December 2019

# PR19 final determinations

## PR19 final determinations: Yorkshire Water final determination

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# About this document

This document supports the 'Notification of the final determination of price controls for Yorkshire Water' and sets out further details about the final determination price control, service and incentive package for Yorkshire Water for 2020 to 2025. All figures in this document are in 2017-18 prices except where otherwise stated.

The final determination documentation sets out:

- the outcomes for Yorkshire Water to deliver;
- the allowed revenue that Yorkshire Water can recover from its customers; and
- how we have determined allowed revenues based on our calculation of efficient costs and the allowed return on capital.

This final determination is in accordance with our PR19 methodology (as updated), our statutory duties[1] and the UK Government's statement of strategic priorities and objectives for Ofwat[2]. We have also had regard to the principles of best regulatory practice, including the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted.

Our final determination carefully considers all of the representations we received from companies and stakeholders on our draft determination and takes account of the most up-to-date information available where appropriate. Where appropriate, we explicitly set out our response to points and issues raised by respondents. Where information was provided late and we have not been able to take full account of this in the final determination, this is explicitly stated.

There are six appendices to this document on cost efficiency, outcomes performance, past delivery, allowed revenue and, where relevant, additional information. For all documents related to the Yorkshire Water final determination, please see the final determinations webpage. Where we reference other documents related to our final determinations we do not include the 'PR19 final determinations' prefix to the document title, for documents relating to our initial assessment of plans or draft determinations the full document title is referenced.

If Yorkshire Water accepts our final determination, it will be accepting that it has adequate funding to properly carry out the regulated business, including meeting its statutory and regulatory obligations, and to deliver the outcomes within its final determination.

[1] See the 'Policy summary' for more information
[2] See 'UK Government priorities and our 2019 price review final determinations' and 'Welsh Government priorities and our 2019 price review final determinations' for more information

# Contents



| Amendment | Date |
|---|---|
| Table 3.7 Page 41 – Amendments made to figures for:<br>• Grants and contributions before the deduction of income offset (£m) Network plus – Water amending £60.7 million to £53.4 million.<br>• Grants and contributions before the deduction of income offset (£m) Network plus – Wastewater amending £51.7 million to £38.3 million.<br>• Net allowed totex subject to cost sharing reconciliation Network plus – Water amending £1,265.4 million to £1,272.7 million<br>• Net allowed totex subject to cost sharing reconciliation Network plus – Wastewater amending £1,982.0 million to £1,995.5 million | 30 April 2020 |

# 1 Summary

The water sector faces challenges of climate change, a growing population and increasing customer expectations, while improving affordability of an essential service. The 2019 price review (PR19) enables and incentivises companies to address these challenges both in 2020-25 period and longer term.

To do this the sector needs to innovate and challenge itself to deliver better performance for customers and the environment. Companies need to engage and work with customers and other companies, the supply chain and with other stakeholders.

Our PR19 methodology sets out a framework for companies to address the challenges facing the sector with a particular focus on improved service, affordability, increased resilience and greater innovation. We published our draft determination for Yorkshire Water on 18 July 2019, based on our detailed review of the revised plans submitted to us on 1 April 2019. The company and a number of stakeholders provided representation responses on our draft determination on 30 August 2019.

Our final determination carefully considers all of the representations we received from companies and stakeholders on our draft determination and takes account of the most up-to-date information available where appropriate. We consider the changes we have made in our final determination are in line with our statutory duties.

## 1.1 What our final determination includes

This section sets out the overall shape of our final determination for Yorkshire Water, covering the customer bill profile, costs, outcomes for customers and allowed revenues. More detail is provided in the following sections of this document.

### Bill profile

Our final determination for Yorkshire Water will cut average bills by 8.7% in real terms in the 2020-25 period compared to the company's proposed 0.8% reduction. Table 1.1 below sets out the difference in bill profile between the company's business plan submission in April 2019, our draft determination and the final determination. Average bills are lower than proposed by Yorkshire Water, reflecting our view of efficient costs and a reduction in the allowed return. Further details on bills are set out in section 6.

**Table 1.1: Bill profile for 2020-25 before inflation**

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Company plan (April resubmission) | £383 | £379 | £379 | £379 | £379 | £379 |
| Draft determination | £383 | £342 | £342 | £342 | £342 | £342 |
| Final determination | £383 | £379 | £372 | £364 | £357 | £349 |

## Costs

Our final determination allows wholesale totex of £4,165.5 million. This is:

- £142.7 million higher than in our draft determination and
- £370.0 million lower than stated in the company's representation on our draft determination.

Our final determination allows Yorkshire Water £905 million to invest in improvements to service, resilience and the environment. Key parts of this allowance are:

- £772 million to improve the environment by efficiently delivering its obligations as set out in the whole Water Industry National Environmental Programme (WINEP) programme including providing phosphorus removal at treatment sites treating wastewater from more than 4 million people. This includes £36 million to handle the additional wastewater bioresources resulting from its WINEP;
- £51 million to address the impact of deteriorating raw water quality; and
- £22 million to install new water meters.

Further details on our cost allowances are set out in section 3.

## Outcomes for customers

Our final determination package includes a full set of performance commitments, specifying the minimum level of service that Yorkshire Water must commit to deliver for customers and the environment under this price review. These sit alongside the company's statutory and licence requirements. Each performance commitment also has a financial or reputational incentive to hold the company to account for delivery of these commitments.

Further details of key performance commitments are set out in table 1.2 below and in section 2.

### Table 1.2: Key performance commitments for Yorkshire Water

| Area | Measure |
|---|---|
| Key common performance commitments | • 15% leakage reduction on a three year average basis. This is at least 15% reduction from PR14 performance commitment levels.<br>• 9% reduction in per capita consumption by 2024-25.<br>• 41% reduction in pollution incidents by 2024-25 to 19.5 incidents per 10,000km of the wastewater sewer.<br>• 47% reduction in internal sewer flooding incidents by 2024-25 to 1.34 incidents per 10,000 connections.<br>• A level of 5 minutes for 2024-25 for water supply interruptions. |
| Bespoke performance commitments | • 30% increase in the number of hectares of land conserved and enhanced by 2024-25.<br>• 25% reduction in external sewer flooding incidents per 10,000 connections by 2024-25.<br>• 34% reduction in customer contacts about drinking water quality by 2024-25.<br>• 742 additional kilometres of rivers improved in the Yorkshire Water region by 2024-25. |
| Overall incentive package | Overall, the likely range of returns from outcome delivery incentive package in our final determination equates to a return on regulatory equity range of - 2.46% (P10) to +2.95 (P90). |

Note the calculations behind these numbers are outlined in the 'Yorkshire Water - Outcomes performance commitment appendix'.

## Allowed revenues

Our final determination sets allowances for total revenue or average revenue for each of the price controls. Table 1.3 shows the allowed revenues in the final determination across each price control. Further details on our calculation of allowed revenues are set out in section 4.

**Table 1.3: Allowed revenue, 2020-25 (£ million)**

| | Water Resources | Network plus - water | Network plus - wastewater | Bioresources | Wholesale total | Residential retail | Total |
|---|---|---|---|---|---|---|---|
| Company view of allowed revenue (£m) | 326.0 | 1,954.4 | 2,422.4 | 405.0 | 5,107.7 | 284.8 | 5,392.4 |
| Final allowed revenues (£m) | 315.1 | 1,861.0 | 2,279.1 | 367.3 | 4,822.5 | 320.0 | 5,142.5 |

Note retail revenue is the sum of the margin, retail costs, and adjustments. The bioresources and residential retail controls are average revenue controls. We have included forecast revenue (in real terms) for these controls to illustrate the total revenue across all controls.

As set out in the 'Allowed return on capital technical appendix', we are updating our assessment of the allowed return on capital for Yorkshire Water's final determination. The allowed return is 2.96% (on a CPIH basis, 1.96% on a RPI basis) at the appointee level. After adjustment for the retail margin, the allowed return on capital for the wholesale price controls is 2.92% (on a CPIH basis, 1.92% on a RPI basis), a reduction of 0.16 percentage points from our draft determination, reflecting our assessment of market evidence. The allowed retail margin for the household retail control remains at 1.0%, consistent with the draft determination.

Yorkshire Water's Regulatory Capital Value (RCV) growth in 2020-25 is 5.7% and 59.1% of its RCV will be indexed to CPIH in 2025. We bring forward £85 million of revenue from future periods.

We consider that Yorkshire Water's final determination is financeable on the basis of the notional structure, based on a reasonable allowed return on capital and revenue advanced through pay as you go (PAYG) adjustments. The determination is sufficient to deliver its obligations and commitments to customers. Further detail on our assessment of financeability is set out in section 5.

## Putting the sector in balance

We have encouraged companies to take greater account of customers' interests – and to transparently demonstrate that they are doing so in the way they finance themselves, pay dividends to their shareholders, and determine performance related executive pay. Yorkshire Water commits to meeting the expectations set out in our 'Putting the sector in balance position statement'.

Yorkshire Water has high gearing3 and under its actual financial structure, it expects gearing to be at a level that would trigger sharing payments with customers through the gearing outperformance sharing mechanism. The company proposes an alternative sharing mechanism which we do not accept for the final determination as it does not provide equivalent benefits for customers, in the round, to our mechanism. But we have amended our mechanism to include a transition period in 2020-25.

The company forecasts a reduction in gearing in 2020-25. However the allowed return on capital is lower than our draft determination and this may mean the company needs to bring forward plans to maintain its financial resilience.

To meet our expectations, the company will need to demonstrate to stakeholders that dividends and performance related executive pay policies are substantially aligned to its performance for customers. We expect the company will need to revise its proposed base dividend yield for 2020-2025 to take account of the lower allowed return in our final determination and our revised expectations for a reasonable base dividend yield that we set out in the 'Risk and return technical appendix'.

In the 'Putting the sector in balance' position statement we also encouraged companies to adopt a voluntary sharing mechanism, particularly where, for example, companies outperform our cost of debt assumptions. In its business plan, Yorkshire Water proposes to share any outperformance achieved on the actual cost of embedded debt below the notional cost of debt set in our determination and sets out that it is doubling its contribution to its social tariff during 2020-25 from an initially proposed £5m to £10m.

We provide further detail on these issues in section 7.

## 1.2 Representations on the draft determination

All companies and stakeholders were invited to make representations on our draft determinations by 30 August 2019. More detail about the issues raised in the representations by the company and our consideration of those issues can be found elsewhere in this document, the technical appendices and other documents published alongside our final determinations. Table 1.4 highlights the key points made by Yorkshire Water in its representation together with any further submissions after that date and a summary of our response to each of those points.

[3] Based on net debt to regulatory capital value.

### Table 1.4: Company representation

| Key point in Yorkshire Water representation | Summary of our response |
|---|---|
| Yorkshire Water claims that our position on cost efficiency is based on an unattainable benchmark – the 'notionally efficient firm'. In particular Yorkshire Water suggests that stretching performance commitments will not be covered by base funding unless the cost modelling approach fully considers the alignment of costs and service delivery. It says that asking companies to meet the challenges is asking disproportionately more of companies that are historically efficient. | Our assessment of cost efficiency takes into account the overall level of stretch across both costs and outcomes. Where appropriate we make adjustments to our approach at draft determination, allowing increased totex, adjusted performance commitments and incentives. We consider that the resulting combination of our requirements on both costs and outcomes are stretching but achievable. Evidence suggests that companies can perform well on both costs and outcomes with some companies performing better than the sector-wide benchmarks we set in the 2015-20 price review period. See the 'Policy summary' and 'Securing cost efficiency technical appendix' for more detail. |
| Yorkshire Water argues that the allowed return on capital at 2.19% has now been set at a level too low for the notional company to be considered financeable at the desired credit rating. | We assess Yorkshire Water to be financeable on the basis of our notional structure and that the company is able to achieve similar or better credit quality and ratios than set out in its business plan. We have increased PAYG rates by 2.43% to bring forward £85m of revenue to improve cashflow.<br>We use an allowed return on capital based on updated market evidence, as set out in our 'Allowed return on capital technical appendix'. |
| Yorkshire Water argues that the nature of the modelling used in assessing future efficiency has the unintended consequence of penalising companies with a strong track record in efficiency. | Our models are developed in order to forecast efficient costs for each company based on the particular profile of its business for the 2020-2025 period. We do not assume that companies that have been relatively efficient in the past will continue to be so in the future. Companies that are relatively efficient will have a lower level of cost challenge. |
| Yorkshire Water states that it is concerned that we have disregarded our methodology, especially on outcomes, without providing adequate reasoning or evidence, including not sufficiently considering the views of customers on priorities and incentive rates. | We set out in our PR19 methodology for the price control that we asked companies to consider customer preferences as one factor (others are historical and comparative information) in setting performance commitment levels, and that a wide range of evidence on customer preferences should be used to set outcome delivery incentive rates. In line with our PR19 methodology, we consider and take account of customer evidence provided in setting our final determination cost allowances, performance commitment levels and outcome delivery incentives. Our 'policy summary', 'Delivering outcomes for customers policy appendix' and 'Securing cost efficiency technical appendix' explain the rationale for our decisions, including the evidence used. We consider that the performance commitments and cost allowances for investment in our final determination are stretching but achievable and in the interests of customers. |

| Key point in Yorkshire Water representation | Summary of our response |
|---|---|
| Yorkshire Water argues that our approach to modelling growth costs moves away from the long established position of including growth expenditure as part of enhancement. | We continue to consider that growth expenditure is similar to base expenditure and so should be included in our base models. See section 3 for more detail. |
| Yorkshire Water argues some of the performance commitment levels and associated outcome delivery incentives, particularly its asset health performance commitments, should be made less stretching. | We note the company's poor performance on asset health and while we do not consider that Yorkshire Water's customers should have to accept poor quality service we are adjusting our performance commitment levels for mains repairs and supply interruptions which reduces the level of exposure for the company, see section 2.<br>We are also applying the industry wide performance commitment levels on internal sewer flooding but amend the underperformance collar to reduce the downside risk for the company in the first two years of the 2020-25 period and increase it in the last two years. We take account of industry benchmarks, historical performance and customer evidence in setting Yorkshire Water's performance commitments and outcome delivery incentives. |
| Yorkshire Water argues that the impact of its WINEP has not been fully recognised in the draft determination and we had not yet reviewed all of the evidence submitted by Yorkshire Water. It submitted late evidence shortly before the draft determination. | Where evidence was submitted too late for consideration for our draft determination it is considered for our final determination. We allow a total of £772 million for Yorkshire Water's WINEP. This is an increase of £93 million from our draft determination. We also reallocate phosphorus removal costs from base costs to enhancement which increases our allowance for phosphorus removal for Yorkshire Water's environment programme by £112.5 million. |
| The Board of Yorkshire Water concludes that our draft determination is not financeable on a notional or actual basis. It argues that if the draft determination becomes its final determination, there would be a real risk of a failure to take due account of the statutory financeability and consumer protection obligations set out in the Water Industry Act 1991. | We have carefully considered all of our duties, in particular our financing functions and consumer protection duties, and are satisfied that our final determination fulfils our duties in the round. Our assessment of notional financeability for the final determination is made in the context of changes made to the draft determination in our final determination. We consider the company's final determination is financeable on the basis of the notional structure based on the allowed revenues which include a reasonable allowed return on capital. The final determination is sufficient to ensure the company will be in a position to deliver its obligations and commitments to customers. It is the company's responsibility to maintain financial resilience under its actual financial structure and it must bear the risks associated with its choice of capital and financing structure.<br>Our final determination is based on an efficient company, as we do not consider customers should bear costs associated with inefficiency or poor performance. |

| Key point in Yorkshire Water representation | Summary of our response |
|---|---|
| Yorkshire Water argues that its claim for additional revenue via the wholesale revenue forecast incentive mechanism is within the scope of the reconciliation mechanism. | We are intervening to exclude the company's claim for additional revenue, which resulted from an error it made in completing its PR14 business plan tables for connections changes. We consider Yorkshire Water does not provide sufficient evidence that there was an unambiguous error in its reporting and that the adjustments to correct them are appropriate. We explain our assessment in detail in 'Yorkshire Water - Accounting for past delivery additional information.' |

We also received representations on Yorkshire Water's draft determination from other stakeholders as shown in table 1.5, which shows a summary of our response to representations that are relevant to the company. Representations from some other stakeholders relate to all companies and are described in the relevant technical appendices. More detail about the issues raised in the representations by stakeholders can be found elsewhere in this document, the technical appendices and other documents published alongside our final determinations.

### Table 1.5: Stakeholder representations

| Stakeholder representation | Summary of our response |
|---|---|
| The Environment Agency highlights the need for Yorkshire Water's final determination to provide sufficient incentives to improve upon its recent poor environmental performance. | We retain the company's performance commitment level improvement in relation to pollution incidents to 41% reduction to reach industry upper quartile by 2024-25. This is a higher than average level of stretch. |
| Yorkshire Water's Customer Challenge Group raises a concern over whether the high levels of service expected by customers can be delivered through our draft determination and remains concerned about the risk to customers and bills. | We note the comments set out by the customer challenge group, which reflect, in part, the company's representation. As set out in our final determination, we consider that Yorkshire Water customers should be protected from risk of poor service and inefficiency.<br>We consider that our final determination is an in-the round package that is stretching but achievable. It will improve outcomes for customers and the environment, funded by efficient delivery. We have adjusted our view of costs taking account of the evidence in the company's representation and set a level of stretch on outcomes performance commitments to set expectations of improved service. |
| Yorkshire Water's Customer Challenge Group believes there would be a significantly increased risk of underperformance payments and a potential negative impact on bills in the period from 2020-25. | We have reduced outcome delivery incentive rates for a small number of common performance commitments for all companies and adjust some underperformance and/or outperformance rates on other performance commitments to balance company incentives |

| Stakeholder representation | Summary of our response |
|---|---|
| | and customer protection, see section 2 for more detail. |

## 1.3 Key changes from the draft determination

Our final determination carefully considers the representations we received from companies and stakeholders on our draft determinations on 30 August 2019. It also takes account of the most up-to-date information available where appropriate. Changes to overall revenue and costs allowances are set out in table 1.6.

**Table 1.6: Difference in cost and revenue allowance final to draft determination**

| | Draft determination | Final determination |
|---|---|---|
| Allowed revenues (£m, 2017-18 CPIH deflated) | 4,862.7 | 5,142.5 |
| Wholesale cost allowance[1] (£m, 2017-18 CPIH deflated) | 4,022.8 | 4,165.5 |
| Retail cost allowance (£m, nominal) | 324.8 | 321.9 |
| Wholesale allowed return[2] (% - CPIH basis) | 3.08% | 2.92% |

[1] Note that we include pension deficit recovery costs in the wholesale cost allowances we present in table 1.6 above and in table 3.1 later in this document. At the draft determination we published cost allowances excluding pension deficit recovery costs. The numbers we show here as the draft determination allowances can be calculated by adding the pension deficit recovery costs from draft determination table 3.2 to draft determination table 3.1 total allowances. Our decisions on individual elements of the totex allowance are set out in section 3.
[2] The allowed retail margin for the household retail control remains at 1.0%, consistent with the draft determination.

