December 2019

PR19 final determinations

PR19 final determinations: Southern Water final determination

Ofwat

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About this document

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

The final determination documentation sets out:

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

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

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

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

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

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

Contents

1 Summary

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

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

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

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

1.1 What our final determination includes

This section sets out the overall shape of our final determination for Southern Water. We cover the customer bill profile, costs, outcomes for customers, allowed revenues and our decision for Southern Water, as its September 2018 business plan was categorised as significant scrutiny, on the outcome delivery incentive cap and lower cost sharing rate. More detail is provided in the following sections of this document.

Bill profile

Our final determination for Southern Water will cut average bills by 18.4% in real terms in the 2020-25 period compared to the company’s proposed 6.7% reduction. Table 1.1 below sets out the difference in bill profile between the company’s business plan submission in April 2019, our draft determination and the final determination. Average bills are lower than proposed by Southern Water, reflecting our view of efficient costs and a reduction in the allowed return. Further details on bills are set out in section 6.

Table 1.1: Bill profile for 2020-25 before inflation

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Company plan (April resubmission)	£420	£392	£392	£392	£392	£392
Draft determination	£420	£362	£362	£362	£362	£362
Final determination	£420	£365	£363	£357	£348	£343

Costs

Our final determination allows wholesale totex of £3,403.4 million. This is:

- £64.3 million higher than in our draft determination and
- £235 million lower than stated in the company's representation on our draft determination.

Our final determination allows Southern Water £855 million to invest in improvements to service, resilience and the environment. Key parts of this allowance are:

- £537 million to improve the environment by efficiently delivering its obligations as set out in the wastewater Water Industry National Environment Programme (WINEP) including providing phosphorus removal at treatment sites and protection of groundwater around Thanet;
- £174 million for supply-demand balance schemes delivering long-term drought resilience;
- £60 million to address the impact of deteriorating raw water quality;
- £21 million to improve bathing water quality; and
- £20 million to meet lead standards.

We make an additional allowance of £84.9 million in our final determination for strategic water resource development to support the delivery of long-term drought resilience.

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

Outcomes for customers

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

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

Table 1.2: Key performance commitments for Southern Water

Area	Measure
Key common performance commitments	• 15% leakage reduction on a three year average basis. • 7.2% reduction in per capita consumption by 2024-25 • 33% reduction in pollution incidents by 2024-25 to 19.5 incidents per 10,000km of the wastewater sewer • 33% reduction in internal sewer flooding incidents by 2024-25 to 1.34 incidents per 10,000 connections • 19% reduction in water supply interruptions by 2024-25 to 5 minutes
Bespoke performance commitments	• 30% reduction in external sewer flooding incidents per 10,000 connections by 2024-25 • 13% increase in total renewable electricity from 2020-21 to 2024-25 • 13% reduction in customer contacts regarding the taste and odour of their drinking water by 2024-25
Overall incentive package	Overall, the likely range of returns from outcome delivery incentive package in our final determination equates to a return on regulatory equity range of -1.64% (P10) to + 0.58% (P90).

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

Allowed revenues

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

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

	Water Resources	Network plus - water	Network plus – waste-water	Bio-resources	Wholesale total	Residential retail	Total
Company view of allowed revenue (£m)	134.6	928.9	2,585.5	264.7	3,913.6	231.5	4,145.1
Final allowed revenues (£m)	135.5	877.5	2,206.7	236.4	3,456.2	233.0	3,689.1

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

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

Southern Water's Regulatory Capital Value (RCV) growth in 2020-25 is 10.7% and 63.7% of its RCV will be indexed to CPIH in 2025. We bring forward £57 million of revenue from future periods.

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

Putting the sector in balance

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

The company confirmed it would implement our default gearing outperformance mechanism within its business plan. The company expects its actual structure gearing to be below but close to the level that will trigger sharing payments under the gearing outperformance sharing mechanism in the period 2020-25. The allowed return on capital is lower than the draft determination and this may mean the company needs to bring forward plans to maintain its financial resilience.

To meet our expectations, the company will need to demonstrate to stakeholders that dividends and performance related pay policies are substantially aligned to its performance for customers. We expect the company will need to revise its proposed base dividend yield for 2020-25 to take account of the lower allowed return in our final determination and our revised expectations for a reasonable base dividend yield that we set out in the ‘Aligning risk and return technical appendix’.

In the ‘Putting the sector in balance’ position statement we also encouraged companies to adopt a voluntary sharing mechanism, particularly where, for example, companies outperform our cost of debt assumptions. Southern Water has not proposed any voluntary sharing mechanism. However, the company does commit to making a company contribution to its payment matching scheme, NewStart.

We provide further detail on these issues in section 7.

Outcome delivery incentive cap and lower cost sharing assessment

We are not applying an outcome delivery incentive cap or lower cost sharing rate for Southern Water. Since the initial assessment of business plans, it has engaged positively and its submissions are of sufficient quality (see ‘Significant scrutiny application of lower cost sharing rates and outcome delivery incentive cap’ technical appendix for details).

1.2 Representations on the draft determination

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

Table 1.4: Company representation

Key points in Southern Water representation	Summary of our response
Southern Water outlines concerns that the industry-wide performance commitment level for compliance risk index (CRI) would lead to an immediate underperformance payment, even if its improvement schedule, as agreed with the Drinking Water Inspectorate (DWI), is met.	We relax the deadband for compliance risk index for all companies, due to the lifting of the ban on the use of metaldehyde. However, we do not make further exception from the industry standard deadband for Southern Water as we do not consider the rationale provided sufficient and convincing. While the company's sites are under Drinking Water Inspectorate notices, it is still required to perform against the 100% compliance requirement during works. See section 2 for further details.
Southern Water asks Ofwat to return to the methodology for setting collars for financially significant outcome delivery incentives that it used at the initial assessment of plans.	We do not change our approach from draft determination. We consider that the collars set at draft determination appropriately limit the risk to companies from excessive downside risk while providing appropriate incentives. The company does not attempt to show it will be incentivised to be resilient if we set collars that further protect companies from downside risk and so may result in less resilient service to customers. See section 2.
Southern Water raises concerns on some cost issues: • botex models do not accurately allow for costs related to growth; • modelled leakage costs do not reflect increasing marginal costs due to performance improvements; • allowed expenditure is insufficient to address raw water deterioration; and • the 9% efficiency challenge on the WINEP was not adjusted to account for the efficiency stretch Southern Water had already included in its business plan.	Overall, we allow £64.3 million more totex than at draft determination, including a £31 million adjustment to allow for increased costs due to high growth rate forecasts relative to the sector average. We only allow leakage expenditure where a company goes beyond the forward looking upper quartile. Following representations from Southern Water and other companies, we revise our forecast of water treatment complexity in setting modelled base costs allowances to use the complexity forecasted by the company, rather than historical complexity. However, we consider that the company provides insufficient evidence that its costs are efficient and make an allowance of £60 million for addressing raw water deterioration, a small decrease from draft determination. We retain a programme level adjustment on WINEP. Our comparative assessment reveals Southern Water's proposed costs to be relatively inefficient. See section 3 for further details.
Southern Water sets out that its target credit rating of Baa1 is not achievable without an increase in the allowed return. It argues that any further reductions in the	We use an allowed return on capital based on updated market evidence, as set out in our 'Allowed return on capital technical appendix'.

Key points in Southern Water representation	Summary of our response
allowed return would raise doubts around the financeability of the company.	We have carefully considered all of our duties, in particular our financing functions and consumer protection duties, and are satisfied that our final determination fulfils our duties in the round. Our assessment of notional financeability for the final determination is made in the context of changes made to the draft determination in our final determination. We consider the company's final determination is financeable on the basis of the notional structure based on the allowed revenues which include a reasonable allowed return on capital. The final determination is sufficient to ensure the company will be in a position to deliver its obligations and commitments to customers. It is the company's responsibility to maintain financial resilience under its actual financial structure and it must bear the risks associated with its choice of capital and financing structure.
Southern Water outlines concerns about Ofwat's proposed uncertainty mechanism, which would apply if a value for money assessment concludes that a direct procurement for customers scheme needs to revert to in-house delivery. The company proposes an alternative mechanism.	We considered the feedback to our consultation on proposed PR19 uncertainty mechanisms in respect of Direct Procurement for Customers and, after re-assessing each option, we still consider, on balance, that a notified item is the appropriate uncertainty mechanism. We therefore affirm that an interim determination will during the 2020-25 price control period, be the form of uncertainty mechanism for the unlikely scenario in which direct procurement for customers schemes need to revert to in-house delivery. However we recognise that interim determinations in their current form may have drawbacks for some schemes that need to be delivered in-house by companies. This may make their application during the 2020-25 control period difficult for these schemes. We will therefore consider the case for amending following consultation Condition B to introduce a specific interim determination process with bespoke criteria for direct procurement for customers. See 'Delivering customer value in large projects' for further details.

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

Table 1.5: Stakeholder representations

Stakeholder representations	Summary of our response
The Consumer Council for Water outlines concerns that the customer measure of experience (C-MeX) measure gives insufficient weighting to companies' complaints handling performance, particularly in light of Southern Water's historic problems with its complaints performance.	We include companies' relative complaints performance in C-MeX as one of the gates for higher performance payments. This means that companies cannot receive higher performance payments unless they have less than the average number of complaints relative to other companies. Further details on this issue are covered outside this document in the 'Customer measure of experience (C-Mex) and developer services measure of experience (D-Mex)' policy appendix.
The Environment Agency sets an expectation that Southern Water should improve on its recent environmental performance.	We set a cost-outcomes package that provides a strong incentive for companies to be efficient and at the same time deliver a marked improvement in their level of environmental performance; see section 2 for further details. We maintain common performance commitment levels for the industry on internal sewer flooding, treatment works compliance and pollution incidents which means that Southern Water has a high improvement required relative to some other companies. To set levels we take account of wider evidence and consider the levels for these performance commitments are appropriate for an efficient company.
The Partnership for South Hampshire and Test Valley Borough Council call for an increase in the allowance for Southern Water's WINEP obligations to account for the company's poor past performance on the environment. The representations highlight the need to reduce levels of nitrogen and phosphorous in the Solent area.	We allow Southern Water £537 million to deliver the obligations set out in the wastewater WINEP, an increase compared to draft determination. We allow the costs in full for programmes relating to chemical investigations and nitrogen removal. Southern Water's phosphorus removal programme allowance is kept the same as at draft determination.
Southern Water's Strategic Environmental Panel raises concerns that the gap between Ofwat's and Southern Water's view of costs could lead to reductions in the scale of the company's non-WINEP environmental commitments, or to the detriment of standards of service.	We allow companies to recover their efficient costs for well justified expenditure. Our outcomes approach also ensures that companies face incentives to deliver the required level of customers and environmental performance. Our final determination includes changes to our cost allowances and performance commitment levels where companies provide sufficient and convincing evidence. See section 2 and 3.

1.3 Key changes from the draft determination

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

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

	Draft determination	Final determination
Allowed revenues (£m, 2017-18 CPIH deflated)	3,708.9	3,689.1
Wholesale cost allowance[1] (£m, 2017-18 CPIH deflated)	3,339.1	3,403.4
Retail cost allowance (£m, nominal)	257.6	261.7
Wholesale allowed return[2] (% - CPIH basis)	3.08%	2.92%

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

Significant changes from the draft determination for Southern Water are:

- On mains repairs, we make changes that apply industry wide.
- We increase the water supply interruptions 2024-25 level (making it easier to achieve) to five minutes, with an amended glidepath in the first four years. We reduce the outcome delivery incentive underperformance rate.
- We amend the deadband on the compliance risk index (which measures compliance with the Drinking Water Inspectorate's (DWI's) to a score of 2.00 throughout the period reducing the risk of underperformance payments in the last three years of the 2020-25 period.
- Taking account of company representations, we revise our approach to determine the mix of operating and capital expenditure to take better account of the nature of our decisions on cost allowances. We apply the updated approach in our technical intervention to PAYG rates.
- We intervene to reduce net wastewater revenue by £126 million associated with the enforcement penalty notice imposed on Southern Water for misreporting performance of its wastewater treatment sites.

