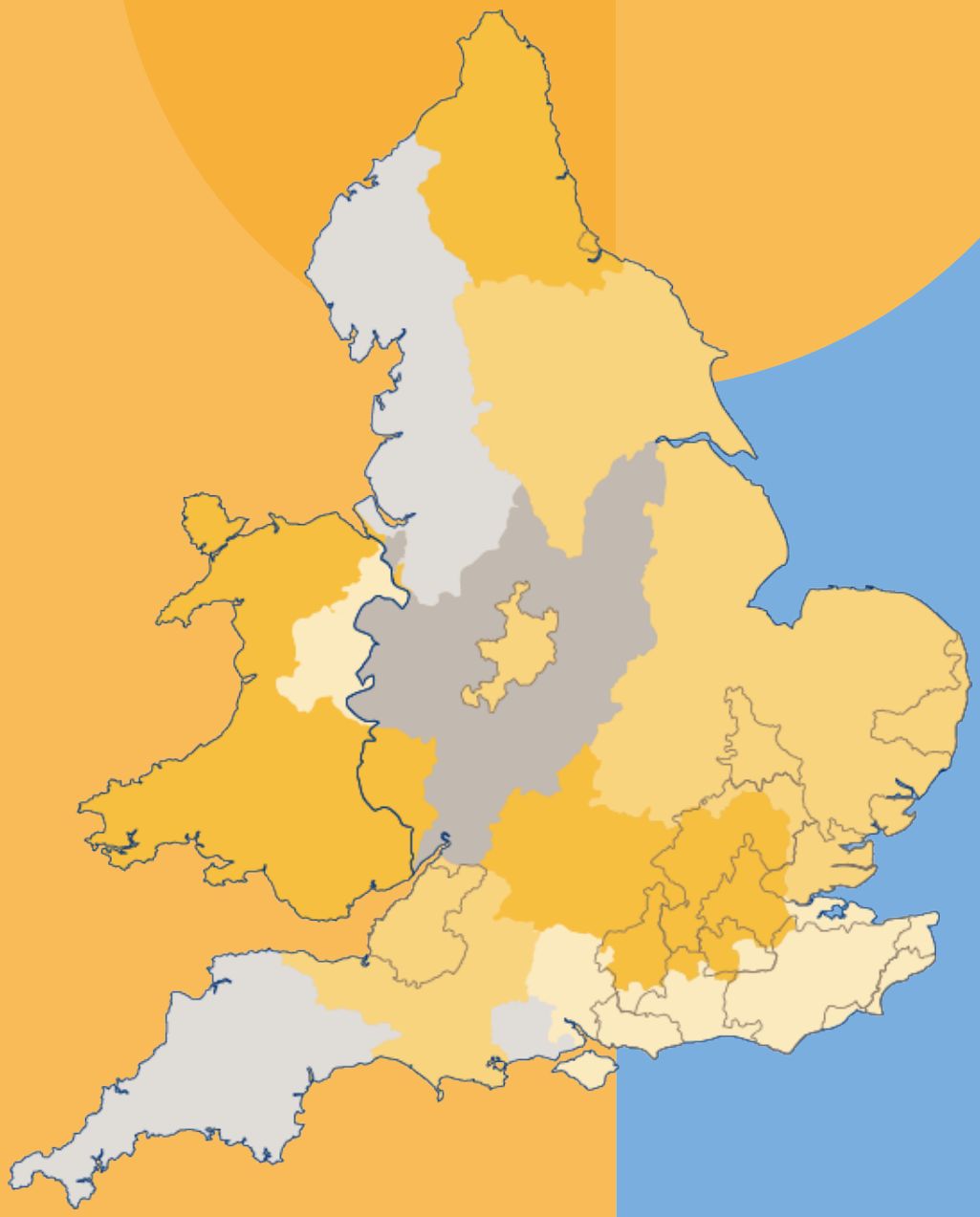
July 2019

Trust in water

PR19 draft determinations

Thames Water draft determination



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PR19 draft determinations: Thames Water draft determination

About this document

This document, together with the 'Notification of the draft determination of price controls for Thames Water', sets out for consultation the details of the draft determination of price controls, service and incentive package for Thames Water for 2020 to 2025. All figures in this document are in 2017-18 prices except where otherwise stated.

The draft determination sets out:

- the outcomes for Thames Water to deliver;
- the allowed revenue that Thames 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.

The draft determination covers six price controls for the 2019 price review (PR19):

- water resources;
- water network plus;
- wastewater network plus;
- bioresources;
- residential retail; and
- Thames Water's tideway tunnel activities.

This draft determination is in accordance with our PR19 methodology, our statutory duties and the UK Government's statement of strategic priorities and objectives for Ofwat. 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.

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

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

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

The appendices to this document provide more detail and form part of the draft price control determination:

- PR19 draft determinations: Thames Water - Cost efficiency draft determination appendix
- PR19 draft determinations: Thames Water - Outcomes performance commitment appendix
- PR19 draft determinations: Thames Water - Accounting for past delivery appendix
- PR19 draft determinations: Thames Water - Allowed revenue appendix

For all other documents related to the Thames Water draft determination, please see the draft determinations webpage.

How to respond

Written representations on the draft determinations should be provided to us by 10am on 30 August 2019. Representations can be made by all stakeholders. Representations can be sent either to our PR19 inbox (PR19@Ofwat.gov.uk) or by post to our Birmingham office address: Ofwat, Centre City Tower, 7 Hill Street, Birmingham, B5 4UA.

To ensure transparency, we expect companies to publish their representations in full. We also intend to publish all the written representations we receive on our website once our final determinations are made.

In view of this, if respondents consider that some of the information in their representations should not be disclosed (for example, because they consider it is commercially sensitive information) they should identify that information and explain why. We would expect strong, robust reasons that are specific to the information concerned. We will take such explanations into account, but we cannot give an assurance that information included in representations will not be disclosed.

Where companies are making representations, they should consider what further evidence may be necessary to submit with their representations as a result of this draft determination. Where companies consider that we have not appropriately considered any points previously raised by the company, companies should include this within their representations. Companies should provide a completed ‘All company representation pro forma’ alongside any representations.

We will publish Thames Water’s final determination on 11 December 2019 after considering representations (from all stakeholders) on the draft determination and other relevant matters. If Thames Water accepts the 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.

Contents

1 Summary

Through PR19 we are enabling, incentivising and challenging water companies to address the key issues facing the sector of climate change, a growing population and ever increasing customer expectations about service. We expect companies to look well beyond the five year price review period to meet needs of future customers and protect and improve the natural environment.

Our PR19 methodology set out a framework for companies to address these challenges, with particular focus on improved service, affordability, increased resilience and greater innovation. Our draft determinations are based on our detailed review of the revised plans submitted to us on 1 April. We have intervened, where required, to protect customers.

1.1 What the draft determination will deliver

Our draft determination for Thames Water will cut average bills by 9.8% in real terms in the 2020-25 period compared to the company's proposed 2.4% reduction. Table 1.1 below sets out the difference in bill profile between the company's business plan submission in April 2019 and our draft determination. Average bills are lower than proposed by Thames Water, reflecting our view of efficient costs. Further details 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)	£382	£362	£369	£373	£372	£373
Draft determination	**£382**	**£333**	**£342**	**£344**	**£344**	**£344**
Bill impact of customer payments for Tideway		£11	£12	£12	£12	£12
Total bill including payments for Tideway		£343	£353	£356	£356	£356

Note: Thames Water customers pay around £12 per year for the Thames Tideway Tunnel. This revenue is collected by Thames Water on behalf of Bazelgette Tunnel Limited, and is not part of the price controls for Thames Water.

Our draft determination allows Thames Water £944 million to invest in improvements to service, resilience and the environment. Key parts of this allowance are:

- £448 million to improve the environment by efficiently delivering its obligations as set out in the Water Industry National Environment Programme (WINEP), including providing improved phosphorus removal at treatment sites treating wastewater from the equivalent of more than 450,000 people, and providing capacity to treat more than 1,400 per second additional litres of wastewater in wet weather;
- £87 million improving resilience including at Coppermills water treatment works as part of its North East London resilience scheme;
- £79 million meeting its water supply-demand balance requirements including by developing treatment capacity and water trading with a power company;
- £77 million for increasing the proportion of time that water treatment assets are available; and
- £178 million installing meters including more than 600,000 smart meters to promote water efficiency.

In addition we are allowing up to £179 million for the company to evaluate potential strategic regional water resource solutions, in partnership with others, including the River Severn to River Thames transfer and the strategic Abingdon reservoir.

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

Our draft determination package includes a full set of performance commitments, specifying the minimum level of service that Thames Water must commit to deliver for customers and the environment. Each performance commitment also has a financial or reputational incentive to hold the company to account for delivery of these commitments.

The performance commitments require Thames Water to deliver service improvements by reducing internal sewer flooding and water supply interruptions. Thames Water will deliver environmental benefits by reducing pollution incidents, increasing the hectares where sustainable approaches are used to manage surface water and increasing renewable energy production. The company will also provide more support for vulnerable customers by 2024-25. Further details of performance commitments are set out in Table 1.2 below and in section 2.

Table 1.2: Key commitments for Thames Water

Area	Measure
Overall incentive package	Overall, the likely range of returns from the outcome delivery incentive package in our draft determination equates to a return on regulatory equity range of -3.27% (P10) to + 0.53% (P90).
Key common performance commitments	• 25% reduction in annual level of leakage by 2025 from the 2019/2020 level[1]. • 6.3% reduction in per capita consumption by 2024-25 • 30% reduction in pollution incidents by 2024-25 • 32% reduction in internal sewer flooding incidents by 2024-25 • 72% reduction in water supply interruptions by 2024-25
Bespoke performance commitments	• 9% increase in renewable energy produced from the company's operational business by 2024-25 • 225% increase in Surface Water Management by 2024-25

Note: The calculations behind these numbers are outlined in the 'Thames Water - Outcomes performance commitment appendix'

1.2 Allowed revenues

Our draft determination sets allowed revenue or average revenue for each of the price controls. Table 1.3 shows the allowed revenues in the draft 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	Thames Tideway	Wholesale Total	Residential retail
Final allowed revenues (£ million)	448.2	3,693.8	3,610.2	897.3	275.4	**8,925.0**	649.9

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. The allowed revenue for Thames Tideway refers to the elements of the project that are delivered by Thames Water, which are included as a separate wholesale control in Thames Water's determination.

[1]Whilst the figures in the tables of the 'Thames Water - Outcomes performance commitment appendix' which relate to this performance commitment reflect that it is measured on a three-year average to smooth annual variations due to weather, the overall performance commitment target is a reduction in average annual leakage of 25% (from 2019-20 baseline) by 2024-25.

As set out in the ‘Cost of capital technical appendix’, we are updating our assessment of the cost of capital for Thames Water’s draft determinations. The updated cost of capital is 3.19% (on a CPIH basis, 2.19% on a RPI basis) at the level of the Appointee, a reduction of 0.21% from our early view set out in the PR19 methodology.

We consider that Thames Water’s draft determination is financeable, based on an efficient company, with the notional capital structure, and is sufficient to deliver its obligations, including to ensure a long term resilient service. Each company is responsible for ensuring its capital and financial structure allows it to maintain financial resilience over the short and the long term. We expect Thames Water to take account of this requirement and of the reasonably foreseeable range of plausible outcomes of their final determination including evidence of further downward pressure on the cost of capital in very recent market data. We expect Thames Water to provide appropriate Board assurance that it will remain financeable on a notional and actual basis and can maintain its long term financial resilience in its response to our draft determination. Further detail on our assessment of financeability is set out in section 5.

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. Thames Water has further work to undertake to meet the expectations set out in our July 2018 position statement ‘Putting the sector in balance position statement’. Thames Water says that it expects its gearing to reduce by 5% to 76% by the end of 2025 through the investment of additional capital and restriction of dividends. Thames Water proposed a gearing outperformance sharing mechanism which does not provide as much protection for customers as our default outperformance sharing mechanism. We expect Thames Water to adopt our default mechanism. Thames Water is taking steps to demonstrate how its dividend and performance related executive pay policies in 2020-25 will align with customer interests. However, we expect the company to continue to take additional steps in these areas to meet our expectations. These include providing further detail about how its dividend policy will take into account performance against commitments made to customers and demonstrating that its policy on performance related executive pay has a substantial link to stretching performance delivery for customers through 2020-25.

In the 'Putting the sector in balance' position statement, we also encouraged companies to adopt voluntary sharing mechanisms, particularly where, for example, companies outperform our cost of debt assumptions. Thames Water does not propose any voluntary sharing mechanisms. It does support a trust fund designed to help customers by providing grants for emergency funds to provide essential living items.