Significant changes from the draft determination for Yorkshire Water are:

- We revise our allowance on WINEP schemes where we allow £772 million (£93 million more than at draft determination) and we reallocate phosphorus removal costs from base costs to enhancement. As a result, we increase our allowance for phosphorus removal and for Yorkshire Water's environment programme by £112.5 million.
- For Hull and Haltemprice resilience scheme we allow £16.4 million (we did not allow funding at draft determination).
- We make a £34.7 million downward adjustment to our base allowances due to a relatively low forecast of population growth in 2020-25 in the company's supply area.
- On mains repairs, we make changes that apply industry wide to ensure levels take account of historical levels of performance and the implications of leakage reduction target for mains repairs. We also amend the underperformance payment rate on mains repairs for all companies to

industry average which will provide a more balanced spread of incentives and risks.

- We amend the WINEP performance commitment to include amber schemes and have a target of 742km of river improved associated with the WINEP performance commitment.
- We increase the water supply interruptions 2024-25 level (making it easier to achieve) to five minutes, with an amended glidepath in the first four years taking account of wider evidence to calibrate the stretch of the performance commitment for an efficient company. We reduce the outcome delivery incentive underperformance rate to be symmetrical with its outperformance rate to provide a more balanced spread of incentives and risks.
- Taking account of company representations, we revise our approach to determine the mix of operating and capital expenditure to take better account of the nature of our decisions on cost allowances. We apply the updated approach in our technical intervention to PAYG rates.
- We increase allowed revenue by £85 million to address a notional financeability constraint in allowed cashflows.
- We revise Yorkshire Water's average bill profile from a large reduction upfront followed by flat real term bills, to have a smaller reduction upfront, followed by a gradually falling real bill over 2020 – 25.
- We update the gearing outperformance sharing mechanism to introduce a glidepath to the gearing level that the triggers sharing payments as set out in the 'Aligning risk and return technical appendix'.

# 2 Outcomes

### Key changes from the draft determination

The key changes made to the outcomes elements of the draft determination are:

- On mains repairs, we make changes that apply industry wide to ensure levels take account of historical levels of performance and the implications of leakage reduction levels for mains repairs. We also amend the underperformance payment rate on mains repairs for all companies to industry average. This will provide a more balanced spread of incentives and risks across its performance commitments.
- We amend the WINEP, length of river improved, performance commitment to include amber schemes and have a performance commitment level of 742km of river improved associated with WINEP. Outperformance payments will only be made if 742km is exceeded.
- We increase the water supply interruptions 2024-25 level (making it easier to achieve) to five minutes, with an amended glidepath in the first four years taking account of wider evidence to calibrate the stretch of the performance commitment for an efficient company. We reduce the outcome delivery incentive underperformance rate to be symmetrical with its outperformance rate. Together these two changes provide a more balanced spread of incentives and risks on water supply interruptions.
- We accept the company's proposal on leakage to deliver 15% reduction on a three year average basis since the company is proposing to achieve at least a 15% improvement on PR14 levels and this proposal will allow it to earn outperformance payments above this level.
- We amend the deadband on the compliance risk index (which measures compliance with the Drinking Water Inspectorate's water quality standards) to a score of 2.00 throughout the period reducing the risk of underperformance payments in the last three years of the 2020-2025 period. This allows more flexibility in performance to take into account the uncertainty created by the ban on the use of metaldehyde, which has been overturned by the High Court and also aligns with the median level of company performance.

Throughout PR19, we have been asking companies to:

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

The outcomes framework is a key component in driving companies to focus on delivering the objectives that matter to today's customers, future customers and the environment in the 2020-25 period and beyond. Outcomes define the service package that companies should deliver for their customers and their incentives to do this.

There are two key elements of the outcomes framework: performance commitments and outcome delivery incentives. Performance commitments specify the services that customers should receive and set out in detail the levels of performance that the companies commit to achieve within the five year period from April 2020 to March 2025. Outcome delivery incentives are the reputational and financial incentives that companies have, to deliver on their performance commitments to customers. They specify the financial or reputational consequences for companies of outperformance or underperformance against each of these commitments (they are referred to as 'out' where there is a payment to the company for better than committed performance, 'under' where there is a payment to customers where there is worse than committed performance, or 'out-and-under' incentives, depending on their design).

Most outcome delivery incentives will be settled at the end of each year to bring incentive payments closer to the time of delivery of the service ('in-period' incentives) and some will be settled once at the end of the five year period ('end-of period' incentives). The outcomes framework gives companies the freedom to innovate and explore to find the most cost-effective way of delivering what matters to their customers.

There are a number of concerns with the company's current performance. It is middle of the sector on service incentive mechanism with a slight deterioration this year. While it has achieved 77% of its PR14 performance commitments levels in 2018-19, its performance on pollution incidents has deteriorated in 2018-19 and it is a lower quartile performer on several key measures including leakage, internal sewer flooding and pollution incidents. Its performance on asset health, in particular the four common performance commitments on asset health, is also poor.

In its September 2018 business plan, Yorkshire acknowledged issues with its performance:

'Our customers are disappointed with our leakage performance, especially when compared to other water suppliers, and they want us to improve. Customers tell us we waste unacceptable amounts of water through leakage in our network.'

It also acknowledged asset health issues including that its proposed performance level on mains repairs was a deterioration on its 2015-20 performance target. On wastewater asset health, it discussed its current lower quartile performance on wastewater treatment work compliance with an 'increasing number of assets moving

beyond their estimated typical life.' In its April Business Plan, the company noted that it has 'not historically replaced our asset base at the rate it deteriorates'.

In its September business plan, and its revised plan in April 2019, the company proposed stretching levels on some water performance commitments, but was less stretching on some wastewater performance commitments where the company has had poor performance. In a number of cases, it sought significant additional funding to bring its performance up to upper quartile level such as for internal sewer flooding, water supply interruptions, and for its proposed leakage reduction. At draft determination we significantly increased the company's performance commitment levels on some common performance commitments to reach upper quartile, and we also significantly increased its performance commitment levels in areas on asset health where the company is currently a poor performer.

In its representations, the company argued for changes to our draft determination levels on mains repairs, internal sewer flooding and WINEP, length of river improved, but it also accepted that customers should not pay additional costs for Yorkshire Water to improve to upper quartile performance and meet the 15% leakage reduction challenge. It challenges the year 1 levels for the mains repairs and internal sewer flooding performance commitments as being unachievable and proposes glidepaths.

On mains repairs, we make changes that apply industry wide to ensure levels take account of historical levels of performance and the implications of leakage reduction target for mains repairs.

The company argues that its PR14 performance commitment on internal sewer flooding is defined in such a way to allow performance at much poorer levels than other companies and as a result it needs a glidepath to industry forecast upper quartile levels since the step change at PR19 is significant. We consider that, although it meets PR14 performance commitments, its performance is much worse than other companies and it has a high level of repeat flooding incidents. We do not consider its customers should suffer from its historical poor performance, but we introduce a collar to protect the company and to reduce its exposure to outcome delivery incentive underperformance payments while it improves to industry upper quartile levels. We note that revised definitions for PR19 performance were developed with the sector and were published in 2017.

In its representation on its draft determinations the company proposes to reduce the level of stretch for its leakage performance commitment since it was not allowed enhancement funding. We are accepting the company's proposal on the leakage performance commitment level, since the company is proposing to achieve at least a 15% improvement on PR14 levels. It can earn outcome delivery incentives, if it improves performance beyond stretching levels, to fund further service improvement including Water Resources Management Plan levels where these go beyond the

performance commitment level. We note the company is meeting its leakage targets in PR14. We consider WINEP further in section 2.1 below.

We consider the package of performance commitments and outcome delivery incentives for the company is stretching but achievable.

The outcomes framework sits in the broader context of the company's statutory and licence requirements for service delivery. Independently of the outcomes framework, each company also has to ensure that it complies with its legal obligations, or risk enforcement action. If a company's performance falls below the level set for a performance commitment (irrespective of the existence of any deadband or collar), we will consider whether this is indicative of wider compliance issues to the detriment of consumers and whether enforcement action, with the potential for remedial and fining measures, is warranted.

Please see the 'Delivering outcomes for customers policy appendix' for further details on our policy decisions on cross-cutting issues such as common performance

We expected customer challenge groups to provide independent challenge to companies and independent assurance to us on: the quality of a company's customer engagement and the degree to which this is reflected in its business plan.

We continued our assessment of customer engagement evidence following each company's submission of its representations to our draft determination in August 2019. We find variability in both the quality of engagement undertaken by companies and the extent to which customers' views are reflected in company proposals.

In its September 2018 business plan, Yorkshire Water provided sufficient evidence to demonstrate elements of high-quality customer engagement evidence although we highlighted some areas of concern in our initial assessment of the company's plan, such as insufficient evidence of customer research underpinning longer term priorities, risk appetites, and the needs of future customers.

Following our initial assessment, in its April 2019 revised business plan, the company presented additional rationale in support of many elements of its package of performance commitments and outcome delivery incentives. In cases where new evidence of customer views was not provided, we used the latest customer views that the company had provided to inform our decisions at draft determination. In our draft determination, we intervened where we considered the company's rationale and supporting evidence to be insufficiently robust.

Although we did not have concerns with how the company derived all outcome delivery incentive rates, we had concerns, for example, with water supply interruptions and external sewer flooding outcome delivery incentive rates. On water supply interruptions and external sewer flooding, we were concerned with the

approach the company had taken to using customer valuations to set outcome delivery incentives (triangulation of the marginal benefit) which appeared to be overly impacted by an extreme value4.

In its responses to our draft determination, the company presents no new customer engagement evidence.

However, Yorkshire Water states that it is concerned that we have disregarded our methodology, especially on outcomes, without providing adequate reasoning or evidence, including not sufficiently considering the views of customers on priorities and incentive rates. When setting outcome delivery incentive rates, we conscientiously consider companies' research. Where the company's customer research or valuations are considered good quality, they are included in the data we use to set outcome delivery incentive rates for customer facing performance commitments. We also take into account several other factors such as large variance from PR14 rates, comparative performance, and past performance issues. In setting rates, we balance our use of sector information with additional information including companies' evidence. We use a range of tests as articulated in our 'Delivering outcomes for customers policy appendix'.

The company does not make representations on our conclusions regarding the quality or use of its customer engagement on specific performance commitments, except in respect of one, length of river improved, where the company disagrees with how we have assessed its customers' priorities. For this performance commitment we have made changes to increase the scope to improve a greater length of river and including outperformance payments in response to the company representation and the company evidence.

The Yorkshire Forum for Water Customers, Yorkshire Water's customer challenge group, submitted a representation to our draft determination in August 2019. It restates its opinion that Yorkshire Water provided 'high quality and innovative customer research' in its September 2018 and April 2019 revised business plans, but it does not make any comment on how customer views are reflected in our draft determination regarding performance commitments.

We set out in our PR19 methodology that we expect companies to reflect their customers' preferences in the levels they propose for performance commitment levels and outcome delivery incentives. We also expected companies to commitments and outcome delivery incentive rates.

[4] Please see PR19 draft determinations: Yorkshire Water – Delivering outcomes for customers actions and interventions

## 2.1 Customer engagement

In our PR19 methodology we set out our expectations that companies should demonstrate ambition and innovation in their approach to engaging customers as they develop their business plans. This includes direct engagement with customers to develop a package of performance commitments and outcome delivery incentives.challenge the level of stretch in their performance commitments against a range of approaches (for example, against comparative and historical information). In our PR19 methodology we also expected companies to use customer valuations to set outcome delivery incentive rates and noted that we would compare these valuations and rates and challenge companies where appropriate. Therefore, when making our decisions, we have taken into account several factors in setting our final determination outcome delivery incentive rates including the quality of customer evidence provided. Our suite of final determination documents explains the rationale for our decisions, including the evidence used to inform our decisions.

## 2.2 Performance commitments and outcome delivery incentives

Yorkshire Water's performance commitments and outcome delivery incentives for the 2020-25 period are listed in table 2.2 and table 2.3. The full details of these performance commitments and outcome delivery incentives are set out in the 'Yorkshire Water - Outcomes performance commitment appendix'.

The key changes we are making in the final determination are set out in table 2.1[5] below. 'Yorkshire Water – Delivering outcomes for customers final decisions' sets out our final decisions in terms of changes to our draft determination for the company's performance commitments and outcome delivery incentives, having considered stakeholder and company representations to our draft determination.

**Table 2.1: Summary of key changes to draft determinations on outcomes**

| Key changes |
|---|
| We are accepting the company's proposal on the leakage performance commitment level since the company is proposing to make at least a 15% improvement on PR14 levels. |
| Retaining the company's proposed 9% reduction in relation to per capita consumption by 2024-25.<br>Reducing the company's underperformance and outperformance rates in relation to per capita consumption to provide a more balanced spread of incentives and risks across its performance |

[5] Please note, table 2.1 focuses on policy changes and does not include changes made to correct errors in our draft determinations or changes made as a consequence of other amendments such as updating enhanced outcome delivery incentive rates for amendments to standard outcome delivery incentive rates using the same methodology and approach as at draft determinations.

| Key changes |
| --- |
| commitments. This will ensure the company does not focus too much on per capita consumption to the detriment of other performance commitments which will benefit its customers. |
| Increasing the water supply interruptions 2024-25 level (making it easier to achieve) to five minutes, with an amended glidepath in the first four years taking account of wider evidence to calibrate the stretch of the performance commitment for an efficient company. We reduce the underperformance rate to be symmetrical with its outperformance rate. Together these two changes provide a more balanced spread of incentives and risks on water supply interruptions and enable opportunity to earn outperformance payments for going beyond stretching performance. |
| Retaining the company's performance commitment level for pollution incidents to reach industry upper quartile by 2024-25.<br><br>Reducing the outcome delivery incentive rates in relation to pollution incidents for the company, since we have identified this performance commitment as an outlier compared to the wider industry and the company's wider package of incentives and risks. This will provide a more balanced spread of incentives and risks across its performance commitments. |
| Retaining the company's performance commitment internal sewer flooding to reach industry upper quartile by 2024-25.<br><br>Amending the outcome delivery incentive rates in relation to internal sewer flooding to be symmetrical with the outperformance rates to provide a balanced spread of incentives and risks.<br><br>The company is a poor performer on internal sewer flooding relative to other companies and although we are retaining the same industry wide glidepath and 2024-2025 levels, we are amending the underperformance collar to reduce the downside risk for the company in the first two years of the 2020-25 period and increase it in the last two years. This will provide a similar level of exposure over the five years as other companies, but reduce the downside risk for the first two years as the company progresses from PR14 levels to forward-looking upper quartile 2024-25 levels, while maintaining a strong incentive over the period. |
| Increasing the performance commitment levels for mains repairs by a reducing percentage, for all companies, in all years reducing the stretch. The aim is to allow all companies the flexibility to deliver the step change in leakage reduction, allowing more flexibility in the earlier years to use proactive mains repairs to reduce leakage. We intervened in mains repairs levels for this company at draft determinations since it was lagging behind the sector, setting the level at the average of the best three years' performance. At final determination, we amend the base levels of mains repairs to an average of the best five years' performance, which provides a more representative level and ensures companies maintain good performance to improve the overall health of their assets over the longer-term. We also amend the underperformance payment rate on mains repairs for all companies[6] to industry average which will provide a more balanced spread of risks and incentives for the company. |
| We amend the deadband on the Compliance Risk Index water quality standards) to a score of 2.00 throughout the period reducing the risk of underperformance payments in the last three years of the 2020-2025 period. This allows more flexibility in performance to take into account the uncertainty created by the ban on the use of metaldehyde, which has been overturned by the High Court and also aligns with the median level of company performance. |

[6] This does not include Severn Trent Water and South West Water who have early certainty on mains repairs outcome delivery incentive rates.

| Key changes |
| --- |
| Reducing the sewer collapses level, to achieve upper quartile reduction of 19% by 2024-25, instead of our draft determination approach to setting levels using the maximum percentage reduction proposed by companies which was 28%. The company is a poor performer on sewer collapses and this level recognises the need for company improvement in this area.<br><br>We are amending the sewer collapses underperformance rate to median rather than mean as part of a methodology change covered in the 'Delivering outcomes for customers policy appendix'. |
| Allowing outperformance payments as proposed by the company in its revised business plan in relation to length of river improved. Outperformance payments will apply to the delivery of non-WINEP schemes.<br><br>Allowing, in the WINEP performance commitment, the uncertain amber schemes in relation to length of river improved, increasing the total length of river improved to 742km. The company has committed to at least improve the same length of river even if amber schemes do not progress. |

### Table 2.2: Summary of performance commitments: common performance commitments

| Name of common performance commitment | Type of outcome delivery incentive | | | |
|---|---|---|---|---|
| | Financial | | | Reputational |
| | Under | Out | In-period | |
| Water quality compliance (CRI) [PR19YKY_20] | X | | X | |
| Water supply interruptions [PR19YKY_21] | X | X | X | |
| Leakage [PR19YKY_22] | X | X | X | |
| Per capita consumption [PR19YKY_25] | X | X | X | |
| Mains repairs [PR19YKY_24] | X | | X | |
| Unplanned outage [PR19YKY_23] | X | | X | |
| Risk of severe restrictions in a drought [PR19YKY_38] | | | | X |
| Priority services for customers in vulnerable circumstances [PR19YKY_42] | | | | X |
| Internal sewer flooding [PR19YKY_31] | X | X | X | |
| Pollution incidents [PR19YKY_30] | X | X | X | |
| Risk of sewer flooding in a storm [PR19YKY_34] | | | | X |
| Sewer collapses [PR19YKY_33] | X | | X | |
| Treatment works compliance [PR19YKY_32] | X | | X | |
| C-MeX: Customer measure of experience [PR19YKY_19] | X | X | X | |
| D-MeX: Developer services measure of experience [PR19YKY_10] | X | X | X | |

