Environment Agency supports the proposals and sees clear links with the approach to relevant plans and strategies (such as Drainage and Wastewater Management Plans and the national flood and coastal erosion risk management strategy) and wants the trial to deliver timely data on the benefits of green infrastructure.

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<sup>10</sup> Blue-green infrastructure integrates surface water management and water quality improvements with community and biodiversity benefits. These are generally alternatives to 'grey' or concrete based infrastructure.

## Value for money for customers

The company provides evidence for future investment in additional storage and why Mansfield was suitable for an urban area trial. This proposal does not overlap with enhancement funding from PR19. The expectation is this additional enhancement funding will deliver a step change in both the performance of company assets and those of third parties to reduce the harmful impacts of sewer and other types of flooding on the people of Mansfield. This investment is also expected to future proof the risk of flooding by providing 60% of the required storage needed by 2050, as well as provide wider environmental and social benefits.

As the company has identified, but unable to quantify yet, there will be improvements to all flooding pathways (both above ground and underground). Many of these pathways are the responsibility of multiple organisations to manage the flood risks. Severn Trent Water identifies this and highlights that the interventions will provide wider benefits and synergies. However we expect customers to pay for benefits delivered in line with the company's statutory functions, and that third parties should cover their fair share of costs according to their own responsibilities. The company's proposal assumed only 3% third party funding being secured upfront, with further funding from third parties for maintenance resulting in whole life cost contributions from third parties of between 5-12%. We have judged that this proportion of upfront third party contribution is too low, specifically as we consider it unlikely that the third party benefits will be this low. Therefore, we conclude that this level of third party contribution is not in the best interests for customers over the long term.

We welcome the proposal as it has the potential to bring much wider benefits than traditional approaches. We want to support its inclusion in the green recovery to deliver these benefits and learning opportunities for PR24 whilst protecting customers from the inherent uncertainties and risks with alternative delivery models. These risks and uncertainties, which the company has recognised, are mitigated by the capped unit rate proposed by the company and an increase in upfront third party contributions which we consider will drive the best outcome.

The spend profile for the proposal is focused in the last years of the 2020-25 period, with 35% in 2023-24 and 47% in 2024-25. This will have a much lower impact on the economic recovery than if spend was earlier in the period. We expect further focus on early delivery of interventions and sharing of lessons and outturn data, which is aligned to our expectations for all green recovery schemes. The company should consider a scaled down trial programme which may help deliver outturn information earlier and which may be necessary depending on the accessibility of third party funding.

## Proposed allowance

We propose to allow up to £75.675 million of customer funding to trial blue-green infrastructure to deliver 58,000 m<sup>3</sup> of storage with the expectation that Severn Trent Water secures 11% third party funding upfront. The company is also expected to secure adoption

and maintenance for agreed asset types. The scope of the trial and the overall outcome to be delivered (ie 58,000m<sup>3</sup> of blue-green infrastructure storage in Mansfield) has not been adjusted as part of our assessment and proposed allowance.

We want to enable different approaches to funding and delivery that will deliver wider benefits for customers, communities and the environment. We are therefore supporting this scheme that has strong customer support. However, we need to drive more partnership working to ensure that the wider benefits offered by different approaches can be delivered sustainably, and without water customers paying for improvements that are the responsibility of others.

We want to develop a greater understanding of the correct share of responsibilities, benefits and subsequently funding to help inform PR24, so we have capped the funding from water customers to encourage those partners to come forward. The customer funding will be capped at 89% of the proposed storage delivered at a unit rate of £1466/m<sup>3</sup>, with the remaining 11% (based on the unit rate difference the company presents for the grey infrastructure counterfactual) to be secured from third parties that will also benefit from the scheme. This will be the maximum amount that the company can recover from customers. We are also introducing a requirement that the contribution from customers is matched by a contribution from third party beneficiaries. This will be on the basis that for every £1 of secured third party funding, the company may recover £8.09 from customers. On this basis, in order to recover the full cost of the scheme, the company will need to secure £9.314 million of third party funding. If it is unable to secure this amount of funding it will have to reduce the scale of the trial.

### **Impact on 2020–25 performance commitments**

As explained in Appendix 2 this scheme impacts on a number of performance commitments set for the company for 2020–25. We set out in Appendix 3 how we expect the company to account for the benefits from the scheme and in Appendix 4 how we adjust two of those performance commitments.

We set out our requirements for monitoring delivery and reporting progress of this programme in Appendix 1.

### **5.4.3 Creating bathing rivers**

Severn Trent Water proposes to deliver improvements to water quality for two sections of river and address them in a way that provides additional benefits and responds to the increasing expectations of customers and communities. This investment aims to address concerns with poor river quality, and respond to the growth in people wanting to take advantage of spaces with safe bathing water. To achieve this the company proposes two large-scale pilots to

deliver bathing-quality water in the Rivers Avon and Leam in Warwickshire, and River Teme in Shropshire, at a total cost of £152.686 million, through investments to:

- significantly reduce the frequency and impact of discharges from 25 storm overflows and wastewater treatment works' storm tanks;
- install ozone disinfection processes at six wastewater treatment works;
- catchment management activity to reduce pollution, in particular bacterial loads from farms in the catchment;
- generate local renewable energy and tree planting to offset carbon impact; and
- deliver river water quality monitoring at both trial locations and a water quality app for the public to help make decisions about river use.

## Customer support

The company presents customer research showing that 74% of household customers are supportive of the bathing rivers idea in principle of which 38% are very supportive. Only 5% of households are unsupportive of the idea.

The proposal promotes the recreational and well-being benefits of providing safe access to rivers for swimmers, while in the research the majority of customers cite the potential environmental, economic and social benefits as the aspects that they most value. CCW supports the scheme but wants the company to ensure that the benefits to habitats, biodiversity and nature more broadly are delivered and promoted in line with customers' views. The Environment Agency supports the scheme and notes that investment in addressing issues with storm overflows is welcomed, as is the focus on working with others in the catchment, aiming for good ecological status of rivers.

## Value for money for customers

A significant part of the needs case is based on general customer support and public expectations for river water quality. The locations identified have river activity associated with them with sites on the River Avon historically associated with wild swimming clubs. The case assumes large numbers will travel from urban areas to swim in rivers (based on regional proportion of outdoor swimmers and the identified rivers' catchment population) but the company does not provide current or forecast bathing usage figures for the locations identified as part of the proposal. The company acknowledges this, and explains that this is in part due to Covid-19 restrictions, but will continue surveying usage as part of the bathing water trial.

Investment in achieving bathing water quality can also help to meet environmental standards. The company justifies some of the proposed activities as being 'no-regret' due to

their potential to feature as part of future investment programmes in 2025–30 to meet WFD good ecological status. All these relate to storm overflow and storm tank investments.

Another driver the company identifies is possible future legislation in relation to river water quality, notably through the Urban Wastewater Treatment Directive. The company links the investment in additional disinfection treatment as being beneficial to meet these potential legislative changes, and considers the trial of more complex disinfection activities as a key learning exercise. We conclude that given the significant uncertainty around future legislation, this additional driver should not be factored into the decision for green recovery delivery.

Overall the interventions are a reasonable mix to deliver the outcome that has been identified – bathing water status and good ecological status. However, the scale of the trial is significant in terms of deliverability to inform PR24 and costs to customers. We recognise the wide number of benefits and learning opportunities from delivering this type of trial but a more focussed trial will enable these to be available in time to help inform PR24 decisions. A focussed trial that is suitably scaled for delivery will also protect customers. This is important due to the uncertainty of need (bathing water usage) and of the intervention benefits based on the technologies and outcomes being trialled.

We want to support catchment management activity where it relates to the harm that the company is responsible for, however, others need to pay where pollution is their responsibility. We are concerned that a large part of Severn Trent Water’s proposed catchment management activity, where it works with and pays farmers to reduce pollution, goes beyond water company functions.

We need a better understanding of the impact of the different types of interventions as they are delivered to help focus future investments by water companies, and therefore we consider river monitoring is an important component of this trial.

As described above, we do not consider carbon offsetting as the most efficient way for companies to address net zero ambitions, and investment in solar energy generation forms part of the non-appointed business. We do not make green recovery allowances for these.

### **Proposed allowance**

We propose to make an allowance for £78.484 million for Severn Trent Water to focus a trial at Ludlow and Leamington Spa, and also to address all storm water overflows and storm tank spills proposed across the wider region. Two potential bathing water locations could be delivered through this trial, on the River Teme (upstream and downstream of Ludlow) and on the River Leam in Leamington Spa.

This trial scope will address all 25 storm overflow and storm tanks identified on the Rivers Teme, Avon and Leam (£69.537 million), and three wastewater treatment disinfection

upgrades (£6.948 million) for Itchen Bank and Frankton on the River Leam, and Ludlow on the River Teme. Scaling the trials in this way will enable key lessons and data to be available to inform PR24. It will also generate important information about numbers of bathing users and better quantify the links between the proposed interventions and delivery of other drivers including good ecological status. We consider disinfection installations at the three wastewater treatment works as sufficient in number for a trial to deliver learning for PR24 including the ability to understand some of the differences addressing water quality issues at different localities.

Solving storm overflow issues are likely to form part of future requirements and investment proposals. Therefore, as this part of the proposal is bringing likely investment forward we have not restricted storm overflow improvements to the focussed bathing water trial locations but want delivery for all of the company's proposed river reaches. We are only allowing funding for storm overflows where the company has confirmed that these activities will go beyond meeting existing permit requirements. Our expectation is that the company is meeting current permit standards for these assets or is in the process of addressing any outstanding issues during 2020-25 (from PR19 totex allowances). We expect Severn Trent Water to provide robust evidence (including spill durations) that this remains true as the trial progresses, and we link this to the scheme delivery requirements in Appendix 1.

We include river water quality monitoring and farmer engagement costs (£2.000 million) in the proposed allowance. However, we exclude the company's proposed payments to farmers to fund interventions on their land to reduce pollution. These payments would be for improvements to remediate issues beyond those caused by the company's activities which are already addressed through its interventions in this proposal. There is also no strong case that the full catchment management is required at this stage to resolve other water quality related issues the company identifies. We also do not allow £8.558 million of additional costs to offset carbon impact through local renewable generation and tree planting.

### **Impact on 2020-25 performance commitments**

As explained in Appendix 2 this scheme impacts on the **biodiversity (water)**, **biodiversity (wastewater)** and **pollution incidents** performance commitments set for the company for 2020-25. We set out in Appendix 3 how we expect the company to account for the benefits from the scheme.

We set out our requirements for monitoring delivery and reporting progress of this programme in Appendix 1.

### **5.4.4 Decarbonising water resources**

Severn Trent Water identifies that additional water resources are needed to ensure that supplies can meet demands under more extreme drought scenarios with the growing

challenges of climate change and reducing abstractions. However, developing new supplies of water is normally carbon intensive making this unsustainable over the long term so Severn Trent Water's proposal explores ways of meeting future supply needs with lower carbon schemes. The company's proposal is to deliver 109 Ml/d at a cost of £206.183 million to customers through the following schemes:

- reducing non-household demand for water by 4Ml/d through partnerships with 3,000 high use business customers in the East Midlands;
- creating new low-carbon and reduced-chemical treatment capacity for 65Ml/d, split across two existing treatment works (Church Wilne and Melbourne) in the East Midlands;
- establishing a new combined drought, flood storage scheme on the River Severn; and
- local renewable energy generation and tree planting to offset carbon impact.

## Customer support

The company presents results from customer research and suggests that water resilience schemes have clear customer support. The results presented show that 75% support the proposal for low-carbon water resources with a further 20% saying they did not mind in principle.

While noting that customers support the delivery of increased water resilience, CCW wants any long term financial savings delivered through water efficiency and carbon reductions to be passed onto customers. The Environment Agency supports these proposals but has concerns about the reliability of the combined drought, flood storage scheme from both a flood and drought perspective.

## Value for money for customers

The need for investment is clear from the future supply-demand balance deficits that the company presents and the long term drivers (such as climate change and moving to 1-in-500 year drought resilience) which incrementally increase the need for water resources. This is future supply-demand balance enhancement and does not overlap with base or current 2020-25 enhancement funding. The investment is justified as bringing supply-demand balance interventions forward from 2025-30.

There are potentially better value options under consideration by Severn Trent Water to meet its future water resources needs than those presented for green recovery funding. However, the options the company presents in its proposal are optimal for delivering against shorter term water resource needs (forecast supply deficits in 2028). Longer term projects (including those referenced in the submission) are still under consideration for the company's regional water resources plan and 2024 water resources management plan.

The company does not provide a clear cost breakdown or external benchmarking of the Church Wilne and Melbourne water treatment works additional process streams. It uses its internal unit cost model to develop a high level cost for each based on traditional interventions the company has delivered in the past. No bottom up costing of traditional or lower carbon/chemical solutions is provided. The company indicates that these alternative solutions are likely to cost more than traditional methods but no clear evidence is made to support this for each component of the process. We also note that the unit rate of the scheme for additional capacity delivered is high compared to our PR19 supply-demand balance rate of £1.2 million per Ml/d. Based on the average capacity delivered of 65Ml/d the unit rate for these schemes is £2.3 million per Ml/d, and even accounting for peak output at 93Ml/d the rate is still high at £1.6 million per Ml/d. Based on the limited cost efficiency evidence and high unit costs we apply a 10% challenge to this scheme.

There is significant uncertainty in the costs and benefits for the combined drought, flood storage scheme, including the sensitivity of its cost-benefit depending on unconfirmed third party contributions. There is also uncertainty over the availability of the scheme and this uncertainty and associated capital costs may reduce over time. There is no clear advantage in accelerating this component and as such we propose to remove it from the green recovery scheme.

## Proposed allowance

We propose to make an allowance of £139.841 million<sup>11</sup> for the delivery of the non-household demand saving activities and the additional capacity provided at Church Wilne and Melbourne water treatment works.

We propose not to allow the additional £11.200 million of costs requested to offset carbon by local renewable generation using solar panels and tree planting for the reasons already mentioned on the previous schemes. We also propose not to allow the £40 million for the development of a combined drought, flood storage scheme.

## Impact on 2020–25 performance commitments

As explained in Appendix 2 this scheme impacts on the **biodiversity (water)** and **biodiversity (wastewater)** performance commitments set for the company for 2020–25. We set out in Appendix 3 how we expect the company to account for the benefits from the scheme and in Appendix 4 how we adjust the **resilient supplies** performance commitment.

We set out our requirements for monitoring delivery and reporting progress of this programme in Appendix 1.

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<sup>11</sup> Post-submission the company highlighted that there was an error with the internal capital programme delivery uplift percentage. This adjustment results in a reduction of £0.154 million.

### 5.4.5 Smart metering

Severn Trent Water proposes to install 157,000 smart meters (AMI, advanced meter infrastructure technology, enabling near real time data reporting), across Coventry and areas of Warwickshire, that can be monitored remotely on a frequent basis. This would include replacement of 91,000 existing meters and 66,319 new meter installations. Through this trial the company plans to deliver water efficiency savings to help maintain its supply-demand balance during droughts and protect the environment, whilst also establishing the costs and benefits of adopting this technology within its region. The company requests funding of £21.934 million for this trial.

#### Customer support

Severn Trent Water references customer support for metering as a water resources option from its 2019 business plan 'supply and demand' research. The company also includes increased household metering within its 'decarbonising water resources' proposal which 75% of customers supported. Customers' main concerns regarding metering were the potential for an increase in bill. In response to this concern the company references that customers can revert to unmetered bills within 24 months if they do not save money on a meter. Also we note that customers are free to choose to switch to measured billing or to remain on unmeasured charges following the installation of the smart meter. We consider that the company has provided evidence of customer support for the proposed smart metering trial. As part of the trial outputs we would expect the company to identify lessons learnt in terms of engagement with customers during an area based smart meter roll-out.

#### Value for money for customers

We have previously recognised the benefits smart meters can provide over basic meters in terms of enabling a company to better understand leakage from customers' pipes and supporting detailed engagement with customers regarding water efficiency. Any reduction in demand can benefit customers through lower bills and protect and enhance the environment by reducing volumes of water abstracted. We adopted the same assessment approach as we used as we used at the 2019 price review to evaluate Severn Trent Water's smart metering proposals.<sup>12</sup> We still consider it is appropriate to fund companies to install smart meters despite the internalised benefits the company will receive and that trials such as this will help to establish the efficient costs and level of benefits to inform development of future smart metering programmes.

We challenged Severn Trent Water's costs for new meter installation through comparison with our PR19 metering model and found the company's costs to be efficient compared with the benchmarked model.<sup>13</sup> Therefore we allow the requested costs in full.

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<sup>12</sup> Ofwat, '[PR19 final determinations: Securing cost efficiency technical appendix](#)', December 2019, pp. 83-85.

<sup>13</sup> Ofwat, '[Wholesale Water Enhancement feeder model: Metering](#)', December 2019.

We assessed the company's costs for meter replacement through an engineering deep dive, where possible we benchmarked costs against those of other companies. Consistent with our 2019 price review approach and the Competition and Markets Authority's redeterminations we make an efficient allowance for only the costs driven by the uplift in technology when a basic meter is replaced with a smart meter.<sup>14</sup> This avoids customers paying twice for meter replacement as meter replacements will be included in the company's future base allowance at PR24. Severn Trent Water's proposal was for customers to fund the replacement in full through green recovery but we propose to remove £1.312 million of replacement costs.

## Proposed allowance

We propose to make a total allowance of £20.120 million. We note that the expenditure presented in the evidence and responses to queries does not reconcile to the £21.934 million request. Our allowance is built up from the number of new meter installations and meter replacements identified by the company and efficient unit rates for these activities. We make an additional allowance for smaller scale supporting costs where the company has justified their inclusion.

## Impact on 2020–25 performance commitments

As explained in Appendix 2 this scheme impacts on the **leakage, per capita consumption** and **number of water meters installed** performance commitments set for the company for 2020–25. We set out in Appendix 3 how we expect the company to account for the benefits from the scheme.

We set out our requirements for monitoring delivery of the scheme and reporting progress in Appendix 1.

### 5.4.6 Taking care of supply pipes

Severn Trent Water is proposing to invest £97.870 million to undertake 30,000 supply pipe repair/replacements to the compliance point at three trials locations (Coventry 25,000, Worcester 4,000 and Bomere Heath in Shropshire 1,000) for £84.824 million. This includes £13.046 million of associated enabling costs (water efficiency, sampling, new technology innovation trials, customer engagement, training and data systems improvements). The proposal will provide health benefits from lead pipe replacement, associated leakage reduction and supports financially vulnerable customers who may struggle to repair/replace their supply pipes. The proposals also include fitting boundary boxes and meters, and the ambition for the cessation of chemical dosing for plumbosolvency control in Bomere Heath zone.

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<sup>14</sup> Competition and markets authority, '[Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations, final report](#)', March 2021, pp.534–536.

## Customer support

Issues of ownership of supply pipes are not well understood by customers' and are not at the forefront of customers' minds unless prompted. However, when prompted, customer support is high to address water quality lead risks. Customers are also concerned with the likely disruption and cost implications of supply pipe repairs/replacements. We recognise that customers' engagement needs can be diverse and that the company proposes a range of techniques to maximise awareness, engagement and to apply the use of new technology to minimise these concerns. The techniques include community based awareness campaigns to promote supply pipe responsibilities and other related aspects such as leakage, water efficiency and affordability issues.

## Value for money for customers

We support the ambition to improve drinking water quality in this proposal and its potential to provide information to inform PR24. We also note that Defra has confirmed support for the DWI's views on reducing lead in the industry. The trials will provide further information on the potential costs and benefits into the industry debate for PR24 and the DWI's ambition to achieve a future lead free system.

The Coventry trial area provides multiple opportunities for customers and industry learning. These include: 2020-25 synergies with the wider smart metering and mains renewal programme, support for vulnerable customers, tackling an area with a high prevalence of customer joint supplies, an area that is mostly urban and that the trial can be offered to the whole area. The Bomere Heath trial area offers a different set of benefits on a small scale, but crucially the opportunity to disengage phosphate dosing for the whole rural area. The Worcester trial has no additional opportunities to those offered by undertaking the Coventry and Bomere Heath trials.

The scope and learning opportunities to the company and for the industry for the Coventry and Bomere Heath trials is significant and we support these trials. We do not support the Worcester trial as the learning value is not unique and de-scoping helps to address the wider Severn Trent Water programme affordability concerns.

We have considered and we propose to challenge the trial cost build-ups, remove the costs for the Worcester trial (4,000 supply pipe repairs/replacements) and apply PR19 cost allowances where appropriate (boundary box fitting and standard meter replacements) to allow £65.484 million.

We have separately assessed the £13.046 million of additional associated cost lines (wider environmental initiatives; detecting lead; innovation trials; customer and community education/engagement; training and developing skills; and improvements to data capture and sharing system). Where the evidence provided is sufficient we propose not to challenge

the costs. Where evidence is not sufficient we propose to apply a line specific cost challenge, ranging between 10% and 50% resulting in an allowance of £9.140 million.

### **Proposed allowance**

We propose to make a total allowance of £74.626 million (£65.484 million for the 26,000 supply pipe repair/replacements for Coventry and Bomere Heath trial areas and £9.142 million for additional enabling costs).

### **Impact on 2020–25 performance commitments**

We set out our requirements for monitoring delivery of the scheme and reporting progress in Appendix 1. As explained in Appendix 2 this scheme impacts on the **leakage** and **per capita consumption** performance commitments set for the company for 2020–25. We set out in Appendix 3 how we expect the company to account for the benefits from the scheme.

## **5.4.7 Hampton Loade improvements**

Hampton Loade Water treatment works is a shared resource between South Staffs Water and Severn Trent Water. As a result of this arrangement Severn Trent Water contributes a third of capital investment costs on the site. South Staffs Water has submitted a green recovery proposal for installation of a ceramic membrane process at Hampton Loade (see section 5 for further detail). Severn Trent Water has provided evidence that its board supports this proposal and it requests £7.930 million to fund its contribution to the scheme.

### **Customer support**

Severn Trent Water has not engaged with its customers specifically regarding its contribution to this scheme because it states it was not aware of the South Staffs water proposal prior to the submission of its own green recovery proposals. The company has stated for other schemes that customers are supportive of investment to increase resilience and decarbonise water sources, which are two benefits of the Hampton Loade investment.

### **Value for money for customers**

The details of the value for money for customers assessment of this scheme are included in section 6.4.1.

### **Proposed allowance**

We propose to make a green recovery allowance of £7.009 million to Severn Trent Water for this scheme. The details of the derivation of this allowance are included in section 6.4.1.

## 5.5 In-period funding

As set out in section 5.2, our draft decision is that Severn Trent Water should receive £84.355 million in-period. This funding will be delivered through an in-period outcome delivery incentive (ODI) which takes effect during the 2020-25 period. Further detail on this in-period ODI and the licence modifications needed to enable it are provided in Appendix 5.

Where a company is forecast to not fully deliver a scheme by the time of the PR24 final determination, an amount of in-period funding will be returned to customers, proportional to the amount of the scheme which has not been delivered. We will account for this within the RCV midnight adjustment that the company receives at PR24. Further detail on how this will work in practice is given in Appendix 6.

## 6. South Staffs Water

We propose to make an allowance of £14.850 million for South Staffs Water to install ceramic membranes at Hampton Loade water treatment works to deliver enhanced water quality, increase the resilience of the works, contribute towards achieving net zero carbon and remove the requirements for significant upgrades of other process stages planned for 2025-30. The treatment works is a shared resource and £7.841 million is to be funded by the company's customers, and £7.009 million by Severn Trent Water customers.

### 6.1 Deliverability

South Staffs Water requests £17.6 million as part of its green recovery submission. £9.7 million of this to be funded by the company's customers, and £7.9 million by Severn Trent Water customers. This would result in an approximate 3.1% increase in expenditure for South Staffs Water for the 2020-25 period from the PR19 final determination wholesale cost allowance. The combination of the company's 2020-25 commitments and the green recovery proposal is equivalent to an approximate 13% increase in expenditure from the levels delivered in 2015-20. As this represents only a small increase in expenditure, we consider that this is achievable for South Staffs Water.

The company provides evidence that it already has some of the resources and controls in place needed to ensure delivery, in particular given that the ceramic membrane solution is replacing a solution which was funded in our PR19 final determination and was expected to be delivered in 2020-25.

We therefore consider that South Staffs Water has provided sufficient evidence of the deliverability of its green recovery proposal.

### 6.2 Financeability

South Staffs Water states that it has targeted credit ratings of Baa1/BBB+ as set out in its business plan for 2020-25 to maintain its current level of credit quality and provide some level of headroom.

Based on its proposed additional investment, without additional funding during the period, South Staffs Water sets out that the adjusted interest cover for the notional company would fall consistently below the threshold required to maintain the target credit rating for the notional company. Based on the level of in-period funding South Staffs Water proposes, the company provides financial ratios that are marginally below the rating guidance it references. However, the company believes it would maintain current credit metrics for the remainder of the period to 2025.

South Staffs Water's proposal includes a revenue allowance during 2022-25 equivalent to an allowed return on capital and RCV run-off at a rate of 5.56% with corresponding additional tax allowance. All of the proposed green recovery expenditure is capital in nature. Therefore the company has not proposed to recover revenue equivalent to PAYG. In response to a query, South Staffs Water sets out that this equates to approximately £2.9 million in current prices over the period (£2.5 million in 2017-18 FYA CPIH prices, approximately 0.4% of revenue allowed in our PR19 final determination).