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

2 Outcomes

Key changes from the draft determination

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

- On mains repairs, we make changes that apply industry wide to ensure levels take account of historical levels of performance and the implications of leakage reduction levels for mains repairs. We also amend the underperformance payment rate on mains repairs for all companies to industry average which is a small increase for this company.
- We increase the water supply interruptions 2024-25 level (making it easier to achieve) to five minutes, with an amended glidepath in the first four years taking account of wider evidence to calibrate the stretch of the performance commitment for an efficient company. We reduce the outcome delivery incentive underperformance rate to be symmetrical with its outperformance rate. Together these changes provide a more balanced spread of incentives and risks on water supply interruptions
- We amend the deadband on the compliance risk index water quality standards) to a score of 2.00 throughout the period reducing the risk of underperformance payments in the last three years of the 2020-25 period. This allows more flexibility in performance to take into account the uncertainty created by the ban on the use of metaldehyde, which has been overturned by the High Court and also aligns with the median level of company performance.

Throughout PR19, we have been asking companies to:

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

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

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

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

The company is currently delivering around average overall performance for the sector. It is lower quartile for service incentive mechanism performance and has met 62% of its performance commitments in 2018-19. It has had a number of issues relating to past performance failures including ongoing investigations from the Environment Agency and Drinking Water Inspectorate into, respectively, suspected permit breaches and poor performance on water quality. As noted in section 1, we imposed an enforcement penalty notice on Southern Water for serious misreporting of its performance of its wastewater treatment sites.

Southern Water’s September business plan acknowledges that ‘We need to learn from historically poor performance in specific aspects of our business and to address recent failings. We have fallen short of the expectations of our customers, regulators and other stakeholders’. Overall the plan had appropriate focus on incentives for asset health, environmental improvements, compliance with water and wastewater treatment and customer protection although we had some concern over the approach to using its research to set outcome delivery incentive rates. However, its bespoke performance commitments were less well evidenced and stretching and the overall package of incentives was not well explained.

In its April revised business plan the company proposed performance commitment levels which were largely acceptable. However it was unable to provide sufficient evidence that customers supported outperformance incentives for leakage and per capita consumption, so we intervened at draft determination to reduce these rates in accordance with our methodology. On the bespoke performance commitments we intervened to reduce outperformance incentives on improvements to bathing water quality, to better reflect customer preferences.

In its representations to the draft determination the company outlines concerns on the deadband on the compliance risk index performance commitment (performance commitment related to water quality) and proposes that Ofwat reconsiders its methodology for setting collars for financially significant outcome delivery incentives.

For the compliance risk index it argues the draft determination would mean an immediate underperformance payment, even if the improvement schedule it has agreed with the Drinking Water Inspectorate is met. The company notes that setting an industry-wide compliance risk index deadband does not take into account the variability in risk between different regions and companies. The impact of failure at one of its key sites means the immediate triggering of underperformance payments.

We acknowledge that some company sites are under Drinking Water Inspectorate notices for improvement and that having Drinking Water Inspectorate notices in place at a site impacts on the compliance risk index score for any failures. However, the company is expected to maintain compliance during these works which may involve adding temporary mitigations to minimise the risk of failures. As such we are not proposing to exclude any sites from the measure or make an exception to the industry standard deadband for Southern Water. However, we amend the deadband on the compliance risk index to a score of 2.00 throughout the period reducing the risk of underperformance payments in the last three years of the 2020-25 period. This allows more flexibility in performance to take into account the uncertainty created by the ban on the use of metaldehyde, which has been overturned by the High Court and also aligns with the median level of company performance.3 on compliance risk index.

The company is concerned generally about collars, namely that the way we have set collars does not help (i) to counter-balance skew in exposure to financial incentives; and (ii) to protect companies against disproportionate exposure in the case of very poor performance.

We have set collars for outcome delivery incentives for comparative performance commitments to limit potential downside exposure of companies to underperformance payments. These collars are set taking account of historical variations of performance to ensure that companies have incentive to manage reasonable risks to service. The company has not attempted to show it will be incentivised to be resilient if we set collars that further protect companies from downside risk and so may result in less resilient service to customers. We consider that the collars set at draft determination appropriately limit the risk to companies from excessive downside risk and providing appropriate incentives and have therefore not changed our approach.

[3] Collars are used to limit financial exposure to companies – the collar multiplied by the incentive rate is the maximum underperformance payment and performance worse than this level does not increase underperformance payments

Although the company does not make representations on the levels or outcome delivery incentive rates for water supply interruptions, internal sewer flooding and pollution incidents, it did raise concerns about the degree of challenge on the three performance commitments. On water supply interruptions we propose to amend 2024-25 levels alongside the rest of the industry from 3 minutes to 5 minutes and have also amended the glidepath for the first four years reducing the required overnight change from 13% to 5% (2019-20 forecasts to 2020-21). We note that, in 2018-19, the company achieved 2 minutes 49 seconds and was at the industry frontier. For internal sewer flooding and pollution incidents performance commitment levels, we consider that Southern Water has a relatively high improvement required relative to some other companies based on 2018-19 actual levels achieved being worse than forecasts, but we consider that these are achievable for an efficient company and we are not proposing to change draft determination common levels for the industry.

At draft determination the leakage level for Southern Water was a 15% reduction on a three year average basis. The company performed poorly in 2018-19 but the company's PR14 performance commitment level is set on a five-year average basis which allows the company to mitigate the impact of this poor performance in the final year of PR14. We are not changing leakage reduction levels at final determination but note that if a company does not achieve its PR14 leakage performance commitment level in 2019-20 (based on five year average performance), the PR19 performance commitment appendix provides a mechanism by which we can intervene to adjust the 2019-20 baseline from which the company's 2020-25 percentage reductions are measured. This mitigates the risk that a company 'benefits' from failing to deliver committed leakage reduction in PR14 meaning it is then required to deliver less than expected in PR19.

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

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

In its September 2018 business plan, while Southern Water provided evidence to demonstrate elements of high-quality customer engagement, our initial assessment of the company's plan identified areas of concern and there was insufficient evidence that its customer engagement informed the company's business plan.

In its April 2019 revised business plan, the company explained that it worked with its customer challenge group and engaged with more non-household and vulnerable customers to reflect their views on revised commitments. Southern Water presented research that gathers views on outcome delivery incentives in general and was also intended to identify the level of customer support for 'overpayment' on 23 of its outcome delivery incentives:

- whether it is achieving the right balance between stretching targets and keeping bills affordable,
- whether customers support 'overpayment' on specific performance commitments if the company exceeds its performance target.

The research engaged 23 customers via an online platform and 6 meetings with stakeholders representing vulnerable customers, non-household customers, environmental groups and local authorities. As such, the results cannot be considered to be robust, but may provide an indication of customer views.

In its representations to our draft determination, Southern Water states that it has a number of concerns over our revised methodology on caps and collars[4] on outcome

[4] Collars are used to limit financial exposure to companies whilst caps are used to protect customers from large bill increases –the collar or cap multiplied by the incentive rate is the maximum underperformance or outperformance payment. Therefore, performance worse than this level (collars) or better than this level (caps) does not increase underperformance or outperformance payments respectively.

delivery incentives and our approach results in significant risk that is outside of its control. The company considers that this distorts incentives to invest in the areas that are not a priority to customers *‘since the risk of very substantial penalties on certain metrics which do not have high customer support will force us to focus on penalty avoidance and incentivise us in a way that is inconsistent with customers’ preferences’*. We consider our approach to collars, namely delinking collars from P10[5] performance levels, improves resilience, by providing companies with incentives to manage against the risk of high impact, low probability events. The company uses the maximum potential unmanaged risk to illustrate that incentives are not appropriate and are skewed towards some areas that have lower customer support than others. These occurrences are unlikely, since it relates to performance between the P10 performance level and the new collar and so the risk (probability multiplied by consequence) remains relatively low. We therefore think these low probability risks should not unduly impact management incentives and the collar that is in place, means that the company does not face the most severe low probability high consequence risks. Companies can mitigate the risks they are exposed to by reducing the consequence if they occur. We consider the company’s main incentives are provided by the likely range of financial incentive between the P10 and P90 estimates of performance. We consider that the outcome delivery incentives within this likely range of performance are in line with customer priorities.

The company further argues that the performance commitment level in relation to surface water management is not aligned with its customers’ valuations. We find that the company provides unconvincing evidence to demonstrate that the draft determination performance commitment would detrimentally impact its flood management strategy in terms of customer priorities. However, based on benchmarking analysis, we propose a reduction in the performance commitment levels for surface water management.

Southern Water presents no new customer engagement evidence and the company's customer challenge group submits no representations to our draft determinations in August 2019.

We set out in our PR19 methodology that we expect companies to reflect their customers’ preferences in the levels they propose for performance commitment levels and outcome delivery incentives. We also expected companies to challenge the level of stretch in their performance commitments against a range of approaches (for example, against comparative and historical information). In our PR19 methodology we also expected companies to use customer valuations to set outcome delivery incentive rates and noted that we would compare these valuations and rates and challenge companies where appropriate. Therefore, when making our decisions, we have taken into account several factors in setting our final determination outcome delivery incentive rates including the quality of customer

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

evidence provided. Our suite of final determination documents explains the rationale for our decisions, including the evidence used to inform our decisions.

2.2 Performance commitments and outcome delivery incentives

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

The key changes we are making in the final determination are set out in table 2.1[6] below. 'Southern Water – Delivering outcomes for customers final decisions' sets out our final decisions in terms of changes to our draft determination for the company's performance commitments and outcome delivery incentives, having considered stakeholder responses to our draft determination.

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

Key changes
Increasing the water supply interruptions 2024-25 level (making it easier to achieve) to five minutes, with an amended glidepath in the first four years taking account of wider evidence to calibrate the stretch of the performance commitment for an efficient company. We reduce the underperformance rate to be symmetrical with its outperformance rate. Together these two changes provide a more balanced spread of incentives and risks on water supply interruptions.
Retaining the company performance commitment levels for internal sewer flooding Amending the outcome delivery incentive rates in relation to internal sewer flooding to be symmetrical with the outperformance rates to provide a balanced spread of risks and incentives.
Increasing the performance commitment levels for mains repairs by a reducing percentage, for all companies, in all years, reducing the stretch. The aim is to allow all companies the flexibility to deliver the step change in leakage reduction, allowing more flexibility in the earlier years to use proactive mains repairs to reduce leakage. We also amend the underperformance payment rate on mains repairs for all companies[4] to industry average to provide a more balanced spread of risks and incentives.
Adjusting the deadband on the compliance risk index to a score of 2.00 throughout the period reducing the risk of underperformance payments in the last three years of the 2020-25. This allows more flexibility in performance to take into account the uncertainty created by the ban on the use of metaldehyde being overturned by the High Court and also aligns with the median level of current company performance.