### Table 2.3: Summary of performance commitments: bespoke performance commitments

| Name of bespoke performance commitment | Type of outcome delivery incentive | | | | |
|---|---|---|---|---|---|
| | Financial | | | | Reputational |
| | Under | Out | In-period | End of period | |
| Working with others [PR19YKY_1] | | X | | X | |
| Land conserved and enhanced [PR19YKY_2] | X | X | | X | |
| Integrated catchment management [PR19YKY_3] | | | | | X |
| Length of river improved [PR19YKY_4] | X | X | | X | |
| Biosecurity implementation [PR19YKY_5] | | | | | X |
| Operational Carbon [PR19YKY_6a] | X | X | X | | |
| Capital carbon and emissions arising from owned land [PR19YKY_6b] | | | | | X |
| Education [PR19YKY_7] | X | | X | | |
| Creating value from waste [PR19YKY_8] | | | | | X |
| Water recycling [PR19YKY_9] | X | X | X | | |
| Affordability of bills [PR19YKY_11] | | | | | X |
| Direct support given to customers [PR19YKY_12] | | | | | X |
| Cost of bad debt [PR19YKY_13] | | | | | X |
| Priority services awareness [PR19YKY_14] | | | | | X |
| Priority services satisfaction [PR19YKY_15] | | | | | X |
| Inclusive customer service [PR19YKY_16] | | | | | X |
| Gap sites [PR19YKY_17] | X | | X | | |
| Managing void properties [PR19YKY_18] | X | X | X | | |
| Drinking water contacts [PR19YKY_26] | X | X | X | | |
| Significant water supply events [PR19YKY_27] | X | X | X | | |
| Low pressure [PR19YKY_28] | X | X | X | | |
| Repairing or replacing customer owned pipes [PR19YKY_29] | X | X | X | | |
| External sewer flooding [PR19YKY_35] | X | X | X | | |

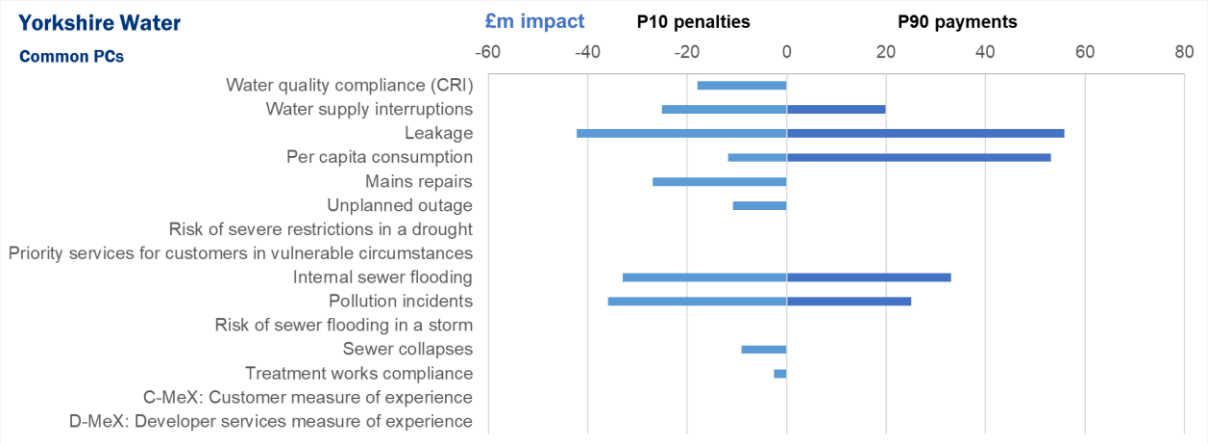
| Name of bespoke performance commitment | Type of outcome delivery incentive | | | | |
|---|---|---|---|---|---|
| | Financial | | | | Reputational |
| | Under | Out | In-period | End of period | |
| Bathing water quality [PR19YKY_36] | X | X | X | | |
| Surface water management [PR19YKY_37] | X | X | X | | |
| Quality agricultural products [PR19YKY_40] | X | | X | | |
| Renewable energy generation [PR19YKY_41] | | | | | X |
| WINEP Delivery [PR19YKY_NEP01] | | | | | X |

Figure 2.1 and figure 2.2 provide an indication of the financial value of each of Yorkshire Water's outcome delivery incentives (taking into account the impact of our final determination decisions) showing how much the company would have to return to customers if it underperformed to the P10 level and how much the company would gain if it outperformed to the P90 level. The P90 is the performance threshold at which there is only a 10% chance of outturn performance being better.

The figures cover common and bespoke commitments respectively. The estimates are based on the company's own view of the plausible bounds of performance submitted in April 2019 submission. Where we have changed service levels for performance commitments, we have amended these estimates so that the distance between the service level and estimate remains the same.

Our analysis has built on the estimates companies have provided, but there is a range of plausible estimates of what may happen in plausible worst case (P10) and plausible best case (P90). There is inherent uncertainty in forecasting these parameters and the figures presented should be seen as indicative of the likely range of financial impacts for each performance commitment.

**Figure 2.1: Projected P10 underperformance payments and P90 outperformance payments for common performance commitments over 2020-25 (£ million)**




Note P10 underperformance payments and P90 outperformance payments for C-Mex: Customer measure of experience and D-Mex: Developer services measure of experience are not shown in this figure but are shown in Table 5.1 below.

**Figure 2.2: Projected P10 underperformance payments and P90 outperformance payments for bespoke performance commitments over 2020-25 (£ million)**

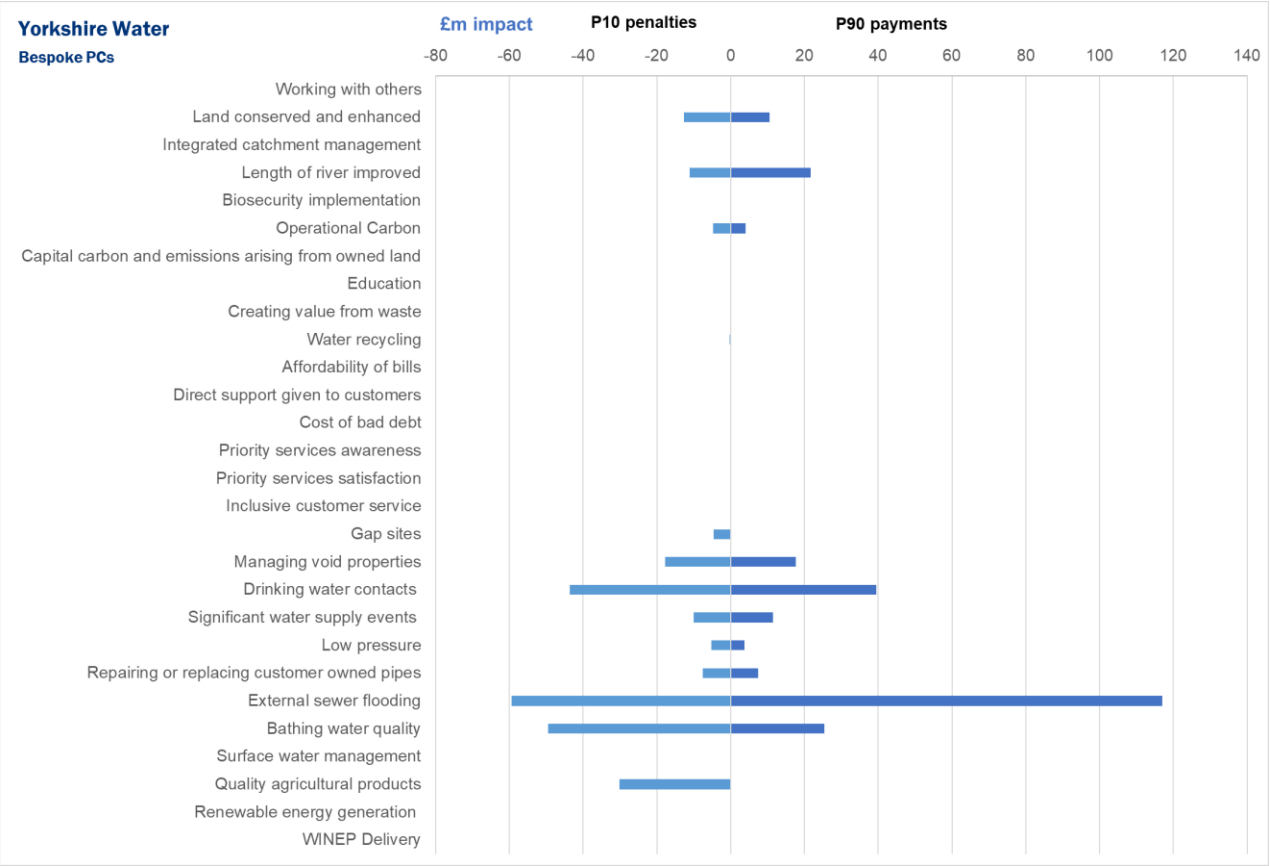



Table 2.4 provides an indication of the financial value of the overall package at the upper and lower extreme levels of performance (expressed as a percentage point impacts on RoRE (return on regulatory equity)) and the overall impact of our final determination decisions. Further information on how we have calculated these values is set out in the 'Delivering outcomes for customers policy appendix'.

**Table 2.4: Impact of draft determination and final determination decsions on RoRE range**

| | Draft determination | | Final determination | |
|---|---|---|---|---|
| | % of 5 year regulatory equity | | % of 5 year regulatory equity | |
| | P10 | P90 | P10 | P90 |
| Yorkshire Water | -2.21 | +1.04 | -2.46 | +2.95 |

The figures in the above tables are estimates. In the PR19 methodology we said that we expect companies to propose approaches to protect customers in case their outcome delivery incentive payments turn out to be much higher than expected. We asked companies, in our initial assessment of business plans 'PR19 initial assessment of plans: Delivering outcomes for customers policy appendix', to put in place additional protections for customers where we considered protections were not adequate.

We are applying caps and collars to financially material and/or highly uncertain performance commitments and allowing caps and collars on other performance commitments where company proposals are supported by high quality customer engagement. Where, through these reasons, the vast majority of companies have caps and collars on a common performance commitment, we will apply caps and collars to all companies.

We are applying a standard sharing mechanism for all companies, where 50% of outperformance payments that exceed 3% of return on regulatory equity (RoRE) in any year are shared with customers through bill reductions in the following year. We set out further detail of the mechanism in the 'Delivering outcomes for customers policy appendix'.

In our PR19 methodology, we decided to replace the existing Service Incentive Mechanism (SIM) with two new common performance commitments to incentivise companies to provide an excellent experience for residential customers (our customer measure of experience, or C-MeX) and developer services customers (our developer services measure of experience, or D-MeX). C-MeX and D-MeX will operate from April 2020 and incentivise companies to improve their performance relative to other water companies and the wider economy.

We set out further details on how C-MeX and D-MeX will operate in the 2020-25 period, including any changes from draft determinations, in the 'Customer measure of experience (C-MeX) and developer services measure of experience (D-MeX) policy appendix'.

## 2.3 Delivering a framework for resilience in the round

Resilience is one of our four themes for PR19. We set out our expectations for water companies' business plans in our final methodology. Yorkshire Water's September 2018 business plan falls short of demonstrating that the company has applied an integrated resilience framework that will deliver resilience in the round.

Yorkshire Water's business plan does provide high quality evidence on how the company identifies and assesses risks to resilience, including taking a systems

based approach to risk assessment. It also demonstrates good evidence of embedding natural capital approaches into its resilience framework.

We recognise that it may take some time for companies to fully understand best practice approaches to resilience in the round and implementing a systems-based approach to resilience. In our initial assessment of business plans, we set Yorkshire Water an action (YKY.LR.A2) to develop a resilience action plan which demonstrates that it has a framework in place to deliver resilience in the round, and to submit this to us by 22 August 2019. We expected the resilience action plan to build upon the feedback that we provided following our initial assessment of the business plan.

Yorkshire Water's resilience action plan includes some good elements but falls short in many areas. In particular, we are concerned that:

The company does not clearly demonstrate how its action plan is informed by its baseline maturity assessment. We expect the company to clearly demonstrate how its action plan is influenced by an understanding of its baseline maturity.

The company does not respond to our feedback from the initial assessment of business plans, particularly around engagement of customers on resilience risks and preferred options to mitigate these. We expect the company to clearly respond to our feedback and demonstrate how this informed the development of its action plan.

The company's action plan provides limited details on operational arrangements to embed resilience into the organisation below Board and Committee level. We expect the action plan to provide a robust pathway to embedding a resilience approach throughout the organisation.

Overall, Yorkshire Water, along with the sector, has further work to do to implement a fully integrated resilience framework. The company should continue to work with the sector, with Ofwat, and across sectors to incorporate best practice and address the concerns highlighted about its resilience framework above. Ofwat plans to engage the sector through its strategy to encourage further joint development of resilience approaches to accelerate best practice through the industry. We also may consider the progress companies have made as part of assessing company business plans in the 2024 price review.

# 3 Cost allowances

### Key changes from the draft determination

- Our final determination allowance for Yorkshire Water is £4,165.5 million for the wholesale services. This compares with £4,022.8 million at draft determination. In retail, our final determination allowance is £321.9 million, compared with £324.8 million at draft determination.
- Our base allowance is affected by a number of changes we have made since draft determinations:
  - we include company outturn data from 2018-19 in our econometric models;
  - we exclude non-section 185 diversions costs (i.e. diversions other than those required by section 185 of the Water Industry Act 1991) from our econometric models and allow companies to recover related income outside the price control, from the relevant transport authority;
  - we strengthen the catch-up challenge applied to wholesale modelled base costs. We use the 4th placed company in wholesale water and the 3rd placed company in wholesale wastewater as an efficiency benchmark, rather than the upper quartile company at draft determinations;
  - we reduce the frontier shift challenge from 1.5% per year to 1.1% per year, but we extend to all wholesale base costs.
- We reallocate phosphorus removal costs from base costs to enhancement. As a result, we increase our allowance for phosphorus removal.
- We make a £10.7 million downward adjustment to our base allowance for water network plus, and a £24.0 million downward adjustment for wastewater network plus. The adjustments are due to a relatively low forecast of population growth in 2020-25 in the company's supply area.

Throughout price review 2019 we set out that we expect companies to demonstrate an increase in cost efficiency. In our final determinations, we set a cost-outcomes package that provides a strong incentive for companies to invest and operate efficiently and at the same time deliver a marked improvement in their level of performance, particularly on outcomes that matter to customers and the environment. Our cost-outcomes package is demanding but achievable. It will incentivise companies to innovate, which will pave the way for a more efficient, higher performing sector, with a more meaningful, trusted relationship with customers.

Yorkshire Water submitted a business plan for 2020-25 with expenditure proposals that are significantly above what it has incurred historically. To ensure customers pay only for efficient costs we challenge the company's proposed costs and

investment programme where appropriate. Yorkshire Water reduced its requested costs significantly in its representations to draft determination. It removed £354m related to achieving its performance commitments in leakage, supply interruptions, pollutions and sewer flooding. As a consequence of that, and additional cost allowances that we allow for following further evidence submitted by the company, the gap at final determination narrowed to 6%.

Despite the reduction in requested costs, Yorkshire Water's proposed costs are still greater than our view of efficient costs, in particular in the wastewater controls. Our main challenge on the company's proposed costs relates to enhancement proposals.

We consider the company is efficient in the residential retail price control and make an allowance greater than requested in this area.

Our approach to setting total expenditure (totex) allowances is detailed in our publication 'Securing cost efficiency technical appendix'. In addition to challenging companies to be more efficient we have also, where appropriate, set safeguards to protect customers if specific investments are not delivered as planned.

In the 'Yorkshire Water – Cost efficiency final determination appendix' we provide more detailed information on our cost challenge for enhancement expenditure, our allowance for cost adjustment claims and transitional expenditure and our unit cost adjustments related to uncertain schemes in WINEP.

## 3.1 Allowed expenditure for wholesale services

Table 3.1 shows total expenditure (totex) allowances by year and by wholesale price control for the period 2020-25. We phase our allowed totex over 2020-25 using the company business plan totex profile.

**Table 3.1: Totex[1] by year for wholesale controls, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total | Company August 2019 - total |
|---|---|---|---|---|---|---|---|
| Water Resources | 45.4 | 40.4 | 50.4 | 44.6 | 33.9 | 214.7 | 230.0 |
| Water network plus | 308.1 | 312.6 | 307.6 | 297.5 | 281.1 | 1,506.9 | 1,537.5 |
| Wastewater network plus | 530.0 | 527.7 | 441.6 | 358.3 | 281.0 | 2,138.5 | 2,417.9 |
| Bioresources[2] | 62.0 | 62.9 | 56.7 | 70.5 | 53.4 | 305.4 | 350.2 |
| **Total** | **945.5** | **943.5** | **856.3** | **770.9** | **649.4** | **4,165.5** | 4,535.5 |

[1] Totex includes all costs. This includes pension deficit recovery costs, third party costs, operating lease adjustments, allowances related to the development of strategic regional water resource solutions and costs that are assumed to be recovered through grants and contributions.
[2] The bioresources control is an average revenue control. The totex allowance in our draft determination is based on a forecast level of tonnes of dry solids.

Table 3.2 sets out the components of our totex allowance. The main components are base and enhancement costs. Base expenditure refers to routine, year on year costs, which companies incur in the normal running of their business to operate, maintain and incrementally improve service to customers. Enhancement expenditure refers to investment for the purpose of enhancing the capacity or quality of service beyond base level.

Our base costs for wholesale water include operating costs (excluding enhancement opex) and maintenance costs. In wholesale water, base costs also include costs associated with the connection of new developments (i.e. new developments and new connection costs) and costs for addressing low pressure. In wastewater, base costs include new connections and growth, growth at sewage treatment works and costs to reduce flooding to properties that were previously assessed as enhancement expenditure.

We adjust allowed costs to reflect a change in the accounting treatment of leases as discussed in the 'Securing cost efficiency technical appendix'. We use the adjustment to operating costs that the company proposed in its business plan.

Our draft determination allowance included all revenues and costs in relation to diversions. This approach was criticised by companies who said that it did not take

into account forecast step changes in diversions costs for some companies as a result of large infrastructure projects such as High Speed 2 (HS2). Following our draft determinations consultation, we exclude revenue relating to diversions other than those required by section 185 of the Water Industry Act 1991 ('non-section 185 diversions').

Non-section 185 diversions costs are included in table 3.2. Companies will be able to recover most of the non-section 185 diversions costs directly, usually from transport authorities, outside of the price control. This is in addition to our total revenue allowance.

**Table 3.2: Totex by wholesale price control and type of cost, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| Base expenditure | 178.8 | 1,374.5 | 1,392.9 | 268.5 | 3,214.7 |
| Enhancement expenditure | 35.5 | 107.3 | 727.0 | 35.7 | 905.4 |
| Operating lease adjustment | -0.4 | -6.6 | -5.9 | -1.7 | -14.5 |
| **Gross allowed totex for calculation of cost sharing rates** | 213.9 | 1,475.2 | 2,114.0 | 302.5 | 4,105.6 |
| Strategic regional water resources solutions and other cash items | - | - | - | - | - |
| Third party costs | - | 12.4 | - | - | 12.4 |
| Non-section 185 diversions | - | 7.3 | 13.6 | - | 20.9 |
| Ex-ante cost sharing adjustment | - | - | - | - | - |
| **Gross totex** | 213.9 | 1,494.9 | 2,127.5 | 302.5 | 4,138.8 |
| Grants and contributions after adjustment for income offset[1] | - | 60.7 | 51.7 | - | 112.4 |
| **Net allowed totex used in PAY calculation** | 213.9 | 1,434.2 | 2,075.8 | 302.5 | 4,026.4 |
| Pensions deficit recovery costs[2] | 0.8 | 12.0 | 11.0 | 2.9 | 26.6 |
| **Total** | **214.7** | **1,446.2** | **2,086.8** | **305.4** | **4,053.1** |

[1] Includes price control and non-price control grants and contributions.
[2] We are displaying pension deficit recovery costs separately as they are not included in the calculation for PAYG (see section 4).