1.3 Where we intervene

Our initial assessment of Thames Water's plan on 31 January 2019 assessed the plan as significant scrutiny. We identified a number of areas where material interventions were required to protect customers' interests. In its 1 April 2019 revised business plan, Thames Water has not adequately addressed our concerns. We have therefore intervened in Thames Water's plan in the following areas:

- We align total expenditure (totex) allowances to our view of efficient costs using the comparative information available to us. This intervention saves customers £1.73 billion. The 15.7% totex gap is lower than at the initial assessment of plans stage because the company reduced its proposed expenditure when it submitted its revised plan in April.
- We do not allow enhancement expenditure for leakage (the company is not forecasting to go beyond upper quartile performance) or for reducing pollution incidents and water supply interruptions (we don't allow additional expenditure to achieve upper quartile). Thames Water must deliver its performance commitments at no additional cost to customers. Outperformance in these areas is rewarded through the outcome delivery incentive framework.
- We increase the stretch on some common performance commitments to reach upper quartile, including increasing the proposed reduction in leakage from 20% to 25% to reduce the gap to the rest of the industry.
- We increase performance commitment levels of stretch where the company is currently a poor performer, such as clearance of blockages.
- We introduce underperformance payments to protect customers where environmental schemes are delivered late and introduce a performance commitment and an underperformance payment in relation to delivery of schemes in the Security and Emergency Measures Direction (SEMD).
- We significantly increase expected performance and remove outperformance payments on unplanned outage, but also allowing £77 million to achieve this more stretching performance.
- We strengthen incentives to ensure the company delivers enabling works for the Tideway project on time and is incentivised to deliver in best interests of customers when disposing of unneeded project land.
- We do not allow three uncertainty mechanisms the company proposed for costs arising from increased business rates, the selection and scheduling of SEMD costs and a 'true down' mechanism covering the first phase of the North East London resilience scheme and some small elements of the national environment programme, ensuring Thames Water takes responsibility for business risks.
- We make a £150 million downwards adjustment to the RCV in relation to its Counters Creek sewer flooding programme, which we consider to be

cancelled to fully compensate customers for Thames Water failure to deliver on this programme in 2015-20 period.

- We introduce the gearing benefit sharing mechanism set out in our 'Putting the sector in balance' position statement to ensure customers get fair share of benefits from Thames Water gearing levels, consistent with our approach to all other companies.
- We increase the company's pay as you go rates for each year for the water and wastewater network plus controls by 0.7%, bringing forward £41 million revenue from future customers.

Thames Water's September 2018 business plan was assessed as requiring significant scrutiny at the initial assessment of plans. We said we would decide at the final determination whether to apply a reduced cost sharing rate, or cap bespoke outcome delivery incentives, to reflect whether the company had engaged positively to address our concerns with the plan over the remainder of the price review process.

In 'Significant scrutiny companies - Application of lower cost sharing rates and outcome delivery incentive cap' we set out our current view on how the company has responded to the initial assessment of plans. We consider that, for us to conclude that a reduced cost sharing rate should not apply, Thames Water has substantially more progress to make in addressing our concerns through a timely, high quality response to our draft determination. For the purpose of the draft determination we have not applied a reduced costs sharing rate for Thames Water.

We set out further detail of our interventions in this document and in the Thames Water actions and interventions documents.

2 Outcomes

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 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 incentives 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.

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 commitments and outcome delivery incentive rates.

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.

We expect 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 continue our assessment of customer engagement evidence following each company's submission of its response to our initial assessment of its plan in April 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 our initial assessment of business plans, we found that Thames Water demonstrated some elements of high quality customer engagement evidence although we highlighted important areas of concern, such as failure to fully reflect the view expressed by customers in the design of the package of performance commitments and outcome delivery incentives.

In response to our initial assessment of the plan, Thames Water presents new evidence of customer views in relation to its Water Resources Management Plan, water supply resilience in North London, drought resilience and protecting chalk streams, performance commitments and outcome delivery incentives and overall plan acceptability and affordability. In general, we find the quality of the new research to be of a satisfactory quality given the time constraints within which engagement was undertaken. We note that the company is continuing to carry out research in support of the 1 April 2019 business plan submission, including additional face to face interviews with customers with no online access in the recent acceptability and affordability research, new research on future bill options and service levels, and on the proposed Gearing Sharing Mechanism.

However, we note that Thames Water has not provided new evidence of customer support in response to some of the actions set out in our initial assessment of the business plan (for example, the March 2019 outcome delivery incentive research does not demonstrate support for an outperformance payment on the mains burst performance commitment, while it does reveal customers views of the mains burst target and on the overall RoRE range for the package of outcome performance incentives).

We note that both Thames Water and the customer challenge group acknowledge that the March 2019 research results cannot be considered to be statistically robust but can be used to provide an approximate indication of customers' views.

The customer challenge group is content with Thames Water's proposals for removal or introduction of performance commitments and considers that '[the company's revised plan] represents a marked improvement on Thames Water's September 2018 submission, with certain key areas being more effectively addressed and with customers remaining at the heart of Thames' thinking'. It continues to express some concerns about aspects of the company's package of performance commitments and outcome delivery incentives such as on the properties at risk of receiving low

pressure performance commitment, where the customer challenge group comments that ‘customers did not want an outperformance measure’ and the sewer collapses performance commitment where customers ‘tended to disagree this was a stretching target’.

2.2 Performance commitments and outcome delivery incentives

Thames Water’s performance commitments and outcome delivery incentives for the 2020-25 period are listed in Table 2.2 and Table 2.3. The detail of these performance commitments and outcome delivery incentives are set out in the ‘Thames Water - Outcomes performance commitment appendix’. The performance commitments and outcome delivery incentives include the revisions accepted by the company in response to our 31 January 2019 initial assessment of business plans and any additional interventions we are making in the draft determination.

The material interventions we are making in the draft determination are set out in Table 2.1 below. ‘Thames Water – Delivering outcomes for customers actions and interventions’ sets out in detail our interventions in the company’s performance commitments and outcome delivery incentives following our 31 January 2019 initial assessment of plans.

Table 2.1: Summary of key interventions on outcomes

Intervention description
Increasing the company’s leakage reduction to 25% to reduce the gap with the rest of the industry. Thames Water has the worst performance on leakage in the sector and the gap with the rest of the sector has grown during 2015-20. This sets Thames Water the most ambitious reduction in the sector to begin closing the gap with other companies. Increasing the underperformance rate in relation to leakage to ensure Thames Water is incentivised to deliver the more stretching commitment.
Tightening the per capita reduction in consumption performance commitment level to 6.3% reduction, which is the upper quartile of proposed reductions by all companies and aligns to the company's smart metering scheme. Accepting the company’s proposed outcome delivery incentive rates in relation to per capita consumption.
Requiring Thames Water to meet upper quartile sector performance by setting a target of 72% improvement in water supply interruptions by 2024-25. We are setting an industry-wide glidepath to achieve forward looking upper quartile by 2024-25.

Intervention description
Increasing the underperformance rate in relation to water supply interruptions rates to the industry average for water supply interruptions to ensure that Thames Water is strongly incentivised to deliver the more stretching commitment.
Accepting the company's proposal of improving the pollution incidents performance commitment level by 30% by 2024-25, the company currently performs marginally above the industry median and proposes to meet our industry upper quartile. Removing outperformance payments in relation to pollution incidents due to the lack of customer support. Increasing the underperformance rate in relation to pollution incidents to reflect our concerns around the company's rate triangulation where its proposed underperformance rate is lower than its reported willingness to pay figures.
Increasing the company's target reduction in internal sewer flooding to 32% since the company is currently performing at the industry median and we are requiring the company to meet the upper quartile sector performance. Accepting the company's proposed outcome delivery incentive rates in relation to internal sewer flooding.
Asset health performance commitments: Increasing the company's target reduction to an 18% reduction in mains repairs by 2024-25 based on the three best years of historic performance, since the company is currently the worst performer and proposes no improvement. Increasing underperformance rates to give additional customer protection in relation to mains repairs. Increasing the target performance and removing outperformance payments for unplanned outages, given poor performance.
Introducing underperformance payments for late delivery of schemes agreed by the Environment Agency to protect customers.
Increasing the company's target to a 17% improvement in clearance of blockages by 2024-25, in line with the maximum improvement proposed by other companies, since the company is currently the worst performer of those companies that proposed a blockages performance commitment.
Introducing a performance commitment which includes underperformance payments for failure to protect sites with the security and emergency measures specified by Defra, and incentivises delivery of legacy projects in 2020-25.
Increasing the underperformance rate in relation to critical asset readiness for the London Tideway Tunnels to ensure the company delivers enabling works for the Tideway project on time and is incentivised to maximise returns to customers when disposing of project land.

Table 2.2: Summary of performance commitments: common performance commitments

Name of common performance commitment	Type of outcome delivery incentive	Price controls outcome delivery incentives will apply to
Water quality compliance (CRI) [PR19TMS_BW06a]	Financial - Under; In-period	Water resources; Water network plus
Water supply interruptions [PR19TMS_BW03]	Financial - Out & under; In-period	Water network plus
Leakage [PR19TMS_BW04]	Financial - Out & under; In-period	Water network plus
Per capita consumption [PR19TMS_BW05]	Financial - Out & under; In-period	Water network plus
Mains repairs [PR19TMS_BW01]	Financial - Out & under; In-period	Water network plus
Unplanned outage [PR19TMS_BW02]	Financial - Under; In-period	Water resources; Water network plus
Risk of severe restrictions in a drought [PR19TMS_DW01]	Reputational	N/A
Priority services for customers in vulnerable circumstances [PR19TMS_AR06]	Reputational	N/A
Internal sewer flooding [PR19TMS_CS03]	Financial - Out & under; In-period	Wastewater network plus
Pollution incidents [PR19TMS_ES01]	Financial - Under; In-period	Wastewater network plus
Risk of sewer flooding in a storm [PR19TMS_DS01]	Reputational	N/A
Sewer collapses [PR19TMS_CS02]	Financial - Out & under; In-period	Wastewater network plus
Treatment works compliance [PR19TMS_CS01]	Financial - Under; In-period	Wastewater network plus
C-Mex: Customer measure of experience [PR19TMS_AR01]	Financial - Out & under; In-period	Residential retail
D-Mex: Developer services measure of experience [PR19TMS_AWS01]	Financial - Out & under; In-period	Water network plus; Wastewater network plus

Table 2.3: Summary of performance commitments: bespoke performance commitments

Name of bespoke performance commitment	Type of outcome delivery incentive	Price controls outcome delivery incentives will apply to
Percentage of satisfied vulnerable customers [PR19TMS_AR05]	Reputational	N/A
Proactive customer engagement [PR19TMS_AWS02]	Reputational	N/A
Properties at risk of receiving low pressure [PR19TMS_BW07]	Financial - Under; In-period	Water resources; Water network plus
Acceptability of water to consumers [PR19TMS_BW08]	Financial - Under; In-period	Water resources; Water network plus
Water quality events [PR19TMS_BW09]	Financial - Under; In-period	Water network plus
Reducing risk of lead [PR19TMS_BW10]	Financial - Out & under; In-period	Water network plus
Responding to major trunk mains bursts [PR19TMS_BW11]	Reputational	N/A
Improving system resilience of North East London water supply [PR19TMS_BW12]	Financial - Under; In-period	Water network plus
Clearance of blockages [PR19TMS_CS04]	Financial - Out & under; In-period	Wastewater network plus
Sewage pumping station availability [PR19TMS_CS05]	Financial - Under; In-period	Wastewater network plus
Surface water management [PR19TMS_DS02]	Financial - Out & under; End of period	Wastewater network plus
Security of supply index SoSI [PR19TMS_DW02]	Financial - Under; In-period	Water resources; Water network plus
Power resilience [PR19TMS_DWS01]	Financial - Under; End of period	Water network plus; Wastewater network plus
SEMD - Securing our sites (2020-25 projects) [PR19TMS_DWS02]	Financial - Under; End of period	Water network plus; Wastewater network plus
SEMD - Securing our sites (legacy projects) [PR19TMS_DWS03]	Financial - Under; End of period	Water network plus; Wastewater network plus
Unregistered Household Properties [PR19TMS_ER01]	Financial - Under; In-period	Residential retail
Empty household properties [PR19TMS_ER02]	Financial - Out & Under; In-period	Residential retail

Name of bespoke performance commitment	Type of outcome delivery incentive	Price controls outcome delivery incentives will apply to
Households on the Thames Water social tariff [PR19TMS_ER03]	Reputational	N/A
Environmental measures delivered [PR19TMS_ES02]	Financial - Under; In-period	Water resources; Water network plus; Wastewater network plus
Sludge treated before disposal [PR19TMS_ES03]	Financial - Under; In-period	Bioresources
Readiness to receive tunnel flow at Beckton STW [PR19TMS_ET01]	Financial - Under; In-period	Thames Tideway Tunnel
Effective stakeholder engagement [PR19TMS_ET02]	Reputational	N/A
Critical asset readiness for the London Tideway Tunnels [PR19TMS_ET04]	Financial - Under; In-period	Wastewater network plus; Dummy control
Establish an effective system operator for the London Tideway Tunnels [PR19TMS_ET05]	Reputational	N/A
Maximising the value of land sales [PR19TMS_ET06]	Financial - Out & under; End of period	Thames Tideway Tunnel
Abstraction Incentive Mechanism (AIM) [PR19TMS_EW01]	Financial - Out & under; In-period	Water resources
Enhancing biodiversity [PR19TMS_EWS01]	Financial - Out & under; End of period	Water resources; Water network plus; Wastewater network plus; Bioresources
Smarter Water Catchment Initiatives [PR19TMS_EWS02]	Financial - Under; In-period	Wastewater network plus
Renewable energy produced [PR19TMS_EWS03]	Financial - Out & under; In-period	Wastewater network plus; Bioresources
Natural Capital Accounting [PR19TMS_EWS04]	Reputational	N/A
Empty business properties [PR19TMS_EWS08]	Financial - Out; In-period	Water network plus; Wastewater network plus
BSI for fair, flexible inclusive services [PR19TMS_AR07]	Reputational	N/A
Installing new smart meters in London [PR19TMS_M01]	Financial - Under; End of period	Water network plus
Replacing existing meters with smart meters in London [PR19TMS_M02]	Financial - Under; End of period	Water network plus

Name of bespoke performance commitment	Type of outcome delivery incentive	Price controls outcome delivery incentives will apply to
WINEP Delivery [PR19TMS_NEP01]	Reputational	N/A

Figure 2.1 and Figure 2.2 below provide an indication of the financial value of each of Thames Water's outcome delivery incentives (taking into account the impact of our draft determination interventions) 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 overperformed to the P90 level. The figures cover common and bespoke commitments respectively.