We agree with the company that the green recovery investment places a constraint on the financeability of South Staffs Water on the basis of the notional company over the period 2020-25. Therefore, we propose to allow South Staffs Water additional revenue from customers equivalent to the allowed return on capital (based on the PR19 final determination cost of capital) and RCV run-off. This equates to £1.596 million over the period 2022-25. This is additional to the contribution from Severn Trent Water. At this stage we have not made an allowance for tax, as we are not convinced that any incremental tax payable on additional revenue will not be offset by additional capital allowances. We consider that South Staffs Water will continue to be able to finance the proper carrying out of its functions over 2020-25 on the basis of the notional structure based on the proposed allowances for green economic recovery investment and the additional revenue provided during 2020-25.

### **6.3 Managing affordability pressures**

South Staffs Water proposes to recover an allowed return on capital and RCV run-off during the 2022-25 period. The company estimates that, in 2022-25, customer bills will increase by around £1.37 per year, on average, to pay for its green recovery scheme.

The company presents customer evidence that suggests 96% of its customers support the scheme and the associated bill increase. However, the company recognises that, due to the small sample size used, the survey is 'not fully representative and robust'. We note that the same survey suggests that a significant minority (26%) of South Staffs Water customers do not expect their water bill to be affordable over 2022-25. Overall, we consider that the sample size is too small to draw reliable conclusions regarding customer views on affordability for this proposal.

As South Staffs Water is a water-only company, its customers receive wastewater services from Severn Trent Water. This means that South Staffs Water customers will pay for the South Staffs Water green recovery schemes as well as the wastewater elements of the Severn Trent Water schemes. Both companies are proposing to recover at least some costs from customers during the 2020-25 period. CCW notes that it is not clear what proportion of the Severn Trent Water bill impacts will apply to its wastewater-only customers in the South Staffs Water region. We would expect to see evidence that customers in the South Staffs Water region find the combined bill impact acceptable.

South Staffs Water is undertaking further engagement with customers regarding the impact of green recovery proposals on the combined water and wastewater bill. This engagement is on a larger scale than the company's previous customer survey and representation is included from different customer groups. We expect the company to report on the level of support for the proposal following this engagement and identify what measures it intends to take to support customers facing affordability issues.

We will consider this evidence in our final decisions, including whether additional steps need to be taken to alleviate affordability pressures on South Staffs Water customers.

## 6.4 Assessment of proposals

### 6.4.1 Using ceramic membrane at Hampton Loade

South Staffs Water proposes to amend the solution it proposed in its 2019 business plan at Hampton Loade water treatment works from rapid gravity filters (RGFs) to a ceramic membrane process. This will increase the cost from the RGF solution for which we made an allowance in our PR19 final determination. The company considers that the amended innovative solution will provide benefits from improved water quality, increased resilience, lower carbon and reduced future investment. The increase in scheme cost will impact both South Staffs Water and Severn Trent Water because the Hampton Loade is a joint resource and Severn Trent Water contributes a third of all capital costs incurred<sup>15</sup>. South Staffs Water requests £17.614 million capex as part of its green recovery submission. £9.684 million of this is to be funded by the company's customers, and £7.930 million by Severn Trent Water's customers.

#### Customer support

South Staffs Water references its 2019 business plan research and its customer priority tracking survey for 2020–21 to demonstrate that customers consider water quality remains the top priority for investment. The company has surveyed a small number of customers on the specific green recovery proposals. These customers were supportive of the proposal. However, as stated above the company is undertaking further engagement with its customers with regards to the support for and affordability of this specific green recovery proposal. South Staffs Water will provide the results from its further customer engagement to support our final decision.

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<sup>15</sup> Severn Trent Water contributes a third of the gross project capital costs, £55.920 million. This would result in Severn Trent Water contributing a total of £17.509 million. The additional funding in the green recovery request is based upon these totals and consideration of our PR19 final determination allowance. For Severn Trent Water we made a PR19 final determination allowance for a contribution of £10.500 million.

## Value for money for customers

We have undertaken a deep dive assessment of the proposal to install a ceramic membrane solution at Hampton Loade. This is consistent with our assessment of the cost adjustment claim in the company's 2019 business plan for water treatment works improvements,<sup>16</sup> which included the RGF solution for Hampton Loade. We have worked closely with the DWI to assess the viability of the option and the additional benefits it may realise in comparison to the original proposal.

We accept that the need to improve water quality at Hampton Loade treatment works to meet the requirements of a DWI improvement notice is unchanged from the 2019 business plan.<sup>17</sup> The results from the company's pilot trials support the stated additional benefits of the scheme compared to the RGF solution. These benefits are to provide customers with enhanced water quality, increase the resilience of the works, contribute towards achieving net zero carbon and remove the requirements for significant upgrades of other process stages planned for 2025–30. We therefore propose to make an allowance for South Staffs Water to develop this scheme. This is conditional on the DWI accepting the company's formal submission to change the solution.<sup>18</sup>

We have reviewed the evidence the company has provided to demonstrate the efficiency of the costs proposed for the ceramic membrane solution. While there are challenges in comparing costs in a retrofit scheme, we do not find evidence that the company has compared costs with other installations. The company provides a third party report assessing the project cost build up. On reviewing the information in this report, we consider that there are potential opportunities for cost reduction.

We have compared the proposed cost increase of changing from a conventional treatment solution to a ceramic membrane solution at Hampton Loade to those identified by South West Water for similar improvement options at two of its works. While we understand that site and project specific factors may influence costs, the increase identified by South Staffs Water is significantly larger than that by South West Water. We therefore consider that, based on this comparison and the evidence submitted by the company, it is appropriate to apply an efficiency challenge of 5%. This reduces total scheme costs from £55.290 million to £52.526 million.

## Proposed allowance

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<sup>16</sup> Ofwat, '[Cost adjustment claim feeder model South Staffs Water](#)', December 2019

<sup>17</sup> The RGF solution is currently associated with the [DWI improvement notice](#) for Hampton Loade,

<sup>18</sup> South Staffs Water intends to initiate the formal change process for the solution associated with its Hampton Loade DWI improvement notice following confirmation of a conditional allowance for the scheme. If the DWI do not accept the change of solution we will return any in-period funding to customers.

We propose to make a green recovery allowance to both South Staffs Water and Severn Trent Water based on a gross project cost of £52.526 million and calculate the variance between this total and the existing allowance for 2020–25 from our PR19 final determinations.<sup>19</sup> We divide the resulting green recovery allowance between the companies on the basis of the existing individual company allowances we made for the 2020–25 period in our PR19 final determinations and the agreement that Severn Trent Water contributes a third of all capital costs.

Severn Trent Water will therefore make a total contribution of £17.509 million, and as stated in section 5.4.7, we propose to make a green recovery allowance of £7.009 million to Severn Trent Water in addition to the existing £10.500 million allowance for 2020–25 in our PR19 final determination.

South Staffs Water will therefore fund £35.017 million of the gross project costs and we propose to make a green recovery allowance of £7.841 million to South Staffs Water in addition to the £27.176 million available from the existing allowance for 2020–25 we made in our PR19 final determination in response to the cost adjustment claim allowance in the company's 2019 business plan.<sup>20</sup>

### Impact on 2020–25 performance commitments

As explained in Appendix 2 this scheme impacts on the **compliance risk assessment (CRI)** and **carbon reduction** performance commitments, however as both do not include financial outperformance payments we do not make any adjustments. It will also impact its **water treatment works delivery programme** performance commitment, due to the proposed amendment to the estimated delivery date, and we propose to make adjustments as set out in Appendix 4. We set out in Appendix 3 how we expect the company to account for the benefits from the scheme.

We set out our requirements for monitoring delivery of the scheme and reporting progress in Appendix 1.

## 6.5 In-period funding

As set out in section 6.2, we propose that South Staffs Water receives £1.596 million of revenue in-period. This funding will be delivered through an in-period outcome delivery incentive (ODI) which will take effect during the 2020–25 period. Further detail on this in-period ODI and the licence modifications needed to enable it are provided in Appendix 5.

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<sup>19</sup> The gross project cost in terms of request and allowance is entirely capital expenditure

<sup>20</sup> In our PR19 final determinations we made an allowance of £68.023m in response to South Staffs Water's cost adjustment claim for three schemes including the Hampton Loade scheme. The two other schemes are forecast to be delivered for £30.347m leaving an allowance of £37.676m for Hampton Loade which includes a Severn Trent Water contribution of £10.500m.

Where a company is forecast to not fully deliver a scheme by the time of the PR24 final determination, an amount of in-period funding will be returned to customers, proportional to the amount of the scheme which has not been delivered. We will account for this within the RCV midnight adjustment that the company receives at PR24. Further detail on how this will work in practice is given in Appendix 6.

## 7. South West Water

We propose to make an allowance of £81.042 million for South West Water schemes to deliver a comprehensive suite of proposals to deliver early benefits for the customers, communities and the environment. This funding encompasses:

- Catchment management - £9.000 million to improve the environment, flood risk management, carbon storage, raw water quality and water supply in dry periods;
- Knapp Mill water treatment works - £24.877 million to deliver water quality and water supply resilience benefits to the company's Bournemouth supply area;
- Smarter, healthier homes - £17.402 million to install 76,000 smart meters and replace/repair customer supply pipes to improve water efficiency, reduce leakage and remove lead supply pipes;
- Storm overflows - £7.062 million to undertake storm overflow investigations, pilot inland river bathing water on the rivers Dart and Tavy and surface water separation; and
- Water resource grid enablement - £22.702 million to improve water supply resilience and address drinking water quality issues.

### 7.1 Deliverability

South West Water requests £92.4 million to deliver its green recovery proposals. This is equivalent to an approximate 5% increase on the 2020–25 expenditure allowed as part of the PR19 final determination.

The modest increase on planned 2020–25 expenditure, and the fact that the company delivered a lumpier investment profile in 2015–20 than that proposed for 2020–25, suggests that South West Water has the ability to deliver on the higher levels of investment proposed in its submission.

The company provides evidence showing that an average of approximately £23 million of expenditure per year would be required to fund the green recovery schemes. South West Water accelerated £22 million of expenditure in 2020–21, evidencing that the increases on the 2020–25 allowances are likely to be deliverable. Expected expenditure savings in 2020–21 should also provide further headroom for the remainder of the period. South West Water provides Board assurance that the proposed green recovery schemes are deliverable alongside its commitments made as part of PR19.

Given the above, we consider that South West Water has provided sufficient evidence of the deliverability of its green recovery proposals.

## 7.2 Financeability

South West Water provides Board assurance that its proposals are financeable and do not significantly increase any short, medium or long term risk to the financeability of the company.

South West Water states that, with a strong balance sheet in place and underlying gearing reducing over 2020–25, it has sufficient headroom to deliver this additional investment alongside its existing capital programme.

South West Water proposes to defer the recovery all of the £92.4 million additional expenditure plus the cost of financing until after 2025. The company sets out that the proposal defers £9.3 million of RCV run-off and return on RCV revenue (net of tax) during the period to 2020–25. This represents 0.4% of allowed revenue for the same period. Unrecovered totex represents 2.9% of RCV as at 31 March 2025. Based on our proposed allowance of £81.1 million, this reduces unrecovered revenue allowances to 0.3% of allowed revenue and the total investment to 2.5% of RCV as at 31 March 2025. The impact on the average key financial ratios for the notional company presented in the final determination for South West Water is not material.

We consider that South West Water will continue to be able to finance the proper carrying out of its functions over 2020–25 on the basis of the notional structure based on the draft allowances for green economic recovery investment.

South West Water states that it received a 10bps increase to the cost of equity in its final determination and that this should be included as part of the reconciliation at PR24. South West Water received an allowed return on capital for the wholesale price controls of 2.92% (on a CPIH basis, 1.92% on a RPI basis), consistent with the sector allowed return. The fast track reward, equivalent to ten basis points on the return on regulatory equity, was specifically to recognise the quality of the PR19 business plan. We propose to use South West Water's PR19 allowed return on capital in the reconciliation for green recovery investment at PR24 and not to include the fast track reward element.

## 7.3 Managing affordability pressures

South West Water proposes to recover all costs of its green recovery schemes at PR24. This will avoid increasing customer bills in the current 2020–25 period.

The company estimates that, in 2025–30, bills will increase to pay for its green recovery schemes by around £5 per year for customers in the South West Water region and around £3 per year for customers in the Bournemouth Water region. Its customer research indicates that 81% of customers support its proposals, and, on average, customers are willing to pay £11.82 per year for the proposals. This willingness to pay drops to £9.10 among customers in

the lowest socioeconomic group. As noted by CCW, these willingness to pay results outweigh the actual bill impacts of the schemes by a considerable margin.

We consider that South West Water has therefore demonstrated a sufficient level of customer acceptability for its green recovery proposals.

## **7.4 Assessment of proposals**

### **7.4.1 Catchment management**

The company proposes to bring forward WINEP 2025–30 interventions to restore 10,000 hectares of land to improve catchment management and drinking water protected areas on rivers and headwaters in the Dartmoor catchment at a cost of £10.000 million. The work comprises 1,000 hectares of intensive peatland restoration at a cost of £3.000 million and 9,000 hectares of catchment management at a cost of £7.000 million, working with partner NGOs who provide additional contributions. This is a continuation of the company's 2015–2020 'Upstream Thinking' programme. This will deliver nature based benefits for the environment, flood risk management, carbon storage, raw water quality, water supply through dry periods and work with farmers to reduce pesticide pollution.

#### **Customer support**

Protecting and improving the environment was the key priority for customers engaged on the company's green recovery proposal and extending catchment management received strong support. The Environment Agency and DWI also provided strong support for this proposal – it aligns with, and builds on existing partnership work with the company..

We also note the strong continued support and commitment from partner environmental NGOs (Dartmoor National Park, Devon Wildlife Trust, South West Lakes Trust and Westcountry Rivers Trust) and involvement of the University of Exeter, Centre for Resilience Environment, Water and Waste.

#### **Value for money for customers**

At PR19 we challenged the company requests for Drinking Water Protected Areas enhancement costs due to a lack of detail of solution costing and procurement/delivery opportunities, applying a 20% cost challenge. For catchment management we challenged the costs based on the estimated benefits and the 2015–2020 spend. These cost challenges were accepted by South West Water as part of its fast track status at PR19.

South West Water present a wide cost range per hectare of catchment management from £133/hectare to £2,091/hectare and recent cost examples from specific catchments. We

acknowledge that costs can be bespoke to the catchment and that average rate used of £333/hectare is at the lower range of recent examples. For the peatland restoration South West Water also present a wide cost range from £5,300/hectare to £10,500/hectare, and consider £7,000/hectare a reasonable rate to use for the challenges on Dartmoor. However, the evidence is not sufficient to demonstrate why these average cost rates are cost efficient for the proposed catchments. As a result of the PR19 cost challenge and the lack of catchment specific costings we apply a 10% cost challenge to the schemes for the efficient delivery for customers.

### **Proposed allowance**

We propose to make an allowance of £9.000 million for the delivery of the catchment management interventions identified in the company's proposal.

### **Impact on 2020-25 performance commitments**

We set the scheme delivery requirements in Appendix 1 and the reporting requirements in Appendix 3.

This scheme impacts the company's **biodiversity - enhancement** performance commitment which we adjust in Appendix 4.

## **7.4.2 Knapp Mill water treatment works advancement**

We made an allowance at PR19 for the commencement of the refurbishment of Knapp Mill water treatment works in 2022-25. The company proposes to bring forward £25.008 million from 2025-30 to complete the water treatment works upgrade 18 months ahead of schedule, by September 2025.

### **Customer support**

Customers, the Environment Agency and the DWI supported this project during the development of the company's PR19 business plan and support the green recovery acceleration of this scheme to deliver water quality and water supply resilience benefits to the company's Bournemouth supply area.

### **Value for money for customers**

We have challenged the company to ensure the operating range of the works continues to be cost effective in light of two new emerging uncertainties. Firstly, the company identifies the potential for a river abstraction sustainability reduction during low flow summer months. Secondly, any likely impact on the ability to transfer water to Southern Water as part of the Water Resources South East regional group proposals to address water stress in that region.

The company has continued dialogue with the Environment Agency and Natural England concerning these matters and received confirmation that any change in abstraction licence is likely to be a five to fifteen year timeframe with short, medium and long term steps. We note that any future transfers to Southern Water are part of the ongoing engagement with the regulators including the consideration of wide ranging raw water resource options. We consider that the works' designed operating range remains suitable and not adversely affected by the advancement of the 2025-30 expenditure.

At PR19 we challenged the South West Water cost adjustment claim for Knapp Mill water treatment works and applied a 5% efficiency challenge to the enhancement costs for 2020-25. South West Water included a reduction for this challenge in its green recovery proposal. However, we challenged how the calculation was made and South West Water agreed that a further £0.131 million should be removed from its proposal.

### **Proposed allowance**

We propose to make an allowance of £24.877 million which ensures the consistent application of the PR19 5% efficiency challenge to enhancement costs.

However, we note that South West Water expects to complete the scheme in 2025-26. We will use the measures of scheme delivery to assess how much we add to the RCV for the Knapp water treatments works scheme through the midnight adjustment at PR24. We will reflect any costs required in the next period within the RCV profile for 2025-30.

We set out our requirements for monitoring delivery of the scheme and reporting progress in Appendix 1.

## **7.4.3 Quality water for all**

Over one third of all private water supplies in England are located in the south-west and the company presents concerns about the quality of these supplies and the potential health risks they can present. To address these concerns the company proposes a trial to transfer eight clusters, comprising 160 properties, of private supplies to the potable water network for £2.000 million, paid for by existing water customers and which could inform future national policy decisions.

### **Customer support**

This proposal received a level of customer acceptability at 77%. South West Water reference the strong support by customers for the adoption of services on the Isles of Scilly as a comparison for the adoption of private supplies trial. We consider that the adoption of services on the Isles of Scilly is a different scenario to the adoption of private supplies - due to the Government's decision to extend the application of the Water Industry Act. The

company was appointed as the water and wastewater undertaker in that area and took the responsibility of the existing infrastructure that was owned by the Council of the Isles of Scilly, the Duchy of Cornwall and the Tresco Estate.

We also note that the drinking water quality concerns are presented at the regional level and we have not seen evidence of poor water quality presented for the specific clusters or properties proposed to be addressed.

### **Value for money for customers**

We did not receive sufficient evidence that existing customers should be burdened with the cost of connecting private supplies to the company's potable water infrastructure as the existing legal framework provides suitable provisions for the recovery of these costs.

The existing legal framework provides mechanisms for private water supplies to meet water quality standards, subject to the regulation by local authorities (as set in the private water supplies regulations and sections 77, and 80 to 82 of Water Industry Act 1991). Section 80 of WIA91 refers to the supply of water by a water company only as a temporary measure when a problem with the quality or sufficiency of the private water supplies is detected.

Sections 41 and 45 of WIA91 impose a duty on water companies to extend their water networks to unserved areas in response to a water main requisition and to make the connection between the water main and the property, for which they are entitled to charge the property owner that requested it.

### **Proposed allowance**

We do not propose to make an allowance. The existing legal framework provides mechanisms for private supplies to meet water quality standards, for the company to recover from the property owner its costs to connect new properties, and for the property owner to seek competitive alternatives from self-lay providers.

## **7.4.4 Smarter, healthier homes**

The company proposes to conduct £16.852 million of trials across North Devon supply region to progress three direct customer challenges. Firstly, protecting and conserving water resources, secondly, reducing the risk lead pipes present to water quality and customer health and thirdly supporting customers to address affordability issues. The trials encompass installation of advanced metering infrastructure (AMI) smart meters (£8.164 million, 68,000 domestic, 8,000 commercial), replacing lead pipes (£7.272 million, 5,100 to building wall) and replacing/repairing customer supply pipes (£1.412 million, 2,076 interventions).

### **Customer support**

Customers welcomed pilot study proposals to improve environmental awareness and public health, with water quality a top priority. We also note the ambition of Defra and DWI in these proposals to inform industry learning opportunities and help inform any future policy decisions.

## Value for money for customers

We have previously recognised the benefits smart meters can provide over basic meters in terms of enabling a company to better understand leakage from customer's pipes and supporting detailed engagement with customers regarding water efficiency. Any reduction in demand can benefit customers through lower bills and protect and enhance the environment by reducing volumes of water abstracted. We adopted the same assessment approach as we used at the 2019 price review to evaluate South West Water's smart metering proposals.<sup>21</sup> We still consider it is appropriate to fund companies to install smart meters despite the benefits they will receive and that trials such as this will help to establish the efficient costs and level of benefits delivered to inform development of future smart metering programmes.

We challenged South West Water's costs for upgrade to its new meter installation through comparison with our PR19 benchmarking model for new meter installation. We find the company's revised costs including the upgrade allowance to be efficient compared to the benchmarked model. Therefore we allow the requested costs in full. At PR19 the company's costs were efficient and they remain so following addition of the upgrade costs.

We assessed the company's costs for meter replacement and upgrade through an engineering deep dive, where possible we benchmarked costs against those of other companies. Consistent with our 2019 price review approach and the Competition and Markets Authority's redeterminations we only make an efficient allowance for the costs driven by the uplift in technology when a basic meter is replaced with a smart meter.<sup>22</sup> This avoids customers paying twice for meter replacement as meter replacements will be included in the company's future base allowance at PR24. South West Water's proposal was for customers to fund the replacement in full through green recovery but we propose to remove £1.970 million of replacement costs.

As with the Severn Trent Water proposal for 'taking care of supply pipes' we considered the remit to replace customer owned supply pipes in the trial area. South West Water's proposal was for the replacement of the customer's external supply pipe up to their property building boundary wall to address health concerns, engage with customers to reduce consumption, whilst also improving the company's understanding of customer supply pipe leakage. We challenged the company to consider a subset of internal lead supply replacements beyond

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<sup>21</sup>

Ofwat, '[PR19 final determinations: Securing cost efficiency technical appendix](#)', December 2019, pp. 83–85.

<sup>22</sup> Competition and Markets Authority, '[Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations, final report](#)', March 2021, pp.534–536.

the customer's building wall to the compliance point (kitchen tap). This challenge is in response to the recently published findings on [Long-term Strategies to Reduce Lead Exposure from Drinking Water \(dwi.gov.uk\)](#)<sup>23</sup>, which states that to guarantee compliance with a lower regulatory standard for lead at the consumer tap the whole lead service pipe will require replacement. The company proposed a 37.5% subset extension to the trial programme to replace 1,913 properties to the point of compliance at a cost of £2.612 million. This provides an opportunity to gather useful additional information regarding customer acceptance, rejection and reasons behind their decision making. We propose to allow the costs for the small scale trial to replace customer lead supply pipes based on the evidence, benefits presented and to share insights across the sector.

South West Water also include a proposal to replace/repair supply pipes that are leaking in the trial areas of North Devon and Plymouth. This is to assist vulnerable customers with these unexpected costs, and to actively manage their consumption and water bills. We consider the evidence sufficient and make an allowance of £1.416 million for 2,076 replacements/repairs.

### **Proposed allowance**

We propose to make a total allowance of £17.402 million (£6.101 million for Smart Metering, £9.885 million for Lead pipe replacements and £1.416 million for replacing/repairing supply pipes).

### **Impact on 2020–25 performance commitments**

This scheme impacts some of the performance commitments we set at PR19 for South West but, as described in Appendix 2 we do not adjust them and only require green recovery benefits to be reported separately.

We set out our requirements for monitoring delivery of the scheme and reporting progress in Appendix 1.

## **7.4.5 Storm overflows**

The company proposes a suite of schemes to address storm overflows and water quality issues for a selection of rivers in its region. This includes bringing forward £10.550 million of anticipated 2025–30 deliverables for three groups of schemes:

- an overflow monitoring and investigations through extending event duration monitoring for up to 414 storm overflows and 100 storm overflow assessment framework (SOAF) investigations, at a cost of £4.780 million;
- an inland river bathing water pilot on the rivers Dart and Tavy at a cost of £3.850 million to support recreational economy and environmental improvements; and

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<sup>23</sup> DWI/WRC, 'Long-term Strategies to Reduce Lead Exposure from Drinking Water', Jan 2021, p12

- a surface water separation pilot for £1.920 million to understand sustainable benefits in reducing the impact of storm overflows.

## Customer support

The company presents results of customer research showing that all options around storm overflow initiatives scored highly. The percentage of customers rating the components of this sewer overflow plan as either very high, high, or medium priority was: sewer separation – 96%; accelerating monitoring – 94%; and inland river bathing water pilot – 86%. Customers also feel it is important to fund innovation as well as accelerating investment. The Environment Agency strongly supports this additional investment in storm overflows and the learning provide by the inland river bathing water and surface water separation pilots.

## Value for money for customers

The need for investment to investigate the impacts of storm overflows and make minor interventions is justified and has clear customer support. As is the need to quantify the current issues and likely benefits of improving water quality further – potentially to bathing water quality.

We consider there is an overlap with the requested funding for event duration monitors at storm overflows and activities that the company has already agreed to deliver. The water sector committed to accelerate work to install monitors to provide full coverage by 2023 as part of the Storm Overflow Taskforce.

Several companies have green recovery requests for funding SOAF investigations and we conclude that South West Water costs of £20,000 per investigation is higher than these other benchmarks. We take the unit costs of United Utilities and Severn Trent Water SOAF stage 1-4 investigations to generate an average cost per SOAF. We apply this efficient unit cost to South West Water's proposed 100 investigations.