## Movement in allowed wholesale expenditure between draft and final determinations

Table 3.3 compares our totex allowance at final determination to our allowance at draft determination. The table only includes base and enhancement expenditure. That is, it excludes pension deficit recovery costs, third party costs, and costs for strategic regional water resources development where relevant.

Following the change in approach to non-section 185 diversions costs discussed above, for final determinations, our allowance also excludes non-section 185 diversions costs of the amount stated in table 3.2. Our draft determinations allowance does not exclude these costs.

Table 3.3 also provides the company's requested costs in its April 2019 submission, and its revised requested costs in August 2019, in response to our draft determinations for slow-track companies. Table 3.4 provides further detail.

### Table 3.3: Totex by service, 2020-25 (£ million, 2017-18 CPIH deflated prices)

| Price Control | Company April 2019 | Company August 2019 | Draft determination allowance | Final determination allowance |
|---|---|---|---|---|
| Wholesale water | 1,920.4 | 1,732.7 | 1,683.5 | 1,696.1 |
| Wholesale wastewater | 2,930.2 | 2,740.2 | 2,314.5 | 2,424.0 |
| **Total** | **4,850.6** | **4,472.9** | **3,998.1** | **4,120.1** |

**Table 3.4: Totex by type of cost, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| | Draft determination allowance | Final determination allowance |
|---|---|---|
| Base expenditure | 3,186.1 | 3,214.7 |
| Enhancement | 812.0 | 905.4 |
| - Environmental obligations (WINEP) | 678.6 | 772.0 |
| - Supply-demand balance and metering enhancement | 22.1 | 22.1 |
| - Resilience enhancement[7] | 0.0 | 0.0 |
| - Other enhancement (including raw water deterioration, sludge quality and growth, meeting lead standards and improving taste, odour and colour.) | 111.3 | 111.3 |

## 3.2 Wholesale base expenditure

Table 3.5 shows a comparison between the company's requested and our allowed base expenditure.

**Table 3.5: Base expenditure, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| Price Control | Company August 2019 | Final determination allowance |
|---|---|---|
| Water Resources | 190.1 | 178.8 |
| Water Network plus | 1,380.9 | 1,374.5 |
| Wastewater Network plus | 1,471.6 | 1,392.9 |
| Bioresources | 311.5 | 268.5 |
| **Total** | **3,354.1** | **3,214.7** |

Note company business plan base costs exclude enhancement opex.

For final determinations, we retain our approach of including growth related expenditure in our base econometric models. We have also made an adjustment depending on whether the company operates in an area with a relatively high or low forecast of population growth, relative to the historical average for the sector. This follows representations made at draft determinations that the models did not adequately compensate for companies with a high growth forecast. We also consider

[7] In total, the company requested £28.6m under resilience enhancement. The requested investment is to reduce flooding risk in Hull and Haltemprice. We allow £16.4m for the proposed investment. We make the allowance in our base costs. For that reason the reported allowance for resilience enhancement in the table is zero.

that the models overcompensate for companies that operate in an area with a low growth forecast. We consider that using the symmetrical adjustment approach set out in our PR19 methodology best accommodates for these factors.

As the population growth forecast in Yorkshire Water's area for the period 2020-25 is lower than the historical average growth rate in the sector, we make a downward adjustment of approximately £10.7 million to the company's wholesale water base allowance, and a downward adjustment of approximately £24.0 million to its wholesale wastewater base allowance.

### Forecast of modelling cost drivers – water treatment complexity

In its August 2019 representation, Yorkshire Water argues that our modelling approach does not adequately account for the increased treatment complexity that it will need to deliver and, as a result, underestimates companies' totex allowance in the water networks plus price control. We accept the representation. The company presents sufficient evidence that its projected investment in drinking water quality would lead to a step change in its water treatment complexity in 2020-25, and this is consistent with our assessment of its drinking quality programme. Considering the company's representation as well as representations from Southern Water and South Staffs Water, we replace our own forecast of complexity (which was based on historical levels) with the companies' forecast level of water treatment complexity.

### Business rates

Yorkshire Water disagrees with our approach of not making an allowance for changes in business rates due to revaluations. We recognise the uncertainty and limited company control over the level of business rates after a revaluation. For final determinations, we maintain our approach to setting business rates allowances without an allowance for revaluations but, to address the risk and limited controllability, we allow for an uncertainty mechanism – see section 4.4.4 for more details. Our approach to setting allowances for business rates is set out in the 'Securing cost efficiency technical appendix'.

### Traffic Management Act costs

Yorkshire Water forecasts a significant increase in costs related to the Traffic Management Act (2004). At draft determination we noted that permit costs are high compared to other companies and the company does not forecast any efficiencies in its additional cost per permit despite the significant increase in permits it is forecasting. We allowed the company 50% of its requested costs as we considered it would be inappropriate for customers to bear the risk of uncertain and inefficient high forecasts.

Yorkshire Water provides additional information in its representations on the draft determinations. After considering the additional evidence we retain our allowance as at draft determinations. We consider that it is appropriate to apply the 50% reduction to proposed Traffic Management Act costs for the following reasons:

- Yorkshire Water's high Traffic Management Act forecast is mainly due to the inclusion of implementation costs (additional costs incurred as a result of permit conditions and administering the permit schemes). We consider that the majority of these costs are already included in our base allowance. We also do not consider that these implementation costs can be assumed for all roadworks. For example, some works may not require manned traffic lights or out-of-hour rates.
- The company's forecast costs are significantly higher than its historical and current costs. The evidence provided is not sufficiently convincing to justify that customers should pay for a large increase in expected costs. The company has sufficient protection through the totex sharing mechanism and the five-yearly re-set of the price control in the event of all highways authorities introducing further 'all street' permits. We note that even after our challenge, our Traffic Management Act allowance for Yorkshire Water is second highest in the sector, and significantly higher than other comparable companies.

### Reducing sewer flooding risk for properties in Hull and Haltemprice

Yorkshire Water submits proposals for a £28.6 million programme to mitigate the higher risk of sewer flooding in Hull and Haltemprice.

At draft determination we did not make an adjustment to our base allowance for this programme. The company provided little or no evidence for us to assess the need for investment beyond our base allowance, which already includes an allowance for companies to reduce sewer flooding risk for properties.

In response to our draft determination, the company argues that the topography of the area inhibits natural drainage. The majority of surface water enters a combined sewer system which cannot discharge to watercourses and must be pumped out of the drainage area. Consequently customers in Hull and Haltemprice are approximately five times more likely to experience sewer flooding relative to other major cities served by the company. We accept the evidence of unusual conditions in Hull and Haltemprice which result in customers being at greater risk of sewer flooding. We make an adjustment to our modelling results of £16.4 million. To arrive at our adjustment we estimate our implicit allowance for reducing sewer flooding risk for properties in Hull and Haltemprice (£3.97m), we multiply it by five to account for the increased risk and deduct the implicit allowance.

The company also anticipates that the risk of sewer flooding in Hull and Haltemprice will be further compounded by the effects of climate change and advises that the investment will provide protection from events that will become a regular occurrence. The sector has been mitigating the effects of climate change in previous periods. Our base econometric models use historical expenditure data on sewer flooding risk reduction (together with other base costs). The allowances we make from our base econometric models would therefore include an allowance to reduce sewer flooding risk for properties, in line with historical rates of change in flood risk due to climate change. Additionally, comparing an estimate of our implicit allowance for sewer flooding risk reduction in our base allowance to the investments that companies request in their business plans, we find that the implicit allowance is generally higher. We consider therefore that our base allowance is sufficient to cover costs in this area under current circumstance. We do not find sufficient and convincing evidence that the company will face exceptional pressures relative to the wider industry or historical rates of change to warrant an allowance additional to that provided for through our models. Consequently, for final determinations we do not make an additional allowance for mitigating the effects of climate change.

We expect Yorkshire Water to use our £16.4 million adjustment to develop a long-term plan for Hull and Haltemprice and implement solutions to significantly reduce flooding risk to properties in the area. We also expect the company to use its wider base allowance to reduce internal sewer flooding within its operating region by 47% and therefore meet our stretching performance commitment. If the company delivers a more stretching sewer flooding performance, it will be able to earn outperformance payments under the outcome delivery incentive framework.

## 3.3 Enhancement expenditure

For wholesale enhancement expenditure we challenge the scope of work, the evidence provided to support solution options and the efficient delivery of programmes. We cost benchmark with the rest of the industry where we can. In particular, we challenge the expenditure proposed by Yorkshire Water for its phosphorus removal programme.

Table 3.6 summarises our allowances for enhancement expenditure.

**Table 3.6: Enhancement expenditure, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| Price Control | Company August 2019 | Final determination allowance |
|---|---|---|
| Water Resources | 37.3 | 35.5 |
| Water Network plus | 124.4 | 107.3 |
| Wastewater Network plus | 921.3 | 727.0 |
| Bioresources | 35.7 | 35.7 |
| **Total** | **1,118.7** | **905.4** |

Our final determination allows Yorkshire Water £905 million to invest in improvements to service, resilience and the environment. Key parts of this allowance are:

- £772 million to improve the environment by efficiently delivering its obligations as set out in the whole WINEP programme including providing phosphorus removal at treatment sites treating wastewater from more than 4 million people. We allow an additional £36 million to handle the increased wastewater bioresources resulting from its WINEP;
- £51 million to address the impact of deteriorating raw water quality; and
- £22 million to install new water meters.

Below we discuss key areas of our determination on enhancement cost proposals. Our document 'Yorkshire Water - Cost efficiency final determination appendix' sets out in more detail the cost allowances by investment area for each price control, and we give full reasoning in our published cost assessment models (enhancement feeder models and cost claims feeder models).

## Environmental obligations (WINEP)

For final determination we allow Yorkshire Water £772 million for environmental obligations as set out in the WINEP, in both water and wastewater services, which is an increase of around £93 million from the draft determination allowance.

Yorkshire Water has a large wastewater WINEP programme for 2020-2025. It submits costs of £892 million to deliver the programme. In its representations, the company proposes a reallocation of £134 million from capital maintenance base costs to its phosphorus removal programme. We review the rationale for the reallocation and consider it to be consistent with our regulatory accounting guideline. We re-evaluate our assessment of phosphorus removal costs across the whole industry, including fully considering representations on legislative requirements (water framework directive) driving the investment. Our allowance for Yorkshire Water's phosphorus removal programme increases by £112.5 million since draft determination.

Our comparative assessment of wastewater WINEP costs shows Yorkshire Water proposals to be inefficient. Our overall wastewater allowance is £725.8 million which is a 19% efficiency challenge to the company's view of costs.

## Addressing deteriorating raw water quality

Yorkshire Water proposes investment at five water treatment works to address a variety of reasons for why its raw water quality is deteriorating, for a total of £61.4 million. The Drinking Water Inspectorate provides letters of support for each scheme.

Our final determination allowance is unchanged from the draft determination and we allow £50.6 million. As at draft determination, we continue to find insufficient optioneering and breakdown of scheme costs to justify the efficient allocation of base and enhancement costs for three of the five schemes. We apply bespoke challenges to these. We do not make an additional allowance to operate the enhanced treatment processes. Such costs are included in our base modelling following our revised approach to the forecast of water treatment complexity as discussed in section 3.2. We apply an efficiency challenge as we find insufficient evidence that the proposed costs are efficient.

## Metering

The final determination allowance we make is unchanged from draft determination and we allow in full the £22.1 million the company requests for the installation of new meters. We use a benchmark model to assess costs and Yorkshire Water is more efficient than our benchmark.

### Leakage

We welcome Yorkshire Water's removal of enhancement costs for leakage in response to our draft determination. The company also reduces its proposed leakage reduction for 2020-25 from 25% to 15%. We expect an efficient company to achieve its stretching performance commitments from our base allowance. Only where the company's performance commitment goes beyond the industry forecast upper quartile leakage performance, do we make an enhancement allowance for leakage reduction. We accept the change in performance commitment level to 15% and our allowance is unchanged from draft determination as we do not allow any funding under enhancement, but the company can earn outperformance payments if it reduces leakage beyond 15%. In 'Securing cost efficiency technical appendix' we set out our policy on the funding of leakage reduction costs, including how we derive the upper quartile threshold for leakage enhancement costs.

### Drinking water protected areas

Given the likely ban on the use of metaldehyde, we do not allow these costs as part of our of our totex allowance, but make provisions for the company to recover these costs, should the ban on metaldehyde not be applied, under an uncertainty mechanism (see Yorkshire Water – Cost efficiency final determination appendix).

### Sludge quality and growth

Our final determination allowance is unchanged from the draft determination. At draft determination we accepted part of Yorkshire Water's claim for additional funding for sludge quality and growth and made an allowance of £36 million. We did not allow costs for future treatment capacity beyond 2025, but made an allowance for the company to explore the market for new capacity. Yorkshire Water amends its claim from £60.3 to £35.6 million for final determination, in line with what we allowed.

## 3.4 Cost sharing

In the water resources, water network plus and the wastewater network plus controls we have a cost sharing arrangement. In these controls, when a company overruns its totex allowance, the additional cost incurred above our allowance will be shared between its investors and customers. When a company spends less than its totex allowance, it will share the benefits with customers.

For the draft determinations we calculated each company's cost sharing rates based on the ratio of the company's view of costs in its September 2018 business plan relative to our view of efficient costs. For the final determinations, we calculate the company's view of costs based on a 50% weight on the company's final cost proposals in its August 2019 representation to the draft determination and 50%

weight on the September 2018 business plan. We explain our approach to calculating cost sharing rates in the 'Securing cost efficiency technical appendix'.

Table 3.7 sets out the cost sharing rates for PR19 and net totex that is subject to cost sharing at the end of the 2020-25 period. We calculate cost sharing rates based on totex gross of grants and contributions (but after making adjustments for operating leases and excluding costs of strategic regional water resources development costs, third party costs and pension deficit recovery costs). At the end of the 2020-25 period, we will apply cost sharing to totex net of grants and contributions.

For final determination we introduce an uncertainty mechanism for business rates and abstraction charges. Under the uncertainty mechanism these costs are subject to different cost sharing rates. We discuss the uncertainty mechanism in section 4.4.5. Our allowance for business rates and abstraction charges costs are excluded from table 3.7.

**Table 3.7: Cost sharing rates for 2020-25 and totex for end-of-period reconciliation[8]**

| | Water resources | Network plus - water | Network plus - wastewater |
|---|---|---|---|
| Totex for cost sharing rates – September 2018 business plan (£m) | 224.3 | 1,824.7 | 2,545.0 |
| Totex for cost sharing rates – August 2019 (£m) | 227.3 | 1,505.3 | 2,392.9 |
| **Weighted company view of totex for cost sharing rates (£m)** | 225.8 | 1,665.0 | 2,469.0 |
| **Gross allowed totex for cost sharing rates (£m)** | 213.9 | 1,475.2 | 2,114.0 |
| Cost sharing ratio | 1.12 | | 1.17 |
| Cost sharing rate – outperformance | 38% | | 33% |
| Cost sharing rate – underperformance | 62% | | 67% |
| Grants and contributions (£m) | - | 53.4 | 38.3 |
| Abstraction charges and business rates (£m) | 63.2 | 149.1 | 80.2 |
| Net allowed totex subject to cost sharing reconciliation (£m) | 150.7 | 1,272.7 | 1,995.5 |

[8] Amendment made to: Grants and contributions before the deduction of income offset (£m) for Network plus – water and for Network plus – wastewater; amendment to Net allowed totex subject to cost sharing allocation (£m) for Network plus – water and for Network plus – wastewater

## 3.5 Allowed expenditure in residential retail

Based on our benchmarking analysis, Yorkshire Water is the most efficient company in residential retail. As a consequence of our overall approach, which rewards efficient business plans, Yorkshire Water receives a higher expenditure allowance than requested in its business plan.

Table 3.8 sets out our total expenditure allowance for residential retail. Our allowance does not include any of our allowed pension deficit recovery costs. We allocate these costs wholly to wholesale controls.

**Table 3.8: Expenditure, residential retail, 2020-25 (£ million, nominal)**

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|---|---|---|---|---|---|---|
| Residential retail | 62.5 | 63.4 | 64.4 | 65.3 | 66.2 | 321.9 |
| Company view | 54.1 | 55.7 | 55.8 | 54.2 | 53.5 | 273.2 |

Note the residential retail control is an average revenue control. Allowed cost and the associated allowed revenue is based on a forecast of the number of customers. There will be an end-of-period true up based on the actual number of connected households.

## 3.6 Business retail

Yorkshire Water exited the business retail market on 1 October 2019. Therefore, as with other English companies that have exited the business retail market, it does not have a business retail operation that could be subject to a price control. Instead, former customers of Yorkshire Water will be protected in relation to the charges they pay by the retail exit code and, where relevant, competition law.

## 3.7 Direct procurement for customers

We set out in our PR19 methodology that we expect company business plans to consider direct procurement for customers where this is likely to deliver the greatest value for customers. Direct procurement for customers promotes innovation and resilience by allowing new participants to bring fresh ideas and approaches to the delivery of key projects. Companies are to consider direct procurement for customers for discrete, large-scale enhancement projects expected to cost over £100 million, based on whole-life totex.

We agree with Yorkshire Water's assessment that the replacement or upgrade of the Oldfield and Sladen water treatment works would be less suitable for direct

procurement for customers was assessed within our draft determination. However, a single treatment works may demonstrate greater value for money delivered via direct procurement for customers.

We expect changes to this scheme and any other major schemes which may arise due to significant changes to Yorkshire Water's business plan to be reviewed against the direct procurement for customers criteria, as detailed in the PR19 methodology. If the criteria are met, we expect Yorkshire Water to undertake further work to review detailed costs and commitments to ensure delivery is via the most efficient route, and to assess delivery via direct procurement for customers, to ensure that customers continue to receive the best value.