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

Key changes
Revising the performance commitment levels for surface water management to a fifth, which is more appropriate to the company's performance and benchmarking with comparable companies.
Accepting the company's proposal to update the outcome delivery incentive rates methodology for void properties. In particular, we recommend that we remove the cost sharing factor as this is a retail outcome delivery incentive. Instead we calculate the financial incentive using a weighted incentive rate based on the number of customers that receive single and dual services.
Adopting the company's proposals in relation to WINEP to make changes to the definition to exclude the water scheme which was included at draft determination. We also amend the performance commitment definition to update the performance commitment levels.

Table 2.2: Summary of performance commitments: common performance commitments

Name of common performance commitment	Type of outcome delivery incentive			
	Financial			Reputational
	Under	Out	In-period	
Water quality compliance (CRI) [PR19SRN_WN02]	X		X	
Water supply interruptions [PR19SRN_WN03]	X	X	X	
Leakage [PR19SRN_WN04]	X	X	X	
Per capita consumption [PR19SRN_WR01]	X	X	X	
Mains repairs [PR19SRN_WN05]	X	X	X	
Unplanned outage [PR19SRN_WN06]	X		X	
Risk of severe restrictions in a drought [PR19SRN_WR02]				X
Priority services for customers in vulnerable circumstances [PR19SRN_RR08]				X
Internal sewer flooding [PR19SRN_WWN01]	X	X	X	
Pollution incidents [PR19SRN_WWN02]	X	X	X	
Risk of sewer flooding in a storm [PR19SRN_WWN03]				X
Sewer collapses [PR19SRN_WWN04]	X		X	
Treatment works compliance [PR19SRN_WWN05]	X		X	
C-MeX: Customer measure of experience [PR19SRN_RR01]	X	X	X	
D-MeX: Developer services measure of experience [PR19SRN_WN01]	X	X	X	

Table 2.3: Summary of performance commitments: bespoke performance commitments

Name of bespoke performance commitment	Type of outcome delivery incentive				
	Financial				Reputational
	Under	Out	In-period	End of period	
Drinking water appearance [PR19SRN_WN07]	X	X	X		
Drinking water taste and Odour [PR19SRN_WN08]	X	X	X		
Effluent re-use [PR19SRN_WWN07]		X	X		
Renewable Generation [PR19SRN_BIO01]	X	X	X		
Satisfactory bioresources recycling [PR19SRN_BIO02]	X		X		
River water quality [PR19SRN_WWN09]	X		X		
Abstraction Incentive Mechanism [PR19SRN_WR05]	X	X	X		
Maintain Bathing waters at ‘Excellent’. [PR19SRN_WWN11]	X		X		
Improve the number of Bathing waters to at least ‘Good’ (Cost Adjustment Claim). [PR19SRN_WWN12]	X	X	X		
Target 100 [PR19SRN_WR03]					X
Water saved from water efficiency visits [PR19SRN_WR04]					X
Access to daily water consumption data [PR19SRN_RR02]		X	X		
Improve the bathing waters at ‘Excellent’ quality (Cost Adjustment Claim). [PR19SRN_WWN13]	X	X	X		
Void properties [PR19SRN_RR03]	X	X	X		
Effectiveness of Financial Assistance [PR19SRN_RR04]					X
Customer satisfaction with vulnerability support [PR19SRN_RR05]					X
Replace lead customer pipes [PR19SRN_WN09]		X	X		
Surface water management [PR19SRN_WWN06]	X	X	X		
Community engagement [PR19SRN_N01]					X
Schools visited and engagement with children [PR19SRN_N02]					X
Water supply resilience [PR19SRN_WN10]					X
Properties at risk of receiving low pressure [PR19SRN_WN11]	X		X		

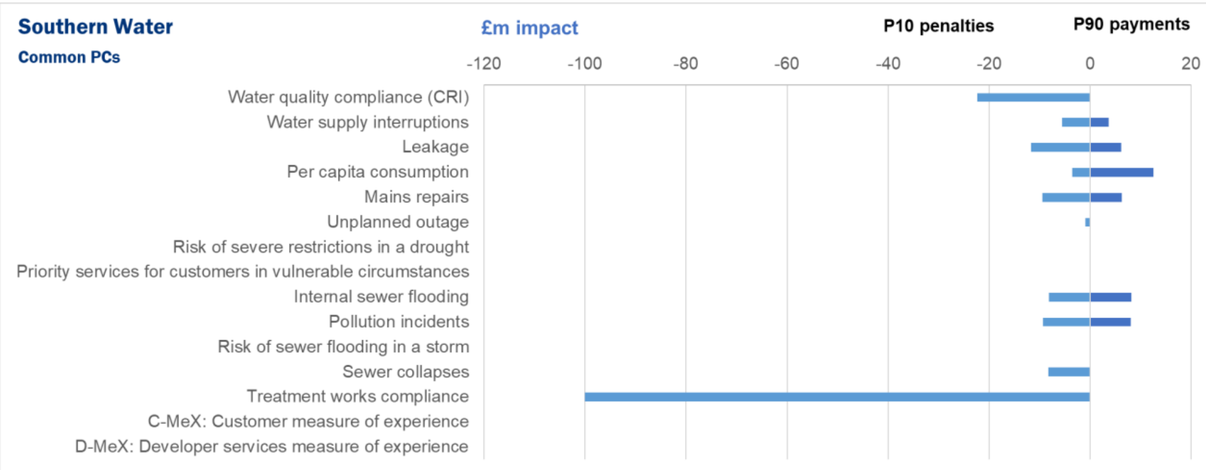
Name of bespoke performance commitment	**Type of outcome delivery incentive**				
	Financial				Reputational
	Under	Out	In-period	End of period	
External sewer flooding [PR19SRN_WWN08]	X	X	X		
Combined Sewer Overflows (CSO) monitoring [PR19SRN_WWN10]					X
Natural Capital [PR19SRN_WWN15]					X
Gap Sites [PR19SRN_RR06]					X
Thanet Sewers [PR19SRN_WWN16]	X			X	
Distribution input [PR19SRN_WN12]					X
Value for Money [PR19SRN_RR07]					X
Long-term supply demand schemes [PR19SRN_WN13]	X			X	
Impounding reservoirs [PR19SRN_WR07]	X		X		
WINEP Delivery [PR19SRN_NEP01]					X

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

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

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

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



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

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

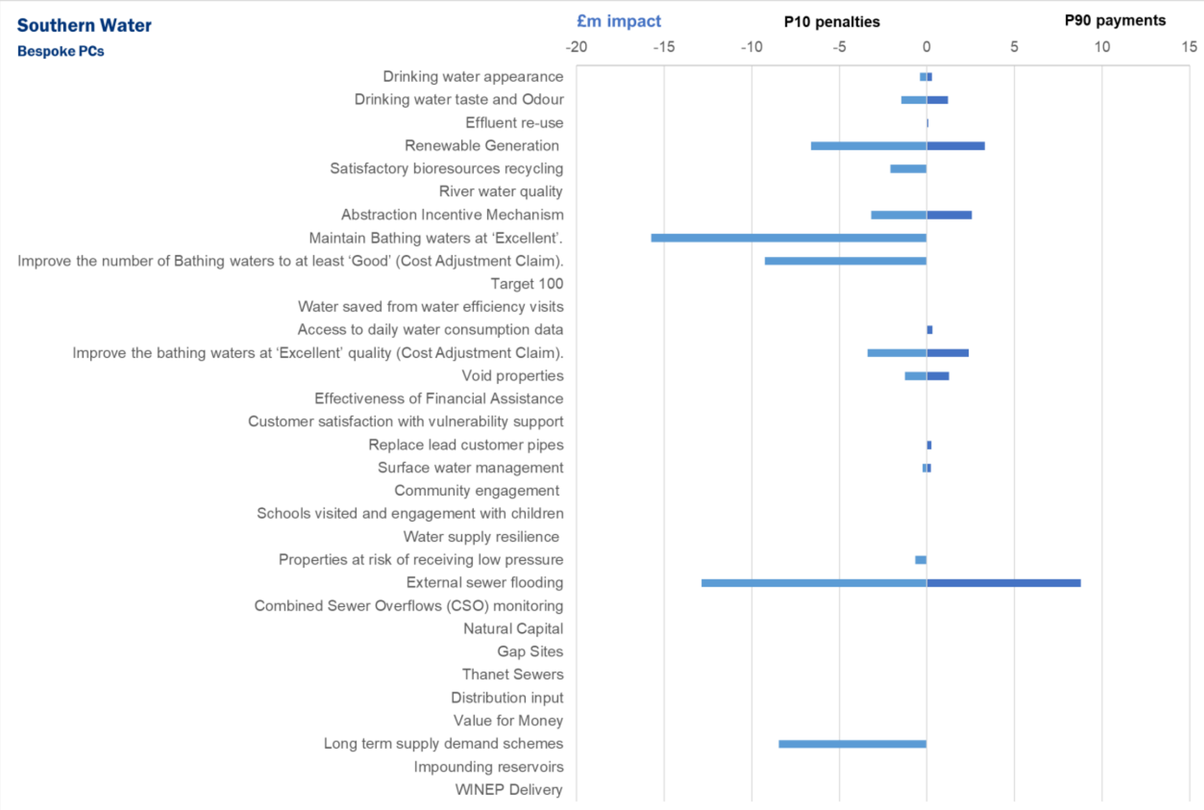


Table 2.4 provides an indication of the financial value of the overall package at the upper and lower extreme levels of performance (expressed as a percentage point impacts on RoRE (return on regulatory equity)) and the overall impact of our final determination decisions. Further information on how we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

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

	Draft determination		Final determination	
	% of 5 year regulatory equity		% of 5 year regulatory equity	
	P10	P90	P10	P90
Southern Water	-2.76	+ 0.72	-1.64	+ 0.58

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

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

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

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

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

2.3 Delivering a framework for resilience in the round

Resilience is one of our four themes for PR19. We set out our expectations for water companies' business plans in our PR19 methodology. Overall, Southern Water's September 2018 business plan falls significantly short of demonstrating that the company has applied an integrated resilience framework that will deliver resilience in the round. It does however provide sufficient evidence that the company has considered a wide range of options to improve resilience. These include traditional engineering options alongside nature-based options, behavioural options and softer engineering options.

We recognise that it may take some time for companies to fully understand best practice approaches to resilience in the round and implementing a systems-based approach to resilience. In our initial assessment of business plans, we set Southern Water an action (SRN.LR.A1) to develop a resilience action plan which demonstrates that it has a framework in place to deliver resilience in the round, and to submit this to us by 22 August 2019. We expected the resilience action plan to build upon the feedback that we provided following our initial assessment of the business plan.

Southern Water's resilience action plan demonstrates a significant improvement from its September 2018 business plan. It includes a number of good elements and meets expectations in most areas.

The company's action plan meets our expectations in the following areas:

- an understanding of baseline maturity and capability gaps which is used to inform the development of the company's action plan;
- reviewing best practice from other sectors, including the financial sector, as well as past failures to build a robust resilience framework. The company demonstrates how it has applied this learning in the development of its action plan;
- consideration of a broad range of mitigations options following the 4Rs approach of resilience of resistance, reliability, redundancy, and response and recovery; and
- a delivery plan that includes a robust approach to monitoring and reporting on progress.

However, there are a few areas of Southern Water's action plan fall short of our expectations. In particular, the company does not explain how the three main elements of its resilience framework interact with each other to function as an applied framework.