We note that this a trial that is focused predominately on data collection and building an understanding of the problems and the likely solutions for the future. This means that significant improvements in water quality will not be delivered as a result of the investment, making it even more important that the learning from this trial is captured and shared to ensure that customers receive value for money.

## Proposed allowance

We propose to make a total allowance of £7.062 million for the delivery of 100 SOAF investigations (£1.292 million), the inland rivers bathing water pilot (£3.850 million), and the surface water separation pilot (£1.920 million).

We propose not to allow the requested £2.780 million for the company to install 414 monitors at currently unmonitored overflows. This activity has already been committed to meaning that the company does not need additional funding.

We set out our requirements for monitoring delivery of the scheme and reporting progress in Appendix 1.

### **7.4.6 Water resource grid enablement**

The company proposes to bring forward £26.046 million of 2025–30 costs for two schemes to address water supply resilience and drinking water quality issues. These two schemes are:

- a new intake pumping station on the River Tamar to Roadford reservoir to increase its yield during drought periods and potentially facilitate water transfers, at a cost of £12.818 million; and
- to lay a new raw water main and treated water main between the Prewley and Northcombe water treatment works to address water quality and sufficiency concerns at a cost of £13.228 million.

The latter scheme was signaled in the company's long term water quality strategy to the DWI in 2018 for possible delivery in 2025–30.

### **Customer support**

Customers strongly supported the inclusion of investment to address resilience to ensure customer demands for water are met during drought and other extreme weather conditions.

The funding for investigating Roadford reservoir pumped storage scheme was part of the strategic regional water resource solution intervention at PR19<sup>24</sup> (the reservoir being a component of the West Country South Sources solution). Its progression through the gated funding process is being administered by the cross-regulatory Regulators' Alliance for Progressing Infrastructure Development (RAPID). Although gate one submissions are due in July 2021 for this scheme, RAPID has no concerns with the scheme being accelerated via the green recovery process. South West Water confirm that it has received agreement from the jointly funded partners of the scheme (Southern Water and Wessex Water) that they also support the acceleration through the green recovery. The Environment Agency supports the proposal to bring forward additional investment to make supplies more resilient.

### **Value for money for customers**

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<sup>24</sup> <https://www.ofwat.gov.uk/publication/pr19-final-determinations-strategic-regional-water-resource-solutions-appendix/>

Although the company's latest 2019 water resources management plan shows a supply-demand balance surplus over the near to medium term, the company does provide an early indication of its updated water resources need as part of the green recovery submissions. This shows that as a result of changes to environmental ambition (abstraction reduction) and the move to 1-in-500 year drought resilience a small deficit is forecast by 2030. The Roadford reservoir scheme which the company presents as providing 10Ml/d in a 1-in-500 year and 30Ml/d in a 1-in-200 year drought is part of its future plans to resolve this, the addition of pumped storage capability to the reservoir is a relatively low cost at £12.818 million for 30Ml/d of benefit resulting in a unit cost of £0.427 million per Ml/d compared to the supply-demand balance unit rate at PR19 of £1.2 million per Ml/d (even using the lower yield of 10Ml/d for the more extreme drought scenario this results in a unit cost of £1.282 million per Ml/d).<sup>25</sup>

Investigations into Roadford reservoir pumped storage were included as part of the PR19 strategic regional water resource solution funding with the reservoir a component of the West Country South Sources solution. However, the reservoir investigation represents a small component of this solution, so any small funding overlap can be managed through the gated process reconciliation model at PR24. This will return funding to customers if the companies involved cannot agree a suitable alternative to investigate using the allocated PR19 funding.

At PR19 we allowed £3.344 million for manganese removal filters at Prewley WTW as part of the DWI notice for the works.<sup>26</sup> However, the company has confirmed that it does not now intend to install the filters as the green recovery proposal is the preferred solution. We and the DWI support this approach. Therefore, we disallow £3.344 million of the £13.228 million solution costs for Prewley and Northcombe WTW element to prevent customers paying twice. The allowance is conditional on the DWI accepting the company's formal submission to change the solution and existing Prewley WTW DWI notice.<sup>27</sup>

## Proposed allowance

We propose to make a total allowance of £22.702 million (£12.818 million for Roadford reservoir and £9.884 million for the Prewley and Northcombe WTW mains).

We set out our requirements for monitoring delivery of the scheme and reporting progress in Appendix 1.

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<sup>25</sup> Ofwat, '[Wholesale Water Enhancement feeder model: Supply demand balance](#)', December 2019

<sup>26</sup> Ofwat, '[Wholesale Water Enhancement feeder model: Raw water deterioration](#)', December 2019

<sup>27</sup> [SWT\\_2018\\_00001.pdf \(dwi-content.s3.eu-west-2.amazonaws.com\)](#)

## 8. Thames Water

We propose to make an allowance of up to £145.518 million to allow Thames Water to bring forward its smart metering programme to deliver a maximum of 810,280 additional smart meters to benefit customers and the environment by reducing leakage and customer demand.

### 8.1 Deliverability

Thames Water requests £241.639 million to deliver its green recovery proposal.

Thames Water has been unable to provide meaningful evidence of the deliverability of its green recovery proposal and so it has not been possible for us to undertake a comprehensive assessment of deliverability. From the evidence the company provides, the investment programme for the 2020–25 period is not on track, raising concerns over the company's ability to deliver its green recovery proposals alongside commitments made as part of the PR19 final determination.

Given the above, we have concerns over Thames Water's ability to deliver its green recovery proposal. We describe in the following sections and supporting appendices how we intend to address these concerns by making any green recovery allowance conditional on the company delivering both its 2020–25 performance commitments and its PR19 metering programme.<sup>28</sup>

### 8.2 Financeability

Thames Water states that its proposed approach provides a means of ensuring that the green economic recovery plans remain efficient, affordable for customers, deliverable and financeable.

Thames Water proposes a range of cost recovery options. Its preferred option is to defer the recovery all of its proposed £241.6 million additional investment until after 2025, with the expenditure being added to the stated RCV during 2020–25 ahead of a reconciliation at PR24. Thames Water states that its financial headroom, particularly gearing and interest cover ratios, remains constrained in relation to contemplating further additional investment. The company estimates that, without any adjustment to RCV, delivering its proposed green economic recovery programme would add approximately 1.6% to its gearing forecast by 31 March 2025.

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<sup>28</sup> In this context we use 'PR19 metering programme' to refer to the company's metering programme for the 2020–25 period which was developed following our PR19 final determinations. This represents a revised programme from that included in the company's 2019 business plan.

Applying Thames Water's approach to recover operating costs through PAYG at PR19, the company is foregoing £18.9 million of PAYG revenue along with the allowed return on unrecovered expenditure in the period 2020–25. The PAYG revenue represents 0.2% of allowed revenue for the same period. Based on our proposed allowance of £145.5 million, we calculate that this reduces unrecovered revenue allowances to 0.1% of allowed revenue and the total investment to 0.9% of RCV as at 31 March 2025. The impact on the average key financial ratios for the notional company presented in the final determination for Thames Water is not material.

We propose that green recovery investment that is being recovered in future periods is included in the projected 'shadow' RCV reported in table 4C of the annual performance report. Companies can provide an alternative gearing calculation based on the shadow RCV within the commentary alongside the regulatory gearing measure reported in table 4H. Companies should note that the extent to which in period funding is retained by the company and unrecovered green investment is added to the RCV at PR24 is dependent on the proportion to which particular schemes have been delivered. We set this out in sections 'In-period funding protection' and 'end of period funding' in Section 3.5.

In its PR19 business plan, Thames Water forecast gearing levels to be above the threshold set out in the PR19 final determinations for the gearing outperformance sharing mechanism. The gearing outperformance sharing mechanism reconciliation is based on the regulated gearing reported annually in the annual performance report. Where necessary, we propose to adjust the reported gearing for companies with green economic recovery investment to remove the impact of that investment prior to applying the reconciliation at PR24.

We consider that Thames Water will continue to be able to finance the proper carrying out of its functions over 2020–25 on the basis of the notional structure based on the draft decisions for green economic recovery investment.

### **8.3 Managing affordability pressures**

Thames Water's preferred option for cost recovery is to recover all costs of its green recovery scheme at PR24. This will avoid increasing customer bills in the current 2020–25 period.

The company estimates that, in 2025–30, customer bills will increase by around £0.43 per year, on average, to pay for its green recovery scheme. The company has not tested the bill impact with its customers. We note that our draft decision would reduce this impact on customers by reducing the maximum cost allowance by approximately 40% compared to the company's request. The impact on customers may be further reduced by the conditions we attach to this allowance. Since the potential bill impact is therefore small, we consider it appropriate to allow Thames Water to test the increase with its customers at PR24, when it can do so alongside its 2025–30 plan.

CCW sets out concerns regarding the financial impacts on vulnerable and low income customer groups of installing smart meters. We agree with CCW that Thames Water needs to clearly demonstrate it is supporting vulnerable and low income customer groups as it delivers its green recovery and PR19 metering programmes. As we set out in Appendix 1, we expect Thames Water to provide a proposal to us and CCW for reporting in this area, to be incorporated into our final decisions.

## 8.4 Assessment of proposals

### 8.4.1 Smart metering

Thames Water proposes to invest £241.639 million to extend its 2020–25 smart metering programme, bringing forward installations from future investment periods. This would result in 810,280 additional smart meters being installed in 2020–25, including new meter installations, replacement of existing basic meters and installation of bulk meters. These meters would be installed across both the London and Thames Valley regions. The company considers that this will deliver a minimum additional 47.3 Ml/d reduction in demand. Thames Water identifies that its proposals will increase drought resilience, create a range of job opportunities, reduce carbon emissions and reduce demand in areas where there is existing abstraction from chalk streams.<sup>29</sup>

#### Customer support

Thames Water has not conducted any specific customer engagement regarding its green recovery proposal. The company considers the green recovery proposal represents acceleration of its compulsory smart metering programme delivery. Thames Water has previously consulted with customers on this programme through the water resources management planning process and in its 2019 business plan. The company considers its previous research demonstrates smart metering is broadly accepted by its customers.

#### Value for money for customers

We have previously recognised the benefits smart meters can provide over basic meters in terms of enabling a company to better understand leakage from customer's pipes and supporting targeted engagement with customers regarding water efficiency. Any reduction in demand can benefit customers through lower bills and protect and enhance the environment by reducing volumes of water abstracted. We adopt the same assessment approach as we used at the 2019 price review to evaluate Thames Water's smart metering proposals.<sup>30</sup> We still consider it is appropriate to fund companies to install smart meters despite the benefits they will receive and that trials such as this will help to establish the

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<sup>29</sup> Through increase of smart meter installations in the Thames Valley region

<sup>30</sup> Ofwat, '[PR19 final determinations: Securing cost efficiency technical appendix](#)', December 2019, pp. 83–85.

efficient costs and realised benefits to inform development of future smart metering programmes.

In assessing Thames Water's smart metering proposal, we have identified a number of key considerations that we discuss in more detail in the following sections:

- The high unit rate of the company's meter installation costs in comparison with other companies, indicating the potential for the company to make efficiency savings in delivery of its metering programmes;
- There are a number of activities for which Thames Water is not yet able to quantify the benefits that have been delivered to date, through its previous and PR19 metering programmes<sup>31</sup>;
- There is potential for overlap between the green recovery and the PR19 metering programme<sup>31</sup>, and therefore a risk of customers paying twice for delivery of outcomes; and
- We consider that the level of challenge faced in delivering metering programmes in the Thames Valley water resources zones should be similar to that in other company regions.

The Thames Water's green recovery smart metering proposal can be split into distinct activities and these are summarised in the table below. Following this we include a discussion of our assessment of each element.

**Table 8.1: Summary of Thames Water green recovery proposal by activity**

Activity grouping		Meter numbers installed			Requested costs (£m)
		London	Thames Valley	Total	
New household smart meter installations		58,000	200,000	258,000	89.610
Replacements	Replacement of basic household meters with smart	255,820	215,080	470,900	65.780
	Replacement of basic non-household meters with smart	14,000	5,000	19,000	5.730
Bulk meters	Small bulk meters	50,892	9,408	60,300	55.540
	Large bulk meters	2,080	0	2,080	
Thames Valley fixed network		-	-	-	12.770

<sup>31</sup> In this context we use 'PR19 metering programme' to refer to the company's metering programme for the 2020-25 period which was developed following our PR19 final determinations. This represents a revised programme from that included in the company's 2019 business plan.

Activity grouping		Meter numbers installed			Requested costs (£m)
		London	Thames Valley	Total	
Support activities	Smart meter operation center costs for 2020-25 meters	-	-	-	1.540
	Customer Experience	-	-	-	4.540
	Smart home visits	-	-	-	3.360
	Smart portal	-	-	-	2.710

### New household smart meter installations

We challenged Thames Water's costs for new household smart meter installations through comparison with our PR19 metering model and reviewed the PR19 company specific allowances and additional evidence provided by the company through a deep dive assessment approach.<sup>32,33</sup>

The company has requested £89.610 million to install 258,000 meters, with approximately 80% of these installations taking place in the Thames Valley water resource zones. The company identifies an average meter installation unit cost of £347 per meter (excluding support costs). While we welcome the reduction in cost identified from the company's 2019 business plan (£436 per meter) we remain concerned that it is significantly higher than the PR19 benchmark model cost of £223 per meter. Thames Water has additionally shared with us estimates of potential efficiency savings which would lower these costs.

We make a proposed allowance based on the same approach as at the 2019 price review, where we provided Thames Water with an average new meter installation allowance of £314 per meter. We use the PR19 benchmark model cost of £223 per meter as a basis and make additions based upon our review of company specific evidence. We have reviewed the evidence provided by the company regarding the technology it is installing as part of its green recovery programme and consider it is appropriate to make an additional proposed allowance for the cost element relating to Thames Water's advanced metering infrastructure (AMI). This results in an increase of average unit cost to £241 per meter in both the company's Thames Valley and London regions.

We next consider any regional specific factors that apply. For the London water resource zones we consider whether the adjustment made at the 2019 price review, £93.74 per meter, is still appropriate. The company has stated that this should be increased because the green recovery is focusing solely on internal installation in London. However, solely internal installations are highly unlikely in the stated programme's intention of installing smart meters across a complete area at once. We are concerned that the proposal to install only

<sup>32</sup> For readability we refer to 'new household smart meter installations' as 'new meter installations' from this point onwards

<sup>33</sup> Ofwat, '[Wholesale Water Enhancement feeder model: Metering](#)', December 2019.

internal meters through the green recovery process may reflect decisions made by the company to change the scope of previous programmes we have already funded. We therefore do not consider that customers should provide additional funding and we retain the adjustment at the level we made at the 2019 price review. This results in a unit rate of £335 per meter for the London installations.

At the 2019 price review we made no specific cost uplift for installations in the Thames Valley water resource zones. We expect the challenges in this region to be comparable to those faced by companies in other regions. Thames Water states it will incur additional costs in comparison with other companies due to the compulsory nature of its metering programme and the installation mix required in Thames Valley (eg proportions of 'internal', 'screw-in', and 'dig-down'). We do not find the evidence presented sufficient to enable us to make an informed adjustment to the unit rate for Thames Valley installations. Thames Water has not provided detail of the cost breakdown for its specific Thames Valley unit rates. The company has not supplied evidence that its costs are demonstrably efficient or to justify why its costs in the region should be so much higher than other companies'. For example, for its green recovery proposals the company uses its costs from its PR19 metering programme which is focused on London installations. We do not consider it feasible that the support costs proposed for the Thames Valley element of the green recovery programme should be higher than those of the London focused PR19 programme. We therefore propose to apply the unit rate of £241 per meter, described above, for the Thames Valley installations.

Overall, through applying these two regional unit rates we propose to make an overall allowance of up to £67.793 million against the requested £89.610 million.<sup>34</sup> This would be equivalent to an average programme unit rate allowance of £263 per meter.<sup>35</sup>

### **Replacement of basic meters with smart meters in household and non-household properties**

Thames Water is requesting £71.510 million to replace 470,900 household and 19,000 non household basic meters with smart meters. To achieve this, the company is replacing existing basic meters with smart meters before they are planned for renewal.<sup>36</sup>

We assessed the company's costs for meter replacement and upgrade through an engineering deep dive, where possible we benchmarked costs against those of other companies. Consistent with our approach at the 2019 price review and the Competition and Markets Authority's redeterminations we make an efficient allowance for only the costs driven by the uplift in technology when a basic meter is replaced with a smart meter.<sup>37</sup> This avoids

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<sup>34</sup> Requested amount does not include Thames Water's potential efficiency savings

<sup>35</sup> The costs detailed in this section exclude support costs that we add on a per meter basis following our assessment of their efficiency. Support costs are included in the unit costs in Appendix 1.

<sup>36</sup> Thames Water has stated it is accelerating the replacements from future investment periods

<sup>37</sup> Competition and markets authority, '[Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations, final report](#)', March 2021, pp.534-536.

customers paying twice as meter replacements will be included in the company's future base allowance at PR24. We expect the company to be able to manage the impact of individual asset replacement strategies within their overall totex allowance.<sup>38</sup>

We note that at present Thames Water has not been able to quantify the benefits of replacing existing basic meters with smart meters in its region<sup>39</sup>. The cost of smart meters could be considered to be off-set by benefits it provides over a basic meter in terms of demand reduction, managing customer supply pipe leakage, customer engagement and reducing meter reading costs. In order to be consistent with our approach used at the 2019 price review, however, we have not adjusted our allowance for these benefits.<sup>40</sup>

As part of its green recovery proposal Thames Water's proposal was for customers to fund the replacement costs in full through green recovery but we propose to remove £47.497 million of replacement costs.

At the 2019 price review we made an allowance for the replacement of basic meters with smart meters of £57 per meter. This was based on a replacement metering programme entirely focused within London. Thames Water has confirmed that it considers the uplift of £57 per meter remains an appropriate cost for the technology uplift and associated installation costs. In reviewing the uplift we applied at the 2019 price review we identify £40 per meter associated with technology costs with the remaining £17 associated with factors specific to the installation of meters in London. In the absence of further evidence for inclusion of these costs we remove them from the uplift applied to replacements in Thames Valley.

This results in an uplift of £57 per meter being applied in London and £40 per meter being applied in Thames Valley. We apply the same rate to household and non-household installations in these regions as we do not consider any evidence has been provided to support application of a different rate.

Overall, through these regional unit rates<sup>41</sup> we propose to make an overall allowance of up to £24.2 million through the green recovery against the requested £71.510 million. As stated above this is made in the context that funding for the replacement of the basic meters will be implicit within our base cost allowance given at future price reviews.

## Bulk meter installations

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<sup>38</sup> In our PR19 final determination through our econometric models and supporting assessment approaches we made a wholesale water base allowance of £3,700 m to Thames Water against a request for £3,428 m. Ofwat, '[PR19 final determinations: Securing cost efficiency technical appendix](#)', December 2019, p. 167, Table A1.2.

<sup>39</sup> The company has estimated household meter replacement savings based on information from Anglian Water. Thames Water are still working to establish the benefits of the replacements it has completed to date.

<sup>40</sup> Ofwat, '[PR19 final determinations: Securing cost efficiency technical appendix](#)', December 2019, p. 84, Table A1.2.

<sup>41</sup> The costs detailed in this section exclude support costs that we add on a per meter basis following our assessment of their efficiency.

Thames Water is requesting £55.540 million to install 60,300 new small bulk meters and 2,080 new large bulk meters. This cost includes the initial site investigation costs in addition to the installation costs.

The company identifies that these bulk meters will fill in existing 'gaps' in water demand within its district meter areas where properties are not able to be individually metered. Examples of such properties include blocks of flats and houses converted into separate apartments. Thames Water considers these installations will deliver benefits resulting from improved understanding of the water balance within its district metered areas. The principle benefit will be an additional reduction in leakage beyond the company's PR19 performance commitment level. At present the company has not been able to quantify the benefits of bulk meter installations within its region from its current installations. We note that the company's estimate of benefits from bulk installations appears to vary significantly between its revised PR19 programme and its green recovery proposals.

Thames Water has identified that the costs of these installations are variable and it has limited available historical cost information to base its forecasts upon. We have reviewed the installation types associated with the small bulk meter installations and note that of the 60,300 installations planned, 39% are 'screw-in'. We would expect 'screw-in' installations to be lower cost than the remaining 61% which the company has identified as requiring a 'dig-down'. Our review of the evidence provided and comparison to the figures presented at PR19 suggests the unit rate used to generate the requested total for all small bulk meters is associated with a 'dig-down' installation type.

We propose to make an allowance of up to £35.169 million for the installation of bulk meters, against the requested £55.540 million. We have applied a cost efficiency challenge equivalent to that applied to new meter installations to small and large bulk meter installations requiring a 'dig-down'. For the proportion of small bulk meters identified as 'screw-in' installations we use a reduced unit rate, proportionally adjusted based on the percentage difference between household 'dig-down' and 'screw-in' installations.<sup>42</sup> We have additionally applied an efficiency challenge equivalent to that applied to new meter installations to the investigation costs due to the lack of evidence provided to support that these costs are efficient.

### **Thames Valley fixed network**

Thames Water is requesting £12.770 million to further develop its fixed network of telecommunication masts in the Thames Valley water resource zones to support the roll out of its green recovery meter installations.

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<sup>42</sup> The costs detailed in this section exclude support costs that we add on a per meter basis following our assessment of their efficiency.

In our PR19 final determinations we made an allowance of £10.409 million within the 2020–25 metering programme proposed by the company for the development of a fixed network in the in the Thames Valley region.

The company has provided no further evidence to demonstrate the efficiency of the proposed fixed network cost but has identified the potential to reduce costs through adoption of alternative technologies and other measures.

We therefore consider it is appropriate to retain an efficiency challenge on the company's proposals in this area, based on the lower end of the forecast cost range, the efficiency challenge applied at the price review and the potential efficiency savings identified by the company. We also propose to make any allowance conditional on the delivery of the masts allowed for under the 2019 final determinations (further detail is provided in Appendix 1).

We propose to make an allowance of up to £11.000 million for the further development of the Thames Valley fixed network, against the requested £12.770 million.

### **Supporting activities**

Thames Water is requesting £12.150 million for support activities associated with its green recovery smart metering proposals.

The company has included a 'customer experience recharge' as a separate supporting cost in the latest cost breakdown it has provided. We consider that our assessment of the efficient unit rate for metering has accounted for the customer engagement challenges of delivering a compulsory programme. We therefore make no additional allowance for this activity.

We consider that the cost benefit delivered by the smart home visit activities in the proposal is an improvement over that presented in PR19 and allow this in full at £3.360 million.

For costs relating to the smart metering operations centre we apply an identical challenge to PR19 because no further information has been provided and we also apply this challenge to the smart portal costs. This results in a total allowance of £3.985 million for these activities.

We propose to make an allowance of £7.345 million for the supporting activities, against the requested £12.770 million.

### **Proposed allowance**

We propose to make a conditional total allowance of up to £145.518 million.

We have previously identified concerns regarding Thames Water's delivery of its 2020–25 investment programme not being on track and the potential for overlap between the green

recovery and PR19 metering programmes. We therefore consider it necessary to set conditions for the green recovery allowance to ensure:

- Thames Water remains focused on delivering its 2020–25 investment plan;
- Customers are protected against paying twice for delivery of outcomes already funded through the PR19 final determinations; and
- Green recovery investment delivers additional benefits to customers and the environment beyond those delivered through the 2020–25 investment plan.

We therefore propose to set a number of conditions that the company must satisfy prior to us making any green recovery allowances. We provide further detail of these conditions in Appendix 1 and summarise the key principles below:

- The company must deliver its PR19 leakage performance commitment;
- The company must achieve the performance levels specified in its two PR19 performance commitments relating to new smart meter installations and the replacement of existing basic meters with smart meters in its London water resource zone;
- Thames Water must provide compelling evidence it has delivered the 98 MI/d of demand savings specified to be delivered through metering and water efficiency figures in its PR19 business plan;
- For metering activities not covered by the PR19 metering delivery performance commitments, such as bulk meter installation, the company must deliver the number of installations proposed in its revised PR19 metering programme;
- For each green recovery metering activity, eg installation of new smart meters, the company must demonstrate delivery of a demand benefit additional to that delivered through the 2020–25 investment plan;
- Allowances for each green recovery metering activity will be made on a unit cost basis considering the volumes of activity evidenced as delivered; and
- Thames Water must produce detailed annual reports of the activity levels, outturn costs and benefits delivered by both its green recovery and PR19 metering investment programmes.

### **Impact on 2020–25 performance commitments**

We set out our requirements for monitoring delivery of the scheme and reporting progress in Appendix 1. As explained in Appendix 2 this scheme impacts on the **leakage, per capita consumption** and **meter installation** performance commitments set for the company for 2020–25. We set out in Appendix 3 how we expect the company to account for the benefits from the scheme.

## 9. United Utilities

We propose to provide United Utilities with a total allowance of £62.870 million. This funding encompasses:

- Accelerating partnerships to deliver natural solutions - £13.411 million to protect habitats, enhance raw water quality, improve drainage and reduce phosphorus;
- AMP8 WINEP investments at Bury - £44.06 million to provide additional wastewater storage to improve water quality in the Manchester Ship Canal; and
- Tackling storm overflows - £5.399 million to help tackle storm overflows and improve river water quality.