# 4 Calculation of allowed revenue

### Key changes from the draft determination

The key changes we are making to the calculation of allowed revenue in the draft determination are:

- We allow £5,142.5 million of revenue across all price controls for Yorkshire Water in the final determination, compared to £4,851.3 million in the draft determination and £5,392.4 million in the company's April 2019 revised business plan. For the purposes of this comparison, we exclude business retail controls set at draft determinations as the company has now exited the business retail market and we are not setting a business retail control.
- The allowed return on capital for the wholesale price controls is 2.92% (on a CPIH basis, 1.92% on a RPI basis), a reduction of 0.16 percentage points from our draft determination, based on our assessment of market evidence. The allowed retail margin for the household retail control remains at 1.0%, consistent with the draft determination.
- Taking account of company representations, we revise our approach to determine the mix of operating and capital expenditure to take better account of the nature of our decisions on cost allowances. We apply the updated approach in our technical intervention to PAYG rates.
- We increase PAYG rates to bring forward allowed revenue by £85 million to address a notional financeability constraint.
- Allowed revenue includes Yorkshire Water's contribution to the innovation competition.
- We revise our approach to calculating grants and contributions.
- We reflect Yorkshire Water's latest information on its actual performance in 2018-19 and expected performance in 2019-20 from its 15 July submission and 30 August representation.
- We continue to reject Yorkshire Water's claim within the wholesale revenue forecasting incentive mechanism, to correct errors it made in its PR14 business plan. We consider Yorkshire Water does not provide sufficient evidence that there was an unambiguous error in its reporting and that the adjustments to correct them are appropriate. We explain our assessment in detail in 'Yorkshire Water - Accounting for past delivery additional information.' Taking account of the company's latest information, we are reducing revenue by £17.3 million compared to the draft determination.
- Our final determination includes finalised scores for 2018-19 in the residential retail service incentive mechanism and corrects a known error in our draft

determination model affecting Yorkshire Water. Combined, this reduces revenue by £12.7 million compared to the draft determination.

This section sets out the calculation of allowed revenue for each of the price controls, based on our assessment of efficient costs. We set out in section 4.1 the components of allowed revenue for each of the price controls. We then set out information relevant to the calculation of the components of that allowed revenue in sections 4.2 and 4.4.

## 4.1 Allowed revenue

We calculate revenue separately for each of the wholesale controls and for the residential retail control. We set out the calculation of five year revenues for each of these controls in this section.

### 4.1.1 Wholesale controls

For the wholesale controls (that is water resources, water network plus, wastewater network plus and bioresources), allowed revenue is calculated based on the following elements, not all elements are applicable to all wholesale controls as set out in table 4.1.

- Pay as you go (PAYG) – this reflects the allocation of our efficient totex baseline to costs that are recovered from revenue in 2020-25. The proportion of totex not recovered from PAYG is added to the regulatory capital value (RCV) which is recovered over a longer period of time.
- Allowed return on capital – this is calculated based on our assessment of the allowed return on capital multiplied by the average RCV for each year.
- RCV run-off – this reflects the amount of RCV that is amortised from the RCV in the period of the price control.
- PR14 reconciliations – this reflects the application of out/underperformance payments from PR14 through revenue adjustments in 2020-25.
- Corporation tax allowance – this is estimated from projected corporation tax rates, profit forecasts and assumed levels of tax relief contained in our financial model for the draft determination.
- Grants and contributions – this represents revenue that we expect to be received from developers in respect of work undertaken by companies to service new developments. It includes income from connection charges, infrastructure charges and s185 diversion recharges. The total grants and contributions amount deducted from totex may not agree to this amount, as we only include grants and

contributions income relating to the price control (and some income is outside the price control).

- Non-price control income – income from charges excluded from the price controls. For example, this includes bulk supplies, standpipes, unmeasured cattle troughs, and other services. In a change from our draft determination, we also now include diversions recharges which are in respect of the New Roads and Street Works act 1991 activities and other non-s185 diversions. We deduct the forecast income from these charges from the allowed revenue, because costs relating to these charges are included in the calculation of allowed revenue.
- Innovation competition – this represents the additional revenue that the company will collect from its customers for the purpose of a collectively funded innovation competition for the period 2020-2025. The amount each company's customers will contribute will be proportionate to individual company revenue at draft determinations. We expect the revenue collected from customers to be ring-fenced and administered so that it will not be used for purposes other than the innovation competition.
- Revenue re-profiling – this reflects the change in revenue in 2017-18 prices as a result of adjustments made to annual revenues to smooth the final bill profile consistent with customer preferences. The financial model calculates revenue adjustments on a net present value (NPV) neutral basis.

We set out the calculation of the allowed revenue for Yorkshire Water's wholesale controls in table 4.1. We summarise the total of the build up of allowed revenue as five year totals, however our financial model calculates the allowed revenue on an annual basis for the purposes of our draft determination. We state the allowed revenue for each price control on an annual basis in section 6.

We explain how we calculate PAYG, RCV run-off and the allowed return on capital in section 4.2, the revenue adjustments for PR14 reconciliations in section 4.3, and other elements of allowed revenue in section 4.4.

**Table 4.1: Calculation of allowed revenue (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total – Final determination | Total - Draft determination |
|---|---|---|---|---|---|---|
| Pay as you go | 179.0 | 1,141.5 | 1,002.9 | 185.3 | 2,508.7 | 2,090.8 |
| RCV run-off | 68.9 | 389.0 | 713.1 | 141.8 | 1,312.8 | 1,335.2 |
| Allowed return on capital | 66.7 | 270.7 | 474.6 | 36.1 | 848.0 | 920.5 |
| Revenue adjustments for PR14 reconciliations | 0.5 | 10.1 | 40.2 | 0.0 | 50.7 | 68.1 |
| Fast track reward | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tax | 0.1 | 1.7 | 5.6 | 4.2 | 11.5 | 0.0 |
| Grants and contributions after adjustment for income offset (price control) | 0.0 | 53.4 | 38.3 | 0.0 | 91.7 | 128.9 |
| Deduct non-price control income | 0.0 | -13.2 | -4.9 | 0.0 | -18.1 | -18.1 |
| Innovation competition | 0.0 | 8.1 | 9.5 | 0.0 | 17.6 | 0.0 |
| Revenue re-profiling | 0.0 | -0.1 | -0.1 | 0.0 | -0.3 | 1.3 |
| Final allowed revenues | 315.1 | 1,861.0 | 2,279.1 | 367.3 | 4,822.5 | 4,526.6 |

We set out the calculation of allowed revenue for each wholesale control on an annual basis in the 'Yorkshire Water - Allowed revenue appendix' in tables 1.1 to 1.4.

In our new strategy for regulating water and wastewater companies in England and Wales, we highlight that innovation is crucial for meeting the challenges the sector faces.

The adoption of innovative approaches is key to delivering long-term resilience and great customer service at an affordable price, and the sector will need to step up and increase innovation in order meet the strategic challenges it faces in a cost-effective and sustainable way. We also want to see companies work more effectively together and with their supply chain to better tackle these challenges.

Our outcomes and total expenditure approach facilitate this innovation, by giving companies the flexibility and freedom to adopt innovative means of delivering services. We are promoting innovation by setting Yorkshire Water stretching outcome performance commitments. Our outcome delivery incentives approach means that companies have to return money to customers where they fall short, but it also gives companies the opportunity to earn additional financial payments if they successfully improve performance and deliver for customers above and beyond the level expected of most companies. This encourages companies to look for innovative ways of delivering better services to customers and improving the environment.

However, as well as our existing package of measures which encourages companies to innovate individually, we have been considering how we can stimulate innovation more widely in the sector and encourage collaborative innovation initiatives.

In our emerging strategy consultation[9], we explored options for customer-funded interventions designed to drive innovation to benefit customers in the longer-term. Having reviewed the responses to the consultation, we are publishing our decision in 'Driving Transformational Innovation in the Water Sector' alongside the PR19 final determinations, confirming that we are making up to £200m available for innovation activities for the period 2020-2025 through the introduction of an innovation competition. We will work together with companies and other stakeholders in the sector to set up a competition which will effectively drive innovation in the sector to the benefit of customers across England and Wales.

### 4.1.2 Residential retail control

For the residential retail control, allowed revenue is calculated as:

- Retail cost to serve – this reflects our efficient view of costs per customer for the retail business.
- Net margin on wholesale and retail activities – this is calculated based on the wholesale revenue applicable to residential retail customers, plus the retail cost to serve, with a net margin applied. Net margins are calculated excluding any adjustments to residential retail (see Table 4.2 below) – the full calculation is set out in our financial models.

[9] Ofwat's emerging strategy: Driving transformational innovation in the sector.

- Our methodology set out an early view of the retail margin that applies for the retail price controls. This was used by Yorkshire Water in its business plan and is unchanged in our final determinations.

Allowed revenue for the residential retail control is set on a nominal basis. We present the make-up of the allowed revenue in nominal prices in table 4.2.

**Table 4.2: Retail margins, 2020-2025 (nominal price base)**

| | Draft determination | Final determination |
|---|---|---|
| Total wholesale revenue - nominal (£m) | 4,843.5 | 5,233.7 |
| Proportion of wholesale revenue allocated to residential (%) | 75.9% | 76.0% |
| Residential retail costs (£m) | 324.8 | 321.9 |
| **Total retail costs (£m)** | **4,002.9** | **4,296.9** |
| Residential retail net margin (%) | 1.0% | 1.0% |
| **Residential retail net margin (£m)** | **40.5** | **43.3** |
| Residential retail adjustments[1] (£m) | 4.6 | -11.0 |
| **Residential retail revenue[2] (£m)** | **369.8** | **354.1** |

[1] Residential retail adjustments for the PR14 residential retail service incentive mechanism and residential retail revenue reconciliations are set out in table 4.11. The figures in table 4.2 are in nominal prices, and the figures in 4.11 are in 2017-18 FYA CPIH deflated prices. The difference between the two tables is due to the difference in price bases.
[2] Residential retail revenue is the sum of the net margin, retail costs, and adjustments. Company view may not sum as this may include other adjustments.

We set out the calculation of residential retail revenue on an annual basis in the 'Yorkshire Water - Allowed revenue appendix' in table 1.5.

## 4.2 Cost recovery now and in the long term for the wholesale controls

Our totex cost allowances are sufficient to meet an efficient company's operating and capital expenditure. Companies recover this expenditure either in period from current customers using PAYG or add it to the RCV and recover from future generations of customers using the RCV run-off rates. Consistent with our methodology, we assess

how each company's choice of PAYG and RCV run-off rates reflect the levels of proposed expenditure, bill profiles, affordability and customer views relevant to the short and the long term.

To determine the allowed revenue, the PAYG rate is applied to the totex allowance for each wholesale control for each year of the price control. The proportion of the totex allowance that is not recovered in PAYG is added to the RCV and recovered from customers in future periods. For the final determinations we revise our approach to the calculation of PAYG rates to better reflect the source of changes we make to costs claimed by companies as a result of our totex cost assessment. Our revised approach follows a process of further consultation with companies following the submission of representations on the draft determination. We explain our revised approach in 'Securing cost efficiency technical appendix.

In this section we set out our approach to calculating the PAYG rates, the RCV to which the allowed return on capital is applied and the RCV run-off rates.

### 4.2.1 PAYG in allowed revenue

We calculate total PAYG totex for each year of each wholesale price control based on the totex allowance for each year multiplied by the relevant PAYG rate for that year. To this we add allowed pension deficit recovery costs to derive total PAYG revenue.

We summarise in table 4.3 the average PAYG rates across 2020-25 for each wholesale control, and the calculation of total PAYG revenue. The PAYG rates shown in the table are a weighted average across the five years 2020-25, the annual PAYG revenue and PAYG rates for each wholesale control are shown in the 'Yorkshire Water - Allowed revenue appendix', tables 2.1 to 2.4.

To PAYG totex we add the allowed costs for pension deficit recovery set out in table 3.2 to derive the total amount to be recovered in 2020-25 for each price control.

### Table 4.3: PAYG allowances for each wholesale control (5 year)

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| Totex allowance (£m) | 213.9 | 1,434.2 | 2,075.8 | 302.5 | 4,026.4 |
| Final determination PAYG rate (%) | 83.3% | 78.8% | 47.8% | 60.3% | 61.6% |
| Pay as you go totex (£m) | 178.2 | 1,129.5 | 992.0 | 182.3 | 2,482.0 |
| Pension deficit recovery cost (£m) | 0.8 | 12.0 | 11.0 | 2.9 | 26.6 |
| Total pay as you go (£m) | 179.0 | 1,141.5 | 1,002.9 | 185.3 | 2,508.7 |

### Table 4.4: PAYG rates for each wholesale control (5 year)

| | Water resources | Water network plus | Wastewater network plus | Bioresources |
|---|---|---|---|---|
| April company plan (%) | 74.3% | 68.0% | 39.0% | 55.1% |
| Draft determination (%) | 74.3% | 69.7% | 39.1% | 55.1% |
| Final determination (%) | 83.3% | 78.8% | 47.8% | 60.3% |

In the draft determination, we applied Yorkshire Water's approach to PAYG rates of recovering in each year an amount equivalent to operating costs plus infrastructure renewal costs. In its representations, Yorkshire Water provides a view of the optimal mix of efficient operating and capital expenditure costs required to deliver the plan.

Taking account of company representations, we have revised our approach to the calculation of the mix of operating and capital expenditure following our totex interventions.

In order to calculate the mix of operating and capital expenditure we follow the approach set out in 'Securing cost efficiency technical appendix'. We set out how we apply the technical intervention in the 'Aligning risk and return technical appendix'

and we have published our calculation of the PAYG rates for each company alongside our determinations.

We are increasing PAYG rates for all years for all wholesale controls by 2.43% to increase cash flows in the 2020-25 period and to align to credit ratios targeted by the company on a notional basis, bringing forward £85 million of allowed revenue from future periods. We set out our financeability assessment in section 5.2.

The movements in PAYG rates between the company plan, the draft determination and final determination reflect the differences in the mix of operating and capital expenditure in our totex allowance along with the increase to PAYG rates for notional financeability in the final determination.

Yorkshire Water's business plan includes adjustments to smooth infrastructure renewal expenses for 2020-25 in calculating cost recovery rates and also adjusts PAYG rates within 2020-25 to smooth bills across the period. We maintain the adjustments to smooth infrastructure renewal expenses in our final determination. We consider the profile of bills in section 6.1.

### 4.2.2 Opening RCV adjustments

As part of its business plan Yorkshire Water proposed allocations of the RCV for both water resources and bioresources price controls based on Ofwat guidance. We are allocating the company's RCV between the existing wholesale controls and these new controls in accordance with the proportions proposed by Yorkshire Water.

We make reconciliation adjustments ('midnight adjustments') related to the company's performance against incentive mechanisms from previous price reviews and for land sales in order to determine the opening RCV for the period of the PR19 controls. We also adjust the RCV upwards to reflect a change in the accounting treatment of leases, which causes some assets formerly recognised as operating leases to be recognised on the company's Balance sheet. In doing so, we follow the approach set out in IN 18/09 Guidance for reporting operating leases in PR19 business plans. We use the adjustment proposed in the company business plan.

**Table 4.5: Opening RCV, 1 April 2020 (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources |
|---|---|---|---|---|
| RCV – 31 March 2020 | 2,767.9 | | 3,885.8 | |
| % of RCV allocated by control | 20.07% | 79.93% | 92.47% | 7.53% |
| RCV – 31 March 2020 | 555.5 | 2,212.4 | 3,593.3 | 292.6 |
| Midnight adjustments to RCV | 3.1 | -7.6 | -137.1 | N/A |
| Midnight adjustments relating to operating leases | 0.4 | 6.9 | 6.1 | 1.8 |
| Opening RCV – 1 April 2020 | 558.9 | 2,211.7 | 3,462.3 | 294.4 |

### 4.2.3 Allowed return on capital

Companies are allowed a return on the RCV, equal to the allowed return on capital.

Yorkshire Water's business plan incorporates the early view allowed return on capital for the wholesale price controls of 3.30% - CPIH deflated (2.30% - RPI deflated) that we state in the PR19 methodology. The allowed return on capital for the wholesale price controls in our final determinations is 2.92% – CPIH deflated (1.92% – RPI deflated). We set out the basis for the allowed return on capital in our 'Allowed return on capital technical appendix'.

The PR19 methodology confirmed we are transitioning to CPIH as our primary inflation index from 2020. At 1 April 2020, we will index 50% of RCV to RPI; the rest, including totex that is added to the RCV, will be indexed to CPIH. Table 4.6 and table 4.7 set out the opening and closing balance for each component of RCV as of 1 April 2020 and 1 April 2025 respectively.

The PR19 methodology confirms our protection of the value of the RCV as at 31 March 2020 across each of the wholesale price controls. This applies to the RCV that is defined as 'RPI inflated RCV' and 'CPIH inflated RCV' in tables 4.6 and 4.7; this RCV is run-off (or amortised) over time. Totex that is added to the RCV from 1 April 2020 is stated as 'post 2020 investment'.

In determining the 'Allowed return on capital' revenue building block, we apply the relevant deflated allowed return on capital to the average RCV for the year for each component (RPI inflated, CPIH inflated and post 2020 investment). This results in an

allowed return on capital for each wholesale control over the period 2020-25 as set out in table 4.8.

### Table 4.6: Opening RCV by wholesale control for each component of RCV, 1 April 2020 (£ million)

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| RPI inflated RCV | 279.4 | 1,105.8 | 1,731.2 | 147.2 | 3,263.6 |
| CPIH inflated RCV | 279.4 | 1,105.8 | 1,731.2 | 147.2 | 3,263.6 |
| Other adjustments | - | - | - | - | - |
| Total RCV | 558.9 | 2,211.7 | 3,462.3 | 294.4 | 6,527.3 |

### Table 4.7: Closing RCV by wholesale control for each component of RCV, 31 March 2025 (£ million)

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| RPI inflated RCV | 258.0 | 970.5 | 1,502.1 | 94.1 | 2,824.7 |
| CPIH inflated RCV | 246.5 | 927.3 | 1,435.2 | 89.9 | 2,698.9 |
| Post 2020 investment | 33.5 | 277.1 | 969.7 | 94.2 | 1,374.6 |
| Other adjustments | - | - | - | - | - |
| Total RCV | 538.0 | 2,174.9 | 3,907.1 | 278.2 | 6,898.2 |

**Table 4.8: Allowed return on capital by wholesale control for each component of RCV, 2020-25 (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| RPI inflated RCV | 25.8 | 99.7 | 155.2 | 11.4 | 292.2 |
| CPIH inflated RCV | 38.3 | 148.0 | 230.5 | 17.0 | 433.8 |
| Post 2020 investment | 2.5 | 22.9 | 88.9 | 7.7 | 121.9 |
| Other adjustments | - | - | - | - | - |
| **Allowed return on capital** | 66.7 | 270.7 | 474.6 | 36.1 | 848.0 |
| Company April 2019 –return on capital | 78.9 | 329.9 | 589.8 | 44.4 | 1,043.0 |

Note allowed return on capital is calculated by multiplying the annual average RCV for each element of RCV (RPI inflated, CPIH inflated and post 2020 investment) by the wholesale WACC for each control. The allowed return on capital for each year of the price control for each wholesale control is shown in the 'Yorkshire Water - Allowed revenue appendix' in tables 4.1 to 4.4.