Table 2.4 below 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 regulated equity)) and the overall impact of our draft determination interventions. The estimates are based on the company's own view of the plausible bounds of performance. The P90 is the performance threshold at which there is only a 10% chance of outturn performance being better. The P10 is the performance threshold at which there is only a 10% chance of outturn performance being worse.

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

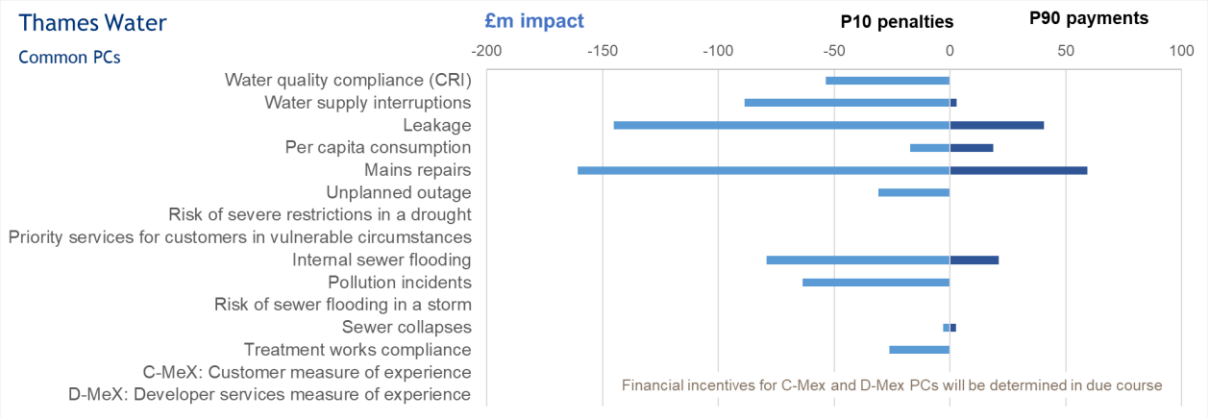


Figure 2.2: Projected P10 penalties and P90 payments for bespoke performance commitments over 2020-25 (£ million)

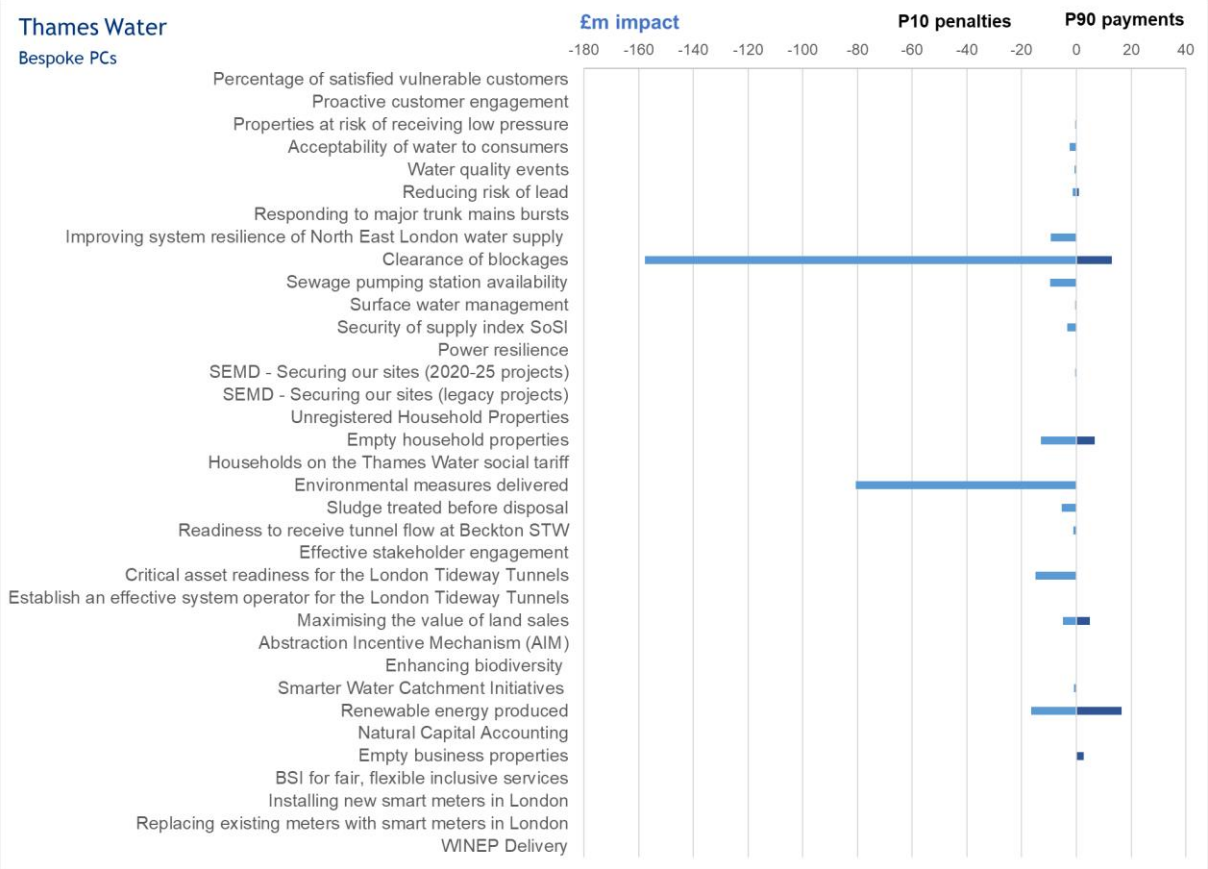


Table 2.4: Impact of draft determination interventions on RoRE range

	April 2019 business plan		Draft determination	
	% of 5 year regulatory equity		% of 5 year regulatory equity	
	P10	P90	P10	P90
Thames Water	**-1.61**	**+0.87**	**-3.27**	**+0.53**

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.

The company has proposed an alternative sharing mechanism where the 50%sharing with customers applies to outperformance above 3% of Return on Regulatory Equity (RoRE) over the whole 2020-25 period instead of each year. We impose our standard outperformance sharing mechanism so that sharing will apply each year. We set out further detail of the mechanism in 'Delivering outcomes for customers policy appendix'.

In our PR19 methodology, we decided to replace the current Service Incentive Mechanism (SIM) with two new mechanisms to incentivise companies to provide a great 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 be operational from April 2020. We set out further details on C-MeX and D-MeX in the 'Delivering outcomes for customers policy appendix'. We will publish our decisions on C-Mex and D-Mex incentive designs for 2020-25 as part of the final determinations in December.

We will finalise the company's performance commitments and outcome delivery incentives in the light of representations on this draft determination, so that these can be reflected as appropriate in the company's final determination to be published in December.

2.3 Linking outcomes to resilience

In our initial assessment of plans, we were concerned that companies' plans lacked a clear line of sight between the identified risks to resilience, the proposed mitigations to tackle these risks, and how these mitigation plans were reflected as service improvements in the form of stretching performance commitments. In this context, we consider that Thames Water provides insufficient evidence to demonstrate that it has a good understanding of the condition of its assets, despite historical poor performance. We are intervening to ensure these asset health challenges are reflected in the company's outcomes and performance commitments, particularly in relation to mains repairs, sewer blockages and unplanned outage.

Our initial assessment of plans also noted that Thames Water provided insufficient details of the prioritisation of the selected risks and how these link to its systems and to groups of performance commitments. As a consequence, while the company presented a general assessment of the level of development of its systems in relation to resilience, Thames Water provided insufficient evidence to demonstrate the benefit that specific investments have in mitigating quantified levels of risk (and/or in increasing system resilience) and supporting stable or improved commitment targets. We expect companies to address this and other issues associated with the way they integrate resilience across their business in the action plans that will be submitted by 22 August 2019 and in their responses to the draft determinations in relation to specific investment proposals. We will take into account the quality of companies' response in our final determinations.

2.4 Deliverability

To maintain trust and confidence, it is important that companies not only have a great business plan but also that customers have confidence that the business plan will be delivered. In our initial assessment of the company's past performance Thames Water did not provide us with sufficient evidence of the deliverability of its outcomes proposals, in particular in relation to its leakage, water supply interruptions and treatment works compliance performance commitments in its business plan. Our concerns in relation to deliverability of the sewage pumping station availability, the Security and Emergency Measures Direction (SEMD) and Security of Supply Index (SOSI) performance commitments are addressed in 'Thames Water - Delivering outcomes for customers actions and interventions'.

We required the company to provide further evidence of deliverability and an action plan for continuous improvement in this area. We have considered the additional evidence provided by Thames Water to identify whether we need to include additional measures in its draft determinations to incentivise the delivery of its business plan, in particular whether to strengthen the outcome delivery incentives package. The detailed assessment of the company's additional evidence of

deliverability is included in 'Thames Water - Accounting for past delivery actions and interventions', and our methodology for conducting this assessment is in the 'Accounting for past delivery technical appendix'.

For leakage, water supply interruptions and treatment works compliance performance commitments, the company provides further evidence to support its deliverability, and an action plan for continuous improvement.

The company's action plan for continuous improvement is generic, not specific to individual performance commitments. The company provides insufficient evidence in its action plan for continuous improvement.

In relation to the leakage performance commitment, in August 2018 Ofwat concluded an enforcement case which found that Thames Water had breached its legal obligations through failings in its management of leakage during 2015-16 to 2017-18. As a result of that enforcement case Thames Water agreed to pay a package of penalties and payments back to customers of £120m. We also imposed a formal undertaking on Thames Water to get its leakage performance back in line with what it had promised to deliver for its customers in 2019-20 and to make additional leakage reductions by 2025. The company attributes much of its poor performance on leakage to a number of significant weather events and major incidents in the 2015-20 period. In its 1 April response to our initial assessment of plans Thames Water does not acknowledge that its commitment to provide a 20% improvement in leakage reduction was a requirement arising out of its formal undertaking from that enforcement case.

Whilst the company provides evidence of measures to improve performance, it provides insufficient evidence of how it proposes to deliver its commitment to reduce leakage. We think this is vital, particularly as we are asking Thames Water to go further for its customers by intervening to require the company to reduce leakage by 25% from forecast 2019-20 performance. This goes further than the requirements of the formal undertaking resulting from our 'Investigation into Thames Water's failure to meet its leakage performance commitments' published in August 2018, relating to its failure in the 2015-2018 period.

We are also already intervening in our outcomes assessment to protect customers by increasing the underperformance payment incentive rate. We do not consider that any further intervention is required as a result of our deliverability assessment to mitigate the risks around delivery of the 2020-25 stretch. However, we consider it important that Thames Water sets out a compelling plan for how it will deliver on its leakage performance commitment and invite it to do so in response to our draft determination.

For the water supply interruptions performance commitment, whilst the company provides evidence of measures to improve performance, it provides insufficient evidence on how it will deliver on its commitment to reduce water supply interruptions. We therefore consider it necessary to intervene to protect customers

by increasing Thames Water's underperformance payment incentive rate to mitigate the risks around delivery of 2020-25 stretch. For information on how we are intervening on these rates, please see the 'Delivering outcomes for customers policy appendix'. We also consider it important that Thames Water sets out a compelling plan for how it will deliver on its water supply interruptions performance commitment and invite it to do so in response to our draft determination.

For the treatment works compliance performance commitment, whilst the company provides evidence of measures to improve performance, it provides insufficient evidence to support the deliverability of the stretch in its 2020-25 business plan for water supply interruptions.

We are not intervening in relation to the company's treatment works compliance performance commitment as we are accepting the company's proposed underperformance penalty rate in its revised business plan which is the second highest in the industry. We consider that this protects customers as it provides the company with sufficient incentives to mitigate the risks around delivery of the 2020-25 stretch.