### 9.1 Deliverability

United Utilities requests £135 million to deliver its green recovery proposals. This is equivalent to a 2.5% uplift on the company's PR19 final determination wholesale cost allowance. Despite this modest addition to 2020-25 allowances, the proposed expenditure is lower than that achieved in 2015-20. This indicates that United Utilities should be able to deliver its proposal alongside its existing programme.

The company has accelerated some 2020-25 investment into 2020-21, providing headroom later in the period, and provides Board assurance that the green recovery proposals can be delivered alongside 2020-25 commitments.

We therefore consider that United Utilities has provided sufficient evidence of deliverability.

### 9.2 Financeability

United Utilities states that, in relation to the notional company, it considers that if Ofwat was to undertake an assessment of financeability on the additional expenditure using the same approach as at the 2019 price review, it would likely conclude that United Utilities remains financeable on the basis of the average ratios over 2020-25.

In relation to the actual company structure, United Utilities' Board concludes that its proposals would be consistent with maintaining acceptable credit ratings, with considerable headroom compared to the requirements of the company licence.

United Utilities proposes to defer the recovery all of the £134.5 million additional totex expenditure plus the cost of financing until after 2025. Our proposed allowance is £62.9 million. Applying United Utilities' approach to recover operating costs through PAYG at PR19, the company is foregoing £1.4 million of PAYG revenue along with the allowed return on the

unrecovered expenditure in the period 2020–25. The PAYG revenue represents 0.02% of allowed revenue for the same period. Unrecovered totex represents 0.6% of RCV as at 31 March 2025. The impact on the average key financial ratios for the notional company presented in the final determination for United Utilities is not material.

We consider that United Utilities will continue to be able to finance the proper carrying out of its functions over 2020–25 on the basis of the notional structure based on the proposed allowances for green recovery investment.

## 9.3 Managing affordability pressures

United Utilities proposes to recover all costs of its green recovery schemes at PR24. This avoids increasing customer bills in the current 2020–25 period. CCW welcomes the steps taken by the company to mitigate short-term affordability concerns.

The company estimates that, in 2025–30, customer bills will increase by around £2.74 per year, on average, to pay for its green recovery schemes. Its customer research tested a bill increase of £6.50, but the company has since considerably reduced the scope of the proposals. On the basis of a £6.50 bill increase, 57% of customers supported the proposals. This figure increased to 67% on the basis of a £5 increase. We consider this figure would have been higher had the company tested a bill increase of £2.74. We also note that our draft decision disallows the scheme that received the lowest level of acceptability from customers, although we have not done so for affordability reasons.

We consider that United Utilities has therefore demonstrated a sufficient level of customer acceptability for its green recovery proposals.

## 9.4 Assessment of proposals

### 9.4.1 Accelerating partnerships to deliver natural solutions

United Utilities requests £15.401 million to invest in innovative schemes and partnerships to deliver environmental improvements and resilience at a catchment scale. It proposes work to protect habitats, combat invasive non-native plant species that affect their sites, enhance raw water quality, improve drainage and reduce phosphorus. The work is focused on a small number of catchments.

#### Customer support

Customers express support for improving the environment and to be able to access nature. The customer research United Utilities undertook for the green recovery shows high levels of

support for delivering natural solutions. However acceptability of related bill increases was less high, particularly for those surveyed who were in receipt of benefits or who lived in urban areas. Overall customers support the proposals. CCW welcomes the partnership working schemes but asks us to make funding contingent on United Utilities securing the additional funding from third parties.

### **Value for money for customers**

The company requests £15.401 million for partnership working to manage non-native species, reduce phosphorus, restore peatland and install sustainable drainage solutions. Green recovery funding is expected to release considerable third party partnership funding, meaning customers will not pay for all the improvements that will be made. United Utilities has already secured around £1 million of third party funding and identifies around £33 million of further funding opportunities it can target ranging from local authority funds for flooding improvements, to Environment Agency grants and private company investment for catchment improvements. The company is targeting around £10 million of partnership funding to match its green recovery proposals.

Although we support such a programme of activities as that proposed by United Utilities, we are concerned with a lack of evidence as to why the particular catchments for partnership approaches were selected or that catchment management approaches are clearly the best long term approach to achieving the benefits. The benefits to customers in terms of drinking water quality or costs of treatment from peatland restoration are uncertain.

We are concerned that there is also the potential for United Utilities to go beyond what is its responsibility as a water company with some of its proposals, for example on support to farmers, and in removing non-native species from land that belongs to others. United Utilities is required to manage non-native species on its own land and there is no change to this requirement. We consider such non-native species management to be part of a company's base activities. We are also concerned that phosphorus removal from the proposed catchments is not clearly addressing issues that are the responsibility of United Utilities. We therefore propose not to allow green recovery funding for the invasive non-native species programme and apply a 10% challenge to the remaining costs of the programme.

### **Proposed allowance**

Our draft decision is to make an allowance of £13.411 million for the full scope of work included in the proposal, excluding elements that go beyond a water company's responsibility or where there is already an allowance in base costs. Where appropriate, some of the funding allowance will not be made until a proportion of partnership funding is secured. This condition applies to catchment water quality management and peatland restoration.

### **Impact on 2020-25 performance commitments**

These allowances impact United Utilities' performance commitments for **enhancing natural capital value for customers**, **hydraulic internal flood risk resilience**, and **hydraulic external flood risk resilience**. As set out in Appendix 2, given the uncertainty over outputs to be delivered we do not make adjustments to these performance commitments now.

We set out in Appendix 3 how we expect the company to account for the benefits from this scheme.

We set out our requirements for monitoring delivery and reporting progress of this programme in Appendix 1.

### **9.4.2 AMP8 WINEP investments at Bury**

United Utilities proposes to invest £44.060 million to bring forward two 2025–30 WINEP schemes into 2020–25, which will improve water quality in the Manchester Ship Canal. These two schemes have a statutory Water Framework Directive driver and were omitted in error from the 2020–25 WINEP because the disproportionate cost test was incorrectly applied. Investment is required to provide additional wastewater storage at both Bury sewage treatment works in storm tanks, and in the Network at Nuttall Road.

#### **Customer support**

Customers express support for making the WINEP improvements. The customer research United Utilities undertook for the green recovery shows high levels of support for the proposed schemes although, as perhaps might be expected, less so for the associated bill increases. However, the bill increases are still acceptable to customers. CCW supports the acceleration of the Bury proposals, but is keen we make appropriate changes to associated PR19 performance commitments and ODIs. The Environment Agency fully supports funding of these schemes through green recovery providing early improvements in environmental water quality.

#### **Value for money for customers**

There is a clear need to invest in the two environmental improvement schemes, which are otherwise required to be completed in 2025–30. The options United Utilities proposes are evidenced through some consideration of other options, such as the removal of surface water from the network.

The schemes are relatively high cost when compared to our PR19 storage enhancement models. United Utilities provides third party cost assurance that the proposed costs are within the ranges the third party independently derived, although particularly for Bury they are well above the mid-point of the range.

Late in the PR19 process we included a WINEP scheme at Bolton for United Utilities in our final determination. Our allowance through the WINEP uncertainty mechanism for the Bolton scheme was based on United Utilities' proposed cost for the Bolton scheme, which was low cost compared to our PR19 enhancement models. The allowance from our PR19 models for all of United Utilities' PR19 schemes and adding in the Bury and Bolton schemes is higher than United Utilities' proposed costs for all its storage schemes. This means that had the Bury schemes been required in 2020–25 we would have allowed United Utilities' proposed costs for them in full. We therefore propose to allow United Utilities' full costs for the Bury 2025–30 WINEP schemes.

### **Proposed allowance**

We propose to allow the requested costs of £44.060 million for the full project scope. However, we note that United Utilities expects to complete the schemes in 2025–26 (see UUW/GR003 paragraph 7.3.3). We will use the measures of scheme delivery to assess how much we add to the RCV for the Bury schemes through the midnight adjustment at PR24. We will reflect any costs required in the next period within the RCV profile for 2025–30.

We set out our requirements for monitoring delivery and reporting progress of this scheme in Appendix 1.

### **9.4.3 Emissions regulations and the journey to zero carbon**

United Utilities proposes to invest £67.164 million to bring its bioresources treatment sites up to the best available technology standards required by the Industrial Emissions Directive (IED). Although the directive was transposed into UK regulations in 2013, the implementation for the water industry was deferred by the Environment Agency from 2014 to July 2019 pending clarification of the possible exemption by way of the Urban Wastewater Treatment Directive. The timing means that plans to invest to meet IED were not included in PR19 business plans or final determinations.

### **Customer support**

United Utilities' customers strongly support environmental protection and improvement and the company's ambition to achieve net zero operational carbon by 2030. From this the company infers that customers support its plan to comply with the IED. The company's research suggests that the 14p bill increase is acceptable to customers. However, CCW considers the main driver of the customer support the company presents is the benefits of carbon reduction which is not achieved by the selected option United Utilities puts forward.

### **Value for money for customers**

The scope of work proposed by United Utilities involves some assumptions as the needs will only be certain once permits are issued, However, the company has some experience of IED permits, providing some assurance that its proposals are reasonable at this stage.

Five different investment options were considered in outline with three of them taken forward to a more detailed assessment. Of those three, United Utilities has selected the option which is lowest whole life cost but not the one that has the highest positive impact on carbon emissions.

In the absence of established benchmarks, the company has undertaken a seven-step costing process which takes account of historical permitting costs, a Water UK exercise and a recent IED project at Hull STW. On a cost per site basis, United Utilities' costs appear relatively efficient. However, United Utilities has a relatively high proportion of sites with existing permits, and we would expect sites with existing permits to experience the smallest increase in requirements. This might account for United Utilities' low costs.

However, from conversations with the Environment Agency we understand that the IED permits will be issued during the 2020–25 period, and investment to meet any improvement conditions within the permits will be required by the end of 2024, before the start of the 2025–30 period. This means that United Utilities' investment proposals do not meet any of the green recovery criteria. We therefore cannot make a green recovery cost allowance. In order to gain funding at PR24 for investment to meet IED permit improvements, companies would need to demonstrate they were meeting specific permit requirements with completion dates falling after 1 April 2025. To receive an extension to the best available technology (BAT) compliance deadline beyond 2024 the permit holder would need to demonstrate that it satisfies the criteria for derogation. It is anticipated that very few if any water company sites would satisfy these criteria.

### **Proposed allowance**

Since we understand United Utilities' IED investment proposals are not 2025–30 requirements, nor do they meet any other green recovery criteria, they do not qualify for green recovery funding. Our draft decision is not to make an allowance.

### **9.4.4 Tackling storm overflows**

United Utilities requests £7.88 million of green recovery funding to install up to 175 event duration monitors at its storm overflows that do not already have them, undertake 587 AMP8 storm overflow assessment framework (SOAF) stage one leading to 300 stages two and three investigations, and build three integrated catchment models (ICMs). CCW agrees it is important for companies to better understand how their wastewater networks operate.

### **Customer support**

CCW agrees it is important for companies to better understand how their wastewater networks operate. United Utilities surveyed customers about its green recovery proposals. Customers surveyed strongly supported the storm overflow proposals with 80% willing to accept the associated 6p average bill increase. The Environment Agency strongly supports United Utilities' plan to understand the impact of storm overflows and to develop solutions earlier than would otherwise have been possible.

### **Value for money for customers**

We consider there to be an overlap with the requested funding for event duration monitors at storm overflows and activities that the company has already agreed to deliver. The water sector committed to accelerate work to install monitors to provide full coverage by 2023 as part of the Storm Overflow Taskforce.

We welcome United Utilities bringing forward 2025–30 SOAF investigations into 2020–25. This will enable speedier resolution if any of the overflows are found to require investment. United Utilities proposes lower overall unit cost SOAFs than other wastewater companies' green recovery proposals. Its view is that of the 587 sites only 300 will progress into stage two and 150 into stage three of the investigation process. The proposed programme appears to be efficient and we therefore allow the full costs for these investigations.

United Utilities has selected catchments for building ICMs based on the number of frequently discharging overflows in the catchment. In this instance we accept that it is appropriate for companies to take a lead to understand their and others' responsibilities in catchments by undertaking a systematic assessment through the ICM approach. We propose to allow the ICM costs in full.

### **Proposed allowance**

We propose to allow the full funding for SOAF investigations and ICMs of £5.399 million. We do not propose allowing the funding for EDM installation.

We set out our requirements for monitoring delivery and reporting progress of this scheme in Appendix 1.

## A1 Measuring delivery and reporting requirements

### A1.1 General requirements on companies

Companies' annual reporting on green recovery should provide a concise update narrative for each proposal, a report on scheme delivery and include any additionally specified reporting requirements. A green recovery WINEP tracker will be used for tracking and reporting environmental benefits of schemes and it is expected that this will be used for permitting and inform the annual reporting. Further details on this will be provided to companies.

This annual report on green recovery should be published alongside the annual performance report as a stand-alone supporting appendix. This will ensure other stakeholders can benefit from lessons learnt.<sup>43</sup> Companies should comment on the following areas in a final scheme report to be provided as part of the annual report on green recovery for the year in which the scheme is completed. For most schemes this will be in 2024-25 and we require companies to provide initial views covering these areas as part of the 2022-23 and 2023-24 annual reports on green recovery. Where appropriate for the effective sharing of lessons learnt, companies may wish to provide focused case studies on elements of the schemes.

- Measurement and quantification of green recovery benefits, including;
  - job creation numbers including specific impacts on individual groups; and
  - environmental enhancements realised;
- working effectively with partners;
- customer and stakeholder engagement;
- cost and benefit outturns including delivery of efficiencies;
- data sharing and benefits of open data;
- use of novel technology/innovative techniques;
- impacts on the supply chain; and
- deliverability.

In the sections below we specify the metrics we propose to use to measure delivery of each individual scheme to make a funding allowance, any conditions associated with making the allowance and additional reporting requirements. All companies should also have clearly defined milestones for each scheme and report delivery progress against these in their annual reports on green recovery.

At initial submission of PR24 company business plans companies should provide an update on actual and forecast scheme delivery. This should also include a profile of forecast annual activity levels, benefits delivered and costs up until the forecast scheme completion date. We expect companies to provide updates on actual and forecast progress as appropriate

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<sup>43</sup> If companies consider it may be necessary to redact any information they should discuss with us first.

throughout the PR24 assessment process to ensure an accurate position is available for the final determinations.

In our consultation on regulatory reporting for the 2021-22 reporting year, we have provided detail of how companies should account for green recovery related information within the existing annual performance reporting framework.<sup>44</sup> We have identified three areas of overlap: cost reporting, non-cost item reporting and performance commitment reporting.

## A1.2 Severn Trent Water

### A1.2.1 Accelerating environmental improvements

**Table A1.1: Accelerating environmental improvements – Water Framework Directive (WFD) improvement points**

Scheme delivery	
<b>Description</b>	The number of Water Framework Directive (WFD) classification improvements attributable to interventions delivered by the company's green recovery interventions to improve river water quality. The measurement of classification improvements varies depending on the parameter. The approach taken is similar to the one adopted for Severn Trent Water's PR19 performance commitment PR19SVE_CO2: <i>Improvements in WFD criteria</i>
<b>Measurement</b>	Number of WFD improvement points
<b>Assurance</b>	As the delivery of the improvement points will not be known until after the end of 2020-25, the Environment Agency will give an early view as to whether the improvement points are on track for delivery. The Environment Agency will base its view on delivery of improvement investments by the company as set out in the accelerating environmental improvements (2025-30 WINEP) green recovery submission. The evidence of delivery will be supported by independent assessment and assurance.
<b>Conditions of allowance</b>	It is expected that the investment in wastewater treatment phosphorus removal will deliver up to an additional 48 WFD improvement points. The company funding will be based on a rate of £3.247 million per WFD point delivered.

**Table A1.2: Accelerating environmental improvements – Storm overflow assessment framework (SOAF) investigations**

Scheme delivery
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<sup>44</sup> Ofwat, '[Consultation on regulatory reporting for the 2021-22 reporting year](#)', May 2021, pp. 8-10.

<b>Description</b>	Delivery of SOAF investigations identified as part of WINEP programme. This will allow a defined unit rate per completed SOAF depending on the investigation complexity. This includes up to 220 stage one and 120 standard stage 2-4 SOAF investigations, plus up to 30 complex SOAF investigations.
<b>Measurement</b>	Number of brought forward AMP8 completed SOAF investigations, and to which stage completed, reported to zero decimal places.
<b>Assurance</b>	As completion of SOAF investigations requires involvement with the Environment Agency it is expected that the Environment Agency will provide sign off for these investigations. The evidence of delivery will be supported by independent assessment and assurance.
<b>Conditions of allowance</b>	<ul style="list-style-type: none"> <li>• The unit rate for recovery for a completed stage one SOAF investigation is £3,188 up to a maximum of 220 investigations.</li> <li>• The unit rate for recovery for a completed standard stage 2-4 SOAF investigation is £9,564 up to maximum of 120 investigations.</li> <li>• The unit rate for recovery for a completed full complex SOAF investigation is £91,590 up to maximum of 30 investigations.</li> </ul>

**Table A1.3: Accelerating environmental improvements – Additional storm overflow interventions**

<b>Scheme delivery</b>	
<b>Description</b>	Delivery of additional interventions to reduce the impacts of storm overflows. A unit rate for the intervention and activity is defined in the conditions of allowance and will apply to each intervention up to the maximum number expected to be delivered through green recovery.
<b>Measurement</b>	Number of successful interventions.
<b>Assurance</b>	Successful delivery of the interventions are to be independently assessed and assured. It is expected that the Environment Agency will sign off these interventions.
<b>Conditions of allowance</b>	<p>The interventions covered by this scheme delivery test, and their cost recovery unit rates, are as follows:</p> <ul style="list-style-type: none"> <li>• £0.050 million for the delivery of each overflow spill reduction intervention (eg weirs) up to a maximum of 100 interventions.</li> <li>• £0.020 million for the delivery of each pair of river water quality monitors up to a maximum of 25.</li> <li>• £1.250 million for the delivery of each storm water treatment trial up to a maximum of 2. As this investment is primarily for testing and learning a case study of these trials should be included in the evidence for the delivery of these giving details of the processes trialed, the outcomes and learning (this should be made publicly available and can be combined to other green recovery reporting where appropriate).</li> <li>• £0.040 million for the delivery of a storm overflow reporting app</li> </ul>

**Table A1.4: Accelerating environmental improvements – Additional reporting requirements**

<b>Additional reporting requirements</b>		
<b>Metric</b>	<b>Unit</b>	<b>Further comments</b>
Wastewater treatment works upgrade costs	Cost (£m) per upgrade	Outturn costs for phosphorus treatment upgrades for each treatment works.
Wastewater treatment works upgrade WFD points	WFD points	Delivered WFD improvement points associated with each treatment works upgrade.
Wastewater treatment works upgrade phosphorus reduction	Phosphorus reduction delivered (P mg/l)	Phosphorus reduction delivered for each water treatment works upgrade.
Storm overflow assessment framework costs	Cost per stage of SOAF (£)	Outturn costs for each stage of the SOAF process including categorisation to each investigation to standard and complex according to allowed funding. A summary of the resultant conclusions of the SOAFs such as if and what any subsequent interventions were.
Spill intervention costs	Cost per intervention (£)	Outturn costs for each spill reduction intervention type (eg weir raising).
Spill intervention benefit	Reduction in average annual spill days (d)	Forecast reduction in number of spill days per intervention type.

## A1.2.2 Building sustainable flood resilient communities

**Table A1.5: Building sustainable flood resilient communities – Scheme delivery requirements**

<b>Scheme delivery</b>	
<b>Description</b>	Delivery of blue-green infrastructure in the Mansfield sewerage catchment to effectively manage surface water. The blue-green infrastructure interventions will be measured in terms of network storage equivalent. This is the volume of surface water that the blue-green assets will manage during a modelled 1-in-10 year storm event (in 2050) that would otherwise require management within the sewerage network (eg through the provision of network storage).
<b>Measurement</b>	Cubic metres of wastewater network storage equivalent, reported to zero decimal places.
<b>Assurance</b>	Delivered storage volumes and calculations (including any differences to the green recovery submission assumptions) as well as third party funding contributions and scheme adoption are to be independently assessed and assured. For appropriate asset interventions the company should provide evidence of Environment Agency involvement to assure effective delivery. The company should provide evidence that the Risk Management Authorities (including Lead Local Flood Authorities, and the Environment Agency and others

	where relevant) are aware of the locations of flood risk benefits derived from proposed works.
<b>Conditions of allowance</b>	<p>The company is allowed to recover the costs of 89% of the storage delivered from customers based on a total maximum storage to be delivered of 58,000m<sup>3</sup>. This assumes a third party contribution of 11%, meaning that the company can recover customer funding at an 89:11 ratio against the third party contribution that is secured.</p> <p>The unit cost of the customer recovered storage is set at a maximum of £1,466/m<sup>3</sup>.</p> <p>Cost recovery for the storage provided through permeable paving interventions (unit rate applied to delivered storage) will be contingent on having a formal commitment from the council or relevant body to adopt these assets and therefore take responsibility for the future maintenance.</p> <p>Although the outturn mix of interventions may be different to the scenario that the company presents due to availability of suitable sites to install the infrastructure, we still expect the approximate proportions of each intervention to be similar to the proposal. As a minimum we expect the company to deliver at least four of the seven intervention types (grassed/planted detention basins, planted bioswale, rainwater planters, permeable paving, verge raingardens, street planters, bioretention tree pits) listed in the proposal to be delivered contributing a minimum of 10% each to the overall outturn programme cost.</p>

**Table A1.6: Building sustainable flood resilient communities – Additional reporting requirements**

<b>Additional reporting requirements</b>		
<b>Metric</b>	<b>Unit</b>	<b>Further comments</b>
Grassed/planted detention basin volume delivered	Storage volume (m <sup>3</sup> )	Cubic metres of wastewater network storage equivalent delivered through grassed/planted detention basins.
Planted bioswale volume delivered	Storage volume (m <sup>3</sup> )	Cubic metres of wastewater network storage equivalent delivered through planted bioswales.
Rainwater planter volume delivered	Storage volume (m <sup>3</sup> )	Cubic metres of wastewater network storage equivalent delivered through rainwater planters.
Permeable paving volume delivered	Storage volume (m <sup>3</sup> )	Cubic metres of wastewater network storage equivalent delivered through permeable paving.
Verge raingarden volume delivered	Storage volume (m <sup>3</sup> )	Cubic metres of wastewater network storage equivalent delivered through verge raingardens.
Street planter volume delivered	Storage volume (m <sup>3</sup> )	Cubic metres of wastewater network storage equivalent delivered through street planters.
Bioretention tree pits volume delivered	Storage volume (m <sup>3</sup> )	Cubic metres of wastewater network storage equivalent delivered through bioretention tree pits.
Grassed/planted detention basin volume delivered	Total cost (£m, 3 decimal places)	Outturn total costs to deliver grassed/planted detention basin storage volumes. This should include both company and third party costs.
Planted bioswale volume delivered	Total cost (£m, 3 decimal places)	Outturn total costs to deliver planted bioswale storage volumes. This should include both company and third party costs.
Rainwater planter volume delivered	Total cost (£m, 3 decimal places)	Outturn total costs to deliver rainwater planter storage volumes. This should include both company and third party costs.

<b>Additional reporting requirements</b>		
<b>Metric</b>	<b>Unit</b>	<b>Further comments</b>
Permeable paving volume delivered	Total cost (£m, 3 decimal places)	Outturn total costs to deliver permeable paving storage volumes. This should include both company and third party costs.
Verge raingarden volume delivered	Total cost (£m, 3 decimal places)	Outturn total costs to deliver verge raingarden storage volumes. This should include both company and third party costs.
Street planter volume delivered	Total cost (£m, 3 decimal places)	Outturn total costs to deliver street planter storage volumes. This should include both company and third party costs.
Bioretention tree pits volume delivered	Total cost (£m, 3 decimal places)	Outturn total costs to deliver bioretention tree pit storage volumes. This should include both company and third party costs.
Area of permeable paving delivered	Area (m <sup>2</sup> )	Area of permeable paving delivered.