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

3 Cost allowances

Key changes from the draft determination

- Our final determination allowance for Southern Water is £3,403.4 million for the wholesale services. This compares with £3,339.1 million at draft determination. In retail, our final determination allowance is £261.7 million, compared with £257.6 million at draft determination.
- Our base allowance is affected by a number of changes we have made since draft determinations:
  - we include company outturn data from 2018-19 in our econometric models;
  - we exclude non-section 185 diversions costs (i.e., diversions other than those required by section 185 of the Water Industry Act 1991) from our econometric models and allow companies to recover related income outside the price control, from the relevant transport authority;
  - we strengthen the catch-up challenge applied to wholesale modelled base costs. We use the 4th placed company in wholesale water and the 3rd placed company in wholesale wastewater as an efficiency benchmark, rather than the upper quartile company at draft determinations;
  - we reduce the frontier shift challenge from 1.5% per year to 1.1% per year, but we extend to all wholesale base costs.
- We make a £5.6 million upward adjustment to our base allowance for water network plus, and a £25.4 million upward adjustment for wastewater network plus. The adjustments are due to a relatively high forecast of population growth in 2020-25 in the company's supply area.

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

Southern Water submitted a business plan for 2020-25 with expenditure proposals that are significantly above what it has incurred historically. To ensure customers pay only for efficient costs we challenge the company's proposed costs and investment programme where appropriate. At draft determination, the company had a cost gap of 6.5%. Southern Water reduces its requested costs in its August 2019 representations, through its identification of further efficiency gains. As a consequence of this, and additional cost allowances that we make, the gap at final determination, as shown in table 3.3, narrows to 5.4%.

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

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

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

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

3.1 Allowed expenditure for wholesale services

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

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

	2020-21	2021-22	2022-23	2023-24	2024-25	Total	Company August 2019 - total
Water Resources	30.1	34.0	40.1	27.3	26.6	158.1	160.9
Water network plus	210.7	219.4	214.3	180.8	190.5	1,015.6	1,136.9
Wastewater network plus	363.0	455.7	466.7	403.4	340.7	2,029.5	2,136.0
Bioresources[2]	35.9	40.2	57.3	36.2	30.5	200.1	204.5
Total	**639.7**	**749.3**	**778.4**	**647.6**	**588.3**	**3,403.4**	3,638.4

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

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

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

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

Our draft determination allowance included all revenues and costs in relation to diversions. This approach was criticised by companies who said that it did not take into account forecast step changes in diversions costs for some companies as a result of large infrastructure projects such as High Speed 2 (HS2). Following our draft determinations consultation, we exclude revenue relating to diversions other than those required by section 185 of the Water Industry Act 1991 ('non-section 185 diversions').

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

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
Base expenditure	72.3	681.9	1,437.3	192.7	2,384.2
Enhancement expenditure	39.2	249.0	562.2	5.1	855.4
Operating lease adjustment	-	-	-7.7	-	-7.7
Gross allowed totex for calculation of cost sharing rates	111.6	930.9	1,991.7	197.7	3,231.9
Strategic regional water resources solutions and other cash items	39.1	45.8	-	-	84.9
Third party costs	6.9	25.3	9.2	-	41.4
Non-section 185 diversions	-	-	-	-	-
Ex-ante cost sharing adjustment	-	-	-	-	-
Gross totex	157.6	1,002.0	2,000.9	197.7	3,358.2
Grants and contributions after adjustment for income offset[1]	1.6	86.2	91.4	-	179.1
Net allowed totex for calculating PAYG	156.0	915.8	1,909.5	197.7	3,179.1
Pensions deficit recovery costs[2]	0.5	13.7	28.7	2.3	45.2
Total	**156.6**	**929.5**	**1,938.2**	**200.1**	**3,224.3**

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

Movement in allowed wholesale expenditure between draft and final determinations

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

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

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

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

Price Control	Company April 2019	Company August 2019	Draft determination allowance	Final determination allowance
Wholesale water	1,179.7	1,168.6	1,023.9	1,042.5
Wholesale wastewater	2,309.7	2,300.1	2,153.3	2,197.2
Total	**3,489.5**	**3,468.7**	**3,177.3**	**3,239.6**

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

	Draft determination allowance	Final determination allowance
Base expenditure	2,326.2	2,384.2
Enhancement	851.1	855.4
- Environmental obligations (WINEP)	546.6	553.7
- Supply-demand balance and metering enhancement	185.9	184.0
- Resilience enhancement	0.0	0.0
- Other enhancement (including raw water deterioration, sludge quality and growth, meeting lead standards and improving bathing water quality)	118.6	117.7

3.2 Wholesale base expenditure

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

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

Price Control	Company August 2019	Final determination allowance
Water Resources	64.7	72.3
Water Network plus	751.2	681.9
Wastewater Network plus	1,456.9	1,437.3
Bioresources	197.2	192.7
Total	**2,469.9**	**2,384.2**

Note company business plan base costs exclude enhancement opex.

Southern Water makes representations on our approach of assessing growth costs as part of an integrated 'base plus' modeling approach. It argues that our models lack a specific driver to explain growth costs; that our models do not take into account forecast costs as we had at the initial assessment of plans; and that we should use its own forecast of new connection rather than household growth forecast from the Office for National Statistics. We consider all these points and provide our decision and rationale in the 'Securing cost efficiency technical appendix'.

For final determinations, we retain our approach of including growth related expenditure in our base econometric models. We have also made an adjustment depending on whether the company operates in an area with a relatively high or low forecast of population growth, relative to the historical average for the sector. This follows representations, including that of Southern Water, made at draft determinations that the models did not adequately compensate for companies with a high growth forecast. We also consider that the models overcompensate for companies that operate in an area with a low growth forecast. We consider that using the symmetrical adjustment approach set out in our PR19 methodology best accommodates for these factors.

As the population growth forecast in Southern Water's period for the period 2020-25 is higher than the historical average growth rate in the sector, we make a positive adjustment to the company's wholesale water base allowance of approximately £5.6 million, and a positive adjustment of approximately £25.4 million to its wholesale wastewater base allowance. More details of our approach can be found in the 'Securing cost efficiency technical appendix'.

3.3 Enhancement expenditure

For wholesale enhancement expenditure we challenge the scope of work, the evidence provided to support solution options and the efficient delivery of programmes. We cost benchmark with the rest of the industry where we can.

Table 3.6 summarises our allowances for enhancement expenditure.

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

Price Control	Company August 2019	Final determination allowance
Water Resources	49.9	39.2
Water Network plus	302.8	249.0
Wastewater Network plus	641.0	562.2
Bioresources	5.0	5.1
Total	**998.8**	**855.4**

Our final determination allows Southern Water £855 million to invest in improvements to service, resilience and the environment. Key parts of this allowance are:

- £537 million to improve the environment by efficiently delivering its obligations as set out in the wastewater WINEP programme including providing phosphorus removal at treatment sites and protection of groundwater around Thanet;
- £174 million for supply-demand balance schemes delivering long-term drought resilience;
- £60 million to address the impact of deteriorating raw water quality;
- £21 million to improve bathing water quality; and
- £20 million to meet lead standards.

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

Environmental obligations (WINEP)

We allow £537 million for wastewater WINEP. Our comparative assessment reveals Southern Water's proposed costs to be relatively inefficient. Southern Water accepted our allowance for its phosphorus removal programme at the initial assessment of plans stage and we retain this allowance at final determination.

Southern Water submits further evidence relating to the Bewl-Darwell scheme to control invasive non-native species as part of its water supply schemes of WINEP. We accept the need for the investment and allow £3.6 million, which includes an efficiency challenge as the information the company provides is insufficient to demonstrate its costs are efficient.

Leakage

We expect an efficient company to achieve its stretching performance commitments from our base allowance. Only where the company's performance commitment goes beyond the industry forecast upper quartile leakage performance, do we make an enhancement allowance for leakage reduction. As this is not achieved by Southern Water, our allowance is unchanged from draft determination and we do not allow any of the requested £33.1 million under enhancement. In 'Securing cost efficiency technical appendix' we set out our policy on the funding of leakage reduction costs, including how we derive the upper quartile threshold for leakage enhancement costs

Investment to meet the supply-demand balance

We make an allowance for the company's payment to Portsmouth Water for the delivery of Havant Thicket reservoir which will support water trading with Southern Water. Southern Water's representation requests £4.5 million for this. Our updated financial modelling identifies £4.9 million is required over 2020-25, therefore, we update the allowed expenditure to be consistent with this[7]. The Havant Thicket reservoir costs within Portsmouth Water's ten-year control are subject to a gated cost adjustment mechanism (see 'Havant Thicket appendix' for more details). The gated process will mitigate the significant cost uncertainty associated with the construction of the Havant Thicket reservoir at the time of the PR19 final determination. Therefore, as the costs of delivering the reservoir and network improvements change the payment required by Southern Water will adjust accordingly.

For overall supply-demand balance enhancement we decrease the allowance we make from £175.3 million at draft determination to our final determination £173.6 million. This is due to the increase in company-specific efficiency factor that we apply

[7] We include the £4.5 million allowance relating to the company's request in our enhancement expenditure totals and make a £0.429m additional adjustment in the financial model.

to elements of Southern Water's proposals where the company provides insufficient evidence that its costs are efficient.

Strategic regional water resource development

We make an additional allowance in our final determination for strategic water resource development to support the delivery of long-term drought resilience. We set out our policy on funding of these strategic solutions in the 'Strategic regional water resource solutions appendix'. In its representation, Southern Water requests £84.9 million, an increase on what we allowed at draft determination. We make the full allowance the company requests at final determination to enable it to develop strategic regional solutions in association with other companies. Based on representations regarding the gate timings, we now only expect three of Southern Water's solutions to follow the accelerated gate timings (Fawley desalination, River Itchen reuse and West Country sources north) whilst the remaining three will follow the standard gates. The solutions that should follow the accelerated timeframe are those more likely to deliver benefits that meet Southern Water's needs by 2027.

Addressing raw water quality deterioration

Following representations from Southern Water and other companies, we revise our forecast of water treatment complexity in setting modelled base costs allowances to use the complexity forecasted by the company, rather than historical complexity. We therefore make no enhancement allowance for additional treatment works opex.

We consider that the company provides insufficient evidence that its capital costs are efficient. We apply the company efficiency factor to challenge proposed costs. We make an allowance of £60.4 million at final determination, a decrease of £0.8 million from draft determination due to an increase in the company efficiency factor.

Bathing water quality

We make an allowance of £20.6 million to improve bathing water quality beyond the statutory minimum. This is unchanged from draft determinations.

3.4 Cost sharing

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

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

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

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

Southern 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 confirm that we are not applying a reduced cost sharing rate for Southern Water. Since the initial assessment of business plans, it has engaged positively and its submissions are of sufficient quality (see 'Significant scrutiny application of lower cost sharing rates and outcome delivery incentive cap' technical appendix for details).

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

	Water resources	Network plus - water	Network plus - wastewater
Totex for cost sharing rates – September 2018 business plan (£m)	117.4	1,081.5	2,440.1
Totex for cost sharing rates – August 2019 (£m)	114.6	1,054.0	2,097.9
Weighted company view of totex for cost sharing rates (£m)	116.0	1,067.7	2,269.0
Gross allowed totex for cost sharing rates (£m)	111.6	930.9	1,991.7
Cost sharing ratio	1.14		1.14
Cost sharing rate – outperformance	36%		36%
Cost sharing rate – underperformance	64%		64%
Grants and contributions before the deduction of income offset (£m)	2.0	109.7	123.0
Abstraction charges and business rates (£m)	27.0	51.7	58.9
Net allowed totex subject to cost sharing reconciliation (£m)	82.6	769.5	1,809.8

3.5 Allowed expenditure in residential retail

Table 3.9 sets out our total expenditure allowance for residential retail. Our allowance does not include any of our allowed pension deficit recovery costs. These costs have been wholly allocated to wholesale controls.