3 Cost allowances

We set out in our PR19 methodology that we expect company business plans to show a step change in efficiency. In its April business plan, Thames Water requests total expenditure levels that are 13% higher than it has incurred historically for totex and 14% higher for base costs (although we recognise the reduction in cost relative to its original business plan of September 2018). To ensure customers pay only for efficient costs, we challenge these costs and, except for the bioresources price control, we find the proposed costs to be significantly greater than our view of efficient costs. Our allowance for base expenditure is slightly higher than historical levels.

For enhancement expenditure we challenge the scope of work, the evidence provided to support solution options and the efficient delivery of programmes. We are challenging across a range of Thames Water's enhancement expenditure and most this relates to efficiency, and we have intervened to ensure customers only pay for efficient costs.

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 'Thames Water – Cost efficiency draft determination appendix' we provide more detailed information on our cost challenge for enhancement expenditure, our allowance for cost adjustment claims and transitional expenditure and how we will deal with the uncertainty in WINEP).

3.1 Wholesale total expenditure

Table 3.1 shows the totex allowances by year and by wholesale price control for the period 2020-25. We have phased our allowed totex over 2020-25 using the company business plan totex profile.

Table 3.1: Totex[1] (excluding pension deficit recovery) 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 view - total
Water Resources	120.9	129.8	143.1	139.2	131.8	664.8	552.0
Water network plus	723.3	788.0	760.2	728.3	700.8	3,700.6	4,803.2
Wastewater network plus	678.7	750.6	774.2	753.0	675.2	3,631.7	4,157.7
Bioresources[2]	120.4	167.4	168.9	146.5	120.1	723.4	658.4
Thames Tideway	36.9	54.2	32.1	-206.2	-244.6	-327.7	-210.3
Total	**1,680.2**	**1,889.9**	**1,878.6**	**1,560.8**	**1,383.3**	**8,392.8**	**9,961.0**

1 Totex includes all costs except pension deficit recovery costs. This includes 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 build-up of our totex allowance from base and enhancement costs. Base expenditure refers to routine, year on year costs, which companies incur in the normal running of their business. Enhancement expenditure refers to investment for the purpose of enhancing the capacity or quality of service beyond base level.

For draft determinations, we have changed the scope of costs included under base expenditure compared to the initial assessment of plans. Our base costs for wholesale water now include costs associated with the connection of new developments (ie new developments and new connection costs) and costs for addressing low pressure. Our base costs for wholesale wastewater now include new connections and growth, growth at sewage treatment works and costs to reduce flooding to properties that were previously assessed as enhancement expenditure.

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

	Our cost allowance					Company view
	Water resources	Water network plus	Wastewater network plus	Bioresources	Total	Total
Base expenditure	352.4	3,196.0	3,293.6	723.5	7,565.6	8,157.2
Enhancement expenditure	130.6	484.8	328.8	-	944.3	1,831.6
Third party costs	15.2	19.2	20.5	0.7	55.6	55.6
Total – excluding pension deficit recovery	**498.2**	**3,700.1**	**3,643.0**	**724.2**	**8,565.4**	**10,044.4**
Pensions deficit recovery costs	3.4	29.9	23.2	7.1	63.6	104.9
Total	**501.6**	**3,729.9**	**3,666.2**	**731.3**	**8,629.0**	**10,149.3**

1 We display base costs under the new definition. Company business plan base costs exclude enhancement opex.
2 We are displaying pension deficit recovery costs separately as they are not included in the calculation for PAYG (see section 4).
3 Table 3.2 does not include operating lease adjustments, allowances related to the development of strategic regional water resource solutions. Any ex-ante cost sharing adjustments and costs that are assumed to be recovered through grants and contributions are also excluded. This is to allow a simpler comparison with base and enhancement costs. Table 3.6 sets out a reconciliation of inclusions and exclusions in totex for cost sharing and for the financial model.
4 Thames Tideway totex is not included in this table (see section 3.4).
5 The company view of pension deficit recovery costs is the full cost, not just the cost the company expects to include within price controls.
6 The company view of business plan costs is understated due to erroneous treatment of enhancement opex. This does not affect our assessment of these costs. Further details are outlined in our feeder model FM_WWW4_ST_DD.

3.2 Base expenditure

Table 3.3 shows our challenge to company proposed base expenditure. We distinguish between 'modelled base costs' and 'unmodelled base costs'. We challenge modelled based costs based on comparative assessment (using econometric models). Our efficiency challenge is based on cost performance within the sector as well as evidence from the wider economy.

Unmodelled base costs include business rates; abstraction charges; costs to meet the Traffic Management Act and costs to meet the wastewater Industrial Emissions Directive where applicable. Our assessment of these costs sits outside of our econometric models and we explain our approach in 'Securing cost efficiency technical appendix'.

Table 3.3: Base totex expenditure, 2020-25 (£ million, 2017-18 CPIH deflated prices)

Price Control	Company business plan - base cost	Modelled base costs efficiency adjustment	Unmodelled base costs adjustment	Base cost allowance
Water Resources	380.2	-10.6	-17.2	352.4
Water Network plus	3,623.6	-417.0	-10.5	3,196.0
Wastewater Network plus	3,534.5	-239.9	-0.9	3,293.6
Bioresources	618.9	104.6	0.0	723.5
Total	8,157.2	-562.9	-28.7	7,565.6

1. Base costs include operating and maintenance costs as well as new development, new connections and addressing low pressure costs in water, and new connections and growth, growth at sewage treatment works, costs to reduce flooding to properties and transfer to private sewers and pumping stations in wastewater. Company business plan base costs exclude enhancement opex.
2. Thames Tideway totex is not included in this table (see section 3.4).
3. The company view of business plan costs is understated due to erroneous treatment of enhancement opex. This does not affect our assessment of these costs. Further details are outlined in our feeder model FM_WWW4_ST_DD.

3.3 Enhancement expenditure

Table 3.4 summarises our allowances for enhancement expenditure.

Our draft determination allows Thames Water £944 million to invest in improvements to service, resilience and the environment. Key parts of this allowance are:

- £448 million to improve the environment by efficiently delivering its obligations as set out in the Water Industry National Environment Programme (WINEP), including providing improved phosphorus removal at treatment sites treating wastewater from more than 450,000 people, and providing capacity to treat more than 1,400 additional litres per second of wastewater in wet weather;

- £87 million improving resilience including at Coppermills water treatment works as part of its North East London resilience scheme;
- £79 million meeting its water supply-demand balance requirements including by developing treatment capacity and water trading with a power company;
- £77 million for increasing the proportion of time that water treatment assets are available; and
- £178 million installing meters including more than 600,000 smart meters to promote water efficiency.

We make an additional allowance of £179 million for the company to evaluate potential strategic regional water resource solutions, in partnership with others, including the River Severn to River Thames transfer and the strategic Abingdon reservoir. The 'Strategic regional water resource solutions appendix' provides more details.

The most material areas of enhancement cost challenge for Thames Water are in leakage and metering, sludge quality and growth, the wastewater WINEP programme, resilience and a number of areas where we consider improvements to performance are funded through the outcome delivery incentive framework. Most of our challenge is related to efficiency, rather than disputing the need for the investment, and we intervene to ensure customers only pay for efficient costs.

Leakage

For leakage our expectation for base service levels is that an efficient company should achieve industry forecast upper quartile performance by 2024-25 in both normalised measures (per property and per kilometre of main). This performance is funded through the base allowance. We allow enhancement costs only where a company's performance commitment goes beyond the forecast upper quartile threshold. As this is not achieved by Thames Water, we do not allow the requested funding under enhancement. Companies are able to earn outperformance payments if they deliver leakage reductions beyond their stretching performance commitment. For Thames Water we are intervening to increase the percentage reduction over the period from its proposed 20% to 25% to reduce the gap to the rest of the industry. The company is able to earn outperformance payments for any improvement above the revised stretching performance commitment of 25% reduction.

Metering

We make an enhancement allowance for companies to install new meter to fulfil customer requests and deliver reductions in demand. We use an econometric model

to determine efficient allowances for new meter installations and any activities outside this scope are assessed through a deep dive assessment. The additional activities we consider in the company's deep dive include the replacement of existing meters with smart meters and supporting infrastructure. The company also submits a cost adjustment claim seeking additional cost allowance relating to its high meter installation unit cost which it considers to be due to specific regional cost factors, such as number of visits required to gain access to meter locations. Based on cost benchmarking of common activities with other company claims and assessing company specific information, we make an allowance for the efficient delivery of these activities, which is lower than the company requests.

Water Industry National Environment Programme (WINEP)

We do not challenge the scope of Thames Water's programme for wastewater schemes in WINEP, and we allow 81% of the requested investment. We assess costs at a programme level which allows us to avoid potential issues with cost allocation between activities, and whilst Thames Water appears inefficient for flow monitoring at sewage works, phosphorus removal, meeting tighter sanitary consents, and chemical removal, it does appear efficient in event duration monitoring, conservation drivers, chemical and wastewater investigations, and storage at sewage works.

Resilience

We are supportive of the elements of the North East London resilience scheme at Coppermills Water Treatment Works that relate to the pre-treatment for algae and the high-lift pumping station, to mitigate the risk of having a single point of failure. We do not make an allowance for the remainder of this investment as it is not clearly positioned within the company's overall risk assessment process nor evidenced that it was a priority relative to other risks the company faces, in particular the completion of work to mitigate the loss of the pumping station, which is not scheduled until 2025-30. This is consistent with our concerns about Thames Water's identification and mitigation of resilience risks, set out in the initial assessment of plans. As this reduces the materiality of the scheme overall, we consider our existing uncertainty mechanisms adequate and the company's proposed mechanism as unnecessary.

Water Security

In its April 2019 business plan, Thames Water significantly reduced its proposed expenditure for water security and instead proposes to include an uncertainty mechanism for the costs it removed. For the costs remaining in its plan, we allow these where it provides sufficient site detail and justification for expenditure. We

disallow other costs where it does not provide sufficient detail regarding the sites it planned to upgrade or where we consider the costs should form part of its base allowance. We also do not allow the uncertainty mechanism proposed by Thames Water as we do not consider that it provides sufficient incentive for it to deliver the remaining projects efficiently.

Performance related enhancement

For water quality compliance risk index, there is no new statutory obligation for expenditure in this area, therefore we do not allow the requested funding. For supply interruptions, we reject the requested expenditure as we expect companies to recover these costs within their base cost allowances and we don't think customers should pay extra for this catch up. Any outperformance of targets will be funded in the outcome delivery incentive framework.

Similarly for pollution incident reduction, we do not allow the proposed enhancement funding to catch up with upper quartile performance, and any outperformance is rewarded through the outcome delivery incentive framework.

On sludge quality and growth, we reject Thames Water's claim for funding as it does not meet the materiality threshold for a cost adjustment claim and it is to address a current compliance matter.

We are making an allowance of £77 million for Thames Water to improve its unplanned outage performance. The company proposed a higher cost to improve performance from 18% to 17%. We make our allowance with an associated performance expectation that the company will meet a target unplanned outage of 2.34% by 2024-25. We expect the company to set out an action plan as to how it will deliver this improvement as part of its representation to the draft determination.

Our document 'Thames Water - Cost efficiency draft determination appendix' sets out in more detail the cost allowances by investment area for each price control, and we give full details in our published models.

Table 3.4: Enhancement totex expenditure, 2020-25 (£ million, 2017-18 CPIH deflated prices)

Service	Company requested totex	Scope and efficiency adjustment	Our allowance
Water Resources	229.8	-99.2	130.6
Water Network plus	1,066.7	-581.9	484.8

Wastewater Network plus	496.4	-167.5	328.8
Bioresources	38.7	-38.7	0.0
Total	1,831.6	-887.4	944.3

Note: Thames Tideway totex is not included in this table (see section 3.4).

3.4 Thames Tideway costs

The Thames Tideway Tunnel is the main component of a solution to reduce overflows of untreated sewage into the tidal River Thames in order to achieve compliance with the Urban Wastewater Treatment Directive. The tunnel is being delivered by Tideway, a third-party infrastructure provider, and is expected to be completed in 2024.

Thames Water still has an important role on the project during construction and into the tunnel's operation, particularly on disposing of surplus land after construction activities have finished and preparing for the tunnel's operation.

Table 3.5: Totex expenditure for Thames Tideway, 2020-25 (£ million, 2017-18 CPIH deflated prices)

Service	Company requested totex	Scope and efficiency adjustment	Our allowance
Costs	134.3	17.3	117
Land Sales	-344.6	-100	-444.6
Total	-210.3	-117.3	-327.7

We assessed the Thames Tideway Tunnel costs associated with the construction, system commissioning and system operation of the tunnel. Our view is that there is additional income available from the sale of land associated with the tunnel. We also consider that costs associated with the future construction and operation of the tunnel are likely to be lower than the company has presented. On land, we have completed our own analysis and concluded that the land values proposed by Thames Water are appropriate assuming land is sold without any planning permission, but we consider there is further value in pursuing additional ways to maximise revenue from selling the land. As a result, we have intervened to set a new performance commitment which provides an incentive for the company to maximise

the value of Tideway-related land sales in the 2020-25 period – which we set out further in 'Thames Water – Delivering outcomes for customers actions and interventions'.