### A1.2.3 Creating bathing rivers

**Table A1.7: Creating bathing rivers – Scheme delivery requirements**

<b>Scheme delivery</b>	
<b>Description</b>	Delivery of the focused trials on Rivers Teme and Leam and all storm overflow and storm tank interventions on the Rivers Teme, Leam and Avon. Specific interventions are expected to be delivered as described in green recovery business case and supporting documentation.
<b>Measurement</b>	Successful delivery of named interventions with associated funding allowed.
<b>Assurance</b>	All delivery of interventions should be supported with independent assessment and assurance. The storm overflows interventions should also include Environment Agency sign-off with evidence of Environment Agency involvement in developing the wastewater upgrades also required. In addition, early involvement from the Environment Agency in the catchment engagement to ensure appropriate linkages with other ongoing work and oversight of monitoring proposals.
<b>Conditions of allowance</b>	<p>The company can recover the costs identified for the following interventions:</p> <ul style="list-style-type: none"> <li>• Leamington storm overflows - £17.184 million</li> <li>• Coventry storm overflows - £6.993 million</li> <li>• Stratford-upon-Avon storm overflows - £4.471 million</li> <li>• River Teme storm overflows - £1.810 million</li> <li>• Wellesbourne storm overflows - £1.138 million</li> <li>• Warwick storm overflows - £0.869 million</li> <li>• Coventry wastewater treatment works storm tanks - £31.813 million</li> <li>• Rugby wastewater treatment works storm tanks - £5.260 million</li> <li>• Ludlow wastewater treatment works disinfection upgrade - £4.352 million</li> <li>• Itchen Bank wastewater treatment works disinfection upgrade - £1.290 million</li> <li>• Frankton wastewater treatment works disinfection upgrade - £1.306 million</li> <li>• River water quality monitoring and public app together with farmer engagement - £2.000 million</li> </ul>

	<p>The company should submit evidence proving that the storm overflows and storm tanks receiving additional funding in this proposal are meeting the current permit compliance (or interventions at these locations are on track to meet compliance). An expected output from the investment also includes a publicly available report on current (baseline) water quality, ongoing water quality results to track changes during the trial, results from river usage survey during the trial, and progress in application for bathing water status with evidence of working with stakeholders to secure this. This should also include any key lessons learned from interventions and their contributions to improved water quality.</p>
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**Table A1.8: Creating bathing rivers – Additional reporting requirements**

Additional reporting requirements		
Metric	Unit	Further comments
Storm overflow intervention costs	Cost, £m to 3 decimal places	Cost of each storm overflow intervention, presented by intervention type with description.
Storm tank intervention costs	Cost, £m to 3 decimal places	Cost of each storm tank intervention, presented by intervention type with description.
Wastewater treatment upgrade costs	Cost, £m to 3 decimal places	Cost of each storm tank intervention, presented by intervention type with description

#### A1.2.4 Decarbonising water resources

**Table A1.9: Decarbonising water resources – Non-household water efficiency audits**

Scheme delivery	
<b>Description</b>	Delivery of non-household efficiency audits as described in the company's Decarbonising water resources business case. Audit activities will involve site investigation, installation of monitoring equipment, undertaking leak detection and providing technical support to produce an agreed action plan.
<b>Measurement</b>	Number of successfully completed non-household water efficiency audits
<b>Assurance</b>	Successful delivery of the scheme is to be independently assessed and assured
<b>Conditions of allowance</b>	The company can recover funding based on a unit rate of £1,598 per completed audit (maximum of one audit claimed per business site) up to a maximum of 3000 audits.

**Table A1.10: Decarbonising water resources – Church Wilne and Melbourne upgrades**

Scheme delivery	
<b>Description</b>	Delivery of 65 Ml/d increase in supply capacity split between Church Wilne and Melbourne as described in the company's Decarbonising water resources business case. The measure is project progress as a percentage with a value of 100 per cent indicating that the project is fully delivered. The company will present intermediate scheme milestones (such as completion of detailed design, civil and M&E construction, commissioning and handover) attached to target delivery date and project value to further segment the current value proportions. The calculation of percentage progress is similar to "earned value" in project management, where completion of milestones is recognised as completing a proportion of the baseline project value which is set at £139.841.
<b>Measurement</b>	Percentage points to 1 decimal place
<b>Assurance</b>	Successful delivery of the scheme is to be independently assessed and assured. This includes demonstration and confirmation to the DWI that the scheme is complete and operational.
<b>Conditions of allowance</b>	<p>At Church Wilne water treatment works the delivery of 35 Ml/d additional abstraction, treatment and distribution – 64% of project value comprising of:</p> <ul style="list-style-type: none"> <li>• 2% for new raw water treatment and transfer (riverbank filtration, 35Ml/d pumped transfer and constructed wetlands).</li> <li>• 52.5% for water treatment works expansion (35Ml/d side stream – likely process ceramic membranes, disinfection and active media filtration).</li> <li>• 9.5% for new pumping and treated water distribution connection (35Ml/d).</li> </ul> <p>At Melbourne water treatment works the delivery of 30Ml/d additional raw water transfer, treatment and distribution – 36% of project value comprising of:</p> <ul style="list-style-type: none"> <li>• 11% for new raw water pumped transfer.</li> <li>• 25% for water treatment works expansion (30Ml/d clarification, rapid gravity filtration and granulated activated carbon).</li> </ul> <p>The company will provide milestones for expected delivery of the above activities – including a further breakdown of delivered value for intermediate milestones.</p>

### A1.2.5 Smart metering

Table A1.11: Smart metering – Scheme delivery requirements

Scheme delivery	
<b>Description</b>	Number of new smart meter installations completed by 31 March 2025, Number of existing basic meters replaced with smart meters by 31 March 2025
<b>Measurement</b>	Smart meters are defined for the purpose of this scheme as new meter installations that use Advanced metering infrastructure (AMI) technology that enables them to be read remotely through an integrated system of smart meters, communications networks, and data management systems. This system will comply with the company's obligations under competition law and have the capability to:

	<ul style="list-style-type: none"> <li>Record consumption data and comply with the appropriate regulations governing cold water meters.</li> <li>Allow ready access to this data by customers (directly or via contractors/agents) and the company at near real time, with data updated daily at a minimum, and made available at a minimum granularity of 1 hour intervals, or such greater frequency and/or granularity as reasonably requested by the customer or its contractors/agents.</li> <li>Enable the capability for automated leak alarms to be communicated to the customer and company.</li> <li>Transfer consumption data to the company remotely without requiring access to the meter or property.</li> <li>Communicate with the internet.</li> </ul> <p>We define existing meters as meters that were installed in the Severn Trent Water network prior to 1 April 2020 without smart meter capability.</p> <p>A smart meter can only be counted once in the five year period for a property. For example, if a smart meter fails within the five years and is replaced, it cannot be recounted towards this performance commitment. The measurement of meters in this scheme excludes the installation of new smart meters for new connections.</p> <p>Smart meters installed at the request of a customer (optant meters) are not included in the measurement for delivery of this scheme. We consider this scheme to be a selective metering programme.</p> <p>Meter installations and replacements: measured in thousands (000s) to three decimal places.</p>
<b>Assurance</b>	Third party assurance of the numbers reported
<b>Conditions of allowance</b>	<ul style="list-style-type: none"> <li>We will fund each meter installation based on a unit cost allowance (including a proportion of support costs) up to a maximum number of installations completed by 31 March 2025. If the company delivers less than the maximum number of meters we will calculate any cost sharing based on a proportioned 'target cost'. We summarise these rates in table A1.12.</li> <li>We will only allow costs for activities undertaken within Coventry and the areas of Warwickshire identified in the proposal.</li> <li>We expect Severn Trent Water to work with other companies installing and trialing smart meters under green recovery and the wider sector to understand the opportunity for ensuring standardisation in terms of interfacing with the data collected. This would enable a standard approach to reading the data, enabling data to be readily accessible for development by third parties. This would support data sharing and innovative uses of the data. Company to provide evidence of the outcome of this engagement.</li> </ul>

**Table A1.12: Smart metering – Unit rates and maximum installations to be funded for Severn Trent Water's green recovery programme**

Metering activity	Unit rate for allowance (£ per meter)	Maximum number of installations to be funded
new household smart meter installations	232.34	66,319
existing basic meters replaced with smart meters	51.09	91,010

<sup>45</sup> Includes the Swindon and Oxford (SWOX), Guildford, Slough and Wycombe and Aylesbury (SWA), Kennet Valley and Henley water resource zones as defined by Thames Water in its final water resources management plan (WRMP) 2019

**Table A1.13: Smart metering – Additional reporting requirements**

Additional reporting requirements		
Metric	Unit	Further comments
Number of new meter installations	Number, 000s	Reported by installation type, <ul style="list-style-type: none"> <li>Screw-in</li> <li>Internal</li> </ul> Boundary box Report to three decimal places
New meter installations – outturn costs	£, million	Reported by installation type, <ul style="list-style-type: none"> <li>Screw-in</li> <li>Internal</li> <li>Boundary box</li> </ul> Report to three decimal places
Number of existing basic meter installations replaced with AMI capable smart meters	Number, 000s	Report to three decimal places
Existing basic meter installations replaced with AMI capable smart meters – outturn costs <sup>46</sup>	£, million	Report to three decimal places
Leakage savings from meter installations	MI/d	Report by <ul style="list-style-type: none"> <li>New installations; and</li> <li>Replacements.</li> </ul> Report to one decimal place
Demand savings from meter installations	MI/d	Report by <ul style="list-style-type: none"> <li>New installations; and</li> <li>Replacements.</li> </ul> Sub divide benefits into <ul style="list-style-type: none"> <li>reductions in usage; and</li> <li>reduction in customer side losses.</li> </ul> Report to one decimal place

## A1.2.6 Taking care of supply pipes

**Table A1.14: Taking care of supply pipes – Scheme delivery requirements**

### Scheme delivery

<sup>46</sup> Outturn costs would relate to the enhancement element of the replacement installations made through the allowance. The total activity cost in terms of base and enhancement should also be reported for comparison. Costs should be split between meter installation costs and support costs.

<b>Description</b>	Delivery of 26,000 proactive lead supply pipe replacement and repair/replacement of leaking supply pipes in Coventry and Bomere Heath trial areas. With best endeavours to implement the cessation of phosphoric acid dosing for plumbosolvency control in the Bomere Heath trial area only.
<b>Measurement</b>	<ul style="list-style-type: none"> <li>• Number of lead supply pipes replaced to the compliance point (kitchen tap) in trial areas by 31 March 2025</li> <li>• Number of leaking supply pipes replaced (not lead) by 31 March 2025</li> <li>• Number of leaking supply pipes repaired (not lead) by 31 March 2025</li> <li>• Number of joint supply lead pipes replaced to the compliance point (kitchen tap) in trial areas by 31 March 2025</li> <li>• Number of joint supply pipes (not lead) replaced/repaired in the trial areas by 31 March 2025</li> </ul>
<b>Assurance</b>	<p>Successful delivery of the scheme numbers and wider benefits is to be independently assessed and assured.</p> <p>We will also seek updates and assurances from the DWI that the Bomere Heath trial to stop phosphate dosing is on track to be implemented before 2025-30 period.</p>
<b>Conditions of allowance</b>	<ul style="list-style-type: none"> <li>• We make an allowance of £2,870 per supply pipe replaced/repaired (for lead and non-lead) up to the compliance point (kitchen tap) and we will fund up to a maximum of 26,000 supply pipes. This unit rate allowance includes associated costs to deliver wider benefits of innovation trials, customer engagement, environment benefits, training and skills development, data capture and sharing systems.</li> <li>• We will only allow costs for activities in the Coventry and Bomere Heath supply areas.</li> <li>• We expect the company to appropriately and openly share and inform all learnings from replacing lead pipes with the industry and stakeholders. Such as, but not limited to: <ul style="list-style-type: none"> <li>○ Lead pipe identification methodologies</li> <li>○ customer acceptance for replacing lead within the home and associated disturbance</li> <li>○ triggers and evidence required to conclude lead pipes have been removed to the compliance point</li> <li>○ costs associated with lead pipes to different property types</li> <li>○ triggers and methodology for phosphate dosing cessation and its impacts and how to best monitor for this</li> <li>○ other consequential WQ benefits (eg reduction in discolouration from replacing leaking corroded pipes).</li> <li>○ customer acceptance methodologies for supply pipe adoption</li> <li>○ leakage benefits/reduction</li> </ul> </li> </ul>

### A1.2.7 Using ceramic membrane at Hampton Loade

The scheme delivery requirements are provided in A1.3.1 because they apply to South Staffs Water who are delivering the scheme. Severn Trent Water has no related scheme delivery requirements because its contribution is covered by the agreement with South Staffs Water to provide a third of capital investment costs.

**Table A1.15: Using ceramic membrane at Hampton Loade – Additional reporting requirements for Severn Trent Water**

Additional reporting requirements <sup>47</sup>		
Metric	Unit	Further comments
Expenditure on Hampton Loade improvements	£m	<p>This is requested for all green recovery schemes but it is essential that Severn Trent Water and South Staffs Water provide a clear narrative to identify where each contribution to the schemes funding is recorded in their annual performance reporting</p> <ul style="list-style-type: none"> <li>• PR19 cost adjustment claim allowance – South Staffs Water</li> <li>• PR19 cost adjustment claim allowance – Severn Trent Water contribution</li> <li>• Green recovery allowance – South Staffs Water</li> <li>• Green recovery allowance – Severn Trent Water contribution</li> </ul> <p>Severn Trent Water should clearly identify within its narrative commentary where it has recorded its total contribution to the Hampton Loade project within table 4L and the size of this contribution.</p> <p>In table 4S, Severn Trent Water should report its portion of the green recovery investment only. This is the investment that relates to the £7.009 million element of our allowance to the company which is derived from our efficient view of project costs. This is deducted in table 4C so that green recovery expenditure is not included within the cost sharing reconciliation. The amount reported in table 4S is used in table 4U for the separate green recovery reconciliation.</p>

## A1.3 South Staffs Water

### A1.3.1 Using ceramic membrane at Hampton Loade

**Table A1.16: Using ceramic membrane at Hampton Loade – Scheme delivery requirements**

Scheme delivery	
<b>Description</b>	Progress in delivering Hampton Loade treatment works upgrade: construction, installation and commissioning of ceramic membrane solution by the milestone date identified in the DWI improvement notice, SST-2018-00002, currently estimated to be revised to 31 July 2024.
<b>Measurement</b>	Reported as percentage delivered to zero decimal places.
<b>Assurance</b>	Third party assurance of the numbers reported

<sup>47</sup> Recorded as further reporting requirements for Severn Trent Water because this is not an additional requirement rather it is detail on how we propose the scheme should be reported in the companies annual performance report tables

	DWI to confirm agreement with actual and forecast progress percentages reported; and to formally confirm when construction, installation and commissioning of ceramic membrane solution has been completed.
<b>Conditions of allowance</b>	<ul style="list-style-type: none"> <li>• Company to gain formal approval for change of solution from the DWI</li> <li>• We require South Staffs Water to define appropriate milestones and associated levels of funding to the maximum allowance. The milestones should be spread out over the time between letting a contract and project in use.</li> <li>• We will make an appropriate green recovery adjustment in the PR24 final determinations for the outturn plus forecast progress position (if not confirmed as complete by final determination) as at 31 March 2025.</li> </ul>

**Table A1.17: Using ceramic membrane at Hampton Loade – Additional reporting requirements**

<b>Additional reporting requirements<sup>48</sup></b>		
<b>Metric</b>	<b>Unit</b>	<b>Further comments</b>
Expenditure on Hampton Loade improvements	£m	<p>This is requested for all green recovery schemes but it is essential that South Staffs Water and Severn Trent Water provide a clear narrative to identify where each contribution to the schemes funding is recorded in their annual performance reporting</p> <ul style="list-style-type: none"> <li>• PR19 cost adjustment claim allowance – South Staffs Water</li> <li>• PR19 cost adjustment claim allowance – Severn Trent Water contribution</li> <li>• Green recovery allowance – South Staffs Water</li> <li>• Green recovery allowance – Severn Trent Water contribution</li> </ul> <p>In order for the 2020-25 investment at the Hampton Loade water treatment works to be transparent, and for the correct cost sharing rates to be applied, we propose South Staffs Water should adopt the following method of reporting in its annual performance report.</p> <p>The total scheme cost should be reported within table 4L. That is, costs attributable to both South Staffs Water and Severn Trent Water should be included in the line 4L.49, 'Improvements to taste / odour / colour'. These costs relate to our efficient view of a gross project cost of £55.290 million. As multiple schemes may be reported in this line the narrative commentary should clearly identify the component of cost relating to the Hampton Loade Scheme.</p> <p>South Staffs Water should report the contribution from Severn Trent Water in table 2E (grants and contributions). The £10.5 million we allowed in our PR19 final determination should continue to be reported as a price control contribution. The additional contribution from Severn Trent Water, allowed under the green recovery proposals, should be reported as a non-price control contribution. Since the annual contribution will comprise an element of both of these, South Staffs Water should report 60% as price control and 40% as non-price control contributions each year. These percentage splits are based on a total contribution of £17.509 million from Severn Trent Water, £10.500 million</p>

<sup>48</sup> Recorded as further reporting requirements for South Staffs Water because this is not an additional requirement rather it is detail on how we propose the scheme should be reported in the companies annual performance report tables

	<p>for the PR19 final determination and £7.009 million from the green recovery. We would expect there to be other items reported in table 2E so South Staffs Water should set out clearly in its narrative commentary how much of each line is attributable to the contribution from Severn Trent Water.</p> <p>Tables 4L and 2E flow through into tables 4D and 2B, where the grants and contributions are deducted from costs which will show South Staffs Water net position.</p> <p>In table 4S, South Staffs Water should report its portion of the green recovery investment only. This is the investment that relates to the £7.841 million element of our allowance to the company which is derived from our efficient view of project costs. This is deducted in table 4C so that green recovery expenditure is not included within the cost sharing reconciliation. The amount reported in table 4S is used in table 4U for the separate green recovery reconciliation.</p>
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## A1.4 South West Water

### A1.4.1 Catchment management

**Table A1.18: Catchment management – Scheme delivery requirements**

Scheme delivery	
<b>Description</b>	Delivery of 1,000 hectares of intensive peatland restoration and 9,000 hectares of catchment management, and natural flood management benefits in the Dartmoor National Park, as detailed in query response SWB GR RFI 009.4.
<b>Measurement</b>	<ul style="list-style-type: none"> <li>• Number of hectares of intensive peatland restoration delivered</li> <li>• Number of hectares of catchment management delivered</li> </ul>
<b>Assurance</b>	<p>The company should provide assurance to the Environment Agency and DWI that the expected environmental and water quality benefits are to be delivered as set out in the company's business case and query response SWB GR RFI 009.4.</p> <p>The company should provide evidence of Environment Agency input to the scheme delivery.</p> <p>The evidence of delivery will be supported by partner NGOs feedback, and independent assessment and assurance.</p> <p>The company should provide evidence that the Risk management Authorities (including Lead Local Flood Authorities, and the Environment Agency and others where relevant) are aware of the locations of flood risk benefits derived from catchment based (natural flood management, NFM) works.</p>
<b>Conditions of allowance</b>	<p>The company can recover funding based on a unit rate of £6,300 per completed hectare of intensive peatland restoration, up to a maximum of 1,000 hectares.</p> <p>The company can recover funding based on a unit rate of £300 per completed hectare of catchment management, up to a maximum of 9,000 hectares.</p>

## A1.4.2 Knapp Mill water treatment works advancement

Table A1.19: Knapp Mill water treatment works advancement – Scheme delivery requirements

Scheme delivery	
<b>Description</b>	Delivery of Knapp Mill water treatment improvements 18 months ahead of original schedule to satisfy DWI Notice SBW-2018-00002
<b>Measurement</b>	Progress against agreed milestones such as completion of detailed design, civil and M&E construction, commissioning and handover.
<b>Assurance</b>	<p>Independent assessment and assurance of completed milestones and forecast of likely outturn position at end of March 2025 as part of PR24 business plan process.</p> <p>We will also seek assurances from the DWI that the notice for the works is on track for completion by September 2025 and that customers will continuously receive wholesome water from the works by 31st March 2026, prior to including allowances at PR24.</p>
<b>Conditions of allowance</b>	<ul style="list-style-type: none"> <li>• We require South West Water to define appropriate milestones and associated levels of funding to the maximum allowance. The milestones should be spread out over the time between letting a contract and handover of new assets.</li> <li>• We will make an appropriate green recovery adjustment in the PR24 final determinations for the outturn plus forecast progress position as at 31 March 2025.</li> <li>• If spend is expected after 1 April 2025-26 we require South West Water to submit appropriate information in its PR24 business plan to enable AMP8 spend to be added to the RCV profile for 2025-30.</li> </ul>

## A1.4.3 Smarter, healthier homes

Table A1.20: Smarter, healthier homes – Scheme delivery requirements

Scheme delivery	
<b>Description</b>	<p><b>Metering:</b> Number of upgraded new smart meter installations completed by 31 March 2025</p> <p><b>Metering:</b> Number of basic meters replaced by or upgraded to smart meters by 31 March 2025,</p> <p><b>Proactive lead replacement:</b> Number of external lead supply pipes replaced to the property building boundary wall</p> <p><b>Proactive lead replacement:</b> Number of internal lead supply pipes replaced from property building boundary wall to the compliance point (kitchen tap)</p> <p><b>Supply pipes 'adopted':</b> Number of supply pipes replaced by 31 March 2025</p> <p><b>Supply pipes 'adopted':</b> Number of supply pipes repaired by 31 March 2025</p>

<p><b>Measurement</b></p>	<p>Smart meters are defined for the purpose of this scheme as new meter installations that use Advanced metering infrastructure (AMI) technology that enables them to be read remotely through an integrated system of smart meters, communications networks, and data management systems. This system will comply with the company's obligations under competition law and have the capability to:</p> <ul style="list-style-type: none"> <li>• Record consumption data and comply with the appropriate regulations governing cold water meters.</li> <li>• Allow ready access to this data by customers (directly or via contractors/agents) and the company at near real time, with data updated daily at a minimum, and made available at a minimum granularity of 1 hour intervals, or such greater frequency and/or granularity as reasonably requested by the customer or its contractors/agents.</li> <li>• Enable the capability for automated leak alarms to be communicated to the customer and company.</li> <li>• Transfer consumption data to the company remotely without requiring access to the meter or property.</li> <li>• Communicate with the internet.</li> </ul> <p>We define existing meters as meters that were installed in the South West Water network prior to 1 April 2020 without smart meter capability.</p> <p>A smart meter can only be counted once in the five year period for a property. For example, if a smart meter fails within the five years and is replaced, it cannot be recounted towards this performance commitment.</p> <p>Smart meters installed at the request of a customer, optants, are not included in the measurement for delivery this scheme. We consider this scheme to be a selective metering programme.</p> <p>Meter installations and replacements (or upgrades): measured in thousands (000s) to three decimal places.</p>
<p><b>Assurance</b></p>	<p>Third party assurance of the numbers reported</p>
<p><b>Conditions of allowance</b></p>	<p>For all:</p> <ul style="list-style-type: none"> <li>• We will fund each meter/lead replacement/supply pipe replacement or repair activity based on a unit cost allowance (including a proportion of support costs) up to a maximum activity level completed by 31 March 2025. If the company delivers less than the maximum activity level we will calculate any cost sharing based on a proportioned 'target cost' We summarise these rates in table A1.21.</li> <li>• If the company delivers less than the maximum activity level we will calculate any cost sharing based on a proportioned 'target cost'.</li> </ul> <p>For proactive lead replacement:</p> <ul style="list-style-type: none"> <li>• We will only allow costs for activities undertaken within in the North Devon supply area. We expect the company to appropriately and openly share and inform all learnings from replacing lead pipes with the industry and stakeholders. Such as, but not limited to: <ul style="list-style-type: none"> <li>○ Lead pipe identification methodologies</li> <li>○ customer acceptance for replacing lead pipes within the home and associated disturbance</li> <li>○ triggers and evidence required to conclude all lead pipes have been removed</li> <li>○ costs associated with lead pipe replacements at different property types</li> <li>○ benefits in terms of lead reduction by replacing pipes up to the kitchen tap rather than to premises boundary</li> <li>○ other consequential water quality benefits (reduction in discolouration from replacing leaking corroded pipes).</li> <li>○ leakage benefits/reduction</li> </ul> </li> </ul> <p>For supply pipes adopted:</p>

	<ul style="list-style-type: none"> <li>We will only allow costs for activities within the North Devon supply area and Plymouth trial area.</li> <li>We expect the company to appropriately and openly share and inform all learnings from replacing supply pipes with the industry and stakeholders. Such as, but not limited to: <ul style="list-style-type: none"> <li>customer acceptance methodologies for supply pipe adoption</li> <li>leakage benefits/reduction</li> </ul> </li> </ul> <p>For metering:</p> <ul style="list-style-type: none"> <li>We will only allow costs for activities undertaken within in the North Devon supply area.</li> <li>We expect South West Water to work with other companies installing and trialing smart meters under green recovery and the wider sector to understand the opportunity for ensuring standardisation in terms of interfacing with the data collected. This would enable a standard approach to reading the data, enabling data to be readily accessible for development by third parties. This would support data sharing and innovative uses of the data. Company to provide evidence of the outcome of this engagement.</li> </ul>
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**Table A1.21: Smarter, healthier homes – Unit rates and maximum installations to be funded for South West Water's green recovery programme**

Activity	Unit rate for allowance (£ per element)	Maximum activity level to be funded
Upgraded new meter installations	£23.50 per meter including support costs	44,800
Basic meters replaced by or upgraded to smart meters	£65.34 per meter including support costs	76,072
External lead supply pipe replaced up to the property building wall	£1,419 per external lead supply pipe replaced up to the property building wall	5,100
Internal lead supply pipe replaced from the property building wall to the compliance point (kitchen tap)	£1,365 per lead internal supply pipe replaced from the property building wall to the compliance point (kitchen tap)	1,913
Supply pipe replacement	£756 per supply pipe replacement	752
Supply pipe repair	£635 per supply pipe repair	1,324

**Table A1.22: Smarter, healthier homes – Additional reporting requirements**

Additional reporting requirements		
Metric	Unit	Further comments
Number of upgraded new meter installations	Number, 000s	Reported by installation type, <ul style="list-style-type: none"> <li>New connections</li> <li>Optants</li> </ul> Report to three decimal places

Upgraded new meter installations – outturn costs <sup>49</sup>	£, million	Reported by installation type, <ul style="list-style-type: none"> <li>• Screw-in</li> <li>• Internal</li> <li>• Boundary box</li> </ul> Report to three decimal places
Number of existing basic meter installations replaced with AMI capable smart meters or upgraded to AMI functionality	Number, 000s	<ul style="list-style-type: none"> <li>• Replace external (domestic)</li> <li>• Upgrade external (domestic)</li> <li>• Replace external (domestic) – dig down</li> <li>• Replace internal (domestic)</li> <li>• Replace external (commercial)</li> <li>• Upgrade external (commercial)</li> <li>• Replace external (commercial) – dig down</li> <li>• Replace internal (commercial)Boundary box</li> </ul> Report to three decimal places
Existing basic meter installations replaced with AMI capable smart meters – outturn costs or upgraded to AMI functionality 49	£, million	<ul style="list-style-type: none"> <li>• Replace external (domestic)</li> <li>• Upgrade external (domestic)</li> <li>• Replace external (domestic) – dig down</li> <li>• Replace internal (domestic)</li> <li>• Replace external (commercial)</li> <li>• Upgrade external (commercial)</li> <li>• Replace external (commercial) – dig down</li> <li>• Replace internal (commercial)Boundary box</li> </ul> Report to three decimal places
Leakage savings from meter installations	MI/d	Report by <ul style="list-style-type: none"> <li>• Upgraded new installations; and</li> <li>• Replacements and upgraded existing.</li> </ul> Report to one decimal place
Demand savings from meter installations	MI/d	Report by <ul style="list-style-type: none"> <li>• Upgraded new installations; and</li> <li>• Replacements and upgraded existing.</li> </ul> Sub divide benefits into <ul style="list-style-type: none"> <li>• reductions in usage; and</li> <li>• reduction in customer side losses.</li> </ul> Report to one decimal place

#### A1.4.4 Storm overflows

**Table A1.23: Storm overflows – Storm overflow assessment framework (SOAF) investigations**

#### Scheme delivery

<sup>49</sup> Outturn costs relate to the upgrade cost element for new installation and enhancement element of the replacement/upgraded installations made through the allowance. The total activity cost should also be reported for comparison. Costs should be split between meter installation costs and support costs.