Based on our benchmarking analysis, we assess Southern Water's cost proposals for 2020-25 in residential retail as efficient. We welcome the company's proposals which set out a plan to transform its residential retail business and improve on its historical position as the most inefficient retailer in the industry. Southern Water launched its retail transformation programme in October 2016 and is among the companies that have delivered the largest cost reductions since 2013-14. The company is focusing on improving its customer service and debt management studying cross-sector best practice. Southern Water's cost proposals over 2020-25 are by a significant margin the most ambitious in terms of the percentage reduction in PR19 business plan requests relative to actual historical cost performance. Our overall approach rewards efficient business plans. As a consequence, Southern Water receives an expenditure allowance that is higher than it requests in its business plan.

Table 3.9: Expenditure, residential retail, 2020-25 (£ million, nominal)

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Residential retail	50.8	51.6	52.4	53.1	53.8	261.7
Company view	49.8	47.8	46.5	45.9	45.1	235.0

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

3.6 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.

Southern Water has two potential schemes in its business plan that are required to achieve its water resources needs. These schemes are:

Fawley desalination

The Fawley desalination scheme may be needed to provide additional capacity to Hampshire and the Isle of Wight. This will maintain drought resilience following imposed reductions to abstraction levels in the area.

River Itchen effluent reuse

The River Itchen effluent reuse scheme could transfer effluent from a number of Southern Water's wastewater treatment works and discharges into the River Itchen, upstream of the tidal limit, to augment flows and enable increased abstraction from this river.

Southern Water agrees that these schemes could be carried out using a direct procurement for customers process which delivers the project by procuring a third-party (a competitively appointed provider) to design, build, finance, operate and maintain infrastructure.

Southern Water has an important role on these projects, should they be confirmed, during construction and into operations including:

- carrying out the procurement of a competitively appointed provider;
- obtaining the necessary planning consents to deliver the project;
- approving the design for the project;
- acquiring the land necessary for construction activities to commence;
- delivering some of the site enabling works; and
- works to prepare for the interface between each scheme and Southern Water's network.

We allow costs to carry out work on the schemes above during the period 2020-25. We have not allowed for a competitively appointed provider's revenues, these will be calculated by reference to the terms of the contract it enters into with Southern Water which will be determined by a competitive procurement process to be conducted by Southern Water. We do not expect Southern Water's customers to start paying for a competitively appointed provider's revenues until the next price control period for the earliest schemes.

For the inter-zonal transfer scheme in Hampshire we allow for the costs of the project. We expect this scheme to be progressed using a direct procurement for customers process. If the scheme is delivered via direct procurement for customers, we will apply an end of period reduction to the allowed totex. There will be no allowances or cost sharing for overspend. This mechanism is the same as that for the strategic regional water resource solutions described in the 'Strategic regional water resource solutions appendix'.

Consideration of representations on our draft determination

Table 3.8 lists the representations we have received that are specific to direct procurement for customers and Southern Water's schemes and shows where to find more information on our responses in this document.

Table 3.8 Representations specific to the Southern Water's direct procurement for customer schemes

Area	Company-specific representations	Detailed commentary in this appendix
Uncertainty mechanism	Funding of schemes subject to direct procurement for customers market testing	Delivering value for customers in large projects

Overall, we consider that the procurement of schemes through a direct procurement for customers process will identify the best value for customers and protects customers' interests due to improved transparency.

Developments to facilitate direct procurement for customers

We will consult on the licence modifications necessary to enable the delivery of these schemes through direct procurement for customers in 2020. Our expectation is that competitively appointed providers would be procured in the 2020-25 price control period and the contracts would cover the construction of the schemes and their operation for a period no less than 20-years.

Under the direct procurement for customers process the need to include regulatory mechanisms to manage uncertainty as a result of change is recognised. If changes in external factors dictates that a scheme may no longer demonstrate value for money through a direct procurement for customers process, a scheme could instead, with our agreement, be delivered through a traditional in-house procurement process. We discuss the uncertainty mechanism further in 'Delivering value for customers in large projects'.

For Southern Water's schemes we have specified Notified Items as we consider that an interim determination is the appropriate mechanism in the event that one or more of the schemes should need to be delivered in-house.

Southern Water's Fawley desalination scheme and River Itchen effluent reuse schemes are and dependent upon further analysis within the strategic water resources solutions framework. The Inter-zonal transfer scheme is part of the wider Southern Water's interconnector programme. We have therefore determined that additional performance commitments specific to direct procurement for customers for these schemes are not appropriate for this period 2020-25.

Southern Water identify a number of other potential schemes that may be suitable for direct procurement for customers, for example the West Country-Southern Water transfer, Thames Water-Southern Water transfer, Brighton Wastewater Treatment Works indirect potable reuse (also known as Peacehaven indirect potable water reuse) and the Test Estuary Wastewater Treatment Works Industrial Reuse (also known as Slowhill Copse industrial reuse) as discussed in the 'Strategic regional water resource solutions appendix'. We expect these schemes and any other major schemes which may arise due to significant changes to Southern Water's business plan to be reviewed against the direct procurement for customers criteria, as detailed in the PR19 methodology. If the criteria are met, we expect Southern Water to undertake further work to review detailed costs and commitments to ensure delivery is via the most efficient route, and to assess delivery via direct procurement for customers, to ensure that customers receive the best value.

4 Calculation of allowed revenue

Key changes from the draft determination

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

- We allow £3,689.1 million of revenue across all price controls for Southern Water in the final determination, compared to £3,708.9 million in the draft determination and £4,145.1 million in the company's April 2019 revised business plan. Our final determination includes our intervention to reduce net wastewater revenue by £126 million associated with the enforcement penalty notice imposed on Southern Water for misreporting performance of its wastewater treatment sites
- The allowed return on capital for the wholesale price controls is 2.92% (on a CPIH basis, 1.92% on a RPI basis), a reduction of 0.16 percentage points from our draft determination, based on our assessment of market evidence. The allowed retail margin for the household retail control remains at 1.0%, consistent with the draft determination.
- Taking account of company representations, we revise our approach to determine the mix of operating and capital expenditure to take better account of the nature of our decisions on cost allowances. We apply the updated approach in our technical intervention to PAYG rates.
- We increase PAYG rates to bring forward allowed revenue by £57 million to address a notional financeability constraint.
- Allowed revenue includes Southern Water's contribution to the innovation competition.
- We revise our approach to calculating grants and contributions.
- We reflect Southern Water's latest information on its actual performance in 2018-19 and expected performance in 2019-20 from its 15 July submission.
- Our final determination includes finalised scores for 2018-19 in the residential retail service incentive mechanism. This increases revenue by £3.7 million compared to the draft determination.

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

4.1 Allowed revenue

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

4.1.1 Wholesale controls

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

- Pay as you go (PAYG) – this reflects the allocation of our efficient totex baseline to costs that are recovered from revenue in 2020-25. The proportion of totex not recovered from PAYG is added to the RCV) which is recovered over a longer period of time.
- Allowed return on capital – this is calculated based on our assessment of the allowed return on capital multiplied by the average RCV for each year.
- RCV run-off – this reflects the amount of RCV that is amortised from the RCV in the period of the price control.
- PR14 reconciliations – this reflects the application of out/underperformance payments from PR14 through revenue adjustments in 2020-25.
- Corporation tax allowance – this is estimated from projected corporation tax rates, profit forecasts and assumed levels of tax relief contained in our financial model for the draft determination.
- Grants and contributions – this represents revenue that we expect to be received from developers in respect of work undertaken by companies to service new developments. It includes income from connection charges, infrastructure charges and s185 diversion recharges. The total grants and contributions amount deducted from totex may not agree to this amount, as we only include grants and contributions income relating to the price control (and some income is outside the price control).
- Non-price control income – income from charges excluded from the price controls. For example, this includes bulk supplies, standpipes, unmeasured cattle troughs, and other services. In a change from our draft determination, we also now include diversions recharges which are in respect of the New Roads and Street Works act 1991 activities and other non-section 185 diversions. We deduct the forecast income from these charges from the allowed revenue, because costs relating to these charges are included in the calculation of allowed revenue.
- Innovation competition – this represents the additional revenue that the company will collect from its customers for the purpose of a collectively funded innovation

competition for the period 2020-25. The amount each company's customers will contribute will be proportionate to individual company revenue at Draft Determinations. We expect the revenue collected from customers to be ring-fenced and administered so that it will not be used for purposes other than the innovation competition.

- Revenue re-profiling – this reflects the change in revenue in 2017-18 prices as a result of adjustments made to annual revenues to smooth the final bill profile consistent with customer preferences. The financial model calculates revenue adjustments on a net present value (NPV) neutral basis.

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

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

Table 4.1: Calculation of allowed revenue (£ million)

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total – Final determination	Total - Draft determination
Pay as you go	83.2	454.7	816.8	105.5	1,460.1	1,368.4
RCV run-off	37.3	218.9	989.8	105.6	1,351.7	1,368.1
Allowed return on capital	13.8	140.6	456.9	25.5	636.8	686.1
Revenue adjustments for PR14 reconciliations	8.3	-8.5	-139.8	0.0	-140.0	-8.3
Fast track reward	0.0	0.0	0.0	0.0	0.0	0.0
Tax	0.0	0.0	0.0	0.0	0.0	0.0
Grants and contributions after adjustment for income offset (price control)	1.6	86.2	91.4	0.0	179.1	112.0
Deduct non-price control income	-8.4	-17.5	-17.0	0.0	-42.9	-42.9
Innovation competition	0.0	3.7	9.6	0.0	13.3	0.0
Revenue re-profiling	-0.2	-0.6	-1.0	-0.1	-2.0	1.6
Final allowed revenues	135.5	877.5	2,206.7	236.4	3,456.2	3,484.9

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

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

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

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

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

In our new strategy consultation[8], we explored options for customer-funded interventions designed to drive innovation to benefit customers in the longer-term. Having reviewed the responses to the consultation, we are publishing our decision in 'Driving Transformational Innovation in the Water Sector' alongside the PR19 final determinations, confirming that we are making up to £200 million available for innovation activities for the period 2020-25 through the introduction of an innovation competition. We will work together with companies and other stakeholders in the sector to set up a competition which will effectively drive innovation in the sector to the benefit of customers across England and Wales.

4.1.2 Residential retail control

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

- Retail cost to serve – this reflects our efficient view of costs per customer for the retail business.
- Net margin on wholesale and retail activities – this is calculated based on the wholesale revenue applicable to residential retail customers, plus the retail cost

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

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. This was used by Southern Water in its business plan and is unchanged in our final determinations.

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

Table 4.2: Retail margins, 2020-25 (nominal price base)

	Draft determination	Final determination
Total wholesale revenue - nominal (£m)	3,715.0	3,626.4
Proportion of wholesale revenue allocated to residential (%)	80.0%	79.9%
Residential retail costs (£m)	257.6	261.7
Total retail costs (£m)	3,228.6	3,159.5
Residential retail net margin (%)	1.0%	1.0%
Residential retail net margin (£m)	32.2	31.6
Residential retail adjustments (£m)[1]	-43.4	-35.5
Residential retail revenue (£m)[2]	246.4	257.8

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

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

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

Our totex cost allowances are sufficient to meet an efficient company's operating and capital expenditure. Companies recover this expenditure either in period from current customers using PAYG or add it to the RCV and recover from future generations of customers using the RCV run-off rates. Consistent with our methodology, we assess how each company's choice of PAYG and RCV run-off rates reflect the levels of proposed expenditure, bill profiles, affordability and customer views relevant to the short and the long term.