We also consider that Thames Water proposed system operator costs and costs for the Tideway Integration Group appear disproportionately high to that required to efficiently provide these functions.

3.5 Cost sharing

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 calculate 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 propose to calculate the company's view based on a 50% weight on the company's final cost proposals in its representation to the draft determination and 50% weight on the September 2018 business plan, provided we decide not to set the reduced rates to reflect significant scrutiny status. We explain our approach to calculating cost sharing rates in the 'Securing cost efficiency technical appendix'.

The cost sharing mechanism applies to total revenue controls only, namely for water resources, water network plus and wastewater network plus. In the case of Thames Water, we propose to apply the cost sharing mechanism to the Tideway control as well. We do not apply cost sharing in average revenue controls, namely in the retail and bioresources controls. In the average revenue controls, any deviation from our allowed expenditure will be incurred fully by the company.

Thames Water's September 2018 business plan was assessed as requiring significant scrutiny at the initial assessment of plans. In our PR19 methodology we set out that for companies whose plans are assessed to need significant scrutiny, we will set a reduced cost sharing rate of 75% for underperformance and 25% for outperformance. When we published our view of costs at the initial assessment of plans we said we would decide at the final determination whether to apply a reduced cost sharing rate, or calculate the rates based on our approach for slow track companies, to reflect whether the company had engaged positively to address our concerns with the plan over the remainder of the price review process. We consider that, for us to conclude that a reduced cost sharing rate should not apply, Thames Water has substantially more progress to make in addressing our concerns through a timely, high quality response to our draft determination. For the purpose of the draft determination we have not applied a reduced cost sharing rate for Thames Water.

Table 3.6: Totex cost sharing for cost performance for 2020-25, %

	Water resources	Network plus - water	Network plus - wastewater
Cost sharing rate – outperformance	35.0%	35.0%	35.0%
Cost sharing rate – underperformance	65.0%	65.0%	65.0%

Table 3.6 sets out the costs that are subject to cost sharing. We apply cost sharing to net totex. Net totex excludes grants and contributions, costs of operating leases, strategic regional water resources development costs, third party costs and pension deficit recovery cost.

We adjust allowed costs 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 have followed the approach set out in IN 18/09 Guidance for reporting operating leases in PR19 business plans. We have used the adjustment to operating costs that the company proposed in its business plan.

Table 3.7: Totex subject to cost sharing rates – 2020-25, £ million[1]

	Water resources	Network plus – water	Network plus – wastewater	Company view
Gross totex (excluding third party costs)	483.0	3,680.9	3,622.5	9,458.1
Grants and contributions	0.0	-168.7	-101.4	-379.7
Operating leases adjustment	-2.4	-9.7	-11.3	-23.4
Net totex (subject to cost sharing)	**480.6**	**3,502.5**	**3,509.8**	**9,054.9**
Strategic regional water resource solutions[2]	169.0	10.2	0.0	0.0
Third party costs	15.2	19.2	20.5	55.6
Ex-ante cost sharing adjustment	0.0	0.0	0.0	0.0

Net totex (for financial model)	**664.8**	**3,531.9**	**3,530.3**	**9,110.5**

[1] Table 3.7 does not include pension deficit repair expenditure, as this is not included in cost sharing.

[2] The standard totex cost sharing does not apply to strategic regional water resource solution expenditure, see 'Strategic regional water resources solution appendix' for more details.

3.6 Transition expenditure

Thames Water does not request any expenditure under the transition programme.

3.7 Residential retail

We determine the residential retail control from the expenditure set out in Table 3.8, using an econometric modelling approach to set our allowance. The residential retail draft determination does not include any of our allowed pension deficit recovery costs. These costs have been wholly allocated 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	150.7	150.7	150.7	150.7	150.7	753.5
Company view	174.7	176.7	177.4	175.6	172.5	876.9

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.

3.8 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 were to consider direct procurement for customers for discrete, large-scale enhancement projects expected to cost over £100 million, based on whole-life totex.

There is sufficient evidence that the Thames Water business plan has a number of potential schemes that are likely to offer greater value for customers if delivered through a direct procurement for customers process. Due to the adaptive nature of the business plan the following schemes are suitable for a direct procurement for customers process should they be confirmed: South East Strategic Reservoir Option, Deephams Reuse, the North East London Resilience Treatment and Storage and North East London Resilience High Lift Pumping Stations or similar sized alternatives. In addition, we note that the Strategic Regional Solution Development update on the 3rd May 2019 includes further schemes that may be suitable for a direct procurement for customers process.

We expect Thames Water to develop these schemes through a direct procurement for customers process, including a review of detailed costs and commitments and market-testing prior to procurement, to ensure that customers receive the best value. We have allowed efficient costs to progress the development of these schemes under a direct procurement for customers process.

Under direct procurement for customers the need to create regulatory mechanisms to manage uncertainty as a result of change is recognised. If a change in external factors dictates that a scheme no longer demonstrates value for money through direct procurement for customers, a scheme may pass from direct procurement for customers back to a traditional in-house procurement process.

Where we expect companies to develop projects through a direct procurement for customers process at the final determination stage, we propose to include an uncertainty mechanism in final determinations which, unless a scheme is deferred to a future price control, facilitates the transfer of a scheme back into the traditional in-house model to ensure timely delivery.

Our preferred uncertainty mechanism in those circumstances would be a notified item detailed in a company's final determination and which could, subject to relevant thresholds, trigger an interim determination.

The uncertainty mechanism would only apply in respect of a scheme where there was an agreed need and the scheme had been approved by Ofwat.

We discuss both the uncertainty mechanism and licence changes which we consider necessary to facilitate the delivery of direct procurement for customers schemes, further in 'Delivering customer value in large projects'.

4 Calculation of allowed revenue

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.

Wholesale controls

For the wholesale controls (that is water resources, water network plus, wastewater network plus, bioresources and Thames Tideway), 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 cost of 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 incentives or penalties 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 collected from developers in respect of work undertaken by companies to service new developments. It will include income from connection charges and infrastructure charges. This does not necessarily agree to the total grants and contributions deducted from totex, as only the income relating to the price control is included here.

- 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. 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.
- 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 Thames Water's wholesale controls in Table 4.1. For Thames Water this includes a wholesale control for Thames Water's activities in delivery of the Thames Tideway tunnel as discussed below. 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.

Thames Water customers pay around £12 per year in their wastewater bills related to the costs incurred for construction of the Thames Tideway tunnel by the infrastructure provider (Bazalgette Tunnel Limited). This is in addition to the costs Thames Water incur associated with the work it must undertake to integrate the tunnel with its network. Where Thames Tideway is referred to in the tables in this section, the costs and revenues refer only to the elements of the project that are delivered by Thames Water, which are included in a separate wholesale control.

We explain how we calculate PAYG, RCV run-off and the allowed return on cost of 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 4.6: Calculation of allowed revenue (£ million)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total	Company view - total
Pay as you go	312.7	1,473.0	1,396.6	278.5	30.2	3,491.1	4,085.6
RCV run-off	94.1	1,361.5	1,493.9	407.5	0.3	3,357.3	3,455.0
Return on capital	59.1	839.3	717.5	207.7	166.2	1,989.9	2,224.5
Revenue adjustments for PR14 reconciliations	0.3	-80.9	5.4	0.0	78.7	3.5	13.7
Tax	0.0	0.0	1.6	3.5	0.0	5.1	11.9
Grants and contributions (price control)	0.0	126.0	45.8	0.0	0.0	171.8	227.6
Deduct non-price control income	-18.1	-25.5	-51.2	0.0	0.0	-94.8	-94.8
Revenue re-profiling	0.0	0.5	0.5	0.1	0.0	1.1	0.0
Final allowed revenues	448.2	3,693.8	3,610.2	897.3	275.4	8,924.9	9,923.5

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

Residential retail control

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

- 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.

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

Allowed revenue for the residential retail control is set on a nominal basis and therefore we present the make-up of the allowed revenue in nominal prices in Table 4.2.

Table 4.7: Retail margins (nominal price base)

	2020-25	Company view 2020-25
Total wholesale revenue - nominal (£ million)	9,645.0	10,707.0
Proportion of wholesale revenue allocated to residential (%)	78.62%	78.53%
Residential retail costs (£ million)	753.5	876.9
Total retail costs (£ million)	8,336.4	9,284.7
Residential retail net margin (%)	1.00%	1.00%
Residential retail net margin (£ million)	83.0	97.04
Residential retail adjustments (£ million)	-121.7	-116.7
Residential retail revenue (£ million)	714.8	964.6

Note: retail revenue is the sum of the net margin, retail costs, and adjustments. Company view may not sum as this may include other adjustments.
Note: the proportion of wholesale revenue allocated to residential customers is provided by the company in the business plan tables. This is provided for each wholesale control separately, so although we have used the same proportions for each control as the company, our interventions on costs in each control mean that the combined proportion is slightly different.

We set out the calculation of residential retail revenue on an annual basis in the 'Thames Water - Allowed revenue appendix' in Table 1.6.

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.

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

PAYG

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 'Thames 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 total amount to be recovered in 2020-25 for each price control.

Table 4.8: PAYG allowances for each wholesale control (5 year)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total	Company view - Total
Totex allowance (£ million)	664.8	3,531.9	3,530.3	723.4	-333.5	8,122.7	9,791.6
Draft determination PAYG rate(%)	46.5%	40.9%	38.9%	37.5%	-9.1%	42.2%	
Pay as you go totex (£ million)	309.3	1,443.1	1,373.4	271.4	30.2	3,427.5	4,002.5
Pension deficit recovery cost (£ million)	3.4	29.9	23.2	7.1	-	63.6	64.1
Total pay as you go (£ million)	312.7	1,473.0	1,396.6	278.5	30.2	3,491.1	4,085.6
Company plan PAYG rate (%)	62.2%	40.1%	39.3%	37.5%	-9.1%		40.9%

Thames Water's approach to PAYG rates is to recover in each year an amount equivalent to operating costs. We accept the approach taken by the company and have applied a technical intervention to amend the PAYG rates proposed in the business plan to reflect our view of the mix of operating and capital expenditure following our totex interventions compared with the business plan. Our view of efficient totex is lower than the company's plan and contains a slightly higher proportion of capital expenditure than the company proposed.

We set out how we apply the technical intervention in 'Aligning risk and return technical appendix' and we have published our calculation of the PAYG rates for each company alongside our draft determinations. We are intervening to increase PAYG rates for the water and wastewater network plus controls by 0.7 per cent in relation to a financeability constraint on the notional company structure. We discuss our financeability assessment in section 5.4 Financeability.

Opening RCV adjustments

As part of the business plan Thames 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 Thames 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 have followed the approach set out in IN 18/09 Guidance for reporting operating leases in PR19 business plans. We have used the adjustment proposed in the company business plan.

Table 4.9: Opening RCV, 1 April 2020 (£ million)

	Water resources	Water network plus	Wastewater network plus	Bioresources
RCV – 31 March 2020	5,944.1		6,750.3	
% of RCV allocated by control	4.76%	95.24%	77.56%	22.44%
RCV – 31 March 2020	283.0	5,661.1	5,235.5	1,514.8
Midnight adjustments to RCV	9.5	190.0	-263.3	0.0
Midnight adjustments relating to operating leases	5.6	22.4	26.1	1.9
Opening RCV – 1 April 2020	298.1	5,873.4	4,998.3	1,516.7

Table 4.10: Opening RCV, Thames Tideway, 1 April 2020 (£ million)

	Thames Tideway
RCV – 31 March 2020	1,467.0
Midnight adjustments to RCV	-183.0
Midnight adjustments relating to operating leases	6.1
Opening RCV – 1 April 2020	1,290.1

Return on capital

Companies are allowed a return on the RCV, equal to the Weighted Average Cost of Capital (WACC).

Our PR19 methodology set out an 'early view' cost of capital for all wholesale controls. Thames Water's business plan incorporates the early view cost of capital for the wholesale price controls of 3.30% - CPIH deflated (2.30% - RPI deflated). We have updated our view of the cost of capital for the wholesale price controls to 3.08% – CPIH deflated (2.08% – RPI deflated). We set out the basis for the updated view in the 'Cost of capital technical appendix'. We have used our updated cost of capital in this draft determination.

Our PR19 methodology confirmed that we will transition to CPIH as the primary inflation rate 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.

The PR19 methodology confirmed our protection of the value of the RCV as at 31 March 2020 across each of the wholesale price controls. Totex that is added to the RCV from 1 April 2020 is stated as 'post 2020 investment'.

In determining the 'return on capital' revenue building block, we apply the relevant deflated cost of capital to the average RCV for the year for each component (RPI inflated, CPIH inflated and post 2020 investment). This results in a return on capital for each wholesale control over the period 2015-20 as set out in Table 4.8.