<b>Description</b>	Delivery of 100 SOAF investigations as detailed in the company's green recovery submission and query response SWB GR RFI 010.2
<b>Measurement</b>	Number of full SOAF investigations completed, zero decimal places.
<b>Assurance</b>	Successful delivery of the interventions are to be independently assessed and assured. It is expected that the Environment Agency will sign off these interventions.
<b>Conditions of allowance</b>	Unit rate of £12,917 per completed SOAF (to stage 4) can be recovered up to a maximum of 100 investigations

**Table A1.24: Storm overflows – Additional interventions**

<b>Scheme delivery</b>	
<b>Description</b>	<p>Delivery of two inland bathing river water pilots for the rivers Dart and Tavy to support the recreational economy and environmental improvements as detailed in query response SWB GR RFI 006.4 and 006.5.</p> <p>Delivery of surface water separation trials as detailed in query response SWB GR RFI 010.2</p>
<b>Measurement</b>	<p>Number of inland rivers water pilots completed, zero decimal places.</p> <p>Delivery of surface water separation trial removing at least 11.5 hectares of area, as detailed in query response SWB GR RFI 010.2.</p>
<b>Assurance</b>	The company identifies that bathing water compliance cannot be delivered by its activities alone. For both catchments, the company should demonstrate input from the Environment Agency in the catchment engagement plans to ensure appropriate linkages with other ongoing work. Input from the Environment Agency should also be considered for the surface water separation trial monitoring proposals.
<b>Conditions of allowance</b>	<p>Delivery of bathing water pilot investigations on the Rivers Dart and Tavy including the following activities and associated costs:</p> <ul style="list-style-type: none"> <li>• Investigations – to assess and quantify the costs and benefits of any Inland river bathing water designation <ul style="list-style-type: none"> <li>○ Develop a programme of sampling and modelling (in consultation with the Environment Agency) to understand the river bathing water performance of the two proposed river stretches, and to identify and quantify sources of pollutants – £0.350 million</li> <li>○ Complete 25 SOAF studies across the two river catchments – £0.250 million</li> <li>○ Installation and testing of enhanced storm overflow and environmental monitors to determine how they may enhance environmental studies and improve impact assessment – £0.500 million.</li> </ul> </li> <li>• Development of partnerships, stakeholder and customer engagement– to support the pilot studies and test the benefits of different approaches with a cost recovery for these activities set at £0.750 million, and to include: <ul style="list-style-type: none"> <li>○ Undertake studies to identify and quantify recreational users of both rivers, evaluate the economic benefits of any designations and complete risk appraisals to determine boundaries for any inland bathing water designation.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Develop live and transparent reporting of spill data on the catchment through the development and implementation of a trial RiverLive system</li> <li>○ Develop and trial a Catchment Champions concept to explore ways of engaging members of the public in detecting and reporting pollution through a citizen-science based engagement approach.</li> <li>○ Develop and test customer engagement and education strategies to prevent disposal of plastic and other polluting matter (eg. wet wipes, cotton buds) into the sewer system, and determine the impact on reducing aesthetic and plastic pollution.</li> <li>○ Aligned with the Catchment Management approach, develop options to support diffuse pollution reduction with a focus on the impact on bathing water parameters.</li> </ul> <ul style="list-style-type: none"> <li>● Delivery of 'quick win' asset enhancements (such as overflow screening) that have been identified through the pilot studies with a cost recovery of £2.000 million.</li> </ul> <p>Undertake a surface water separation trial with a cost recovery of £1.920 million based on the removal of at least 11.5 hectares. This should include a publicly available report detailing the findings and lessons from the trial in order to inform future work in this area.</p>
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### A1.4.5 Water resource grid enablement

Table A1.25: Water resource grid enablement – Scheme delivery requirements

<b>Scheme delivery</b>	
<b>Description</b>	Delivery of the Roadford pumped storage proposal (a new 140-150 Ml/d intake pumping station on the River Tamar at Gatherley to transfer water to Roadford reservoir via 3.9km of 900mm raw water main. Also the delivery of the North Devon raw water transfer proposal (10km of new gravity 600mm raw water main and 10km of new 400mm potable water main between Northcombe and Prewley WTW's, with two new raw water tanks, 6Ml total capacity).
<b>Measurement</b>	For each proposal progress against agreed milestones such as completion of detailed design, civil and M&E construction, commissioning and handover.
<b>Assurance</b>	<p>Independent assessment and assurance of completed milestones and forecast of likely outturn position at end of March 2025 as part of PR24 business plan process.</p> <p>For Prewley WTW we will also seek assurances from the DWI that the notice for the works is on track for completion before 31 March 2025 prior to including allowances at PR24.</p>
<b>Conditions of allowance</b>	<ul style="list-style-type: none"> <li>● We require South West Water to define appropriate milestones and associated levels of funding up to the maximum allowance (£12.818 million Roadford and £9.884 million for Prewley and Northcombe). The milestones should be spread out over the time between letting a contract and handover of new assets.</li> </ul>

- The allowance is conditional on the DWI accepting South West Water's formal submission to change the solution and existing Prewley WTW DWI notice.

## A1.5 Thames Water

### A1.5.1 Smart metering

**Table A1.26: Smart metering – Scheme delivery requirements**

Scheme delivery	
<b>Description</b>	<p>Number of new household smart meter installations completed in the London water resource zone<sup>50</sup> by 31 March 2025,</p> <p>Number of new household smart meter installations completed in the Thames Valley water resource zones<sup>51</sup> by 31 March 2025,</p> <p>Number of household basic meters replaced with smart meters in the London water resource zone<sup>50</sup> by 31 March 2025</p> <p>Number of household basic meters replaced with smart meters in the Thames Valley water resource zones<sup>51</sup> by 31 March 2025</p> <p>Number of non-household basic meters replaced with smart meters in the London water resource zone<sup>50</sup> by 31 March 2025</p> <p>Number of non-household basic meters replaced with smart meters in the Thames Valley water resource zones<sup>51</sup> by 31 March 2025</p> <p>Number of new small bulk smart meter installations completed in the London water resource zone<sup>50</sup> by 31 March 2025,</p> <p>Number of new small bulk smart meter installations completed in the Thames Valley water resource zones<sup>51</sup> by 31 March 2025,</p> <p>Number of new large bulk smart meter installations completed in the London water resource zone<sup>50</sup> by 31 March 2025,</p> <p>Number of macro masts installed in the Thames Valley water resource zones<sup>51</sup> by 31 March 2025,</p>
<b>Measurement</b>	<p>Smart meters are defined for the purpose of this scheme as new meter installations that use Advanced metering infrastructure (AMI) technology that enables them to be read remotely through an integrated system of smart meters, communications networks, and data management systems. This system will comply with the company's obligations under competition law and have the capability to:</p> <ul style="list-style-type: none"> <li>• Record consumption data and comply with the appropriate regulations governing cold water meters.</li> <li>• Allow ready access to this data by customers (directly or via contractors/agents) and the company at near real time, with data updated daily at a minimum, and made available at a minimum granularity of 1 hour intervals, or such greater frequency and/or granularity as reasonably requested by the customer or its contractors/agents.</li> <li>• Enable the capability for automated leak alarms to be communicated to the customer and company.</li> </ul>

<sup>50</sup> As defined by Thames Water in its final water resources management plan (WRMP) 2019

<sup>51</sup> Includes the Swindon and Oxford (SWOX), Guildford, Slough and Wycombe and Aylesbury (SWA), Kennet Valley and Henley water resource zones as defined by Thames Water in its final water resources management plan (WRMP) 2019

	<ul style="list-style-type: none"> <li>• Transfer consumption data to the company remotely without requiring access to the meter or property.</li> <li>• Communicate with the internet.</li> </ul> <p>We define existing meters as meters that were installed in the Thames Water network prior to 1 April 2020 without smart meter capability.</p> <p>A smart meter can only be counted once in the five year period for a property. For example, if a smart meter fails within the five years and is replaced, it cannot be recounted towards this performance commitment. The measurement of meters in this scheme excludes the installation of new smart meters for new connections.</p> <p>Smart meters installed at the request of a customer, optants, are not included in the measurement for delivery this scheme. Thames Water has specified green recovery to be a selective metering programme.</p> <p>Meter installations and replacements: measured in thousands (000s) to three decimal places.</p>
<b>Assurance</b>	Third party assurance of the numbers reported
<b>Conditions of allowance</b>	<p><b>Delivery of the PR19 metering programme and related outcomes</b></p> <ul style="list-style-type: none"> <li>• The company must deliver its PR19 performance commitment levels that relate specifically to metering and leakage reduction in order for us to make any green recovery allowance. The following three performance commits must therefore be achieved::             <ul style="list-style-type: none"> <li>• PR19TMS_M01; Installing new smart meters in London, 399,749 to be installed by 31 March 2025<sup>52</sup> ;</li> <li>• PR19TMS_M02 Replacing existing meters with smart meters in London, 130,000 to be installed by 31 March 2025; and</li> <li>• PR19TMS_BW04 , Leakage, reduction of 20.4% in three-year average terms from 2019-20 baseline by 31 March 2025.</li> </ul> <p>At PR24 the company must provide assurance that it is forecast to deliver the 2024-25 performance levels by 31 March 2025. The company must subsequently demonstrate that these performance levels were delivered in accordance with the requirements of the performance commitment by 31 March 2025.2</p> </li> <li>• In addition to meeting the performance requirements described above the company must deliver the demand savings associated with its metering and water efficiency programmes as specified in its PR19 business plan by 31 March 2025 in order for us to make any green recovery allowance. This demand saving is 98 Ml/d<sup>53</sup> and this must be evidenced and assured by a third party. Only savings from the following activities delivered under the PR19 metering programme should be counted towards this total (benefits from green recovery are excluded):             <ul style="list-style-type: none"> <li>• Usage/wastage reductions from smart meter installations;</li> <li>• Customer supply pipe leakage reduction identified from smart meter installation; and</li> <li>• Household and non-household usage reduction driven by water efficiency activity</li> </ul> </li> <li>• As shown in table A1.28 below, Thames Water has revised its 2020-25 programme<sup>54</sup> of smart meter installations from that in its PR19 business plan. While we recognise that the revised programme will still help deliver the company's performance commitments, we consider we allowed efficient costs for the company to install the numbers of each of type of meter included in its PR19 business plan. We will only make green recovery allowances for activity above the levels identified in the company's revised PR19 metering programme, summarised in table A1.28 below (and set out in this section), which deliver demand reductions beyond those delivered by the PR19 programme (set out in the following section). We note that delivery of the company's revised PR19 programme for new smart household meters, optant meters, small bulk meters and</li> </ul>

<sup>52</sup> This measure includes selective smart meters, optant smart meters and small bulk smart meters. The company's revised programme that intends to deliver 399,745 smart meters across these installation types is provided in the table below

<sup>53</sup> Thames Water, 'PR19-CSD006-WNP-03b Incremental cost of water stress on balancing supply / demand September 2018 - Confidential - Commercially Sensitive', September 2018, p.16.

<sup>54</sup> Revised PR19 programme referred to as the PR19 programme from this point onwards

smart meter replacements in the London water resource zone are already covered by the existing performance commitments described above. For the other installations we set the following conditions:

- Large bulk meters installed in the London water resource zone, 1,116 installations must be delivered under the PR19 programme by 31 March 2025 for us to provide any additional funding for bulk meter installation under green recovery;
- Non-household meter replacements of basic meters with smart meters in London water resource zone, 54,000 installations must be delivered under the PR19 programme by 31 March 2025 for us to provide any additional funding for non-household replacements of basic meters with smart meters in the London water resource zone under green recovery;
- New smart meter installations (optant and selective) in the Thames Valley water resource zones, 61,665 installations must be delivered under the PR19 programme by 31 March 2025 for us to provide any additional for new smart household metering in Thames Valley water resource zones(selective only) under green recovery;
- Household meter replacements of basic meters with smart meters in the Thames Valley water resource zones, 43,859 installations must be delivered under the PR19 programme by 31 March 2025 for us to provide any additional funding for household replacements of basic meters with smart meters in Thames Valley water resource zones under green recovery; and
- Non-household meter replacements of basic meters with smart meters in the Thames Valley water resource zones, 1,000 installations must be delivered under the PR19 programme by 31 March 2025 for us to provide any additional funding for non-household replacements of basic meters with smart meters in the Thames Valley water resource zones under green recovery.

**Ensuring efficiency delivery of the green recovery programme and that benefits are delivered for customers and the environment beyond those funded in our PR19 final determinations**

- We will fund each green recovery meter installation activity type based on a unit cost allowance (including a proportion of support costs) up to a maximum number of installations completed by 31 March 2025. We summarise this information by activity type in table A1.27 below.
- This funding is conditional on the company demonstrating it has delivered a minimum demand reduction benefit associated with the meter installation type. This demand benefit may be associated with a wider grouping of meter installations than the unit costs and (this benefit may be associated with a wider grouping than the unit cost).
- If the company delivers less than the maximum number of meters we will calculate any cost sharing based on a proportioned 'target cost' and we will consider the the minimum demand reduction benefit achieved on a per meter basis. We summarise these rates in the section below.
- We have included applicable support costs within the per meter allowance for each installation activity type in the unit rate included in table A1.27. This element of the allowance is conditional on the company demonstrating it has delivered an additional 10.2 Ml/d of demand savings from its smart home visits and an additional 1.5 Ml/d of benefits from its smart portal. If these additional benefits are not delivered we will reduce the unit rates accordingly.
- In relation to the fixed network we will make an allowance for new macro mast installations in the Thames Valley water resource zones up to a maximum number of installations completed by 31 March 2025. We will make an allowance based on a unit rate of £126,437 per macro mast installed. If the company delivers less than the maximum number of masts we will calculate any cost sharing based on a proportioned 'target cost'
- We will only make an allowance for new macro mast installations in the Thames Valley water resource zones if the company provides third party assured evidence it has delivered the 120 masts (71 macro and 49 micro) in the Thames Valley water resources zones funded under the PR19 final determination. Our view is that the green recovery allowance will only be required if the PR19 allowance for fixed network installation is

	<p>insufficient to support development of a Thames Valley network to support all meter roll out (both PR19 and green recovery) in the 2020-25 period.</p> <ul style="list-style-type: none"> <li>Thames Water is required to report on delivery of its PR19 metering programme consistently with the green recovery programme to demonstrate that the green recovery programme is delivering benefits beyond those funded at PR19. Therefore the additional reporting requirements apply to both the company's PR19 and green recovery proposals and the company should separately identify the activities, costs and benefits of each programme.</li> <li>We expect Thames Water to work with other companies installing and trialing smart meters under green recovery and the wider sector to understand the opportunity for ensuring standardisation in terms of interfacing with the data collected. This would enable a standard approach to reading the data, enabling data to be readily accessible for development by third parties. This would support data sharing and innovative uses of the data. Company to provide evidence of the outcome of this engagement.</li> </ul>
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**Table A1.27: Unit rates and delivery benefits by activity type for Thames Water's green recovery metering programme**

Metering activity	Unit rate for allowance (£ per meter)	Maximum number of installations to be funded	Minimum demand reduction <sup>55</sup>	Demand reduction (l/d per meter)
Number of new household smart meter installations completed in the London water resource zone <sup>56</sup>	344.96	58,000	19.5	75.6
Number of new household smart meter installations completed in the Thames Valley water resource zones <sup>57</sup>	251.22	200,000		
Number of household basic meters replaced with smart meters in the London water resource zone <sup>56</sup>	66.37	255,820	8.9	18.9
Number of household basic meters	49.85	215,080		

<sup>55</sup> Thames Water has provided an estimate of the benefits delivered through each metering activity, however our review of the company's response to RFI010 suggests the benefits delivered by the green recovery scheme are lower than those forecast to be delivered by the PR19 metering programme. We propose to discuss this further with Thames Water prior to our final decisions and at present have retained Thames Water's estimates. The total demand reduction in this table is 35.6 Ml/d with an additional 11.7 ml/d to be delivered by Csmart home visits and the smart portal to meet the minimum programme total of 47.3 Ml/d.

<sup>56</sup> As defined by Thames Water in its final water resources management plan (WRMP) 2019

<sup>57</sup> Includes the Swindon and Oxford (SWOX), Guildford, Slough and Wycombe and Aylesbury (SWA), Kennet Valley and Henley water resource zones as defined by Thames Water in its final water resources management plan (WRMP) 2019

Metering activity	Unit rate for allowance (£ per meter)	Maximum number of installations to be funded	Minimum demand reduction <sup>55</sup>	Demand reduction (l/d per meter)
replaced with smart meters in the Thames Valley water resource zones <sup>57</sup>				
Number of non-household basic meters replaced with smart meters in the London water resource zone <sup>56</sup>	61.76	14,000	<sup>58</sup>	-
Number of non-household basic meters replaced with smart meters in the Thames Valley water resource zones <sup>57</sup>	45.24	5,000		
Number of new small bulk smart meter installations completed in the London water resource zone <sup>56</sup>	518.78	50,892	2.0	33.2
Number of new small bulk smart meter installations completed in the Thames Valley water resource zones <sup>57</sup>	518.78	9,408		
Number of new large bulk smart meter installations completed in the London water resource zone <sup>56</sup>	2,016.13	2,080	5.2 <sup>59</sup>	2,500

**Table A1.28: Thames Water PR19 meter installation programme, revised post final determinations, by type and location**

Following the PR19 final determinations Thames Water revised its metering proposals from those it submitted as part of its business plan. We include the revised programme in the

<sup>58</sup> At present Thames Water have not provided an estimate for the potential non-household saving although the company has demonstrated the analysis it is undertaking in this area. We intend to set a target for non-household savings in our final decisions and will expect Thames Water to provide an updated estimate for our consideration.

<sup>59</sup> Based on the RFI010 response, this is considerably larger than the company's forecast and will be reviewed with the company prior to final determinations

table below for reference. The numbers provided in this table have been used to set some of the conditions on which we will make a green recovery allowance.

Activity	Meter installations proposed		
	London	Thames Valley	Total
Smart household metering	354,617 <sup>60</sup>	25,000	379,617
Optant metering	41,346 <sup>60</sup>	36,665	78,011
Small bulk meters	3,786 <sup>6060</sup>	0	3,786
Large bulk meters	1,116	0	1,116
Household replacement of basic meters with smart meters	130,000	43,859	173,859
Non-household replacement of basic meters with smart meters <sup>61</sup>	54,000	1,000	55,000

**Additional reporting requirements** As described in the scheme delivery section above Thames Water is required to report on both its green recovery and PR19 meter installation programmes in accordance with these reporting requirements. The company must ensure that the activities, costs and benefits associated with each programme can be separately identified.

**Table A1.29: Smart metering – Additional reporting requirements**

Additional reporting requirements		
Metric	Unit	Further comments
Number of new meter installations	Number, 000s	Reported by programme; <ul style="list-style-type: none"> <li>Green recovery.</li> <li>PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>London,</li> <li>Thames Valley</li> </ul> and by installation type, <ul style="list-style-type: none"> <li>Screw-in</li> <li>Internal</li> <li>External dig</li> </ul> Report to three decimal places
New meter installations – outturn costs	£, million	Reported by programme; <ul style="list-style-type: none"> <li>Green recovery.</li> <li>PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>London,</li> <li>Thames Valley</li> </ul>

<sup>60</sup> The installation of smart household meters, optant smart meters and small bulk smart meters in London are all counted towards delivery of the 399,749 smart meters included in Thames Water's PR19TMS\_M01; Installing new smart meters performance commitment.

<sup>61</sup> Non household smart meter replacements are funded by Thames Water shareholder contributions

Additional reporting requirements		
Metric	Unit	Further comments
		and by installation type, <ul style="list-style-type: none"> <li>• Screw-in</li> <li>• Internal</li> <li>• External dig</li> </ul> Report to three decimal places
Number of existing basic household meter installations replaced with smart meters	Number, 000s	Reported by programme; <ul style="list-style-type: none"> <li>• Green recovery.</li> <li>• PR19</li> </ul> and by region; <ul style="list-style-type: none"> <li>• London,</li> <li>• Thames Valley</li> </ul> Report to three decimal places
Existing basic household meter installations replaced with smart meters – outturn costs <sup>62</sup>	£, million	Reported by programme; <ul style="list-style-type: none"> <li>• Green recovery.</li> <li>• PR19</li> </ul> and by region; <ul style="list-style-type: none"> <li>• London,</li> <li>• Thames Valley</li> </ul> Report to three decimal places Report to three decimal places
Number of existing basic non-household meter installations replaced with smart meters	Number, 000s	Reported by programme; <ul style="list-style-type: none"> <li>• Green recovery.</li> <li>• PR19</li> </ul> and by region; <ul style="list-style-type: none"> <li>• London,</li> <li>• Thames Valley</li> </ul> Report to three decimal places
Existing basic non-household meter installations replaced with smart meters – outturn costs <sup>63</sup>	£, million	Reported by programme; <ul style="list-style-type: none"> <li>• Green recovery.</li> <li>• PR19</li> </ul> and by region; <ul style="list-style-type: none"> <li>• London,</li> <li>• Thames Valley</li> </ul> Report to three decimal places Report to three decimal places
Number of new bulk meter installations	Number, 000s	Reported by programme; <ul style="list-style-type: none"> <li>• Green recovery.</li> <li>• PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>• London,</li> </ul>

<sup>62</sup> Outturn costs would relate to the enhancement element of the replacement installations made through the allowance. The total activity cost in terms of base and enhancement should also be reported for comparison. Costs should be split between meter installation costs and support costs.

<sup>63</sup> Outturn costs would relate to the enhancement element of the replacement installations made through the allowance. The total activity cost in terms of base and enhancement should also be reported for comparison. Costs should be split between meter installation costs and support costs.

Additional reporting requirements		
Metric	Unit	Further comments
		<ul style="list-style-type: none"> <li>Thames Valley</li> </ul> and by installation type, <ul style="list-style-type: none"> <li>Small bulk -Screw-in</li> <li>Small bulk- External dig</li> <li>Large bulk – External dig</li> </ul> Report to three decimal places
New bulk meter installations – outturn costs	£, million	Reported by programme; <ul style="list-style-type: none"> <li>Green recovery.</li> <li>PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>London,</li> <li>Thames Valley</li> </ul> and by installation type, <ul style="list-style-type: none"> <li>Small bulk -Screw-in</li> <li>Small bulk- External dig</li> <li>Large bulk – External dig</li> </ul> Report to three decimal places
Leakage savings from meter installations	MI/d	Reported by programme; <ul style="list-style-type: none"> <li>Green recovery.</li> <li>PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>London,</li> <li>Thames Valley</li> </ul> and by type; <ul style="list-style-type: none"> <li>New installations;</li> <li>Replacements;</li> <li>Small bulk meters; and</li> <li>Large bulk meters</li> </ul> Report to one decimal place
Demand savings from meter installations and supporting activities	MI/d	Reported by programme; <ul style="list-style-type: none"> <li>Green recovery.</li> <li>PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>London,</li> <li>Thames Valley</li> </ul> and by type; <ul style="list-style-type: none"> <li>New installations;</li> <li>Replacements;</li> <li>Small bulk meters;</li> <li>Large bulk meters;</li> <li>Smarter homes visits; and</li> <li>Smart portal.</li> </ul> Sub divide benefits into <ul style="list-style-type: none"> <li>reductions in usage; and</li> <li>reduction in customer side losses.</li> </ul> Report to one decimal place

<b>Additional reporting requirements</b>		
<b>Metric</b>	<b>Unit</b>	<b>Further comments</b>
Supporting activities – outturn costs	£, million	Reported by programme; <ul style="list-style-type: none"> <li>• Green recovery.</li> <li>• PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>• London,</li> <li>• Thames Valley</li> </ul> and by type; <ul style="list-style-type: none"> <li>• SMOC costs for meters installed 2020–25;</li> <li>• Teccura bulk meter &amp; leak identification;</li> <li>• Smart home visits; and</li> <li>• Smart portal.</li> </ul>
Number of new mast installations	Number	Reported by programme; <ul style="list-style-type: none"> <li>• Green recovery.</li> <li>• PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>• Thames Valley</li> </ul> and by installation type, <ul style="list-style-type: none"> <li>• Micro; and</li> <li>• Macro</li> </ul> Report to zero decimal places
New mast installations – outturn costs	£, million	Reported by programme; <ul style="list-style-type: none"> <li>• Green recovery.</li> <li>• PR19</li> </ul> by region; <ul style="list-style-type: none"> <li>• Thames Valley</li> </ul> and by installation type, <ul style="list-style-type: none"> <li>• Micro; and</li> <li>• Macro</li> </ul> Report to three decimal places
Support provided to vulnerable/low income customers	See further comments	We request that Thames Water provides a proposal to us and CCW for reporting in this area that we will incorporate into our final decision. Company to provide a narrative and measurement of how many vulnerable/low income customers it has identified through the programme delivery and action it has taken to support them.
Customer complaints relating to the smart metering programme activities	See further comments	We request that Thames Water provides a proposal to us and CCW for reporting in this area that we will incorporate into our final decisions Company to provide a narrative regarding the numbers of complaints related to the programme and how these have been addressed. This reporting should clearly distinguish the cause of complaint, eg billing issues, installation issues etc.