### 4.2.4 RCV run-off

RCV run-off is the proportion of the RCV which is recovered in the 2020-25 period. Companies are able to propose different run-off rates for RPI inflated and CPIH inflated RCV and also, for the water resources and bioresources controls, for post 1 April 2020 investment. Table 4.9 sets out the resultant RCV run-off revenue for each component of RCV for each wholesale control.

### Table 4.9: RCV run-off on the RCV (5 year) (£ million)

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| CPIH inflated RCV | 33.0 | 178.5 | 295.9 | 57.3 | 564.7 |
| RPI inflated RCV | 33.8 | 182.8 | 303.1 | 58.6 | 578.3 |
| Post 2020 investment | 2.2 | 27.6 | 114.1 | 25.9 | 169.8 |
| Total RCV run-off | 68.9 | 389.0 | 713.1 | 141.8 | 1,312.8 |

Note total RCV run-off is calculated by multiplying the opening RCV by the relevant RCV run-off rate for each element of RCV (RPI inflated, CPIH inflated and post 2020 investment) by the RCV run-off rate for each control (50% of run-off is applied to post 2020 investment in the year of additions).

For the draft determination, we applied Yorkshire Water's RCV run-off rates which are based on average lives for assets within each wholesale control. Yorkshire Water does not make any representations in relation to RCV run-off rates and we continue to apply the company's RCV run-off rates for the final determination.

Table 4.10 sets out the average RCV run-off rates across 2020-25 for each wholesale control proposed in the company's business plan and for our draft and final determinations.

### Table 4.10: RCV run-off rates for each wholesale control (5 year)

| | Water resources | Water network plus | Wastewater network plus | Bioresources |
|---|---|---|---|---|
| Company April 2019 (%) | 2.48% | 3.46% | 3.68% | 9.39% |
| Draft determination (%) | 2.48% | 3.46% | 3.68% | 9.39% |
| Final determination (%) | 2.48% | 3.46% | 3.68% | 9.39% |

Note RCV run-off (%) reflects the average of the rates applied to the CPIH and RPI inflated RCV components across the 5 years 2020-25.

The annual rates for each wholesale control are set out in the 'Yorkshire Water - Allowed revenue appendix' in Table 5.1 to Table 5.4.

## 4.3 PR14 reconciliations

In PR14, we set mechanisms to incentivise companies to do the right thing for their customers. These financial incentives cover cost efficiency, outcomes performance, revenue forecasting (wholesale and retail), customer service (the service incentive mechanism), water trading and land sales. It is important to reconcile the financial impacts of these mechanisms in PR19 to ensure that customers only pay for the service the company delivers.

We are also applying adjustments to reflect performance in the final year of the 2010 to 2015 period, which could not be fully taken into account in PR14, and the inflation correction to the RCV from the capital expenditure incentive scheme (CIS). These adjustments apply to the RCV (the 'midnight adjustment') and revenue for the 2020-25 period. These adjustments are made in line with the 'PR14 reconciliation rulebook'.

We are publishing models for each of these reconciliations, and for the overall RCV and revenue adjustments on our website. 'Yorkshire Water - Accounting for past delivery final decisions' provides a detailed explanation of all policy interventions we are making in the models. Table 4.11 summarises our interventions. Table 4.12 sets out the resulting adjustments to revenue and the RCV. The 'Yorkshire Water - Accounting for past delivery appendix' sets out how these adjustments are allocated across controls and how the RCV adjustment feeds into the midnight adjustments to RCV set out in table 4.5.

The 'Accounting for past delivery technical appendix' sets our further details on our reconciliation of PR14 incentives, the residential and business retail service incentive mechanisms and our deliverability assessment.

For outcome delivery incentives, the information we use to reflect performance in 2019-20 is based on the company's latest expectations. Final figures for 2019-20 will not be able to be taken into account in PR19. We set out in the 'PR14 reconciliation rulebook' that we plan to complete the reconciliation for 2019-20 outcome delivery incentives at PR24 for 2025-30 so that we use final information.

However, most outcome delivery incentives for the 2020-25 period are in period and will have been reconciled before this date. In light of this we consider it would be more appropriate to complete this reconciliation in the autumn of 2020 and apply any change to bills for 2021-22 as part of the new in-period process. We are designating all of the financial PR14 performance commitments as being in-period for this purpose. Any adjustment between the 2019-20 forecast and actual figures should be modest and we do not expect a significant impact on bills. If, contrary to expectations the bill impact is more significant, we expect companies to take measures to smooth the impact for their customers. The new PR19 mechanism to share benefits with customers from unexpected high outcome delivery incentive payments in a year will

not apply to PR14 outcome delivery incentives. Instead the PR14 protection that caps the impact across the five years 2015-20 will apply.

The above applies equally to the company's 2015-20 in period outcome delivery incentives and we use forecast information for 2019-20 to reconcile these outcome delivery incentives. For the avoidance of doubt, no application is required in 2019 for in period determinations.

**Table 4.11: Reconciliation of PR14 incentives, interventions (2017-18 prices, unless otherwise stated)**

| Incentive | Intervention(s) |
|---|---|
| Outcome delivery incentives | We are intervening to apply the underperformance payment for performance commitment WA3 (drinking water contacts) of - £17.293 million (2012-13 prices, net of tax) as an adjustment to the RCV. This is made up of - £6.574 million in 2017-18, - £6.125 million in 2018-19 and - £4.594 million in 2019-20. This is because we consider that Yorkshire Water provides insufficient evidence that the adjustment it proposes in its 15 July 2019 submission will better achieve the stated desire of customers to see reinvestment, as opposed to making a direct change to the RCV. This intervention is consistent with the company's view in its representation.<br>Overall, our interventions reduce the water RCV adjustment at the end of the 2015-20 period from £0 million to - £19.796 million. |
| Residential retail revenue | We are intervening to round the company's modification factor figures to 2 decimal places to ensure consistency with the 'PR14 reconciliation rulebook'.<br>Overall, our minor interventions increase the total residential retail revenue payment at the end of the 2015-20 period from - £3.786 million to - £3.787 million. |
| Wholesale revenue forecasting incentive mechanism | We are intervening to exclude the claim for additional revenue to correct errors Yorkshire Water made in completing its PR14 business plan. We consider Yorkshire Water does not provide sufficient evidence that there was an unambiguous error in its reporting and that the adjustments to correct them are appropriate. We explain our assessment in detail in 'Yorkshire Water - Accounting for past delivery additional information.'<br>Overall, our interventions increase the total wholesale revenue forecasting incentive mechanism adjustment at the end of the 2015-20 period from - £26.104 million (- £17.253 million for water and - £8.851 million for wastewater) to - £49.521 million (- £36.375 million for water and - £13.146 million for wastewater). The change in the adjustment is driven by the updated values the company provides in its 15 July 2019 submission. |
| Totex | In relation to the underperformance payment for performance commitment WA3 (drinking water contacts) described above, we are intervening to change Yorkshire Water's reinvestment costs included in line 14 'Water : Disallowables' in table WS15 from £7.612 million in 2018-19 and £12.735 million in 2019-20 (nominal prices) to zero. We are doing this to correct the company's proposed treatment of this underperformance within the totex sharing mechanism in its 15 July 2019 submission.<br>Our intervention increases the water totex RCV adjustment at the end of the 2015-20 period from £51.672 million to £59.139 million and increases |

| Incentive | Intervention(s) |
|---|---|
| | the water totex revenue adjustment from £6.854 million to £8.541 million based on Yorkshire Water's 15 July 2019 submission.<br>We are also intervening to change the 'Sewerage: Final menu choice' figure to full decimal accuracy as calculated in the PR14 populated final determination models. Our minor intervention does not change the wastewater totex revenue or RCV adjustments at the end of the period which remain at - £6.048 million and - £71.159 million respectively. |
| Land sales | No interventions required. |
| Residential retail service incentive mechanism | We are intervening to set Yorkshire Water's residential retail service incentive mechanism adjustment to -1.74% of residential retail revenue to reflect its performance from 2015-16 to 2018-19. This equates to -£5.630 million in total revenue over the period. This reduces revenue relative to the company's estimate of the mechanism's impact and is driven by correcting a known error in our draft determination SIM model affecting Yorkshire Water and updating our analysis to take account of companies' finalised scores for 2018-19. |
| PR09 blind year adjustments | No interventions required. |

### Table 4.12: Reconciliation of PR14 incentives, 2020-25 (£ million, 2017-18))

| Incentive | RCV adjustments | | Revenue adjustments | |
|---|---|---|---|---|
| | Company view[1] | Ofwat view[1] | Company view[1] | Ofwat view[1] |
| Outcome delivery incentives | 0.0 | -19.8 | 88.9 | 88.9 |
| Residential retail revenue | N/A | N/A | -3.8 | -3.8 |
| Wholesale revenue forecasting incentive mechanism | N/A | N/A | -26.1 | -49.5 |
| Totex | -19.5 | -12.0 | 0.8 | 2.5 |
| Land sales | -1.1 | -1.1 | N/A | N/A |
| Residential retail service incentive mechanism | N/A | N/A | 0.0 | -5.6 |
| PR09 blind year adjustments[2] | -108.7 | -108.7 | 4.5 | 4.5 |
| Water trading | N/A | N/A | 0.0 | 0.0 |
| Other adjustments | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total** | **-129.3** | **-141.6** | **64.3** | **36.9** |
| Total post profiling[3] | N/A | N/A | 66.2 | 39.1 |

[1] The company view is based on data from the 15 July 2019 company submissions. It does not reflect impacts of the subsequent representations. The Ofwat view is based on the 15 July 2019 company submissions and takes account of representations and any interventions we are making.
[2] PR09 blind year adjustments includes the CIS RCV inflation correction. We show these separately in 'Yorkshire Water - Accounting for past delivery appendix'.
[3] Total post profiling is the total revenue over the period, taking account of the time value of money and the company's choices of how it wishes to apply revenue adjustments either in the first year or spread over a number of years.

## 4.4 Other allowed revenue

Other components of allowed revenue are:

- The fast track reward, where applicable;
- Corporation tax allowance – this is estimated from projected corporation tax rates, profit forecasts and assumed levels of tax relief contained in our financial model for the final determination;
- Grants and contributions – this represents revenue that we expect to be received from developers in respect of work undertaken by companies to service new developments;
- Non-price control income – this forecast income is deducted from the total allowed revenues, as this revenue is not recovered from the charges covered by the price control – but is expected to cover some of the costs included in the calculation of the price control.

**Table 4.13: Calculation of other allowed revenue (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| Fast track reward | - | - | - | - | - |
| Tax | 0.1 | 1.7 | 5.6 | 4.2 | 11.5 |
| Grants and contributions (price control) | 0.0 | 53.4 | 38.3 | 0.0 | 91.7 |
| Deduct non-price control income | 0.0 | -13.2 | -4.9 | 0.0 | -18.1 |

### 4.4.1 Taxation

We calculate a tax allowance reflecting the corporation tax that the company expects to pay in 2020-25. We calculate the tax allowance using our financial model based on the projected taxable profits of the appointed business and the current and enacted UK corporation tax rates and associated reliefs and allowances as at 30 September 2019. Any future changes to tax rates and allowances will be taken account of in the tax reconciliation model, further details are set out in the 'Aligning risk and return: technical appendix'.

Yorkshire Water provided information in data tables relevant to the calculation of the expected tax charge. Yorkshire Water also provides revised tax information in its representation, to reflect changes to totex in the draft determination. We accept the information provided by the company and apply this to the final determination. Our financial model calculates a higher level of taxable profits than the company view in 2020-21, so the resulting tax allowance is higher. This difference is mostly driven by the higher final allowed revenues calculated by the financial model in 2020-21, which are a result of our interventions compared to the company view.

**Table 4.14: Tax (£ million) – Breakdown by price control**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| Tax | 0.1 | 1.7 | 5.6 | 4.2 | 11.5 |

## 4.4.2 Grants and contributions

Companies receive grants and contributions from developers towards company expenditure to:

- reinforce the network as a consequence of new properties being connected;
- connect a new property (e.g. the meter and connection pipe);
- provide new water mains or public sewers (i.e. requisitions); and
- move an existing main or sewer or other apparatus at the request of a third-party (i.e. diversions).

### Grants and contributions (price control)

Grants and contributions before the deduction of income offset allowances (i.e. 'gross' grants and contributions) are used to calculate net totex for cost sharing and within the developer services reconciliation adjustment, as explained in 'Our approach to regulating developer services'.

Grants and contributions after the deduction of income offset allowances (i.e. 'net' grants and contributions) are used to calculate net totex for use in the financial modelling. This ensures that income offset allowances, that are funded by existing customers rather than developers, are captured within net totex that is used to calculate pay-as-you-go revenue and RCV additions. Developer services costs that are funded by developers are excluded from net totex, and are instead treated as grants and contributions within the financial model (as shown in tables 3.2 and 4.1).

Our approach to calculating 'gross' and 'net' grants and contributions is outlined in 'Cost efficiency technical appendix'. The main difference from draft determinations is that we no longer estimate a cost recovery rate for each company. The starting point for each calculation is 'gross' grants and contributions reported in companies' business plans. To arrive at 'net' grants and contributions we deduct company-specific income offset allowances rather than assume a common recovery rate for all companies. We also apply the modelled base cost efficiency challenge to grants and contributions to ensure alignment between grants and contributions and cost assessment.

Table 4.15 below shows our assumed amounts of 'gross' grants and contributions (price control) that is used to calculate net totex for cost sharing.

**Table 4.15: Grants and contributions before the deduction of income offset allowances (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| Grants & contributions (price control; before deduction of income offset allowances) | 0.0 | 53.4 | 38.3 | 0.0 | 91.7 |

Table 4.16 below shows our assumed amounts of 'net' grants and contributions (price control) that is captured within net totex that is used to calculate pay-as-you-go revenue and RCV additions.

**Table 4.16: Grants and contributions after the deduction of income offset allowances (price control) (£ million) – breakdown by price control and category**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| Grants & contributions (price control) | 0.0 | 53.4 | 38.3 | 0.0 | 91.7 |

## Grants and contributions (non-price control)

For final determinations, we set non-section 185 diversions income outside of the price control, as explained in 'Our approach to regulating developer services'.

Table 4.17 below shows our assumed amounts of grants and contributions (non-price control) that are made up of non-section 185 diversions income.

**Table 4.17: Grants and contributions (non-price control) (£ million) – breakdown by price control and category**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| Grants & contributions (non-price control) | 0.0 | 7.3 | 13.5 | 0.0 | 20.7 |

### 4.4.3 Non-price control income

Non-price control income is income from the excluded charges defined in licence condition B. For example, it includes bulk supplies, standpipes, unmeasured cattle troughs, and other services. For the final determination we confirm that diversions which are not requested under section 185 of the Water Industry Act 1991, for example, works under the New Roads and Street Works Act 1991 or those associated with High Speed 2, are also excluded from the price control. These are capital contributions and so do not get shown in tables 4.1 and 4.18.

This is deducted from the total allowed revenues, as this revenue is not recovered from the charges covered by the price control – but is expected to cover some of the costs included in the calculation of the price control. We have reviewed the company forecast of 'non-price control income' and use this in the final determination.

**Table 4.18: Non-price control income (£ million) – Breakdown by price control**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| Non-price control income | 0.0 | -13.2 | -4.9 | 0.0 | -18.1 |

Note negative numbers represent a deduction from the allowed revenue.

### 4.4.4 Uncertainty mechanisms

Given the range of risk mitigation measures included in price controls, the PR19 methodology said that final determinations would only include bespoke uncertainty

mechanisms where robust and compelling evidence was presented for that item. Yorkshire Water does not propose any uncertainty mechanisms.

We are including a PR24 reconciliation mechanism for business rates in our final determination for Yorkshire Water along with all other companies because:

- There is uncertainty about business rates costs because the Valuation Office Agency (VOA) will be carrying out revaluation exercises during 2020-25, and increases (or decreases) in cost levels could be material.
- Companies can only exercise limited control over cost levels by engaging with the VOA and, possibly, by considering the business rate implications of asset development choices.

We are also including a PR24 reconciliation mechanism for Environment Agency abstraction licence costs in our final determination for Yorkshire Water along with all other companies serving England[10] because:

- The Environment Agency expects to consult on changes to its basis for setting abstraction licence fees during 2020 meaning that there is material uncertainty about company cost levels in 2020-25.
- Companies can only exercise limited control over cost levels by engaging with the consultation process and providing accurate information when required for licence fee setting purposes.

In each case, the cost variance to the company's PR19 cost allowance will be subject to a 75 (customer share):25 (company share) symmetrical sharing rate in the totex reconciliation at PR24. This means that the company will still be incentivised to manage costs efficiently, whilst receiving appropriate protection against material cost increases. Conversely, customers will receive a benefit if outturn costs are lower than the allowance levels we have set.

[10] The Environment Agency's responsibilities apply only to England.

# 5 Risk analysis and financeability

### Key changes from the draft determination

The key changes made to the risk analysis and financeability elements of the draft determination are:

- For the final determination, we apply our view of a sector risk range for totex, C-Mex, D-Mex and financing costs (including embedded debt) as part of our assessment of risk ranges for our final determination. We also apply updated views on risk ranges for outcome delivery incentives, determined under our Outcomes Framework.
- We revise our notional dividend yield to 3.00% (from 3.15% in the draft determination) and apply a dividend growth of 1.18% in our notional financeability assessment for Yorkshire Water. This takes account of the allowed cost of equity in the final determination.
- We revise our approach to pension deficit recovery costs in our financial modelling of the notional company to match cash out flow for pensions deficit recovery costs to the allowed funding.
- For the final determination we advance allowed revenue by £85 million to ensure our determinations are financeable on the basis of the notional structure.

We consider the final determination is financeable on the basis of the notional capital structure.

Yorkshire Water is responsible for ensuring it delivers its obligations and commitments in the context of its choice of capital and financing structure. The company proposes to remain highly geared in 2020-25. Yorkshire Water may need to take further steps to improve its financial resilience. We will closely monitor changes in the levels of the company's gearing, credit ratings and other key financial metrics during 2020-25.

In this section we discuss the possible range of returns for the notional financial structure. In section 5.1 we present the risk ranges of our final determinations for Yorkshire Water. We comment also on the financeability of the final determination and any adjustments that we have made to the bill profile in section 5.2. We comment on financial resilience of the actual company structure in section 5.3.

## 5.1 Risk analysis

The PR19 methodology set out that we expect companies to demonstrate a clear understanding of financial risk to the delivery of their business plans and to explain and demonstrate how they manage and mitigate that risk. It required companies to use return on regulatory equity (RoRE) analysis to assess the impact of upside and downside risk on the basis of their notional capital structures based on a prescribed suite of scenarios using the company's assessment of P10/P90 confidence limit values[11].