Table 4.11: Opening RCV by wholesale control for each component of RCV, 1 April 2020 (£ million)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total
RPI inflated RCV	149.1	2,936.7	2,499.1	758.3	645.1	6,988.3
CPIH inflated RCV	149.1	2,936.7	2,499.1	758.3	645.1	6,988.3
Other adjustments	-	-	-	-	-	-
Total RCV	298.1	5,873.4	4,998.3	1,516.7	1,290.1	13,976.6

Table 4.12: Closing RCV by wholesale control for each component of RCV, 31 March 2025 (£ million)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total
RPI inflated RCV	126.8	2,511.6	1,993.7	624.0	675.7	5,931.8
CPIH inflated RCV	121.0	2,346.3	1,886.8	595.6	644.9	5,594.6
Post 2020 investment	318.2	1,871.8	1,886.3	374.2	-363.7	4,086.8
Other adjustments	-	-	-	-	-	-
Total RCV	566.0	6,729.6	5,766.8	1,593.8	956.9	15,613.2

Table 4.13: Return on capital by wholesale control for each component of RCV, 2020-25 (£ million)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total
RPI inflated RCV	14.3	285.0	232.7	72.1	68.8	672.9
CPIH inflated RCV	20.7	405.0	335.2	104.2	99.3	964.4
Post 2020 investment	24.1	149.3	149.7	31.3	-1.9	352.5
Other adjustments	-	-	-	-	-	-
Total return on capital	59.1	839.3	717.5	207.7	166.2	1,989.9
Company view – total return on capital	53.3	962.8	804.2	222.5	181.7	2,224.5

Note: Total 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 return on capital for each year of the price control for each wholesale control are shown in the 'Thames Water - Allowed revenue appendix' in Tables 3.1 to 3.20 and 4.1 to 4.5.

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 4.14: RCV run-off on the RCV (5 year) (£ million)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total
CPIH inflated RCV	28.7	554.0	611.0	167.0	0.2	1,393.6
RPI inflated RCV	28.1	590.4	612.3	162.7	0.2	1,360.8
Post 2020 investment	37.2	217.0	270.6	77.8	0.0	602.7
Total RCV run-off	94.1	1,361.5	1,493.9	407.5	0.3	3,357.0
Company view – total RCV run-off	78.8	1,433.4	1,541.5	401.1	0.3	3,454.7

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).

Thames Water's RCV run-off rates are based on current cost depreciation within each wholesale control. We accept Thames Water's RCV run-off rates for the draft determination. However, the interventions to allowed totex changes the post-2020 investment added to RCV and therefore the total RCV run-off. 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 determination.

Table 4.15: RCV run-off rates for each wholesale control (5 year)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway
Original company plan (%)	4.23%	4.38%	5.29%	5.01%	0.005%
Draft determination (%)	4.29%	4.20%	5.40%	5.04%	0.004%

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 RCV run-off rate for the Thames Tideway control reflects the approach to lease accounting reflected in 'IN 18/09 Guidance for reporting operating leases in PR19 business plans' to cover costs that would previously have been recovered through PAYG.

We are not intervening in RCV run-off rates. Where there are different RCV run-off rates for post-2020 investment RCV, or CPIH inflated RCV for water and wastewater network plus controls, compared to other elements of RCV, interventions to allowed totex and to PAYG rates may result in average RCV run-off rates varying between the company plan and the draft determination. The annual rates for each wholesale control are set out in the 'Thames 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. 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. 'Thames Water - Accounting for past delivery actions and interventions' 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 'Thames 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 4.4.

We are publishing the results of the reconciliation of the service incentive mechanism for all companies alongside the draft determinations for slow track and significant scrutiny companies in the 'Accounting for past delivery technical appendix'.

For outcome delivery incentives, the information we have used 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 planned 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 will designate 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 would not expect a significant impact on bills. If, contrary to expectations the bill impact were to be more significant, we would 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 have used forecast information for 2018-19 and 2019-20 to reconcile these outcome delivery incentives. For the avoidance of doubt, no application is required in 2019 for in period determinations.

Table 4.16: Reconciliation of PR14 incentives, interventions (2017-18 prices, unless otherwise stated)

Incentive	Intervention(s)
Outcome delivery incentives	We are intervening to include an underperformance payment of - £130.056 million (2012-13 prices, net of tax) for performance commitment SB3 Counters Creek. We are doing this because Thames Water does not plan to deliver the Counters Creek strategic storm relief sewer. Through the company's actions, the majority of the originally envisioned benefits have not been realised. Overall, our intervention reduces the wastewater RCV at the end of the 2015-20 period by - £149.531 million (2017-18 prices). To avoid double counting, we are intervening to remove the downward adjustment of £86.351 million (2017-18 prices) Thames Water makes to the wastewater RCV in its business plan table App8 in its revised approach to returning 100% of the savings back to customers for non-delivery of this performance commitment.
Residential retail revenue	No interventions required.
Wholesale revenue forecasting incentive mechanism	We are intervening to recalculate the values of the adjustments relating to the early payment of the end of period outcome delivery incentive penalties using the RPI data from table App23 of the April submission. We are doing this because we use RPI data from table App23 in the model. Overall, our minor intervention decreases the total WRFIM adjustment at the end of the 2015-20 period from £131.112 million (£83.377 million for water, £46.945 million for wastewater and £0.790 million for Tideway) to £131.089 million (£83.354 million for water, £46.944 million for wastewater and £0.792 million for Tideway).

Incentive	Intervention(s)
Totex	We have replaced Thames Water's sewerage implied and final menu choice figures with the figures 98.043 and 98.043 respectively as used in the PR14 Final determinations. Overall, our minor interventions reduce the wastewater totex menu revenue adjustment from - £1.956 million to - £1.933 million.
Land sales	No interventions required.
Service incentive mechanism	We are intervening to set Thames Water's service incentive mechanism adjustment to -11.98% of household retail revenue to reflect its performance from 2015-16 to 2018-19. This equates to - £103.155 million in total revenue over the period. This decreases revenue relative to the company's estimate of the mechanism's impact.
Water trading	We are intervening to disallow the water trading import incentive claim for the trade with Northumbrian Water. The net effect of the water trade with Northumbrian Water is to implement a reduction in the amount of water that is exported from Thames Water to Northumbrian Water under a modification of a pre-existing bulk supply agreement with Essex and Suffolk Water. The incentive claim for this water trade is inconsistent with the criteria in the 'Thames Water's trading and procurement code' which requires a new import agreement and with the policy intent of the water trading incentives as set out in the 'PR14 methodology' to encourage new water transfers. Thames Water has a trade agreement with RWE Generation UK (RWE). This is a new import agreement and consistent with the criteria set out in the trading and procurement code. We are allowing the incentive claim in respect of the import of water from RWE. Overall, our interventions reduce the total PR14 water trading revenue payment at the end of the 2015-20 period from £0.768 million to £0.329 million.
PR09 blind year adjustments	No interventions required.

Table 4.17: Reconciliation of PR14 incentives, 2020-25 (£ million, 2017-18 prices)

Incentive	RCV adjustments		Revenue adjustments	
	Company view	Ofwat view	Company view	Ofwat view
Outcome delivery incentives[1,2]	0.0	-149.5	-163.6	-163.6
Residential retail revenue	N/A	N/A	-0.6	-0.6
Wholesale revenue forecasting incentive mechanism[1]	N/A	N/A	131.1	131.1
Totex[1]	254.3	254.3	65.9	65.9
Land sales	-55.3	-55.3	N/A	N/A
Service incentive mechanism	N/A	N/A	-98.3	-103.2
PR09 blind year adjustments	-269.1	-269.1	-25.5	-25.5
Water trading	N/A	N/A	0.8	0.3
Other adjustments[2]	-112.1	-27.3	0.0	0.0
Total	-182.2	-246.9	-90.3	-95.5
Total post profiling[3]	N/A	N/A	-92.2	-97.6

1. Adjustments for outcome delivery incentives, wholesale revenue forecasting incentive mechanism and totex take account of the financial penalties imposed on Thames Water in relation to its leakage reduction performance within the current price control period (2015-20) and its management of its leakage reduction operations. These are in accordance with Notice of Ofwat's imposition of a financial penalty on Thames Water Utilities Limited published 8 August 2018.
2. The 'other adjustments' have been reduced to remove an adjustment Thames Water had included to return money to customers in relation to Counters Creek. We are instead returning money to customers through the Counters Creek outcome deliver incentives for performance commitment SB3. The remaining adjustment relates to land sales for the Thames Tideway Tunnel.
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.

These reconciliations are based on data from the 1 April company submissions. We will update these reconciliations to reflect the July data submissions for the final determinations.

4.4 Other allowed revenue

Other components of allowed revenue are:

- 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 collected from developers in respect of work undertaken by companies to service new developments. It will include income from connection charges and infrastructure charges.
- 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 4.18: Calculation of other allowed revenue (£ million)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total	Company view - total
Tax	0.0	0.0	1.6	3.5	0.0	5.1	11.9
Grants and contributions (price control)	0.0	126.0	45.8	0.0	0.0	171.8	227.6
Deduct non-price control income	-18.1	-25.5	-51.2	0.0	0.0	-94.8	-94.8

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 UK corporation tax rates and associated reliefs and allowances.

Thames Water provided information in data tables relevant to the calculation of the expected tax charge. The information has been updated as part of the resubmission of various data tables to take account of the recent changes to capital allowances. We have accepted the information provided by the company and applied this to the draft determination.

Our financial model calculates a lower level of taxable profits than the company view, so the resulting tax allowance is lower. This difference is mostly driven by the lower final allowed revenues calculated by the financial model, which are a result of our interventions compared to the company view.

Our interventions may also impact on forecast levels of capital expenditure and in the area of new connections our assumed recovery rates may differ from what Thames Water assumes in the business plan. The resulting impact on allowances used for the calculation of taxation has not been reflected. Where these changes result in significantly different inputs for capital allowances or tax deductions, we expect Thames Water to identify this as part of its representations on the draft determination.

Table 4.19: Calculation of other allowed revenue (£ million) - Tax

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total	Company view - total
Tax	0.0	0.0	1.6	3.5	0.0	5.1	11.9

Grants and contributions (price control)

Companies receive grants and contributions from developers towards the costs of ‘new developments’, expenditure to reinforce the network, and ‘new connections’, expenditure to connect a property, for example the meter and connection pipe. We calculate the grants and contributions receivable by applying a recovery rate to our view of new developments and new connections expenditure. This ensures that developers pay a fair share towards costs to connect new properties. We use this calculation of grants and contributions receivable from developers to ensure that the amounts billed to water and wastewater customers correctly reflect only that share of any new development spend which should be borne by them.

The recovery rates are calculated as follows:

- For water new developments we use the rate implied by the Thames Water business plan which is 42.0%; and
- For water new connections and wastewater new developments we use a rate of 100% based on our understanding of historical practice in the industry and is broadly supported by company business plans.

Table 4.20: Calculation of other allowed revenue (£ million) – Grants and contributions

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total	Company view - total
Grants and contributions	0.0	126.0	45.8	0.0	0.0	171.8	227.6

Note: there are no grants and contributions for the Thames Tideway control.

Table 4.15 shows our assumed amounts of grants and contributions. Our view of new developments and new connections expenditure is lower than Thames Water's forecast. The reasons behind the differences in our view of 'Base expenditure' are set out above in the 'Cost allowances' section. This gives a lower view of grants and contributions than the company forecast.

For diversions activities, where companies move their assets to make way for new infrastructure, we use the company view of the associated income and assume that this represents 100% of the costs. In modelling our draft determinations we assume that all diversions income is inside the price control. For the final determinations we consider that we should make a distinction between diversions that are inside or outside the scope of section 185 of the Water Industry Act 1991. Works that are outside the scope of section 185 are, for example, works under the New Roads and Street Works Act 1991 or those associated with High Speed 2. We are yet to have sufficient data to be able to distinguish section 185 diversions from non-section 185 diversions. For the final determination we will assume diversions expenditure is inside the price control unless it relates to non-section 185 diversions. Where companies forecast diversions works outside of section 185 then they should provide details of the income relating to this, on an annual basis, in the data request that accompanies the draft determination. This should be returned with the representations to the draft determination.

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. 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 draft determination.

Table 4.21: Calculation of other allowed revenue (£ million) – Non-price control income

	Water resources	Water network plus	Wastewater network plus	Bioresources	Thames Tideway	Total	Company view - total
Non-price control income	-18.1	-25.5	-51.2	0.0	0.0	-94.8	-94.8

Note: negative numbers represent a deduction from the allowed revenue.

Uncertainty mechanisms

The PR19 methodology makes limited provision for companies to propose bespoke uncertainty mechanisms. Thames Water proposed three uncertainty mechanisms in its revised business plan:

- a PR24 cost reconciliation adjustment in respect of differences between its business rate costs and its business rates cost allowance;
- a PR24 cost reconciliation adjustment for costs associated with the Security and Emergency Measures Direction (SEMD); and
- a true-down mechanism associated with cost allowances for a north-east London resilience scheme and projects under a national environment programme.

In its initial business plan, Thames Water forecast it would have an increase in business rate costs of almost £75 million in 2020-25, mainly relating to changes to the size and valuation of its asset base. 'Technical appendix 2: Securing cost efficiency' of our initial assessment of business plans set out information on our consideration of rateable value information from companies and from the Valuation Office Agency. Taking account of this, and the cost sharing arrangements for PR19, we consider that Thames Water has not provided sufficient or convincing evidence that the uncertain costs are sufficiently material given the totex cost sharing arrangements in place or sufficiently outside of management control to include a bespoke uncertainty mechanism for Thames Water in our draft determination. On the basis of the evidence presented, we do not consider a bespoke uncertainty mechanism would adequately protect the interests of customers.