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

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

4.2.1 PAYG in allowed revenue

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

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

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

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
Totex allowance (£m)	156.5	915.8	1,909.5	197.7	3,179.1
Final determination PAYG rate (%)	52.8%	48.2%	41.3%	52.2%	44.5%
Pay as you go totex (£m)	82.7	441.0	788.2	103.1	1,414.9
Pension deficit recovery cost (£m)	0.5	13.7	28.7	2.3	45.2
Total pay as you go (£m)	**83.2**	**454.7**	**816.8**	**105.5**	**1,460.1**

Note in table 4.3, we have adjusted the totex allowance to reflect the final determination of the Havant Thicket control for Portsmouth Water, to ensure that an additional £0.429 million relating to the bulk supply is included correctly in Southern Water's costs.

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

	Water resources	Water network plus	Wastewater network plus	Bioresources
Original company plan (%)	70.7%	43.9%	48.1%	65.3%
Draft determination (%)	51.2%	45.2%	38.0%	49.9%
Final determination (%)	52.8%	48.2%	41.3%	52.2%

Southern Water's approach to setting PAYG rates in its April revised plan is to recover all costs required to maintain the operating capability of the company. The company states this includes reactive renewals, IT expenditure relating to maintaining the corporate systems and expenditure related to studies, investigations and inspections not specifically related to the location and construction of a new project to PAYG. In the draft determination we intervened to align PAYG rates to recover in each year an amount equivalent to operating costs and infrastructure renewal expenditure within allowed totex consistent with the approach we accepted for other companies. Our intervention resulted in a reduction to PAYG rates of 5.7% on average across all wholesale controls.

In its representations, Southern Water uses the draft determination PAYG rates as part of the financial assumptions that underpin the company representations..

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

In order to calculate the mix of operating and capital expenditure we follow the approach set out in 'Securing cost efficiency technical appendix'. We set out how we apply the technical intervention in the 'Aligning risk and return technical appendix' and we have published our calculation of the PAYG rates for each company alongside our determinations.

We are increasing PAYG rates for all years for all wholesale controls by 2.17% to increase cash flows in the 2020-25 period to improve financial ratios for the notional company, bringing forward £57 million of allowed revenue from future periods. We set out our financeability assessment in section 5.2.

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

4.2.2 Opening RCV adjustments

As part of its business plan, Southern 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 Southern Water.

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

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

	Water resources	Water network plus	Wastewater network plus	Bioresources
RCV – 31 March 2020	1,046.1		3,885.3	
% of RCV allocated by control	8.03%	91.97%	94.78%	5.22%
RCV – 31 March 2020	84.0	962.1	3,682.4	202.9
Midnight adjustments to RCV	0.1	1.3	-143.2	N/A
Midnight adjustments relating to operating leases	-	-	16.1	-
Opening RCV – 1 April 2020	84.1	963.4	3,555.3	202.9

4.2.3 Allowed return on capital

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

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

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

The PR19 methodology confirms our protection of the value of the RCV as at 31 March 2020 across each of the wholesale price controls. This applies to the RCV that is defined as ‘RPI inflated RCV’ and ‘CPIH inflated RCV’ in tables 4.8 and 4.9; this RCV is run-off (or amortised) over time. Totex that is added to the RCV from 1 April 2020 is stated as ‘post 2020 investment’.

In determining the ‘Allowed return on capital’ revenue building block, we apply the relevant deflated allowed return on capital to the average RCV for the year for each component (RPI inflated, CPIH inflated and post 2020 investment). This results in an allowed return on capital for each wholesale control over the period 2020-25 as set out in table 4.8.

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
RPI inflated RCV	42.0	481.7	1,777.7	101.4	2,402.9
CPIH inflated RCV	42.0	481.7	1,777.7	101.4	2,402.9
Other adjustments	-	-	-	-	-
Total RCV	**84.1**	**963.4**	**3,555.3**	**202.9**	**4,805.8**

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
RPI inflated RCV	31.0	414.5	1,420.8	62.9	1,929.3
CPIH inflated RCV	29.6	395.9	1,358.2	60.1	1,843.9
Post 2020 investment	61.6	429.4	981.1	72.6	1,544.6
Other adjustments	-	-	-	-	-
Total RCV	**122.2**	**1,239.8**	**3,760.1**	**195.7**	**5,317.8**

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
RPI inflated RCV	3.5	43.0	153.2	7.8	207.5
CPIH inflated RCV	5.2	63.9	227.6	11.5	308.2
Post 2020 investment	5.1	33.7	76.1	6.2	121.1
Other adjustments	-	-	-	-	-
Allowed return on capital	13.8	140.6	456.9	25.5	636.8
Company April 2019 – return on capital	12.8	167.7	524.6	28.0	733.1

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

4.2.4 RCV run-off

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

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
CPIH inflated RCV	12.4	85.9	419.4	41.3	559.0
RPI inflated RCV	12.7	87.7	430.1	42.2	572.8
Post 2020 investment	12.2	45.4	140.3	22.0	219.9
Total RCV run-off	**37.3**	**218.9**	**989.8**	**105.6**	**1,351.7**

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).

For the draft determination, Southern Water's RCV run-off rates are based on recovering an amount equivalent to depreciation for assets within each wholesale control. The company proposes a reduction to RCV run-off rates for the water network plus control and an increase to RCV run-off rates for the wastewater network plus control. In its plan, the company set out that the adjustments are to balance the change to bills for water and wastewater customers and does not move revenue between price review periods. We accepted the company's approach to RCV run-off rates for the draft determination which we maintain for the final determination.

Southern Water uses the draft determination RCV run-off rates as part of the key financial assumptions that underpin the company representations.

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

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

	Water resources	Water network plus	Wastewater network plus	Bioresources
Company April 2019 (%)	6.75%	3.85%	5.24%	9.93%
Draft determination (%)	6.75%	3.85%	5.24%	9.93%
Final determination (%)	6.75%	3.85%	5.24%	9.93%

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

The annual rates for each wholesale control are set out in the 'Southern Water - Allowed revenue appendix' in tables 5.1 to 5.3.

4.3 PR14 reconciliations

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

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

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

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

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

However, most outcome delivery incentives for the 2020-25 period are in period and will have been reconciled before this date. In light of this we consider it would be more appropriate to complete this reconciliation in the autumn of 2020 and apply any change to bills for 2021-22 as part of the new in-period process. We are designating all of the financial PR14 performance commitments as being in-period for this purpose. Any adjustment between the 2019-20 forecast and actual figures should be modest and we do not expect a significant impact on bills. If, contrary to expectations the bill impact is more significant, we expect companies to take measures to smooth the impact for their customers. The new PR19 mechanism to share benefits with customers from unexpected high outcome delivery incentive payments in a year will not apply to PR14 outcome delivery incentives. Instead the PR14 protection that caps the impact across the five years 2015-20 will apply.

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

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

Incentive	Intervention(s)
Outcome delivery incentives	No interventions required in the reconciliation of outcome delivery incentives. However, we are intervening to reduce net wastewater revenue by £126 million associated with the enforcement penalty notice imposed on Southern Water for misreporting performance of its wastewater treatment sites set out in ‘Ofwat's final decision to impose a financial penalty on Southern Water Services Limited’. In ‘Ofwat’s final decision to impose a financial penalty on Southern Water Services Limited’ we published our decision to impose an enforcement penalty against Southern Water. Our decision is that a penalty of about £37.7 million is appropriate. This has been reduced to £3 million in the light of undertakings provided by Southern Water, including providing redress, valued at £34.7million, to customers in lieu of a penalty. Southern Water paid the £3 million penalty to us on 15 November 2019 which we repaid to the Consolidated Fund held by HM Treasury as

Incentive	Intervention(s)
	required by the Water Industry Act 1991 on 21 November 2019. This penalty is therefore not considered in the reconciliations. The undertakings from Southern Water have three elements: The first element is to address the price review underperformance payments that Southern Water avoided paying as a consequence of its misreporting performance of its wastewater treatment sites and which it is now incurring based on restated performance data. This amounts to £91.2 million and will be returned to customers via bill rebates over the next five years. The second element is a payment to customers, in lieu of a penalty, for the company's failure to meet its legal obligations. This amounts to £31.7 million and will also be paid to customers via bill rebates over the next five year period. The third element to the company's undertakings is a package of measures that Southern Water has and is putting in place. This includes investment in treatment works, and new operational and governance arrangements. The company will report to us regularly to demonstrate that the corrective actions it is taking are working and the company's reports to us will be independently assured. We have implemented the penalties as other wastewater revenue adjustments in the final determination. The restated performance data covered by the penalty notice is included in this final determination within the outcome delivery incentive reconciliation and the other revenue adjustment.
Residential retail revenue	We are intervening to round the company's modification factor figures to 2 decimal places to ensure consistency with the 'PR14 reconciliation rulebook'. We are including a figure of 3.74% for the 'Materiality threshold for financing adjustment - Discount Rate' in line with the 'PR14 reconciliation rulebook'. Overall, our minor interventions increase the total residential retail revenue payment at the end of the 2015-20 period from £2.736 million to £2.737 million.
Wholesale revenue forecasting incentive mechanism	No interventions required.
Totex	We are replacing Southern Water's forecast water and wastewater transitional costs figures in 2014-15 of £10.200 million and £13.768 million, with the actual water and wastewater transitional costs figures of £1.498 million and £14.255 million in 2012-13 prices as shown in table 4.1 Actual transition expenditure of 'Updated 2010-15 reconciliation'. We are intervening to deduct sewer adoptions values of £17.067 million (2016-17) and £23.702 million (2017-18) (nominal prices) from Southern Water's reported sewerage actual totex and sewerage disallowances figures. These are not costs the company has incurred and therefore should not be included within total expenditure (totex) reconciliation. We are also intervening to change the 'Water: Final menu choice' figure to full decimal accuracy as calculated in the PR14 populated final determination models.

Incentive	Intervention(s)
	Overall, our interventions increase the water totex RCV adjustment at the end of the 2015-20 period from £31.654 million to £31.822 million, the wastewater totex RCV adjustment at the end of the 2015-20 period from - £93.613 million to - £94.357 million and the wastewater totex revenue adjustment at the end of the 2015-20 period from £0.567 million to £0.607 million.
Land sales	No interventions required.
Residential retail service incentive mechanism	We are intervening to set Southern Water's residential retail service incentive mechanism adjustment to -10.79% of residential retail revenue to reflect its performance from 2015-16 to 2018-19. This equates to -£33.022 million in total revenue over the period. This increases revenue relative to the company's estimate of the mechanism's impact and is driven by updating our analysis to take account of companies' finalised scores for 2018-19.
PR09 blind year adjustments	No interventions required.

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

Incentive	RCV adjustments		Revenue adjustments	
	Company view[1]	Ofwat view[1]	Company view[1]	Ofwat view[1]
Outcome delivery incentives	0.0	0.0	2.2	2.2
Residential retail revenue	N/A	N/A	2.7	2.7
Wholesale revenue forecasting incentive mechanism	N/A	N/A	-0.1	-0.1
Totex	-62.0	-62.5	-3.5	-3.4
Land sales	0.1	0.1	N/A	N/A
Residential retail service incentive mechanism	N/A	N/A	-41.7	-33.0
PR09 blind year adjustments[2]	-79.2	-79.3	-5.6	-5.6
Water trading	N/A	N/A	0.0	0.0
Other adjustments	0.0	0.0	0.0	-125.9
Total	**-141.1**	**-141.7**	**-46.1**	**-163.2**
Total post profiling[3]	N/A	N/A	-48.9	-172.0

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

4.4 Other allowed revenue

Other components of allowed revenue are:

- The fast track reward, where applicable;
- Corporation tax allowance – this is estimated from projected corporation tax rates, profit forecasts and assumed levels of tax relief contained in our financial model for the final determination.