RoRE is calculated as the return on equity for the equity portion of the RCV based on our notional gearing assumption. A company's base RoRE is aligned with our allowed real post-tax cost of equity, but it can differ between companies because the blended real cost of equity will vary according to the proportion of the RCV (and notional regulatory equity) that is indexed to RPI or CPIH[12]. The proportion of RCV (and notional regulatory equity) that is linked to RPI or CPIH varies between companies according to factors that include the size of the investment programme, the proportion of totex that is capitalised and RCV run-off rates.

In addition, base RoRE includes the margin for the retail price control. While the retail margin is 1% on retail and wholesale costs for all companies, it varies between companies when measured against regulatory equity.

Table 5.1 and Figure 5.1 sets out the annual average risk ranges for Yorkshire Water in our final determination. The risk ranges show the plausible range of company returns based on Yorkshire Water's RCV and cost data for 2020-2025, the allowed equity return and a notional gearing level of 60%. The final determination ranges reflect our approaches to the assessment of risk ranges for outcome delivery incentives and our approach to apply a common approach to the assessment of risk ranges for totex and financing costs for the sector.

Our PR19 methodology aims to increase the strength of financial incentives to better align the incentives placed on companies with the interests of customers. Our determinations aim to be stretching to encourage companies to deliver further efficiencies and better levels of service to customers. The incentives we put in place incentivise companies to outperform the cost allowances and performance commitments set in our determinations, our incentive mechanisms also aim to protect customer interests where companies underperform.

[11] P90 is the performance threshold at which there is only a 10% chance of outturn performance being better. P10 is the performance threshold at which there is only a 10% chance of outturn performance being worse.

[12] RPI is the retail price index; CPIH is the consumer price index including owner-occupiers' housing costs; both are published by the Office for National Statistics.

Yorkshire Water has a significant scope to earn upside from outperformance as well as the risk of lower returns from underperformance with small negative skew overall to its overall risk range, driven primarily by totex. Our view is that an efficient company should be able to achieve the base return on the notional structure. The onus is on companies to manage the risk and effect of any downside scenarios while maintaining financial resilience.

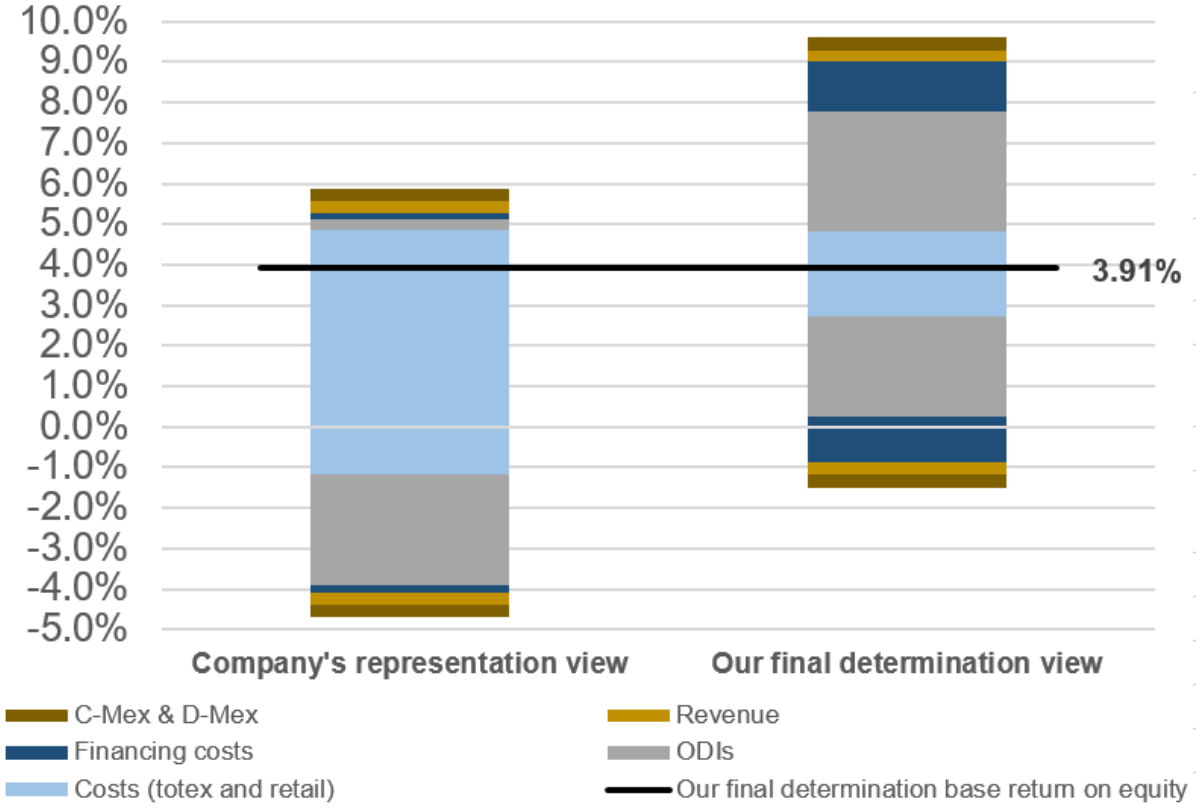
We asked companies to update their risk ranges in their representations. We state those risk ranges in table 5.1 against the cost allowances and base return on regulatory equity in our final determinations. These risk ranges are not fully comparable with our final determination ranges as they take account of company views of the cost efficiency and outcome delivery incentive stretch in our draft determinations which we revise for the final determinations.

### Table 5.1: Yorkshire Water final determination risk ranges

| | Range implied in company representation | | Final determination ranges | |
|---|---|---|---|---|
| Base RoRE | - | | 3.91% | |
| **Risk ranges** | **Lower bound** | **Upper bound** | **Lower bound** | **Upper bound** |
| Totex | -5.03% | 0.90% | -1.15% | 0.89% |
| Outcome delivery incentives | -2.75% | 0.29% | -2.46% | 2.95% |
| Financing costs | -0.19% | 0.16% | -1.16% | 1.23% |
| Retail costs | -0.03% | 0.03% | -0.03% | 0.03% |
| C-MeX and D-MeX | -0.31% | 0.31% | -0.36% | 0.32% |
| Revenues (includes Retail) | -0.27% | 0.27% | -0.27% | 0.27% |
| Total | **-8.60%** | **1.97%** | **-5.43%** | **5.70%** |

[1] We calculate the company's range based on the resubmitted ranges the company states in its representation that are in monetary terms. As we have calculated the ranges in the financial model used for the final determination we have not stated the company's view of the base equity return.

**Figure 5.1: Company representation and final determination RoRE ranges for Yorkshire Water**




Note: Representation view is based on Ofwat's calculation of the RoRE ranges for the company using the final determination financial model and is based on the company submission that accompanied its representation. To facilitate comparison with our final determination, we present the risk range around the base allowed return on equity for Yorkshire Water's final determination.

A key difference between Yorkshire Water's representation view and our view in figure 5.1 is driven by Yorkshire Water's view that the draft determination increased its totex downside by £350 million. Our assessment of a reasonable range for totex risk is based on the allowed costs in our final determination and our assessment of historic performance across the sector, taking account of our decisions in the final determination.

The final determination risk range reflects the following interventions that we make for all companies:

- The totex range is our assessment of the plausible range based on evidence of the historic sector performance and taking account of the company's cost sharing rates that apply in its final determination.
- The financing cost risk range is based on our assessment of the range for a notional water company including both embedded and new debt.

- The outcome delivery incentive risk range has been determined under our Outcomes Framework as set out in table 2.4.
- The C-MeX risk range is calculated as 12% upside and 12% downside of Residential Retail Revenue, reflecting the cap and collar limits for this incentive.
- The D-Mex risk range is calculated as 6% upside and 12% downside of developer services revenue, reflecting the cap and collar limits for this incentive.

We set out further details on the issues above in the 'Risk and return technical appendix'.

## 5.2 Financeability

Companies in the water sector must make significant investment both to maintain and deliver required enhancements to the asset base. Therefore it is important that companies are able to access finance on reasonable terms if they are to meet their obligations and commitments to customers. In recent price review periods, almost all of the new investment in this sector has been funded by debt and retained earnings, however, there may be a requirement for direct equity investment where there is a very significant investment requirement, to ensure companies maintain good credit quality.

We must set our determinations in the manner which we consider best calculated to satisfy our duties. Our financeability assessment considers whether the allowed revenues, relative to efficient costs, are sufficient for an efficient company to finance its investment on reasonable terms and to deliver its activities in the long term, while protecting the interests of existing and future customers. In carrying out our financeability assessment, we assume that an efficient company is able to deliver a level of performance that is consistent with our efficient cost allowances.

Our financeability assessment assumes there is no out/underperformance with respect to the levels of service provided to customers. Our approach protects the interests of customers as it ensures companies and their investors bear the consequences of inefficiency and underperformance in delivery of their obligations and commitments to customers.

We carry out our financeability assessment on the basis of the notional capital structure that underpins our allowed return on capital as companies are entitled to determine the financial structure appropriate for their circumstances, provided they bear the associated risks. For example, if a company's choice of financing structure results in it incurring higher debt costs than reflected in our view of efficient allowed returns, the company will bear this cost. The approach is consistent with meeting all of our regulatory duties and with the approach we and other regulators have taken in previous reviews.

Our PR19 methodology requires companies to provide Board assurance that the business plan is financeable on both the notional and their actual capital structures and requires companies to provide evidence to support these statements, including evidence supporting the target credit rating and that this is supported by the financial ratios that underpin the plan.

In its April business plan, Yorkshire Water set out that its 'Board assures that both the notional and actual capital structures remain financeable in the long term, and that key financial ratios area at a level that retain sufficient headroom to maintain investment grade ensuring that resilience and customers interests are maintained in the short and long term'. The company stated that its plan targeted a credit rating of Baa1 on a notional basis.

Subsequently, we asked companies to provide additional Board assurance, in their representation to our draft determination, that they will remain financeable, taking account of the reasonably foreseeable range of plausible outcomes of their final determination including evidence of further downward pressure on the allowed return. Companies also took account of these issues in the risk analysis presented in section 5.1.

In its representation to our draft determination, Yorkshire Water sets out that the Board concludes it is not possible to provide assurance that the company is financeable based on the draft determination package on either a notional or actual basis. It bases this conclusion on an in the round assessment of cost efficiency, allowed returns, and performance commitment factors. Yorkshire Water provides qualified assurance that, under the package it proposes in its representation, it is satisfied that the company's actual capital structure would remain financeable over 2020-2025 and that the company would be financially resilient in the long term on the basis of its actual structure.

We have carefully considered the representations made by Yorkshire Water including the qualifications on the assurances provided. We have considered this in the context that the allowed return which is based on market data is lower than our draft determination and the basis on which the company provided assurance about the financeability of its plan. However we are satisfied that the market data supports our view that allowed returns are sufficient to reward investors for the risks they face in a sector that already benefits from significant risk protections[13] . We set out the revisions we are making to our performance commitments and cost allowances elsewhere in this document. We consider the revenues allowed in our final determination, which reflect our assessment of efficient allowed costs, are sufficient

[13] These protections include appointments that confer effective monopolies for specified geographic regions; our commitment to remunerate efficient investment in the RCV as at 31 March 2020; price limit reopeners; inflation indexation; totex cost sharing; allowances for special cost factor claims; outcome delivery incentives; and reconciliation mechanisms for wholesale revenue, the cost of new debt and tax

for Yorkshire Water to meet its obligations and commitments to customers on the basis of the notional structure. We comment on the financial resilience of the actual structure in section 5.3.

Our financeability assessment uses a suite of financial metrics based on those used in the financial markets and by the credit rating agencies. The key financial ratios are primarily cash flow measures of a company's earnings, leverage and ability to service its debt interest and principal repayments. We provide further detail of the key ratios in the 'Aligning risk and return technical appendix'.

RCV growth in Yorkshire Water's final determination in less than 10%. Therefore consistent with our policy approach set out in the 'Aligning risk and return technical appendix' we apply the base dividend yield assumption of 3.00% with dividend growth of 1.18% for Yorkshire Water.

In table 5.2 we set out some of the financial ratios provided by the company in its business plan, and in our draft and final determinations.

Our financial modelling of the notional company suggests that Yorkshire Water faces a financeability constraint. Therefore, consistent with the approach in the PR19 methodology, our final determination increases PAYG rates to bring forward £85 million of revenue to improve cash flows and financial ratios. The financial ratios stated in Table 5.2 include the effect of the increase to PAYG rates.

Yorkshire Water sets out in its representations that certain rating agencies reverse adjustments to accelerate revenues when calculating adjusted interest cover. As set out in the PR19 methodology, revenue advancement is preferable to cost of equity adjustments as it is net present value neutral for customers over time and has the effect of crystallising some of the inflationary return related to the partial transition from RPI to CPIH as the measure of inflation. We discuss these issues further in the 'Aligning risk and return technical appendix'.

Our in the round assessment of notional financeability is made on the basis of the financial ratios from our financial model. It takes account of the evidence that the company provides regarding the levels and thresholds of the financial ratios that underpinned its assurance statement on notional financeability in its business plan (also stated in Table 5.2). We note that the Board assurance statement that accompanied the company's representations was made in the context of the draft determination. Our assessment of notional financeability for the final determination is made in the context of changes made in our final determination. We consider that Yorkshire Water's final determination is financeable based on the allowed revenues which include a reasonable allowed return on capital. The final determination is sufficient to ensure it will be in a position to deliver its obligations and commitments to customers.

**Table 5.2: Ofwat calculation of key financial ratios – notional structure before reconciliation adjustments (5 year average)**

| | Business plan | Draft determinations | Final determinations |
|---|---|---|---|
| Gearing | 63.71% | 61.22% | 60.54% |
| Interest cover | 3.79 | 3.80 | 4.20 |
| Adjusted cash interest cover ratio (ACICR) | 2.02 | 1.94 | 1.50 |
| Funds from operations (FFO)/Net debt | 9.34% | 9.35% | 10.06% |
| Dividend cover | 0.66 | 1.64 | 2.04 |
| Retained cash flow (RCF)/Net debt | 6.52% | 7.36% | 8.10% |
| Return on capital employed (RoCE) | 3.96% | 4.92% | 5.19% |

The basis of the calculation of the ratios is set out in the PR19 methodology.

**Net debt** represents borrowings less cash and excludes any pension deficit liabilities.

**FFO** is cash flow from operational activities and excludes movements in working capital.

**Cash interest** excludes the indexation of index-linked debt.

In presenting the ratios for our final determinations we exclude the effect of differing accounting treatment of infrastructure renewal expenditure from the numerator of the adjusted interest cover ratio to improve comparability of the financial ratios between companies. If calculated on a consistent basis with the final determination, Yorkshire Water's draft determination adjusted interest cover would be 1.40x.

Yorkshire Water also sets out in its representations that differences in its own modelling and the Ofwat financial model overstate the adjusted interest cover financial ratio, principally due to the treatment of pension deficit recovery payments and changes to submitted business retail figures. Yorkshire Water set out this would have further reduced its adjusted interest cover at the draft determination to 1.33x. We correct the treatment of pension deficit in the financial ratios for the final determination and the company no longer has a determination for business retail. We discuss these issues further in the 'Aligning risk and return technical appendix'.

Yorkshire Water's financial ratios in its April business plan tables for the notional company take account of reconciliation adjustments. We set out in the table the ratios excluding these adjustments consistent with our assessment of notional financeability. We verified the recalculation of the ratios with the company.

We set out the average PAYG and RCV run-off rates along with the RCV growth over 2020 to 2025 for Yorkshire Water in table 5.3. RCV growth for the final

determination is lower than in the company's April plan and in the draft determination. Overall, changes to allowed expenditure, the revised approach to determining the mix of operating and capital expenditure and the uplift to the PAYG rates means less expenditure is added to RCV. We are not amending Yorkshire Water's RCV run-off rates in our final determination.

**Table 5.3: PAYG rates, RCV run-off and growth**

| | PAYG | RCV run-off | RCV growth |
|---|---|---|---|
| Company April 2019 | 52.0% | 3.76% | 16.01% |
| Draft determinations | 53.4% | 3.75% | 9.38% |
| Final determinations | 61.6% | 3.75% | 5.68% |
| The PAYG and RCV run-off rates are averages across five years and across all wholesale controls. We set out the changes we make to PAYG and RCV run-off rates along with the five year average for each control in section 4.2 and annual PAYG and RCV run-off rates in the 'Yorkshire Water - Allowed revenue appendix'. Changes to totex allowances and PAYG rates for individual controls can result in small changes to the average RCV run-off rates presented in the table above. | | | |

In assessing the financeability of the notional company, we consider the headroom available in the final determination to allow the company to continue to meet its annual interest costs. We estimate 5 year headroom of £296 million above an adjusted cash interest cover of 1.0 times, providing headroom to our totex downside of £148 million and outcome delivery incentives downside of £138 million calculated as 1% return on regulatory equity. We set out further detail in relation to our approach to assessing headroom within final determinations in the 'Aligning risk and return technical appendix'.

## 5.3 Financial Resilience

It is the responsibility of each company to choose and manage its financial structure to maintain financial resilience in the long term. A company's financial resilience can be impacted by its financing choices, for example, where a company chooses a structure with a high level of gearing, this can reduce available headroom to withstand cost shocks. Interest costs, levels of dividends paid and company performance in delivering obligations and commitments to customers can also impact on financial resilience.

Yorkshire Water is responsible for the financeability of the company and the maintenance of long-term financial resilience under its actual structure. We comment on the financial resilience of Yorkshire Water's actual structure in figure 5.2.

### Figure 5.2: Financial resilience of Yorkshire Water's actual financial structure

Yorkshire Water is highly geared company. It reported gearing of 75.8% as at 31 March 2019. Its plan forecasts gearing of 74.9% at 31 March 2021 and 69.8% at 31 March 2025.

At the time of our final determination it has a corporate family credit rating of Baa2 (negative) with Moody's and credit ratings of A-(stable) with S&P, and A (negative) with Fitch.

The Board provided assurance that the company is financially resilient under its plan. The company provided limited further assurance about its financial resilience following the draft determination in the context of its representation.

The company was originally targeting reducing its gearing to 70% by 2021. However in its representation on the draft determination, Yorkshire Water sets out it remains committed to reducing gearing to 70%, but that its forecast gearing reduction can only be achieved by 2025. The company says its Board will review its forecast again with the final determination. Yorkshire Water says its gearing reduction is to be achieved through the retention of dividends, and capital injections, in three tranches starting in 2020-21, totalling £625 million through the repayment of loans that it has previously made to another group company. The cash injections are to be funded by the issuance of debt by a parent company above the level of the Appointed business.

As stated in section 5.2, we consider the company to be financeable on the notional basis and there is a need for companies to ensure that that they are also financially resilient under their actual structures.

However, we have not accepted all of the company's representations and the allowed return is lower in the final determination reflecting market expectations on the cost of finance. The company may need to bring forward its plans to improve its financial resilience.