## A1.6 United Utilities

### A1.6.1 Accelerating partnerships to deliver natural solutions

United Utilities proposes some delivery metrics which will protect customers and ensure funding is allowed only for what is delivered. The schemes the company will deliver are set out in detail in United Utilities' document "GR0002 – Accelerating partnerships to deliver natural solutions", January 2021.

We list below our expectations of a range of deliverables associated with the partnerships to deliver natural solutions, based largely on the company's proposals but applying the 10% cost challenge to the metrics and converting them to 2017-18 prices.<sup>64</sup>

**Table A1.30: Accelerating partnerships to deliver natural solutions – Rural catchment phosphorus management**

Scheme delivery	
<b>Description</b>	Rural catchment phosphorus management through agricultural interventions.
<b>Measurement</b>	Weight of phosphorus removed, calculated through the use of the ADAS farmscoper tool
<b>Assurance</b>	We expect United Utilities to provide evidence to demonstrate that the Environment Agency has reviewed and confirmed the company's assessment of phosphorus removed through agricultural activities. The company should provide evidence of agreement with Natural England regarding the agreed target for the River Eden Special Area of Conservation.
<b>Conditions of allowance</b>	Customer protection provided by allowing £946/kg of phosphorus removed, up to a maximum allowance of £1.626m. <sup>65</sup>

**Table A1.31: Accelerating partnerships to deliver natural solutions – Urban catchment phosphorus management**

Scheme delivery	
<b>Description</b>	Urban catchment phosphorus management through targeting urban runoff nutrient pollution

<sup>64</sup> For maximum allowances we have used Table 29 of document GR002 which lists total requested as £17m in "outturn" prices. However, the company requested £15.401m in 2017-18 prices according to its green recovery table submission. We have taken the requested amounts in Table 29 and pro-rated our allowance between them. For unit rates we have taken 10% from those proposed by United Utilities in line with our cost challenge and adjusted from 2020-21 prices to 2017-18 prices using CPIH indices.

<sup>65</sup> We have assumed the split of proposals between rural and urban phosphorus removal was for a maximum of £2 million for each. CR002 Table 29 splits proposals by catchment rather than activity so our assumption is a simplification.

<b>Measurement</b>	Working with third parties and best practice guidance and agreeing the target reduction with the Environment Agency
<b>Assurance</b>	Evidence of the delivery of interventions corresponding to planned phosphorus reduction to be provided to the Environment Agency.
<b>Conditions of allowance</b>	Customer protection provided by allowing £9,906/kg of phosphorus removed, up to a maximum allowance of £1.626m.

**Table A1.32: Accelerating partnerships to deliver natural solutions – Catchment water quality management**

<b>Scheme delivery</b>	
<b>Description</b>	Working with farms to reduce water quality pollution risk from agricultural activities.
<b>Measurement</b>	Number of farms engaged,
<b>Assurance</b>	The company should provide assurance to the Environment Agency that expected environmental and water quality benefits are to be delivered. The company should provide evidence of where Environment Agency input to the scheme delivery has been received.
<b>Conditions of allowance</b>	Using 2020-25 process for claiming WINEP drinking water protected area scheme outputs, a metric based on number of farms engaged in the process and allowing £2,287/farm engaged. Allowance to be made when only when $\geq 80\%$ of £650,000 partnership funding is secured. Maximum allowance of £650,000

**Table A1.33: Accelerating partnerships to deliver natural solutions – Peatland restoration**

<b>Scheme delivery</b>	
<b>Description</b>	Restoring peatland on United Utilities' landholdings
<b>Measurement</b>	Hectares restored, following process for claiming 2020-25 WINEP drinking water protected area scheme outputs.
<b>Assurance</b>	Action plans to be agreed with the Environment Agency and assured through the Peatland carbon code to provide assurance of baseline conditions and number of hectares of expected improvement based on techniques employed as well as carbon benefit.
<b>Conditions of allowance</b>	Following the process for claiming 2020-25 WINEP drinking water protected areas scheme outputs to demonstrate delivery of the scheme outputs. Allowance of £860/ha delivered to be made when only when $\geq 80\%$ of £2.032m partnership funding is secured. Maximum allowance of £2.032m

**Table A1.34: Accelerating partnerships to deliver natural solutions – SuDS and NFM**

Scheme delivery	
<b>Description</b>	Delivering sustainable urban drainage systems (SuDS) or natural flood management (NFM) solutions where the cost benefit ratio is greater than the conventional solution, and is 1.0 or above.
<b>Measurement</b>	Number of SuDS and NFM solutions installed, the costs and benefits of their installation. This metric excludes any SuDS or NFM WINEP schemes which are covered through the existing PR19 natural capital ODI.
<b>Assurance</b>	The company should provide evidence that the Risk management Authorities (including Lead Local Flood Authorities, and the Environment Agency and others where relevant) are aware of the locations of flood risk benefits derived from catchment based (NFM) works. Third party assurance of solutions and marginal costs of delivery, and Environment Agency sign off for NFM solutions.
<b>Conditions of allowance</b>	Customers pay for the marginal difference in costs between conventional and SuDS or NFM solutions. Maximum £7.478m total investment

**Table A1.35: Accelerating partnerships to deliver natural solutions – Additional reporting requirements**

Additional reporting requirements		
Metric	Unit	Further comments
Kg rural phosphorus removed	Number,	Report to zero decimal places
£m spent on rural phosphorus removal	£m	Report to three decimal places
Kg urban phosphorus removed	Number	Report to zero decimal places
£m spent on urban phosphorus removal	£m	Report to three decimal places
Number of farms engaged for catchment water quality.	Number	Report to zero decimal places
£m spent on farm engagement	£m	Report to three decimal places
Partnership funding (not from UU) spent on catchment water quality improvements.	£m	Report to three decimal places
Area of peatland restored	Ha	Report to zero decimal places
£m spent on peatland restoration	£m	Report to three decimal places
Partnership funding (not from UU) spent peatland restoration.	£m	Report to three decimal places
Number of installed SUDS solutions where the cost benefit ratio is greater than the conventional solution, and is 1.0 or above and excluding any SuDS WINEP schemes which are covered through the existing PR19 natural capital ODI	Number	Report to zero decimal places
£m spent on marginal costs of moving to SUDS	£m	Report to three decimal places

## A1.6.2 AMP8 WINEP investments at Bury

**Table A1.36: AMP8 WINEP investments at Bury – Scheme delivery requirements**

Scheme delivery	
<b>Description</b>	Installing 5,800 m <sup>3</sup> storage in the network close to Nuttall Road combined sewer overflow, and 18,000 m <sup>3</sup> additional storm tank capacity at Bury wastewater treatment works as proposed by United Utilities in its Green Recovery proposal document “GRO003 - Environmental improvements across the Manchester Ship Canal catchment”, January 2021
<b>Measurement</b>	Progress against agreed milestones such as completion of detailed design, civil and M&E construction, commissioning and handover.
<b>Assurance</b>	Third party assurance of completed milestones and forecast of likely outturn position at end of March 2025 as part of PR24 business plan process. Environment Agency sign off is required for works undertaken via WINEP tracker.
<b>Conditions of allowance</b>	<ul style="list-style-type: none"> <li>We require United Utilities to define appropriate milestones and associated levels of funding to the maximum allowance. The milestones should be spread out over the time between letting a contract and handover of new assets.</li> <li>We will make an appropriate green recovery adjustment in the PR24 final determinations for the outturn plus forecast progress position as at 31 March 2025.</li> <li>If spend is expected after 1 April 2025-26 we require United Utilities to submit appropriate information in its PR24 business plan to enable AMP8 spend to be added to the RCV profile for 2025-30.</li> </ul>

**Table A1.37: AMP8 WINEP investments at Bury – Additional reporting requirements**

Additional reporting requirements		
Metric	Unit	Further comments
Volume of storage provided in the network	m <sup>3</sup>	To be completed only when storage is commissioned and operational. Report to zero decimal places
Spend on providing storage volume in the network	£m	Report to three decimal places
Volume of additional storm tank provided at Bury wastewater treatment works	m <sup>3</sup>	To be completed only when storage is commissioned and operational. Report to zero decimal places
Spend on providing storage volume in the network	£m	Report to three decimal places
Date and details of any milestone achieved in year at Nuttall Road	text	

Date and details of milestone achieved in year at Bury wastewater treatment works	text	
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### A1.6.3 Tackling storm overflows

**Table A1.38: Tackling storm overflows – SOAF investigations**

Scheme delivery		
<b>Description</b>	Undertaking 587 AMP8 storm overflow assessment framework (SOAF) stage 1 leading to 300 stages 2 and 3 investigations, and build three integrated catchment models (ICMs). The detail of the SOAFs and ICMs to be delivered is as described by United Utilities in its document “GR0004 – Tackling storm overflows”, January 2021.	
<b>Measurement</b>	Number of SOAF investigations completed and to which stage	
<b>Assurance</b>	United Utilities proposes to provide assurance of delivery of SOAF investigations through digital certificates. We expect Environment Agency sign-off of investigation satisfactory completion.	
<b>Conditions of allowance</b>	We will make an allowance based on completion of SOAF investigations as shown below:	
	<b>Scheme</b>	<b>Allowed totex unit rate in 2017-18 prices (derived from company figures provided in 2020-21 prices)</b>
	SOAF investigation stage 1	£2,015.82 per investigation
	SOAF investigation stage 2	£2,466.10 per investigation
	SOAF investigation stage 3	£4,993.65 per investigation
	SOAF investigation stage 3b/4	£3,606.56 per investigation

**Table A1.39: Tackling storm overflows – Integrated catchment models**

Scheme delivery	
<b>Description</b>	Building three integrated catchment models (ICMs).
<b>Measurement</b>	Number and name of completed Integrated Catchment models
<b>Assurance</b>	The delivery of the integrated catchment models (ICMs) will be recognised as complete when signed off the Environment Agency. We expect the company to work with the Environment Agency to work out an appropriate reporting and sign off approach.
<b>Conditions of allowance</b>	We will make an allowance of £493,117 for completion of each of Sankey Brook and Wiza Beck ICMs, and an allowance of £525,099 for completion of the Upper Derwent ICM.

**Table A1.40: Tackling storm overflows – Additional reporting requirements**

<b>Additional reporting requirements</b>		
<b>Metric</b>	<b>Unit</b>	<b>Further comments</b>
Number of SOAF investigations in year completed to Stage 1	Number	
Totex spent on SOAF investigations to Stage 1	£m	Report to three decimal places.
Number of SOAF investigations in year completed to Stage 2	Number	
Totex spent on SOAF investigations to Stage 2	£m	Report to three decimal places.
Number of SOAF investigations in year completed to Stage 3	Number	
Totex spent on SOAF investigations to Stage 3	£m	Report to three decimal places.
Number of SOAF investigations in year completed to Stage 3b/4	Number	
Totex spent on SOAF investigations to Stage 3b/4	£m	Report to three decimal places.

## A2 Impacts on performance commitments

Where the benefits of green recovery schemes have a direct impact on specific PR19 performance commitment levels, we need to take steps to avoid customers paying twice for improvements. Without accounting for these benefits, customers may pay once for the investment itself, and then again for the outperformance payments companies would earn from the extra benefits provided by the investment.

We set out our approach to accounting for impacts on performance commitments in section 3. In this appendix, we set out in full our draft decisions on how we account for green recovery impacts on each performance commitment.

### A2.1 Severn Trent Water

Severn Trent Water's green recovery schemes will improve performance against 13 of its PR19 performance commitments:

- biodiversity (water);
- biodiversity (wastewater);
- collaborative flood resilience;
- external sewer flooding;
- green communities;
- improvements in WFD criteria;
- internal sewer flooding;
- leakage;
- number of water meters installed;
- per capita consumption;
- pollution incidents;
- resilient supplies; and
- risk of sewer flooding in a storm.

Severn Trent Water's decarbonising water resources scheme could trigger material outperformance payments from its **resilient supplies** performance commitment. To avoid customers paying twice for improvements, we make an adjustment to the performance commitment levels according to the company's estimate of impacts from the scheme. We set out this adjustment in full in Appendix 4.

Severn Trent Water's accelerating environmental improvements scheme could trigger material outperformance payments from its **improvements in WFD criteria** performance commitment. To avoid customers paying twice for improvements, while maintaining clarity around incentives, we introduce a new performance commitment which isolates the green recovery impacts on WFD improvements. We set the performance commitment levels

according to the company's estimate of impacts from the scheme. We set out this new performance commitment in full in Appendix 4.

Severn Trent Water's **collaborative flood resilience** and **green communities** performance commitments will be impacted by its building sustainable flood resilient communities scheme. We consider these performance commitments are too narrowly focused to track the benefits of the investment and could create perverse incentives to avoid delivering catchment-level, holistic solutions. We therefore adjust the definition of each performance commitment to exclude impacts in Mansfield. We set this out in full in Appendix 4.

Severn Trent Water's **biodiversity (water)**, **biodiversity (wastewater)** and **pollution incidents** performance commitments will be impacted by its creating bathing rivers scheme. These performance commitments will also be impacted by the building flood resilient communities scheme, and the biodiversity performance commitments will be impacted by the decarbonising water resources scheme. The creating bathing rivers scheme is a trial scheme where outcomes are uncertain. We therefore consider it appropriate not to make adjustments to these performance commitments. We set out in Appendix 3 how we expect the company to account for the benefits from the schemes.

Severn Trent Water's **leakage**, **per capita consumption** and **number of water meters installed** performance commitments will be impacted by its smart metering scheme. The taking care of supply pipes scheme will also impact its leakage and per capita consumption performance commitments. As our draft decision funds smart meters and supply pipes at unit rates, there is a level of uncertainty around the number of outputs to be delivered by the company. We therefore consider it appropriate not to make adjustments to these performance commitments. We set out in Appendix 3 how we expect the company to account for the benefits from the schemes.

Severn Trent Water's **internal sewer flooding**, **external sewer flooding** and **risk of sewer flooding in a storm** performance commitments are linked to its building sustainable flood resilient communities scheme. We do not consider that there is potential for the company to earn material outperformance payments against these performance commitments by delivering its green recovery scheme. We therefore consider it appropriate not to make adjustments to these performance commitments. We set out in Appendix 3 how we expect the company to account for the benefits from the schemes.

## A2.2 South Staffs Water

South Staffs Water's green recovery scheme will improve performance against two of its PR19 performance commitments:

- water quality compliance (CRI); and
- carbon emissions.

South Staffs Water's **water quality compliance (CRI)** performance commitment is penalty-only and the performance commitment level is zero. There is no risk of the company earning additional outperformance payments from its green recovery scheme, and therefore we do not make any adjustments.

South Staffs Water's **carbon emissions** performance commitment is a reputational performance commitment. There is no risk of the company earning additional outperformance payments from its green recovery scheme, and therefore we do not make any adjustments.

South Staffs Water's proposed amendment to its Hampton Loade enhancement scheme will also impact its **water treatment works delivery programme** performance commitment. This performance commitment measures the delivery of both the Hampton Loade and Seedy Mill treatment works upgrades. We adjust this performance commitment to only include delivery of the elements of the Hampton Loade scheme related to the company's cost adjustment claim at PR19, while retaining the delivery of Seedy Mill, and set this out in Appendix 4.

## A2.3 South West Water

South West Water's green recovery schemes will improve performance against four of its PR19 performance commitments:

- biodiversity - enhancement;
- installation of AMR meters;
- leakage; and
- per capita consumption.

South West Water's catchment management scheme could trigger material outperformance payments from its **biodiversity - enhancement** performance commitment. To avoid customers paying twice for improvements, we make an adjustment to the performance commitment levels according to the company's estimate of impacts from the scheme. We set out this adjustment in full in Appendix 4.

South West Water's **installation of AMR meters** performance commitment is a reputational performance commitment. There is no risk of the company earning additional outperformance payments from its green recovery scheme, and therefore we do not make any adjustments. We set out in Appendix 3 how we expect the company to account for the benefits from the schemes.

South West Water's smarter, healthier homes scheme has the potential to earn the company material outperformance payments through its **leakage** performance commitment. We therefore introduce an outperformance deadband to protect customers from paying twice for

improvements through the green recovery. The company's **per capita consumption** performance commitment is also impacted by the scheme. We set out in Appendix 3 how we expect the company to account for the benefits from the schemes.

## A2.4 Thames Water

Thames Water's green recovery schemes could improve performance against four of its PR19 performance commitments:

- installing new smart meters in London;
- leakage;
- per capita consumption; and
- replacing existing meters with smart meters in London.

Under our draft decision, Thames Water must deliver its PR19 **metering** performance commitments in order for us to make any green recovery allowance. There is no risk that the green recovery funding helps the company to meet these performance commitments. There is also no risk that green recovery funding contributes to outperformance payments, as these performance commitments only have underperformance payments attached. Therefore, there is no need to make any adjustments.

As our draft decision funds smart meters at a unit rate, there is a level of uncertainty around the number of outputs to be delivered by the company. We therefore consider it appropriate not to make adjustments to the **leakage** and **per capita consumption** performance commitments. We set out in Appendix 3 how we expect the company to account for the benefits from the scheme.

## A2.5 United Utilities

United Utilities' green recovery schemes will improve performance against three of its PR19 performance commitments:

- enhancing natural capital value for customers;
- hydraulic internal flood risk resilience; and
- hydraulic external flood risk resilience.

These performance commitments are all linked to the company's 'accelerating partnerships to deliver natural solutions' scheme. This scheme contains a number of elements that United Utilities plans to progress only if it secures at least 80% of its targeted partnership funding. Since this condition creates uncertainty around what outputs will be delivered, it is difficult to estimate the benefits that United Utilities is likely to receive from the scheme. We therefore consider it appropriate not to make adjustments to these performance

commitments. We set out in Appendix 3 how we expect the company to account for the benefits from this scheme.

## A3 Performance commitment reporting requirements

In their **annual performance reporting**, we expect all companies to report the outturn benefits of green recovery schemes on each relevant performance commitment, in a bespoke green recovery table. This applies to performance commitments where companies are reporting the green recovery benefits separately, rather than the performance commitments listed in Appendix 4, which we are adjusting to take account of forecast benefits.

We set out our proposed requirements for taking account of green recovery related information in annual performance reporting in our consultation on regulatory reporting for the 2021-22 reporting year.<sup>66</sup>

In their **green recovery reporting**, published alongside the annual performance report, we also expect companies to report the outturn benefits on performance commitments against their forecast benefits. We expect companies to provide a narrative where outturn benefits are materially different from ex-ante forecasts. This applies to all performance commitments that will be affected by the green recovery, including those we adjust in Appendix 4.

We set out below the requirements for reporting green recovery benefits on performance commitments for each company.

### A3.1 Severn Trent Water

In its 2020-25 annual performance reporting, we expect Severn Trent Water to exclude the green recovery benefits from the following PR19 performance commitments:

- biodiversity (water);
- biodiversity (wastewater);
- external sewer flooding;
- internal sewer flooding;
- leakage;
- number of water meters installed;
- per capita consumption;
- pollution incidents; and
- risk of sewer flooding in a storm.

We expect the company to report these benefits in its annual performance report.

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<sup>66</sup> Ofwat, '[Consultation on regulatory reporting for the 2021-22 reporting year](#)', May 2021, pp. 8-10.

In its annual green recovery report, we also expect the company to report against its forecast benefits, as shown in Table A3.1, and to provide a narrative where outturn benefits are materially different from its original forecasts.

The company should report against these performance commitments in its initial PR24 business plan submission and update as appropriate during the PR24 assessment process to ensure an accurate position is available for our final determinations.

**Table A3.1: Severn Trent Water forecast performance commitment benefits from its green recovery programme**

Performance commitment	Unit	Forecast green recovery benefits			
		2021-22	2022-23	2023-24	2024-25
Biodiversity (water)	Number	NA	NA	NA	46
Biodiversity (wastewater)	Number	NA	NA	NA	15
External sewer flooding	Number	0	0	0	6
Improvements in WFD criteria	Number	NA	NA	NA	48
Internal sewer flooding	Number	0	0	0	1
Leakage	MI/d	0.278	0.877	1.476	2.075
Number of water meters installed <sup>67</sup>	Number	22475	44951	44950	44951
Per capita consumption	l/p/d	0.0318	0.1011	0.1691	0.2398
Pollution incidents	Number	0	0	0	1
Resilient supplies	%	NA	NA	NA	1.72
Risk of sewer flooding in a storm	%	NA	NA	NA	0.036

<sup>67</sup> These forecasts include replacement water meters, which are not included in Severn Trent Water's PR19 performance commitment.

## A3.2 South Staffs Water

In its 2020–25 annual performance reporting, we expect South Staffs Water to exclude the carbon emissions benefits of its green recovery scheme from its PR19 performance commitment. We expect the company to report these benefits in annual performance report.

In its annual green recovery report, we also expect the company to report against its forecast benefits, as shown in Table A3.2, and to provide a narrative where outturn benefits are materially different from its original forecasts.

We additionally expect the company to provide a forecast of expected carbon emission benefits in its PR24 business plan submission. This will cover the expected savings delivered in 2024–25 and then the annual savings that will be realised from 2025–26 onwards. Following completion of the scheme which is scheduled to take place in July 2024 we expect the company to update its forecasts as appropriate for consideration in our final determinations.

**Table A3.2: South Staffs Water forecast performance commitment benefits from its green recovery programme**

Performance commitment	Unit	Forecast green recovery benefits			
		2021–22	2022–23	2023–24	2024–25
Carbon emissions	kgCO <sub>2</sub> e per connected property	0	0	0	0.21

## A3.3 South West Water

In its 2020–25 annual performance reporting, we expect South West Water to exclude the installation of AMR meters and per capita consumption benefits of its green recovery scheme from its PR19 performance commitment. We expect the company to report these benefits in its annual performance report.<sup>68</sup>

In its annual green recovery report, we also expect the company to report against its forecast benefits, as shown in Table A3.3, and to provide a narrative where outturn benefits are materially different from its original forecasts.

<sup>68</sup> South West Water proposes to provide separate reporting of green recovery benefits by reporting per capita consumption for the smart metered customers within its green recovery trial area in its 2020–25 annual performance reporting. We expect the company to ensure it can demonstrate the impact of this investment on its regionally reported per capita consumption level. The company will also need to ensure it can continue to report its measured and unmeasured per capita consumption levels in accordance with the regulatory accounting guidelines and common performance commitment definition.

The company should report against these performance commitments in its initial PR24 business plan submission and update as appropriate during the PR24 assessment process to ensure an accurate position is available for our final determinations.

South West Water also proposes a new operational carbon performance commitment to monitor delivery of its net zero strategy. We consider the annual green recovery report is an appropriate medium for the company to report against this target, and set out the company's forecast below.

**Table A3.3: South West Water forecast performance commitment benefits from its green recovery programme**

Performance commitment	Unit	Forecast green recovery benefits			
		2021-22	2022-23	2023-24	2024-25
Biodiversity - enhancement	Hectares	1,000	3,000	6,000	10,000
Installation of AMR meters	Number	4,557	15,191	25,825	36,459
Leakage	MI/d	0.00	0.31	0.62	0.93
Per capita consumption	l/p/d	0.00	0.09	0.17	0.26
Operational carbon	Tonnes	NA	NA	NA	40,518

## A3.4 Thames Water

In its 2020-25 annual performance reporting, we expect Thames Water to exclude the green recovery benefits from the following PR19 performance commitments:

- leakage; and
- per capita consumption.

We expect the company to report these benefits in its annual performance report.

In its annual green recovery report, we also expect the company to report against its forecast benefits, as shown in Table A3.4, and to provide a narrative where outturn benefits are materially different from its original forecasts.

The company should report against these performance commitments in its initial PR24 business plan submission and update as appropriate during the PR24 assessment process to ensure an accurate position is available for our final determinations.