- Grants and contributions – this represents revenue that we expect to be received from developers in respect of work undertaken by companies to service new developments.
- Non-price control income – this forecast income is deducted from the total allowed revenues, as this revenue is not recovered from the charges covered by the price control – but is expected to cover some of the costs included in the calculation of the price control.

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
Fast track reward	0.0	0.0	0.0	0.0	0.0
Tax	0.0	0.0	0.0	0.0	0.0
Grants and contributions (price control)	1.6	86.2	91.4	0.0	179.1
Deduct non-price control income	-8.4	-17.5	-17.0	0.0	-42.9

4.4.1 Taxation

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

Southern Water provided information in data tables relevant to the calculation of the expected tax charge. As we apply the same tax information to our final determination as used for the draft determination, any movement in the resulting tax allowance is driven by differences in taxable profits, which are as a result of our interventions in other areas.

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
Tax	0.0	0.0	0.0	0.0	0.0

4.4.2 Grants and contributions

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

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

Grants and contributions (price control)

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

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

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

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

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
Grants & contributions (price control; before deduction of income offset allowances)	2.0	109.7	123.0	0.0	234.7

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

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
Grants & contributions (price control)	1.6	86.2	91.4	0.0	179.1

Grants and contributions (non-price control)

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

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

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

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

4.4.3 Non-price control income

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

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

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

	Water resources	Water network plus	Wastewater network plus	Bioresources	Total
Non-price control income	-8.4	-17.5	-17.0	0.0	-42.9

Note negative numbers represent a deduction from the allowed revenue.

4.4.4 Uncertainty mechanisms

Given the range of risk mitigation measures included in price controls, the PR19 methodology said that final determinations would only include bespoke uncertainty mechanisms where robust and compelling evidence was presented for that item. Southern Water does not propose any uncertainty mechanisms.

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

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

We are also including a PR24 reconciliation mechanism for Environment Agency abstraction licence costs in our final determination for Southern Water along with all other companies serving England[9] because:

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

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

We have specified a Notified Item as we consider that an interim determination is the appropriate mechanism should the Fawley Desalination scheme or River Itchen Effluent Reuse scheme need to be delivered in-house.

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

5 Risk analysis and financeability

Key changes from the draft determination

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

- For the final determination, we apply our view of a sector risk range for totex, C-Mex, D-Mex and financing costs (including embedded debt) as part of our assessment of risk ranges for our final determination. We also apply updated views on risk ranges for outcome delivery incentives, determined under our Outcomes Framework.
- We revise our notional dividend yield to 3.00% (from 3.15% in the draft determination) and apply a dividend growth of 1.18%. This takes account of the allowed cost of equity in the final determination. For Southern Water we restrict the base dividend yield to 1.41% in our notional financeability assessment due to the high level of RCV growth in the final determination.
- We revise our approach to pension deficit recovery costs in our financial modelling of the notional company to match cash out flow for pensions deficit recovery costs to the allowed funding.
- For the final determination we advance allowed revenue by £57 million to ensure our determinations are financeable on the basis of the notional structure.

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

Southern Water is responsible for ensuring it delivers its obligations and commitments in the context of its choice of capital and financing structure. Southern Water may need to bring forward its plans to reduce gearing. We will closely monitor changes in levels of the company's gearing, credit ratings and other key financial metrics during 2020-25.

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

5.1 Risk analysis

The PR19 methodology set out that we expect companies to demonstrate a clear understanding of financial risk to the delivery of their business plans and to explain and demonstrate how they manage and mitigate that risk. It required companies to use return on regulatory equity (RoRE) analysis to assess the impact of upside and downside risk on the basis of their notional capital structures based on a prescribed suite of scenarios using the company's assessment of P10/P90 confidence limit values[10].

RoRE is calculated as the return on equity for the equity portion of the RCV based on our notional gearing assumption. A company's base RoRE is aligned with our allowed real post-tax cost of equity, but it can differ between companies because the blended real cost of equity will vary according to the proportion of the RCV (and notional regulatory equity) that is indexed to RPI or CPIH[11]. The proportion of RCV (and notional regulatory equity) that is linked to RPI or CPIH varies between companies according to factors that include the size of the investment programme, the proportion of totex that is capitalised and RCV run-off rates.

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

Table 5.1 and figure 5.1 sets out the annual average risk ranges for Southern Water in our final determination. The risk ranges show the plausible range of company returns based on Southern Water's RCV and cost data for 2020-25, the allowed equity return and a notional gearing level of 60%. The final determination ranges reflect our approaches to the assessment of risk ranges for outcome delivery incentives and our approach to apply a common approach to the assessment of risk ranges for totex and financing costs for the sector.

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

[10] 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.

[11] 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.

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

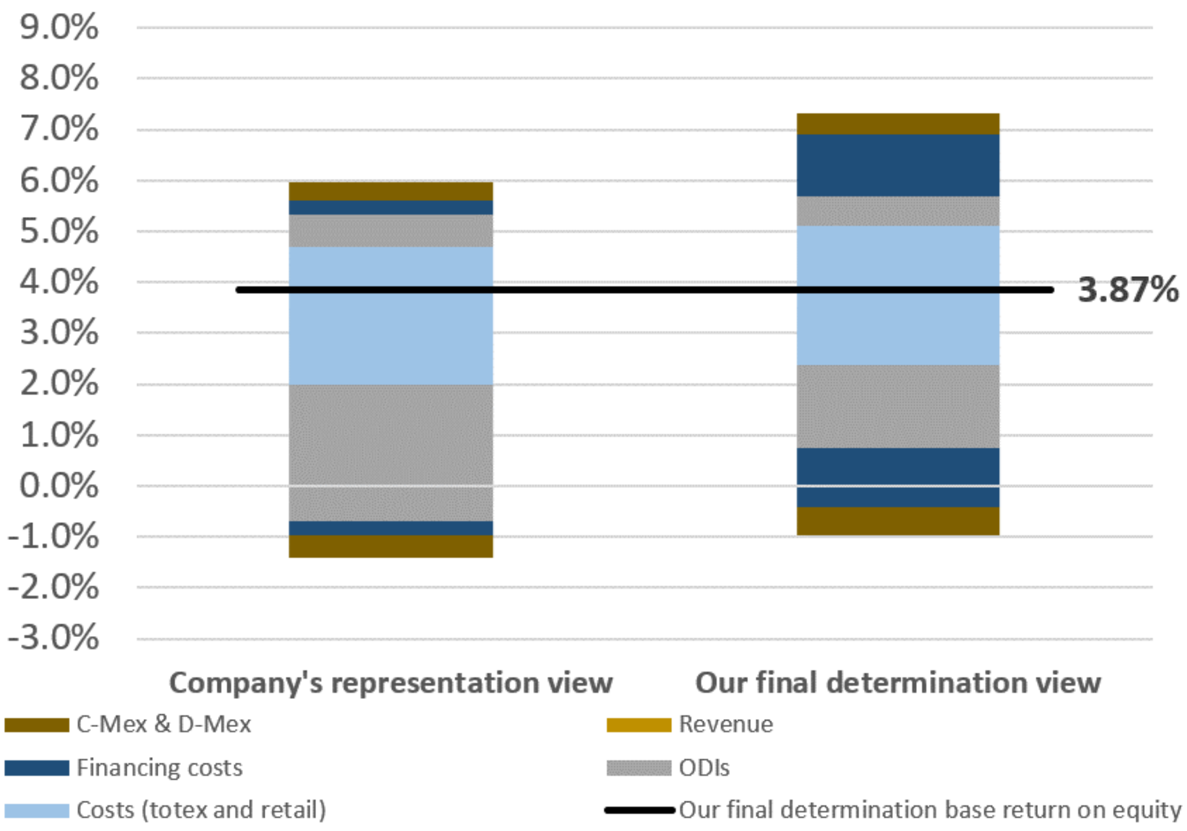
We asked companies to update their risk ranges in their representations. We state those risk ranges in table 5.1 against the cost allowances and base return on regulatory equity in our final determinations. These risk ranges are not fully comparable with our final determination ranges as they take account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

Table 5.1: Southern Water final determination risk ranges

	Range implied in company representation		Final determination ranges	
Base RoRE	-		3.87%	
Risk ranges	**Lower bound**	**Upper bound**	**Lower bound**	**Upper bound**
Totex	-1.58%	0.83%	-1.19%	0.94%
Outcome delivery incentives	-2.70%	0.64%	-1.64%	0.58%
Financing costs	-0.27%	0.27%	-1.16%	1.23%
Retail costs	-0.29%	0.00%	-0.29%	0.29%
C-MeX and D-MeX	-0.42%	0.36%	-0.55%	0.41%
Revenues (includes Retail)	0.00%	0.00%	0.00%	0.00%
Total	**-5.26%**	**2.09%**	**-4.83%**	**3.46%**

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

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



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

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

- The totex range is our assessment of the plausible range based on evidence of the historic sector performance and taking account of the company's cost sharing rates that apply in its final determination.
- The financing cost risk range is based on our assessment of the range for a notional water company including both embedded and new debt.
- The outcome delivery incentive risk range has been determined under our Outcomes Framework as set out in table 2.4.
- The C-MeX risk range is calculated as 12% upside and 12% downside of Residential Retail Revenue, reflecting the cap and collar limits for this incentive. The D-Mex risk range is calculated as 6% upside and 12% downside of developer services revenue, reflecting the cap and collar limits for this incentive.

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

We understand Southern Water's downward skew for retail costs links to its forecast reducing bad debt provision for 2020-25. We note that Southern Water is efficient in our assessment of retail costs. Nevertheless, we consider there is scope for outperformance and so we have revised the upside risk range to be symmetrical with the downside risk range.

5.2 Financeability

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

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

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

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

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

In its April business plan, Southern Water's Board provides assurance that, based on the assumptions in its revised business plan, its notional capital structure remains financeable in the long term. The company sets out that its business plan is financeable on the basis of the notional structure against a target credit rating of Baa1 (Moody's) taking account of the difference between proposed PAYG rates and 'accounting natural rates'. The company stated that its plan targeted a credit rating of Baa1 on a notional basis.

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

In its representation to our draft determination, Southern Water qualifies its Board assurance, setting out that the Board concludes it can finance the plan including its representations, at a target credit rating of Baa2 (Moody's) and BBB (S&P) on the basis of the notional and actual financial structure.

We have carefully considered the representations made by Southern Water including the qualifications on the assurance provided. We have considered this in the context that the allowed return which is based on market data is lower than our draft determination and the basis on which the company provided assurance about the financeability of its plan. The market data supports our view that allowed returns are sufficient to reward investors for the risks they face in a sector that already benefits from significant risk protections[12]. We consider the revenues allowed in our determination, which reflect our assessment of efficient allowed costs, are sufficient for Southern Water to meet its obligations and commitments to customers on the basis of the notional structure. We comment on the financial resilience of the actual structure in section 5.3.

Our financeability assessment uses a suite of financial metrics based on those used in the financial markets and by the credit rating agencies. The key financial ratios are primarily cash flow measures of a company's earnings, leverage and ability to

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

service its debt interest and principal repayments. We provide further detail of the key ratios in the ‘Aligning risk and return technical appendix’.