We are not allowing the PR24 cost reconciliation in respect of SEMD costs because Thames Water should have some control over the selection and scheduling of SEMD works. Whilst the costs referred to could be material, insufficient information has been

provided for us to determine efficient cost requirements. We do not believe that the proposed mechanism adequately protects the interests of customers because it does not provide a strong incentive to deliver projects efficiently. In particular. Thames Water still has to deliver a significant number of projects scheduled for the 2015-20 period and, in light of this we disallowed most of the additional cost allowances sought by Thames Water in our initial assessment of its business plan.

We are not allowing the true-down mechanism associated with the resilience scheme and projects under a national environment programme because we have decided not to include cost allowances for the projects referred to by Thames Water in our draft determination. Further information is provided in the Cost efficiency draft determination appendix for Thames Water and the cost assessment feeder models.

As noted in section 3.8, we propose to set out an uncertainty mechanism in our final determination for Thames Water in relation to costs associated with the possibility, in some circumstances, of bringing direct procurement for customers schemes back in-house. Further information on this is provided in the ‘Delivering customer value in large projects’ technical appendix.

5 Assurance, returns and financeability

This section sets out the accountability the company's Board has demonstrated for delivering its plan, the accuracy and consistency of the information within the plan and company proposals for aligning the interests of company management and investors with its customers. We summarise Thames Water's response to our actions on securing confidence and assurance, including Thames Water's proposals in response to our 'Putting the sector in balance' position statement. We comment on the possible range of returns for the notional financial structure. We comment also on the financeability of the draft determination and any adjustments that we have made to the bill profile.

5.1 Assurance

The PR19 methodology set out that stakeholders should have confidence in the information presented in business plans. We set expectations that:

- the data and information presented in the plan must be subject to good assurance processes to ensure it is consistent and accurate; and
- a company's full Board should own, be accountable for and provide assurance of the business plan.

In the initial assessment of plans, we identified three actions in relation to Thames Water's data tables and financial model. Thames Water has satisfactorily responded to two of these actions as set out in its response to our actions on securing confidence and assurance. For the remaining advised action, we are intervening to use our view of dividend yield and growth in the draft determination financial model.

We also had concerns with four of Thames Water's forward-looking Board assurance statements and included actions for the Board to provide restated assurance statements covering the areas of risk identification, risk mitigation, financeability and its governance and assurance processes for delivering resilience.

Thames Water has since provided compliant Board assurance statements on these topics for all areas except financeability. Although the restated Board assurance statement confirms the plan is financeable, the scope of the assurance that its plan will protect customers' interests in both the short and longer term refers to only one financial ratio (specifically funding from operations to net debt ratio).

We expect company Boards to provide assurance that their plan will protect customers' interests in both the short and longer term having considered a range of financial metrics and scenarios. We request that Thames Water's Board provides a

restated and compliant Board assurance statement that its plan is financeable on both the notional and actual structures.

5.2 Putting the sector in balance

In July 2018 we published our 'Putting the sector in balance' position statement. The position statement set 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 their actual financial structures and performance related executive pay policies show appropriate alignment between returns to owners and executives and what is delivered for customers[2];
- companies with high levels of gearing will 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.

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

Our assessment of Thames Water's proposals is in Table 5.1.

Table 5.1: Our assessment of Thames Water's proposals to balance the interests of customers

Issue	Our assessment
Gearing outperformance benefit sharing	Thames Water is highly geared and expects to remain highly geared through 2020-25 and with gearing declining, but remaining above 76% at the end of 2025. Thames Water sets out that it does not agree with the principle of a gearing sharing mechanism. However, the company proposes an alternative mechanism to the default mechanism which we put forward in our 'Putting the sector in balance' position statement, comprising: • a tiered sharing arrangement which Thames Water consider to provide a stronger incentive to de-gear than the default mechanism and • Increase in the reference point from gearing of 65% to 70%; We are intervening to introduce our default mechanism as described in the 'Putting the sector in balance' position statement.

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

Issue	Our assessment
	Our assessment is that Thames Water's mechanism does not deliver equivalent benefits for customers in the round compared with our default mechanism. While the company proposes to take steps to improve financial resilience in 2020-25 which may reduce risks to customers in the long term, the company will remain highly geared, and we seek further assurance from the company about the levels of financial resilience it will achieve as a consequence of the interventions in its plan. We are not convinced the proposed gearing reduction, combined with the lower level of benefit sharing proposed by Thames Water provides benefits that are equivalent, in the round, to our default sharing mechanism. The company also has provided insufficient evidence that this constitutes a transition that is in the customer interest. Therefore, we have decided not to accept Thames Water's sharing mechanism proposal. We expect Thames Water to apply our default benefit sharing mechanism. If the company does not apply the default mechanism set out in the 'Putting the sector in balance' position statement, we intend to make an adjustment at PR24 to ensure benefits are adequately shared with customers.
Voluntary sharing mechanisms	Thames Water has not proposed any voluntary sharing mechanisms to share financial outperformance, and does not make company contributions to a social tariff or payment matching scheme. However, the company does voluntarily commit to supporting a charitable trust fund, funded by Thames Water shareholders, which is designed to help customers by providing grants for emergency funds in order to provide essential living items, and by supporting charitable organisations that provide debt advice across the region.
Dividend policy for 2020-25	Thames Water confirms that it is committed to the expectations on dividend policy as set out in our 'Putting the sector in balance' position statement. In doing so it has indicated a gross base dividend yield of circa 3% (2.2% after netting off inter-company loan interest income) for 2020-25. It has confirmed that when assessing the impact of any dividend payments on customers its Board will consider both past performance and expected future performance on issues such as customer service and performance commitments. The company sets out that when paying dividends, it will be clear about their level, how they positively relate to delivery for customers, and which factors the Board has considered when making its assessment. It has also committed to communicate any changes to its dividend policy to all stakeholders However insufficient detail has been provided on which obligations or commitments to customers will be considered, the level of performance delivery used for the assessment and how it will affect dividend payments. We expect the company to be transparent in this area, to demonstrate that in paying or declaring dividends it has taken account of the factors we set out in our position statement. We expect the company to respond to this issue in its response to our draft determination.
Performance related executive pay policy for 2020-25	Thames Water states that it is committed to meeting the expectations as set out in our 'Putting the sector balance' position statement. The company sets out it is in consultation with its remuneration committee and the TWUL Board regarding the finalisation of the policy for AMP6 which will form the

Issue	Our assessment
	basis of the policy for AMP7. The company sets out that its proposed policy contains: • Annual bonus based on 30% customer service (20% customer complaints, 5% sewer flooding and 5% supply interruptions), 30% EBITDA, 20% other corporate priorities and 20% personal objectives. • Long term bonus based on 40% customer service (20% C-Mex and 20% net promoter score), 40% customer delivery (20% leakage and 20% environmental performance assessment) and 20% RoRE. • A commitment that targets will be stretching as metrics will reflect those used in the final determination taking account of the performance levels specified. In addition, where appropriate, the remuneration committee and TWUL Board may consider historical or cross sector benchmarks to ensure targets are sufficiently stretching. • The remuneration committee retains discretionary powers to reduce in part or full any payment for exceptional circumstances i.e. failure to hit minimum regulatory or health and safety standards. • A commitment that full details of the policy will be published in the annual report and accounts including any changes and the underlying reasons. Thames Water states that papers will be submitted to the remuneration committee in September and thereafter the TWUL Board, with the policy being completed by March 2020. We understand that there remain some details to be finalised, for example detail on which target metrics will be used and the formal approval of the policy by the remuneration committee and TWUL Board. The proposed policy, if approved, demonstrates the company's commitment to move in the direction of the expectations set out in 'Putting the sector in balance'. We expect Thames Water to provide an update on this in response to its draft determination. We expect Thames Water to demonstrate that its policy on performance related executive pay demonstrates a substantial link to stretching performance delivery for customers through 2020-25. We expect the company and its remuneration committee to ensure executives have stretching targets linked to performance delivery for customers and that any further updates to the policy for 2020-25 are transparently reported to stakeholders in its annual performance report.
Financial resilience of the company's actual financial structure	Thames Water sets out that its revised business plan is financeable on its actual structure and that this is supported by an independent view. It considers that it would be financially resilient even if financial downside risks were to crystallise and says that the key financial ratios presented in its revised business plan are consistent with maintaining its corporate family credit rating at Baa1/ Class A debt at BBB+ for its actual structure. Thames Water has provided an updated Board assurance statement that sets out it will strengthen its funding from operations (FFO) to net debt ratio to protect customers' interests in both the short and longer term, that its Board assurance statement is supported by independent specialist assurance that it remains financeable on an actual basis and that its

Issue	Our assessment
	governance and assurance processes will deliver operational, financial and corporate resilience through 2020-25 and in the longer term. Thames Water says that it expects its gearing to reduce by about 5%, but remain above 76% at the end of 2025 through the investment of additional capital and restriction of dividends. It says that a significant proportion of its financing needs relate to refinancing and that it has an even debt maturity profile. It also points out that its ability to access finance markets is supported by the substantial liquidity facilities it maintains, together with the support of its relationship bank group and of its shareholders. Each company is responsible for ensuring that its capital and financial structure allows it to maintain financial resilience over the short and the long term. The assessment of financial resilience does not take account of our interventions in Thames Water's business plan, which includes, for example, our updated view of the cost of capital, our assessment of efficient costs, our assessment of outcome delivery incentives and the requirement to include the gearing outperformance mechanism. The company should provide further detail and Board assurance about its plans to maintain its long term financial resilience in the context of our draft determination, with specific reference to its high level of gearing, limited headroom in key financial ratios and risks to its credit rating. Each company is responsible for ensuring its capital and financial structure allows it to maintain financial resilience over the short and the long term and so we expect Thames Water to take account of these issues in its commentary on its long term financial resilience in response to our draft determination, taking account of the reasonably foreseeable range of plausible outcomes of the final determination including evidence of further downward pressure on the cost of capital in very recent market data as we discuss in the 'Cost of capital technical appendix'. In its future reporting, we expect Thames Water to apply suitably robust stress tests in its long term viability statements in 2020-25.

5.3 Return on regulatory equity

The PR19 methodology sets out that we expect companies to demonstrate a clear understanding of risk to the delivery of their business plans and to explain and demonstrate how they manage and mitigate risk. We expect 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 P10/P90 confidence limit values[3].

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 can differ between companies because the

[3] 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.

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[4]. The proportion of RCV (and notional regulatory equity) that is linked to RPI or CPIH will vary 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.

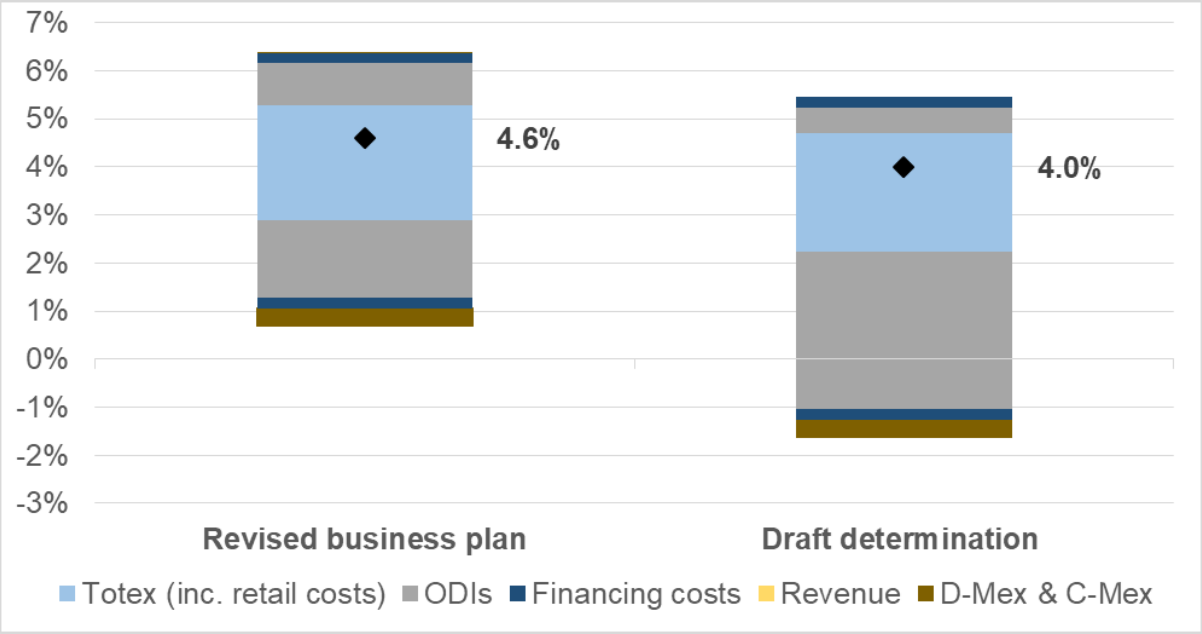
Table 5.2 sets out the annual average RoRE ranges in Thames Water's updated PR19 business plan submission, and the values in our draft determination. The base RoRE in our draft determination reflects our updated cost of equity. The RoRE ranges reflect our interventions outlined below, and other interventions we are making as part of our draft determination.