**Table A3.4: Thames Water forecast performance commitment benefits from its green recovery programme**

Performance commitment	Unit	Forecast green recovery benefits			
		2021-22	2022-23	2023-24	2024-25
Leakage	MI/d	2.60	7.60	12.65	17.80
Per capita consumption	l/p/d	0.2	0.8	1.8	3.0

## A3.5 United Utilities

In its 2020–25 annual performance reporting, we expect United Utilities to exclude the green recovery benefits from the following PR19 performance commitments:

- enhancing natural capital value for customers;
- hydraulic internal flood risk resilience; and
- hydraulic external flood risk resilience.

We expect the company to report these benefits in its annual performance report.

In its annual green recovery report, we also expect the company to report against its forecast benefits, as shown in Table A3.5, and to provide a narrative where outturn benefits are materially different from its original forecasts.

The company should report against these performance commitments in its initial PR24 business plan submission and update as appropriate during the PR24 assessment process to ensure an accurate position is available for our final determinations.

To enable reporting of the full benefits from its green recovery schemes, we expect United Utilities to use an adapted methodology to report against its enhancing natural capital value for customers performance commitment. We expect the company to use the methodology as set out in the PR19 final determinations,<sup>69</sup> with the following exceptions:

- to remove the requirement to report only the natural capital value generated by delivery of an agreed programme of catchment and integrated catchment schemes as part of the Water Industry National Environment Programme (WINEP). This allows for the added natural capital value of all nature-based solutions to be delivered through green recovery to be reported; and
- to remove the requirement for a third-party organisation to attribute monetary values to the ecosystem services delivered by the company. We expect the company to use

<sup>69</sup> Ofwat, '[PR19 final determinations: United Utilities - Outcomes performance commitments appendix](#)', December 2019, pp. 89–92.

the same Natural Capital Accounting methodology as it uses to report against its PR19 performance commitment.

**Table A3.5: United Utilities forecast performance commitment benefits from its green recovery programme**

Performance commitment	Unit	Forecast green recovery benefits			
		2021-22	2022-23	2023-24	2024-25
Enhancing natural capital value for customers	£m	0	0	15	35
Hydraulic internal flood risk resilience <sup>70</sup>	Number	0	0	-0.41	-0.41
Hydraulic external flood risk resilience	Number	0	0	-1.89	-1.89

<sup>70</sup> The green recovery benefits for the hydraulic internal flood risk resilience and hydraulic external flood risk resilience performance commitments shown in Table A3.5 indicate the forecast reduction of modelled internal flooding incidents in each year.

## A4 Adjustments to performance commitments

### A4.1 Severn Trent Water

#### A4.1.1 Collaborative flood resilience

##### PR19SVE\_F09

The detail for this performance commitment is set out on pages 90–92.

On page 91, in the ‘Performance commitment definition and parameters’ table for:

<b>Specific exclusions</b>	None
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Read:

<b>Specific exclusions</b>	Excludes properties and areas in Mansfield.
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#### A4.1.2 Green communities

##### PR19SVE\_F08

The detail for this performance commitment is set out on pages 87–90.

On page 88, in the ‘Performance commitment definition and parameters’ table for:

<b>Specific exclusions</b>	All other benefit categories in the B&ST tool will be excluded from the calculation. There is the possibility that some of the value the company creates could already be counted as part of one of its other performance commitments, namely the Biodiversity performance commitment or the Water Framework Directive performance commitment. Where this is the case the company will exclude the relevant benefit categories from its value calculation. This will be done and independently assured on a case-by-case basis.
----------------------------	--

Read:

<b>Specific exclusions</b>	All other benefit categories in the B&ST tool will be excluded from the calculation. There is the possibility that some of the value the company creates could already be counted as part of one of its other performance commitments, namely the Biodiversity performance commitment or
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	<p>the Water Framework Directive performance commitment. Where this is the case the company will exclude the relevant benefit categories from its value calculation. This will be done and independently assured on a case-by-case basis.</p> <p>Excludes the construction of sustainable drainage and water management features in Mansfield.</p>
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### A4.1.3 Improvements in WFD criteria (green recovery)

**Purpose:** To incentivise the company to improve river water quality to meet the requirements under the Water Framework Directive (WFD).

**Benefits:** This performance commitment delivers benefits through improving the health and aesthetics of rivers. This will benefit the environment and users of the river enjoying recreational and other activities.

#### Performance commitment definition and parameters

Unique Reference	PR19SVE_C06																			
<b>Detailed definition of performance measure</b>	The number of Water Framework Directive (WFD) classification improvements attributable to interventions delivered by the company to improve river water quality and/or quantity under the green recovery initiative. The measurement of classification improvements varies depending on the parameter.																			
<b>Additional detail on measurement units</b>	<p>This performance commitment combines waste, water and eels and comprises four separate elements:</p> <p>1. Wastewater – nutrient, sanitary and ecological measures The number of wastewater WFD classification improvements the company delivers are counted by points. One point is counted for each classification improvement per parameter improved, appropriate to the water company contribution (“fair share”, as agreed with the Environment Agency). The improvement is for a water body into which a discharge is made and based on the modelled improvement. The company will confirm with the Environment Agency that the agreed improvement has been implemented. Points are only counted for changes up to ‘Good’ status according to the following matrix.</p> <table border="1"> <thead> <tr> <th rowspan="2">Current class</th> <th colspan="3">Improvement delivered</th> </tr> <tr> <th>Poor</th> <th>Moderate</th> <th>Good</th> </tr> </thead> <tbody> <tr> <td>Moderate</td> <td>NA</td> <td>NA</td> <td>1</td> </tr> <tr> <td>Poor</td> <td>NA</td> <td>1</td> <td>2</td> </tr> <tr> <td>Bad</td> <td>1</td> <td>2</td> <td>3</td> </tr> </tbody> </table> <p>With the exception of hazardous substance improvements, points are limited to improvements relating to the following nutrient, sanitary determinand and ecological parameters: phosphate;</p>	Current class	Improvement delivered			Poor	Moderate	Good	Moderate	NA	NA	1	Poor	NA	1	2	Bad	1	2	3
Current class	Improvement delivered																			
	Poor	Moderate	Good																	
Moderate	NA	NA	1																	
Poor	NA	1	2																	
Bad	1	2	3																	

Unique Reference	PR19SVE_C06
	<p>total phosphate (lakes and reservoirs only);  ammonia;  BOD (biochemical oxygen demand);  dissolved oxygen;  fish;  invertebrates; and  macrophytes &amp; phytobenthos.</p> <p>2. Wastewater – chemical quality</p> <p>WFD chemical status is measured on a ‘pass/fail’ basis and encompasses more than 40 named substances. As WFD baseline classification data is limited, points will be linked to the identification of a ‘River Needs’ improvement by the Environment Agency based upon Chemicals Investigation Programme data, and not the River Basin Management Plan 2 (RBMP2) baseline dataset. Points are only claimable for improvements that relate to substances where the Environment Agency is considering imposing discharge permit limits in the 2020–25 period or the following period. Substances for which source control is the current, preferred method of achieving WFD targets, are excluded from the measure. For the 2020–25 period the eligible substances for improvement under this performance commitment are limited to:  dissolved zinc (Zn);  dissolved nickel (Ni);  dissolved copper (Cu);  dissolved lead (Pb);  dissolved chromium (Cr);  total cadmium (Cd);  total mercury (Hg);  tributyltin and related compounds;  hexabromocyclododecane (HBCDD);  cypermethrin;  Nnonylphenol;  triclosan; and  diethylhexylphthalate (DEHP).</p> <p>Any ‘River Needs’ improvement identified by the Environment Agency on the basis of data from the United Kingdom Water Industry Research Ltd (UKWIR) co-ordinated Chemical Investigation Programmes 1 or 2 (CIP1, CIP2) is eligible for a point (on a per parameter basis), provided that the Environment Agency agrees that the proposed intervention:  delivers a ‘fair share’ improvement (and a discharge permit is issued accordingly); or  obviates the need for a permit condition (e.g. through works closure or change of discharge location); or  is the best technical solution available to treat the substance in question.</p> <p>This element of the performance commitment is included to provide an incentive to incorporate measures to address hazardous substances into the company’s 2020–25 period projects where there is a likelihood that further investment could be required in the next period.</p>

Unique Reference	PR19SVE_C06
	<p>3. Water – flow The number of water WFD classification improvements that the company delivers is also counted by points and is based on improvement levels appropriate to the water company contribution (as with wastewater). A point is awarded for each intervention delivered that will either improve surface flow, groundwater and/or provide connectivity for ecological habitat through a solution agreed with the Environment Agency. For sites where the company has implemented ‘upfront permitting’ (whereby it agrees with the Environment Agency future changes in its abstraction licences) in the 2015–20 period and has claimed a point in this period, the company will not claim a point for this in the 2020–25 period when the abstraction licence change comes into effect. However, if during the 2020–25 period the company carries out another agreed significant intervention which further improves the same waterbody further then it may, if the Environment Agency agrees, claim another point in this waterbody.</p> <p>4. Water – eels Any improvement agreed with the Environment Agency that is carried out by the company for the benefit of eels counts as one point per agreed improvement implemented.</p> <p>Improvements will be evaluated at waterbody level and modelled using the Source Apportionment–GIS (SAGIS) model and are subject to confirmation from the Environment Agency.</p>
<b>Specific exclusions</b>	None
<b>Reporting and assurance</b>	The company will ask the Environment Agency to confirm that performance has been correctly reported. The view of the Environment Agency will be definitive.
<b>Measurement unit and decimal places</b>	Number of improvement points, reported to zero decimal places.
<b>Measurement timing</b>	Reporting year
<b>Incentive form</b>	Revenue
<b>Incentive type</b>	Outperformance and underperformance payments
<b>Timing of underperformance and outperformance payments</b>	End of period
<b>Price control allocation</b>	90% wastewater network plus 10% water resources
<b>Frequency of reporting</b>	Annual
<b>Any other relevant information</b>	NA

<b>Unique Reference</b>	<b>PR19SVE_C06</b>
<b>Links to relevant external documents</b>	None

### Performance commitment levels

		<b>Company forecast</b>	<b>Committed performance level</b>				
	<b>Unit</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>	<b>2024-25</b>
<b>Performance commitment level</b>	Number	NA	NA	NA	NA	NA	48
<b>Enhanced underperformance collar</b>	Number		NA	NA	NA	NA	NA
<b>Standard underperformance collar</b>	Number		NA	NA	NA	NA	NA
<b>Underperformance deadband</b>	Number		NA	NA	NA	NA	NA
<b>Outperformance deadband</b>	Number		NA	NA	NA	NA	NA
<b>Standard outperformance cap</b>	Number		NA	NA	NA	NA	NA
<b>Enhanced outperformance cap</b>	Number		NA	NA	NA	NA	NA

### Incentive rates

<b>Incentive type</b>	<b>Incentive rate (£m/unit)</b>
<b>Underperformance payment - standard</b>	-0.815
<b>Underperformance payment - enhanced</b>	NA
<b>Outperformance payment - standard</b>	0.815
<b>Outperformance payment - enhanced</b>	NA

## A4.1.4 Resilient supplies

PR19SVE\_G10

The detail for this performance commitment is set out on pages 102-104.

On page 104, in the 'Performance commitment levels' table for:

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Performance commitment level	%	NA	NA	NA	NA	NA	96.0
Enhanced underperformance collar	%		NA	NA	NA	NA	NA
Standard underperformance collar	%		NA	NA	NA	NA	NA
Underperformance deadband	%		NA	NA	NA	NA	NA
Outperformance deadband	%		NA	NA	NA	NA	NA
Standard outperformance cap	%		NA	NA	NA	NA	NA
Enhanced outperformance cap	%		NA	NA	NA	NA	NA

Read:

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Performance commitment level	%	NA	NA	NA	NA	NA	97.7
Enhanced underperformance collar	%		NA	NA	NA	NA	NA
Standard underperformance collar	%		NA	NA	NA	NA	NA

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Underperformance deadband	%		NA	NA	NA	NA	NA
Outperformance deadband	%		NA	NA	NA	NA	NA
Standard outperformance cap	%		NA	NA	NA	NA	NA
Enhanced outperformance cap	%		NA	NA	NA	NA	NA

## A4.2 South Staffs Water

### A4.2.1 Water treatment works delivery programme

#### PR19SSC\_E1

The detail for this performance commitment is set out on pages 71-73.

On page 71, in the 'Performance commitment definition and parameters' table for:

<b>Detailed definition of performance measure</b>	This performance commitment measures the delivery of the company's water treatment works delivery programme. The relevant milestones are:			
	Estimated completion date	Milestone	Weight (%)	Cumulative progress (%)
	31 March 2023	Hampton Loade treatment works upgrade: installation of 2nd stage filtration	44.9	44.9
	31 March 2024	Seedy Mill treatment works upgrade: installation of 2nd stage filtration	55.1	100.0
Completion is determined by full completion of the respective milestones when the measures are in operation and providing clear				

benefit to customers.
-----------------------

Read:

<b>Detailed definition of performance measure</b>	This performance commitment measures the delivery of the company's water treatment works delivery programme. The relevant milestones are:			
	Estimated completion date	Milestone	Weight (%)	Cumulative progress (%)
	31 March 2023	Hampton Loade treatment works upgrade: installation of 2nd stage filtration	44.9	44.9
	31 March 2024	Seedy Mill treatment works upgrade: installation of 2nd stage filtration	55.1	55.1
	31 July 2024	Hampton Loade treatment works upgrade – PR19 CAC element: construction, installation and commissioning of ceramic membrane solution	44.9	100.0
Completion is determined by full completion of the respective milestones when the measures are in operation and providing clear benefit to customers.				

On page 72, in the 'Performance commitment levels' table for:

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
<b>Performance commitment level</b>	%	NA	0.0	0.0	44.9	100.0	100.0
<b>Enhanced underperformance collar</b>	%		NA	NA	NA	NA	NA
<b>Standard underperformance collar</b>	%		NA	NA	NA	NA	NA

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Underperformance deadband	%		NA	NA	NA	NA	NA
Outperformance deadband	%		NA	NA	NA	NA	NA
Standard outperformance cap	%		NA	NA	NA	NA	NA
Enhanced outperformance cap	%		NA	NA	NA	NA	NA

Read:

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Performance commitment level	%	NA	0.0	0.0	0.0	55.1	100.0
Enhanced underperformance collar	%		NA	NA	NA	NA	NA
Standard underperformance collar	%		NA	NA	NA	NA	NA
Underperformance deadband	%		NA	NA	NA	NA	NA
Outperformance deadband	%		NA	NA	NA	NA	NA
Standard outperformance cap	%		NA	NA	NA	NA	NA
Enhanced outperformance cap	%		NA	NA	NA	NA	NA

## A4.3 South West Water

### A4.3.1 Biodiversity - Enhancement

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The detail for this performance commitment is set out on pages 95-97.

On page 97, in the 'Performance commitment levels' table for:

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Performance commitment level	Hectare	NA	73,209	83,209	93,209	103,209	113,209
Enhanced underperformance collar	Hectare		NA	NA	NA	NA	NA
Standard underperformance collar	Hectare		69,028	79,028	89,028	99,028	109,028
Underperformance deadband	Hectare		NA	NA	NA	NA	NA
Outperformance deadband	Hectare		NA	NA	NA	NA	NA
Standard outperformance cap	Hectare		82,209	92,209	102,209	112,209	122,209
Enhanced outperformance cap	Hectare		NA	NA	NA	NA	NA

Read:

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Performance commitment level	Hectare	NA	73,209	84,209	96,209	109,209	123,209

		Company forecast	Committed performance level				
	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Enhanced underperformance collar	Hectare		NA	NA	NA	NA	NA
Standard underperformance collar	Hectare		69,028	79,828	91,428	103,828	117,028
Underperformance deadband	Hectare		NA	NA	NA	NA	NA
Outperformance deadband	Hectare		NA	NA	NA	NA	NA
Standard outperformance cap	Hectare		82,209	93,709	106,709	121,209	137,209
Enhanced outperformance cap	Hectare		NA	NA	NA	NA	NA

## A5 Delivery of in-period funding

### A5.1 Our proposal for licence modifications

Our draft decision is that two companies, Severn Trent Water and South Staffs Water, will receive in-period funding from customers. This will allow the companies to deliver their proposed green recovery schemes while maintaining financeability. We propose that this funding is allowed through an in-period revenue adjustment under Part 3A of condition B of the companies' licences, operating in a similar manner to an in-period outcome delivery incentive (ODI). We consider that using this existing mechanism is the most practical and proportionate way of delivering in-period funding to companies. In order for such a revenue adjustment to be made for 2022-23 and subsequent charging years, we need to set a performance commitment. We can then include payments associated with this performance commitment when we make changes to the companies' price controls in relation to in-period ODIs.<sup>71</sup>

PR19 final determinations did not include performance commitments for green recovery schemes and the deadline in condition B for setting performance commitments with in-period ODIs for the current price control period was 31 December 2019. Consequently, we propose to modify Severn Trent Water and South Staffs Water's licences to add a new performance commitment with an in-period ODI that will allow us to make revenue adjustments as part of our in-period ODI determinations. The modifications would only add the new performance commitment for each company to those that were notified for the purposes of Part 3A of Condition B in December 2019; the modifications would not make any other changes.

The new performance commitments will be for the company to have accepted our green recovery final decisions by 8 August 2021 and to report on progress in subsequent years. Achievement of this will allow an in-period revenue adjustment to be made, equal to each company's respective green recovery in-period allowances.

Although DWI consent for the South Staffs Water green recovery scheme is a condition of the allowance, this may not be given in sufficient time before the in-period reconciliations final determination is published. Therefore, we propose not to include the DWI's consent as a condition for 2022-23 funding. As the scheme will not progress without the consent, the remaining in-period funding would not be released due to a lack of progress reporting and so the 2022-23 funding would be returned to customers at PR24.

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<sup>71</sup> Further detail of how the reconciliation of in-period ODIs works is set out in our [PR19 Reconciliation Rulebook: Guidance Document](#).

## A5.2 Form of performance commitment and revenue adjustment

The new green recovery performance commitments will take the following form for each company.

### A5.2.1 Severn Trent Water

**Purpose:** This performance commitment is designed to provide the company with in-period funding for the green recovery schemes it has agreed to deliver. This is set out in our green recovery final decisions document, published in July 2021.

**Benefits:** This performance commitment will ensure that the company is able to deliver its green recovery schemes, while continuing to be able to finance the proper carrying out of its functions.

<b>Unique Reference</b>	TBD	
<b>Definition of performance measure</b>	The company will need to fulfil the following requirements to receive the allowed in-period revenue adjustment in each charging year:	
	<b>Charging year</b>	<b>Requirement</b>
	<b>2022-23</b>	The company has accepted the green recovery final decisions by 8 August 2021.
	<b>2023-24</b>	The company has reported on the progress of its green recovery schemes for charging year 2021-22.
	<b>2024-25</b>	The company has reported on the progress of its green recovery schemes for charging year 2022-23.
<b>Measurement timing</b>	Reporting year	
<b>Financial adjustments</b>	Revenue	
<b>Timing of financial adjustments</b>	In-period	
<b>Price control allocation</b>	Water resources: 5.72% Water network plus: 37.15% Wastewater network plus: 57.13%	

<b>Charging Year</b>	<b>Allowed Revenue adjustment (£m)</b>
<b>2022-23</b>	18.392
<b>2023-24</b>	32.364

2024-25	33.599
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## A5.2.2 South Staffs Water

**Purpose:** This performance commitment is designed to provide the company with in-period funding for the green recovery schemes it has agreed to deliver. This is set out in our green recovery final decisions document, published in July 2021.

**Benefits:** This performance commitment will ensure that the company is able to deliver its green recovery schemes, while continuing to be able to finance the proper carrying out of its functions.

<b>Unique Reference</b>	TBD	
<b>Definition of performance measure</b>	The company will need to fulfil the following requirements to receive the allowed in-period revenue adjustment in each charging year:	
	<b>Charging year</b>	<b>Requirement</b>
	2022-23	The company has accepted the green recovery final decisions by 8 August 2021.
	2023-24	The company has reported on the progress of its green recovery schemes for charging year 2021-22.
	2024-25	The company has reported on the progress of its green recovery schemes for charging year 2022-23.
<b>Measurement timing</b>	Reporting year	
<b>Financial adjustments</b>	Revenue	
<b>Timing of financial adjustments</b>	In-period	
<b>Price control allocation</b>	100% water network plus.	

Charging Year	Allowed Revenue adjustment (£m)
2022-23	0.359
2023-24	0.586
2024-25	0.651

## A5.3 Proposed timeline

We are proposing to use the following timetable for the implementation of the licence modification and in-period funding, and welcome any feedback on this proposal ahead of the statutory consultation:

Stage	Indicative date
Statutory (section 13 WIA91) consultation (minimum of 28 days)	Following green recovery final decisions in July 2021
Licence modification	August 2021
2020-21 in-period reconciliations – final determination	15th November 2021

## A6 End of period funding adjustment

### A6.1 Summary of approach

All of the companies that have submitted green recovery proposals are seeking to recover at least part of their green recovery allowance in later periods.

To facilitate this, we propose to make a midnight adjustment to the RCV at PR24, which will allow efficient costs incurred in delivering the schemes to be recovered from customers. This adjustment would be dependent on a number of factors:

- **Scheme delivery.** Customer should be protected where schemes are not fully delivered. Therefore, the size of the RCV adjustment made at PR24 will be proportional to the amount of the scheme which is forecast to be delivered by the PR24 final determinations.
- **Cost sharing adjustments.** The RCV adjustment will account for the company share of any cost under or outperformance against green recovery allowances.
- **Return of in-period funding.** Where relevant, the RCV adjustment will account for any in-period funding that needs to be returned to customers. For example, if a scheme is only 50% delivered, 50% of in-period funding must be returned to customers.
- **Time value of money.** We will make adjustments for time value of money on any funding not recovered in-period.
- **Tax.** We are still considering our approach to tax, but are concerned that companies might receive an unwarranted tax benefit. Therefore, we may account for this when making the RCV adjustment at PR24. We will provide more detail on this in our final decisions document.

Some companies have schemes which stretch into the 2025-30 period. In these cases, companies will need to recover the proportion of costs that are not added to the RCV at the PR24 final determinations later into the period. We will include these costs in companies' RCV profiles for the 2025-30 period, based on the expected delivery profile. Any differences between the expected and outturn delivery profile will be reconciled at PR29.

### A6.2 Formulas

We propose to use the following formulas to calculate the size of the midnight adjustment to the RCV. We propose to also make a time value of money adjustment to reflect the difference between when expenditure is proposed to be incurred and when revenue is proposed to be recovered. This will be made using the PR19 wholesale allowed return on capital, excluding any fast track rewards that companies received at PR19. We are also considering whether to include a term to account for the return of any tax benefit to customers.

Where a company has underspent against its green recovery allowance we propose to use the following formula:

$$\text{PR24 RCV adjustment} = \text{Scheme delivery adjustment} - (\text{Amount of adjusted underspend} * \text{Customer share of outperformance cost sharing}) - \text{In-period funding return}$$

Where a company has overspent against its green recovery allowance we propose to use the following formula:

$$\text{PR24 RCV adjustment} = \text{Scheme delivery adjustment} + (\text{Amount of adjusted overspend} * \text{Customer share of underperformance cost sharing}) - \text{In-period funding return}$$

Where:

- Scheme delivery adjustment is the proportion of its allowance a company will receive, based on how much of the scheme has been delivered. This will be net of any in-period funding.
- Adjusted underspend / overspend is the amount of under or overspend adjusted for scheme delivery. E.g. if a £100 million scheme is only 50% delivered for a cost of £40 million then the adjusted underspend is £10 million rather than £60 million.
- In-period funding return is the amount of in-period funding recouped from the company, proportionate to the amount of under delivery.
- Customer share of outperformance cost sharing is 90%.
- Customer share of underperformance cost sharing is 50%.

## A6.3 Worked examples

The following worked examples show how the PR24 RCV adjustment will work. Note that these examples do not demonstrate the adjustments we will make for time value of money or the adjustments that we may make for tax.

### A6.3.1 Worked example 1

In this example, a company receives a £100 million allowance for a scheme, with zero in-period funding. 50% of the scheme is delivered for an outturn cost of £40 million.

$$\text{PR24 RCV adjustment} = \text{Scheme delivery adjustment} - (\text{Amount of adjusted underspend} * \text{Customer share of outperformance cost sharing}) - \text{In-period funding return}$$

$$\text{PR24 RCV adjustment} = (50\% * £100\text{m}) - (£10\text{m} * 90\%) - £0\text{m}$$

$$\text{PR24 RCV adjustment} = \mathbf{£41\text{m}}$$

### A6.3.2 Worked example 2

In this example, a company receives a £100 million allowance for a scheme, with £15 million in-period funding. 50% of the scheme is delivered for an outturn cost of £60 million.

$$\text{PR24 RCV adjustment} = \text{Scheme delivery adjustment} + (\text{Amount of adjusted overspend} * \text{Customer share of underperformance cost sharing}) - \text{In-period funding return}$$

$$\text{PR24 RCV adjustment} = (50\% * (\text{£100m} - \text{£15m})) + (\text{£10m} * 50\%) - (\text{£15m} * 50\%)$$

$$\text{PR24 RCV adjustment} = \text{£42.5m} + \text{£5m} - \text{£7.5m} = \text{£40m}$$

As the company also receives £15m of in-period funding, the total amount of funding it receives by the end of the period is **£55m**.

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