It is the company's responsibility to maintain its financial resilience under its actual financial structure and as set out in section 7, the company will need to reduce its base dividend yield for 2020-25 in the context of the allowed return and our final determination.

We will closely monitor changes in levels of the company's gearing, credit ratings and other key financial metrics during 2020-25 to test that adequate steps are being taken by management and that financial resilience is being maintained.

In its future reporting, we expect the company to explain clearly in its long-term viability statement how the Board has identified and assessed the potential risks to its financial resilience and the mitigating actions it is taking to address those risks. Yorkshire Water has committed to assess its financial resilience beyond 2025 in its next long-term viability statement.

# 6 Affordability and bill profile

**Key changes from the draft determination**

The key changes made to the affordability elements of the draft determination are:

- We revise Yorkshire Water's average bill profile from a large reduction upfront followed by flat real terms prices, to have a smaller reduction upfront, followed by a gradually falling real price over 2020-25.

## 6.1 Bill profile

Yorkshire Water proposes an average bill profile with a 0.8% reduction. Our bill profile contains a significantly greater reduction of 8.7% over 2020-25. Yorkshire Water did not submit additional evidence on bill profiles or acceptability in its representation but states that its customers favour additional expenditure and that Ofwat's proposals to cut bills represent an unsustainable short-term approach which is at the expense of long-term stability. The Yorkshire Water Forum for Water Customers (Yorkshire Water's customer challenge group) states that the level of resources being made available to the company is insufficient to provide a high level of service and that customers do not favour this approach. We do not accept these representations for the following reasons;

- Our models and assessments allow for efficient expenditure where there is sufficient evidence of need. Yorkshire Water's customers were not told that the independent regulator found the company was inefficient, and its levels of service fell below those of other companies in a number of areas. And they were not asked whether they preferred the expenditure, bills and outcomes in its plan versus the expenditure, bills and outcomes in our draft determination;
- Equally, Yorkshire Water's customers were not asked whether they preferred the expenditure, bills and outcomes in its plan versus the expenditure, bills and outcomes that will be delivered by other companies. This would be a more valid way for them to gain an understanding of the true support for their plans;
- Our approach ensures customers only pay for efficient costs Yorkshire Water has not demonstrated that its customers are willing to pay for inefficient costs. Shareholders are able to fund the additional expenditure required to bring the company to required service levels if they wish or the company may be able to increase efficiency to obtain reasonable levels. If Yorkshire Water had provided sufficient evidence to justify higher efficient investment then we would have included this in its final determination.

We are changing our approach to setting average bill profiles from draft determinations, where the majority of companies were set profiles that included upfront bill cuts followed by flat real terms profiles, which would increase in nominal terms once inflation is taken into account. Yorkshire Water's bill profile changes to a gradual reduction to provide customers with as much stability as possible in what they actually pay, post inflation (i.e. nominal bills). We set bills in this way for the following reasons;

- Research shows customers prefer consistent, predictable bills;
- Flat nominal bills will help households, particularly those who are financially vulnerable, to plan their finances;
- Profiling in this way is easy to understand and communicate to customers;
- Profiling bills in this way has extensive support from stakeholders including water companies, customer challenge groups and the Consumer Council for Water;
- Company revenues fall less sharply in 2020 with a gradual bill reduction, reducing impact of any step change in allowances.

**Table 6.1: Average bills (2017-18 CPIH deflated)**

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Company April 2019 | £383 | £379 | £379 | £379 | £379 | £379 |
| Draft determinations | £383 | £342 | £342 | £342 | £342 | £342 |
| Final determinations – before reprofiling | £383 | £387 | £366 | £356 | £358 | £355 |
| Final determinations | £383 | £379 | £372 | £364 | £357 | £349 |

Throughout the price control we have put a strong emphasis on companies planning for the long term, both in terms of their goals and their bills. Following actions we set out at initial assessment of business plans, nine companies including Yorkshire Water undertook additional customer testing on their long-term bill profiles with several making adjustments as a result. We expect companies to continue to pay attention to this issue, taking customer views into account and planning in a way that ensures they control costs into the future.

## 6.2 Help for customers who are struggling to pay

Our final determinations for Yorkshire Water will deliver a real terms reduction to the average bill between 2020 and 2025.

In addition, Yorkshire Water commits to:

- increase the number of customers that receive financial support from 40,000 at the end of the current regulatory period to 83,000 by 2024-25;
- increase its social tariff funding from cross-subsidy by customers to £1.75 per customer, which is supported by customers;
- fund £14.5 million of affordability support directly from the company; and
- provide other affordability support to 60,000 customers per year through flexible payment arrangements, signposting to third party support and targeted face to face visits.

Yorkshire Water has five bespoke performance commitments on affordability and vulnerability, which will require it to:

- improve customer views of affordability;
- increase customer awareness of and satisfaction with its priority service register;
- improve stakeholder views of the services it provides through its priority service register; and
- increase the number of customers that receive financial support.

Companies will be reporting their performance against the Priority Services Register (PSR) common performance commitment and their bespoke affordability and vulnerability performance commitments to us and their customers on an annual basis during the price control period. In addition, companies put forward in their business plans further measures for addressing affordability and vulnerability issues. We expect companies to report periodically to their customers on their progress in addressing affordability and vulnerability concerns. We will also be considering how we will scrutinise and report on companies' progress in this important area, including working with other stakeholders in the water sector and beyond.

## 6.3 Total revenue allowances and k factors

Table 6.2 summarises the allowed revenue for each control. This is expressed in a 2017-18 CPIH price base so that this can be compared with the rest of this document.

**Table 6.2: Allowed revenue by year (£ million, 2017-18 prices)**

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|---|---|---|---|---|---|---|
| Water resources | 65.3 | 63.9 | 68.0 | 61.9 | 56.0 | 315.1 |
| Water network plus | 367.9 | 377.0 | 376.7 | 372.3 | 367.0 | 1,861.0 |
| Wastewater network plus | 478.1 | 458.8 | 446.6 | 447.1 | 448.5 | 2,279.1 |
| Bioresources | 74.3 | 76.0 | 73.8 | 72.2 | 71.0 | 367.3 |
| Residential retail | 64.8 | 64.5 | 64.1 | 63.6 | 63.1 | 320.0 |
| **Total** | **1,050.4** | **1,040.2** | **1,029.3** | **1,017.1** | **1,005.6** | **5,142.5** |

The water resources, water network plus and wastewater network plus controls are in the form of a percentage limit (inflation plus or minus a number that we determine for each year of the control (the 'K' factor)) on the change in allowed revenue (R) from the previous charging year (t-1). This is based broadly on the formula:

$$R_t = R_{t-1} \times \left[1 + \frac{CPIH_t + K_t}{100}\right]$$

Table 6.3 sets out the K factors in each year for each of these three controls. For the first year, we have set a 'base' revenue which will be used as the starting revenue for calculating 2020-21 allowed revenues.

**Table 6.3: Base Revenue and K factors by charging year (2017-18 prices)**

| | Base (£m) | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Water resources | 65.3 | 0.00% | -2.04% | 6.60% | -9.13% | -9.84% |
| Water network plus | 367.9 | 0.00% | 2.53% | 0.01% | -1.20% | -1.43% |
| Wastewater network plus | 478.1 | 0.00% | -4.11% | -2.62% | 0.12% | 0.32% |

In addition to these controls, we have set a modified average revenue control for bioresources. We recognise that a proportion of bioresources costs are fixed, so we allow for this in setting the average revenue control. The revenue control ensures that where sludge production varies the incremental change in revenues that arises is aligned to incremental costs. The 'modified average revenue' control includes a

revenue adjustment factor, which applies if there are differences between the forecast and measured quantities of sludge.

To ensure companies' allowed revenues reflect their costs, we are intervening to implement a standard approach across companies to this classification. We have set out our methodology and our reasons for intervening in the appendix 'Our methodology for the classification of bioresources costs and revenues'. Further details of how we have applied the methodology to Yorkshire Water is set out in the 'Bioresources revenue to remunerate fixed costs – Yorkshire Water' model.

Table 6.4 sets out our view of the share of revenue to remunerate fixed costs.

### Table 6.4: Classification of proportion of revenue to remunerate fixed costs and variable costs for bioresources

| | Company view | Draft determination | Final determination |
|---|---|---|---|
| **Part 1: Revenue to remunerate fixed costs £ million 2017-18 FYA CPIH deflated prices (2020-25)** | | | |
| Total return on capital | N/A | 39.3 | 36.1 |
| Total run-off | N/A | 144.8 | 141.8 |
| **Revenue to service RCV** | **N/A** | **184.1** | **177.9** |
| Local authority and Cumulo rates for both treatment and disposal | N/A | 7.1 | 7.1 |
| Fixed share of other direct costs of treatment and disposal | N/A | 13.8 | 14.6 |
| Fixed share of other indirect cost of treatment and disposal | N/A | 24.2 | 25.5 |
| **Fixed PAYG revenue** | **N/A** | **45.0** | **47.2** |
| Fixed share of revenue to cover tax | N/A | 0.0 | 0.0 |
| Pension deficit repair contributions | N/A | 2.9 | 2.9 |
| **Other fixed costs** | **N/A** | **2.9** | **2.9** |
| **Revenue to remunerate fixed costs** | **334.1** | **232.1** | **228.0** |
| **Part 2: Variable revenue (£/TDS) 2017-18 FYA CPIH deflated prices (2020-25)** | | | |
| Unadjusted revenue (£m) | 395.2 | 359.6 | 367.3 |
| Revenue to remunerate fixed costs | 334.1 | 232.1 | 228.0 |
| **Revenue to remunerate variable costs (£m)** | **61.1** | **127.5** | **139.3** |
| Forecast volume of sludge (TDS) | 773,000 | 773,000 | 773,000 |
| **Variable revenue (£/TDS)** | **79.0** | **165.0** | **180.2** |

The modified average revenue in each year is calculated by a formula that we set out in the 'Notification of the PR19 draft determination of Price Controls for Yorkshire Water', which includes some components set now in this determination and some components which relate to out-turn performance (such as the actual volume of sludge in future years).

### Table 6.5: Bioresources control

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2020-25 |
|---|---|---|---|---|---|---|
| Unadjusted revenue (£m) | 72.6 | 73.0 | 73.5 | 73.9 | 74.3 | 367.3 |
| Forecast volume of sludge (TDS) | 152,800 | 153,700 | 154,600 | 155,500 | 156,400 | 773,000 |
| Variable revenue (£/TDS) | N/A | N/A | N/A | N/A | N/A | 180.2 |

# 7 Putting the sector in balance

**Key points**

- Yorkshire Water reported gearing of 75.8% as at 31 March 2019. Yorkshire Water forecasts that its level of gearing (74.9% by 2021 and 69.8% by 2025) will trigger sharing of financing gains with customers on account of high gearing as set out in the 'Aligning risk and return technical appendix'. We are updating the gearing outperformance sharing mechanism to introduce a glidepath to the gearing level that the triggers sharing payments as set out in the 'Aligning risk and return technical appendix'.
- Yorkshire Water proposes a glide path for the trigger, starting from 76.4% for 2020-21, reducing by 1.6% each year, ending at 70% for 2024-25. We do not accept for the final determination as it does not provide equivalent benefits for customers in the round to our mechanism.
- Consistent with the lower allowed return on equity in our final determination, we are revising our calculation of the dividend yield as a guide to the reasonable base dividend yield in the absence of out/underperformance in 2020-25. We set out that the acceptable level of base dividend yield can be expected to vary depending on the scale of a company's RCV growth in 2020-25 and future investment needs.
- We expect the company will need to revise its proposed base dividend yield for 2020-2025 to take account of the lower allowed return in our final determination and our revised expectations for a reasonable base dividend yield that we set out in the 'Risk and return technical appendix'.
- On executive pay, Yorkshire Water has not provided sufficient information detail to enable the calculation of the overall percentage of alignment to customers, so we are unable to assess how it compares to the 60% alignment to delivery for customers we identify as current good practice. We retain our expectation of the company that it will ensure its dividend and performance related pay policies demonstrate substantial alignment with the customer interest, underpinned by stretching performance targets throughout 2020-25.

In July 2018 we published our 'Putting the sector in balance: position statement'. The position statement sets out the steps we expect companies to take to demonstrate they strike the right balance between the interests of customers and their investors. In summary, we expect that:

- company dividend policies for actual financial structures and performance related executive pay policies show appropriate alignment between returns to owners and executives and what is delivered for customers[14];
- companies with high levels of gearing share financing gains from high gearing with customers; and
- companies provide assurance and supporting evidence to demonstrate their long-term financial resilience and management of financial risks for the actual financial structure, taking account of their future investment needs.

We also encourage companies to adopt voluntary sharing mechanisms, particularly where, for example, companies outperform our cost of debt assumptions.

In our final determinations, we have amended our gearing outperformance sharing mechanism to contain a glidepath. We explain this in the final determination 'Aligning risk and return: technical appendix'.

Our assessment of Yorkshire Water's proposals is in table 7.1. We comment on the financial resilience of Yorkshire Water in section 5.2.

### Table 7.1: Our assessment of Yorkshire Water's proposals to balance the interests of customers

| Our assessment of the company's proposals to balance the interests of customers |
|---|
| **Gearing outperformance benefit sharing mechanism**<br>Yorkshire Water proposes a variation on our default mechanism, with a proposal of a different glide path for the level of gearing which triggers sharing payments. The company proposes a glide path for the trigger, starting from 76.4% for 2020-21, reducing by 1.6% each year, ending at 70% for 2024-25.<br>Yorkshire Water considers reducing gearing under the default mechanism will mean the company will have to either hold gross cash to offset gross debt or to repay debt early which will result in material prepayment charges, which are higher than the payments under our default mechanism.<br>One drawback of a glide path is that highly geared companies with gearing below the glide path accrue the benefits of high gearing without making sharing payments. Yorkshire Water's reported gearing in its 2018-19 annual performance report is 75.8%, while the trigger in the first year of its glide path is higher, at 76.4%. Because of this, although we support the principle of a glide path, we are not convinced that the balance between these factors was struck appropriately in the profile of Yorkshire's glide path.<br>We do not consider that Yorkshire Water's mechanism provides benefits that are equivalent, in the round, to our glide path sharing mechanism. |
| **Voluntary sharing mechanisms**<br>Yorkshire Water proposes a voluntary sharing mechanism which will share any outperformance if its actual cost of embedded debt is below the notional cost of embedded debt assumption used in our determination. If this is the case, 50% of the net benefit will be shared with customers in the form of |

[14] We explain more fully our expectations in the 'Aligning risk and return technical appendix' that accompanies this draft determination.

| Our assessment of the company's proposals to balance the interests of customers |
|---|
| bill reductions from April 2025. Yorkshire Water has also increased the company contribution to its social tariff by £1 million per year relative to its September 2018 plan, doubling its total contribution to this item to £10 million over 2020-25 from its original proposal of £5 million. |
| **Dividend policy for 2020-25**<br><br>Yorkshire Water confirms it is committed to the expectations on dividend policy set out in our 'Putting the sector in balance' position statement. In doing so it has indicated a base dividend yield of up to 5% for 2020-25. We understand that the company will review its forecast again and its approach to reducing gearing to 70% on receipt of the final determination. However we expect the company to apply its policy in a transparent manner and consistent with our expectations in 2020-25, taking account of the lower allowed return in our final determination and our revised expectations for a reasonable base dividend yield that we set out below and in the 'Risk and return technical appendix'.<br><br>The company's dividend policy refers all the areas included in the 'Putting the Sector in balance' position statement (out/under-performance and benefit sharing, employee interest & pension obligations, actual capital structure, need for future investment and financial resilience).<br><br>The company confirms that when setting dividend payments, it will adjust the base dividend to reflect and recognise delivery to customers, in particular performance above or below that set in its Final Determination. It has detailed the specific obligations and commitments to customers that will be considered. It confirms that dividends can be increased or lowered from the base depending on the actual performance of the company and explains how performance delivery will impact on dividends paid.<br><br>The company commits to reporting on its dividend policy annually, and ensuring that the published information is clear and transparent and that it links to performance delivery for customers. It also commits to signal changes to stakeholders.<br><br>Consistent with the lower allowed cost of equity in our final determination, we have revised our calculation of the dividend yield that we consider to be reasonable for assessing the base dividend for water companies in 2020-25. We consider the acceptable level of base dividend yield is up to 4% but this can be expected to vary depending on the scale of a company's RCV growth and future investment needs. We set out further details in 'Aligning risk and return: technical appendix'.<br><br>We expect Yorkshire Water to be transparent when explaining its dividend policy and reporting on dividends paid over 2020-25, to demonstrate how it has delivered on the commitments in relation to its dividend policy and to ensure it meets the expectations we set out in 'Putting the sector in balance' as updated in the final determination 'Aligning risk and return: technical appendix'. |
| **Performance related executive pay policy for 2020-25**<br><br>In our Aligning risk and return technical appendix we identify that 60% alignment of incentives to delivery of service for customers is current good practice among the companies that we regulate. However, the company provides insufficient detail to enable the calculation of the overall percentage of alignment to customers, so we are unable to assess how it compares to the current good practice. We expect Yorkshire Water's policy on performance related executive pay to demonstrate a substantial alignment to the delivery of service for customers throughout 2020-25.<br><br>Yorkshire Water states it is committed to meet the expectations set out in our 'Putting the sector in balance: position statement'. The scheme for 2020-25 is still in design but the company states that it will be built along the following principles:<br><br>• The company sets out the annual bonus is designed to incentivise the maximum positive impact on customers, measured through performance commitments. These are split into primary and secondary measures with the primary being significantly more weighted than the secondary. Examples of the measures are: Primary: C-Mex, D-Mex, leakage; and Secondary: water recycling, renewable energy generation, and voids verification.<br>• The long-term incentive plan includes incentives for looking after the long-term health of the company and reflects long-term customer and financial performance. |

| Our assessment of the company's proposals to balance the interests of customers |
| --- |
| • The company sets out the Yorkshire Water Remuneration Committee will oversee the development and implementation of the policy. The committee will also undertake annual reviews of both schemes including a review of all targets.<br>• The company sets out underpinning arrangements are in place whereby any award can be reduced where there has been a deterioration or non-performance in key aspects of long-term resilience ('capitals approach').<br>• Yorkshire Water sets out that it will continue to publish details of its policy in the annual performance report including the signalling of any changes and how they are in the best interests of customers for the period 2020-25.<br><br>We expect the company's remuneration committee to ensure there is on-going rigorous challenge as to how the policies are applied and to ensure that only truly stretching performance is rewarded. In so doing, we expect it to be equipped with the appropriate powers to carry this out, including for example, the use of withholding periods, clawback arrangements and underpin / gateway arrangements.<br><br>We expect Yorkshire Water to be transparent when explaining and reporting against its performance related executive pay policy in 2020-25, to ensure it meets the expectations we set out in 'Putting the sector in balance' as updated in the final determination 'Aligning risk and return: technical appendix'. |

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales.

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