Table 5.2: Thames Water RoRE ranges

	Updated Business plan (Apr 19)		Draft determination ranges reflecting our interventions	
Base RoRE	4.6%		4.0%	
Risk ranges	**Lower bound**	**Upper bound**	**Lower bound**	**Upper bound**
Totex	-1.48%	0.62%	-1.52%	0.64%
Outcome delivery incentives	-1.61%	0.87%	-3.27%	0.53%
Financing costs	-0.21%	0.21%	-0.22%	0.22%
Retail costs	-0.23%	0.07%	-0.23%	0.07%
D-Mex & C-Mex	-0.38%	0.00%	-0.39%	0.04%
Revenues (includes Retail)	0.00%	0.00%	0.00%	0.00%
Total	**-3.91%**	**1.77%**	**-5.63%**	**1.50%**

[4] 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.

Figure 5.1: RoRE ranges



The draft determination risk ranges shown in Table 5.2 and Figure 5.1 reflect one intervention we are making for our draft determination with respect to values in Thames Water's updated business plan:

- We are intervening to align the RoRE risk ranges for outcome delivery incentives shown in Table 5.2, Figure 5.1, and in the PR19 financial model with the RoRE risk range values for outcome delivery incentives set out in section 2 (Outcomes). The revised values reflect our interventions on outcome delivery incentives under the Outcomes Framework which seek to take account of covariance of performance on individual outcome delivery incentives in the presentation of the overall outcome delivery incentive range.

In all other areas we have retained Thames Water's proposed RoRE range. There is a significantly negative skew overall, driven by totex, outcome delivery incentives and C-MeX/D-MeX. Our view is that an efficient company should be able to achieve the base equity return on the notional structure. Thames Water does not consider it has an upside risk range in respect of D-MeX and C-MeX because of expected relatively poor performance, evidenced by historic performance against the SIM measure of customer service. We expect Thames Water to consider necessary revisions to its overall RoRE range in response to the draft determination.

5.4 Financeability

We interpret our financing duty as a duty to secure that an efficient company can finance the proper carrying out of its functions, in particular by securing reasonable returns on its capital. In coming to our determinations we assess whether allowed

revenues, relative to efficient costs, are sufficient for a company to finance its investment on reasonable terms and to deliver activities in the long term, while protecting the interests of current and future customers.

Our PR19 methodology requires companies to provide Board assurance that the business plan is financeable on both the notional and their actual capital structures. Our methodology 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. Thames Water's Board has provided assurance that, based on the assumptions in its business plan, both notional and actual capital structures remain financeable in the long-term. The company commits to strengthen the funding from operations (FFO) to net debt ratio.

We consider that companies and their shareholders should bear the risk of their capital structure and financing choices, not customers. Therefore, we have focused on whether our draft determination is financeable based on the notional capital structure that underpins our cost of capital using our own financial model.

Our financeability assessment uses a suite of financial metrics based on those used in the financial markets and by the credit rating agencies. Our initial assessment of financeability, prior to intervening, is that financial ratios in the round do not provide sufficient headroom to a minimum investment grade credit rating. We are intervening to increase the company's PAYG rates for each year for the water and wastewater network plus controls by 0.7%, advancing revenue of £41 million from future customers. We consider the use of financial levers is an appropriate method to address the notional financeability constraint in this instance. We discuss our approach to addressing financeability constraints in the 'Aligning risk and return technical appendix'. Thames Water has high RCV growth so we also consider it may be appropriate for a proportion of the additional investment to be provided by equity investors. The ratios set out in the table below for our draft determinations are based on the notional dividend yield of 3.15% plus 1.32% growth. However, we have considered a sensitivity with reduced dividends given the relatively high level of RCV growth. Restricting dividends to 1.8% improves adjusted interest cover to 1.5x therefore we consider that in the round, our draft determination for Thames Water is financeable on the notional basis.

The results for key financial ratios after our intervention to increase PAYG rates but excluding the reduction to the dividend yield are set out below. Key financial ratios for the notional company structure in our draft determination are broadly in line with the ratios set out by Thames Water in its business plan.

Table 5.3: Financial ratios – notional structure before reconciliation adjustments (5 year average)

	Business plan	Draft determinations
Gearing	62.01%	60.89%
Interest cover	3.59	3.63
Adjusted cash interest cover ratio (ACICR)	1.46	1.46
Funds from operations (FFO)/Net debt	8.64%	8.80%
Dividend cover	0.64	0.44
Retained cash flow (RCF)/Net debt	6.85%	6.82%
Return on capital employed (RoCE)	3.36%	3.14%
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.		

As set out in section 4 we have amended PAYG rates to reflect our view of efficient totex and therefore the mix of operating and capital expenditure. We are not intervening in RCV run-off rates, however interventions to allowed totex and to PAYG rates will change the level of post-2020 additions to RCV. This may affect the average RCV run-off rates and result in movements between the original plan and the draft determination shown in Table 5.4. The reduction in expenditure means that the RCV will now increase by a smaller amount than set out in the original business plan. We set out the details of the sensitivity in 'Aligning risk and return technical appendix'.

Table 5.4: PAYG rates, RCV run-off and RCV growth

	PAYG	RCV run-off	RCV growth
Company plan	40.9%	4.40%	29.77%
Draft determinations	40.2%	4.35%	11.71%

Thames Water is responsible for the financeability and long term financial resilience of its actual structure. The company commits to strengthen the funding from operations (FFO) to net debt ratio from 4.8% to 6.1% to protect customers' interests in the short and long term. We comment further on the financial resilience of the company's actual structure in Table 5.1.

We expect companies to provide further Board assurance that they will remain financeable on a notional and actual basis, and that they can maintain the financial resilience of their actual structure, taking account of the reasonably foreseeable range of plausible outcomes of their final determination including evidence of further downward pressure on the cost of capital in very recent market data as we discuss in the ‘Cost of capital technical appendix’.

6 Affordability and bill profile

6.1 Bill profile

Thames Water undertook acceptability testing to inform its April business plan submission, obtaining 87% real terms acceptability and 82% nominal acceptability for its 2020-25 plan. The company's research clearly shows bills over time and links them to the service levels it proposes to adopt. Thames Water surveys a sample of over 1,000 customers, weighting in line with the characteristics of their customers. Its customer challenge group stated the results 'are very encouraging' but were concerned the company had not undertaken interviews with customers who are not online.

Taking account of its acceptability results, the fact it tests nominal bills and the clear information given to customers to help them form views on bills, in the round Thames Water provides sufficient evidence on the acceptability of its bills.

Thames Water tests its proposed bill profile as part of its acceptability research, and it receives 87% acceptability. However, the company does not test alternative profiles for 2020-25 with its customers.

The average bill profile put forward by Thames Water provides a reduction of 2.4% in the 2020-25 period. Our amended profile increases this to a reduction of 9.8%. The tables below sets out the difference in bills between the company's submission and our amended draft determination figures. We have adjusted the bill profile such that the draft determination has a larger increase in 2020-21 but then follows the company's proposed profile. This is particularly important for Thames Water as we have followed their approach of returning funds to customers in 2020-21 and 2021-22 to reflect underperformance on leakage and security of supply. Before this rebate, we would expect average bills in 2020-21 and 2021-22 to also be around £344.

Table 6.1: Bills in real terms

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Company plan	£382	£362	£369	£373	£372	£373
Bill profile – before re-profiling	£382	£334	£342	£345	£344	£343
Draft determinations	£382	£333	£342	£344	£344	£344

Table 6.2: Bills in real terms (including Tideway)

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Company plan		£373	£381	£384	£384	£384
Bill profile – before re-profiling		£345	£353	£357	£356	£355
Draft determinations		£343	£353	£356	£356	£356

Note: Thames Water customers pay around £12 per year for the Thames Tideway Tunnel. This revenue is collected by Thames Water on behalf of Bazelgette Tunnel Limited, and is not part of the price controls for Thames Water. Table 6.2 includes the estimated impact of this on customer bills.

In its business plan, Thames Water sets out its intention to keep average real terms bills constant (0% change) in the 2025-30 period.

Thames Water undertakes customer research concerning acceptability of its 2025-30 bills, surveying a sample of over 1,000 customers. In the research, 84% said the company's proposed profile is acceptable. However, the company only tests its planned profile and states it will undertake research on further bill profiles for 2025 - 30 before our final determination.

Table 6.3: Long term bills

	2020-25	2025-30
Company view of plan	£384	£384

Note: bills include Thames Tideway.

6.2 Help for customers who are struggling to pay

Our draft determination for Thames Water will deliver a real terms reduction to its average bill between 2020 and 2025.

In addition, Thames Water commits to:

- increase the capacity of its social tariff so that it can support 200,000 customers per year by 2024-25;
- increase its social tariff cross subsidy to support more people, which it has customer support to do. We note the company has support for a cross subsidy of £11 per customer but only plans to spend £5.50. We encourage Thames Water

to help as many customers as possible, given the level of resource it has available;
- introduce a new social tariff with tiered levels of 25, 50 or 75% discounts, depending on the customers' situation;
- increase the number of customers helped through its Customer Assistance Fund by 15,000; and
- introduce payment breaks to assist customers who are temporarily unable to pay their bills.

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

- reach 200,000 customers through its social tariff;
- maintain high customer satisfaction with its priority services; and
- maintain the BSI standard for accessible services throughout 2020-25.

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 6.4 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 6.4: Allowed revenue by year (£ million, 2017-18 prices)

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Water resources	83.6	89.0	89.0	90.2	96.4	448.2
Water network plus	676.7	723.9	750.6	767.3	775.3	3,693.8
Wastewater network plus	713.1	717.0	715.0	725.7	739.3	3,610.2
Bioresources	162.6	172.4	182.8	186.1	193.4	897.3
Thames Tideway	52.7	56.2	58.4	56.7	51.3	275.4
Residential retail	136.1	133.2	130.1	126.9	123.7	649.9
Total	1,824.9	1,891.8	1,925.9	1,952.9	1,979.5	9,574.9

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 6.5 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 6.5: Base Revenue and K factors by charging year (2017-18 prices)

	Base (£ million)	2020-21	2021-22	2022-23	2023-24	2024-25
Water resources	83.6	0.00%	6.61%	0.00%	1.41%	7.05%
Water network plus	676.7	0.00%	7.17%	3.77%	2.28%	1.07%
Wastewater network plus	713.1	0.00%	0.60%	-0.27%	1.52%	1.92%

Table 6.6: K factors by charging year, Thames Tideway

	2020-21	2021-22	2022-23	2023-24	2024-25
Thames Tideway	-11.91%	6.84%	4.05%	-3.02%	-9.79%

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'. Further details of how we have applied the methodology to Thames Water is set out in the 'Bioresources revenue to remunerate fixed costs – Thames Water' model.

Table 6.7 sets out our view of the share of revenue to remunerate fixed costs.

Table 6.7: Classification of proportion of revenue to remunerate fixed costs and variable costs for bioresources

	Company view	Ofwat view based on company submitted data	Ofwat view based on draft determination
Part 1: Revenue to remunerate fixed costs £ million 2017-18 FYA CPIH deflated prices (2020-25)			
Total return on capital	N/A	222.487	207.692
Total run-off	N/A	401.069	407.526
Revenue to service RCV	**N/A**	**623.556**	**615.217**
Local authority and Cumulo rates for both treatment and disposal	N/A	46.569	46.569
Fixed share of other direct costs of treatment and disposal	N/A	45.479	49.970
Fixed share of other indirect cost of treatment and disposal	N/A	23.844	26.199
Fixed PAYG revenue	**N/A**	**115.891**	**122.738**
Fixed share of revenue to cover tax	N/A	0.000	0.000
Pension deficit repair contributions	N/A	7.150	7.097
Other fixed costs	**N/A**	**7.150**	**7.097**
Revenue to remunerate fixed costs	**836.244**	**746.598**	**745.053**
Part 2: Variable revenue (£/TDS) 2017-18 FYA CPIH deflated prices (2020-25)			
Unadjusted revenue (£ million)	885.867	885.867	897.296
Revenue to remunerate fixed costs	836.244	746.598	745.053
Revenue to remunerate variable costs (£ million)	**49.624**	**139.269**	**152.243**
Forecast volume of sludge (TDS)	2,013,210	2,013,210	2,013,210
Variable revenue (£/TDS)	**24.649**	**69.178**	**75.622**

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 Thames 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 6.8: Bioresources control

	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Unadjusted revenue (£ million)	176.646	178.736	179.686	180.639	181.589	897.296
Forecast volume of sludge (TDS)	396,330	401,020	403,150	405,290	407,420	2,013,210
Variable revenue (£/TDS)	N/A	N/A	N/A	N/A	N/A	75.622

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales. Our vision is to be a trusted and respected regulator, working at the leading edge, challenging ourselves and others to build trust and confidence in water.

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