RCV growth in Southern Water’s final determination exceeds 10%. Therefore consistent with our policy approach set out in the ‘Aligning risk and return technical appendix’ we consider it is appropriate for equity to contribute to the funding of this growth. In our financeability assessment we restrict the base dividend yield to maintain gearing around the notional level of 60% in 2025, consistent with the gearing level that underpins the calculation of our allowed return. The resulting dividend yield we assume is 1.41% with dividend growth of 1.18%.

In table 5.2 we set out some of the financial ratios provided by the company in its business plan, and in our draft and final determinations. Consistent with the approach in the PR19 methodology, the financial ratios reflect increases we have made to PAYG rates to bring forward £57 million of revenue to improve cashflows and financial ratios to mitigate a financeability constraint.

Southern Water sets out in its representations that certain rating agencies reverse adjustments to accelerate revenues when calculating adjusted interest cover and this approach is also used for the calculation of coverage metrics when confirming compliance with the financial covenants of its securitised structure. As set out in the PR19 methodology, revenue advancement is preferable to cost of equity adjustments as it is net present value neutral for customers over time and has the effect of crystallising some of the inflationary return related to the partial transition from RPI to CPIH as the measure of inflation. We consider the issue related to the financial covenants of Southern Water’s securitised structure are matters that relate to the actual financial structure that must be managed by the company and its investors. We discuss these issues further in the ‘Aligning risk and return technical appendix’.

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

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

	Business plan	Draft determinations	Final determinations
Gearing	61.28%	61.74%	59.98%
Interest cover	4.60	4.23	4.60
Adjusted cash interest cover ratio (ACICR)	2.05	1.71	1.50
Funds from operations (FFO)/Net debt	12.07%	10.89%	11.46%
Dividend cover	1.98	0.99	2.71
Retained cash flow (RCF)/Net debt	10.29%	8.93%	10.54%
Return on capital employed (RoCE)	4.91%	3.98%	4.10%

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

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

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

Cash interest excludes the indexation of index-linked debt.

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

Southern Water also sets out in its representations that the Ofwat financial model overstates the adjusted interest cover financial ratio, principally due to the treatment of pension deficit recovery payments.. We correct the treatment of pension deficit in the financial ratios for the final determination which lowers financial ratios compared to the draft determination. We discuss this issues further in the 'Aligning risk and return technical appendix'.

We set out the average PAYG and RCV run-off rates along with the RCV growth over 2020 to 2025 for Southern Water in table 5.3. RCV growth for the final determination is higher than in the company's April plan due to intervention we made in the draft determination to the company's approach to PAYG rates which we maintain for the final determination. RCV growth for the final determination is lower than in the draft determination. Overall, changes to allowed expenditure, the revised approach to determining the mix of operating and capital expenditure and the uplift to the PAYG rates to improve financeability means less expenditure is added to RCV than the draft determination. We are not amending Southern Water's RCV run-off rates in our final determination.

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

	PAYG	RCV run-off	RCV growth
Company April 2019	48.8%	5.13%	9.84%
Draft determinations	41.6%	5.16%	12.31%
Final determinations	44.5%	5.16%	10.66%
The PAYG and RCV run-off rates are averages across five years and across all wholesale controls. We set out the changes we make to PAYG and RCV run-off rates along with the five year average for each control in section 4.2 and annual PAYG and RCV run-off rates in the 'Southern Water - Allowed revenue appendix'. Changes to totex allowances and PAYG rates for individual controls can result in small changes to the average RCV run-off rates presented in the table above.			

In assessing the financeability of the notional company, we consider the headroom available in the final determination to allow the company to continue to meet its annual interest costs. We estimate 5 year headroom of £223 million above an adjusted cash interest cover of 1.0 times, providing headroom to our totex downside of £83 million and outcome delivery incentives downside of £103 million calculated as 1% return on regulatory equity. We set out further detail in relation to our approach to assessing headroom within final determinations in the 'Aligning risk and return technical appendix'.

5.3 Financial resilience

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

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

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

Southern Water reported gearing of 68.8% as at 31 March 2019. In its business plan it proposes gearing of 70.0% at 31 March 2021 and 69.1% at 31 March 2025.

During 2019 the company reduced its gearing. This has been achieved through the introduction of £700m of additional equity in the regulated company.

It plans to keep gearing below 70% during 2020-25 allowing it to reduce interest costs. In its board assurance statement, Southern Water refers to a statement of support from its parent company Greensands Holdings which says that its support for the company's approach, now and in the future, is consistent with its mandate as long-term infrastructure investors.

At the time of our determination it had a credit rating of Baa3 (stable) from Moody's, a credit rating of BBB+ (negative) from S&P and a rating of BBB+ (stable) from Fitch. Southern Water is currently rated at the lowest investment grade rating by Moody's. It has limited financial headroom and any further reduction in its rating will trigger the cash lock up provisions of its licence, which will restrict its ability to pay dividends and make certain payments to connected entities.

The company has indicated that there are mitigating actions it would be able to take to improve its financial position, but that the company will need to revisit its mitigation measures in light of the final determination and the updated allowed return.

The Board provided assurance that the company is financially resilient under its plan. It provided qualified assurance about its financial resilience following the draft determination in the context of its representation. However, it makes clear that this is based on the assumption that final determination cost allowances materially reflect the company's draft determination representations, and that there is no further reduction in the industry WACC.

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

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

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

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

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

Southern Water has committed to assess its financial resilience beyond 2025 in its next long-term viability statement.

6 Affordability and bill profile

Key changes from the draft determination

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

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

6.1 Bill profile

Southern Water proposes an average bill profile with a 6.7% reduction. Our bill profile contains a significantly greater reduction of 18.4% over 2020-25, taking account of the enforcement penalty. Southern Water does not submit additional evidence on bill profiles or acceptability in its August 2019 representation to our draft determination. However, the company states that it is in favour of our draft determination approach to providing bills that are flat in real terms through the 2020-25 period. As a result of several factors (listed below) we are no longer following this approach.

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

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

We apply the flat nominal bill profile before the £126 million enforcement action to reduce net wastewater revenue, and the profiling of this penalty subsequently gives a slightly larger reduction in 2020-21 than in later years.

Table 6.1: Bills in real terms

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Company April 2019	£420	£392	£392	£392	£392	£392
Draft determinations	£420	£362	£362	£362	£362	£362
Final determinations – before reprofiling	£420	£351	£365	£363	£353	£346
Final determinations	£420	£365	£363	£357	£348	£343

Throughout the price review we have put a strong emphasis on companies planning for the long term, both in terms of their goals and their bills. Following actions we set out at initial assessment of business plans, nine companies (Southern Water was not one of these companies) undertook additional customer testing on their long-term bill profiles with several making adjustments as a result. We expect companies to continue to pay attention to this issue, taking customer views into account and planning in a way that ensures they control costs into the future.

6.2 Help for customers who are struggling to pay

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

In addition, Southern Water commits to:

- increase the capacity of its core affordability schemes and tariffs in order to support 155,000 customers per year by 2024-25;
- increase its social tariff cross subsidy to £6, which it has customer support to do;
- undertake 100,000 home water efficiency visits in the 2020-25 period to help customers save money on their bills;
- expand the types of support available through its Priority Services Register from 29 to 53; and
- introduce payment breaks to assist customers in situations of transient vulnerability who are temporarily unable to pay their bills.

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

- the effectiveness of its financial support;
- customer satisfaction with its vulnerability support; and
- customer views of value for money.

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

6.3 Total revenue allowances and k factors

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

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

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Water resources	27.3	26.8	27.4	27.3	26.8	135.5
Water network plus	176.1	177.5	177.8	174.4	171.7	877.5
Wastewater network plus	439.2	449.4	444.4	439.1	434.6	2,206.7
Bioresources	49.3	46.7	47.2	45.2	48.0	236.4
Residential retail	47.1	47.0	46.7	46.3	45.9	233.0
Total	**738.9**	**747.3**	**743.5**	**732.3**	**727.1**	**3,689.1**

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

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

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

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

	Base (£m)	2020-21	2021-22	2022-23	2023-24	2024-25
Water resources	27.3	0.00%	-2.04%	2.55%	-0.51%	-1.63%
Water network plus	176.1	0.00%	0.83%	0.29%	-1.95%	-1.55%
Wastewater network plus	439.2	0.00%	2.40%	-1.06%	-1.19%	-1.05%

In addition to these controls, we have set a modified average revenue control for bioresources. We recognise that a proportion of bioresources costs are fixed, so we allow for this in setting the average revenue control. The revenue control ensures that where sludge production varies the incremental change in revenues that arises is aligned to incremental costs. The 'modified average revenue' control includes a revenue adjustment factor, which applies if there are differences between the forecast and measured quantities of sludge.

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

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

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

	Company view	Draft determination	Final determination
Part 1: Revenue to remunerate fixed costs £ million 2017-18 FYA CPIH deflated prices (2020-25)			
Total return on capital	N/A	27.9	25.5
Total run-off	N/A	108.2	105.6
Revenue to service RCV	**N/A**	**136.1**	**131.1**
Local authority and Cumulo rates for both treatment and disposal	N/A	6.4	6.4
Fixed share of other direct costs of treatment and disposal	N/A	15.6	15.2
Fixed share of other indirect cost of treatment and disposal	N/A	5.9	5.7
Fixed PAYG revenue	**N/A**	**27.8**	**27.4**
Fixed share of revenue to cover tax	N/A	0.0	0.0
Pension deficit repair contributions	N/A	2.3	2.3
Other fixed costs	**N/A**	**2.3**	**2.3**
Revenue to remunerate fixed costs	**219.3**	**166.2**	**160.8**
Part 2: Variable revenue (£/TDS) 2017-18 FYA CPIH deflated prices (2020-25)			
Unadjusted revenue (£m)	264.7	244.0	236.4
Revenue to remunerate fixed costs	219.3	166.2	160.8
Revenue to remunerate variable costs (£m)	**45.4**	**77.8**	**75.7**
Forecast volume of sludge (TDS)	633,400	633,400	633,400
Variable revenue (£/TDS)	**71.6**	**122.8**	**119.4**

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 Southern Water', which includes some components set now in this determination and some components which relate to out-turn performance (such as the actual volume of sludge in future years).

Table 6.5: Bioresources control

	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Unadjusted revenue (£m)	46.5	46.9	47.2	47.7	48.2	236.4
Forecast volume of sludge (TDS)	124,500	125,600	126,500	127,700	129,100	633,400
Variable revenue (£/TDS)	N/A	N/A	N/A	N/A	N/A	119.4

7 Putting the sector in balance

Key points

- Southern Water reported gearing of 68.8% as at 31 March 2019. Southern Water forecasts that its level of gearing (70.0% by 2021 and 69.1% by 2025) will be close to the level that triggers sharing payments under the gearing outperformance sharing mechanism in 2020-25, as set out in the 'Aligning risk and return technical appendix'. We are updating the gearing outperformance sharing mechanism to introduce a glidepath to the gearing level that the triggers sharing payments as set out in the 'Aligning risk and return technical appendix'.
- Consistent with the lower allowed return on equity in our final determination, we are revising our calculation of the dividend yield as a guide to the reasonable base dividend yield in the absence of out/underperformance in 2020-25. We set out that the acceptable level of base dividend yield can be expected to vary depending on the scale of a company's RCV growth in 2020-25 and future investment needs.
- We expect the company will need to reduce its proposed base dividend yield for 2020-25 to take account of the lower allowed return in our final determination and our revised expectations for a reasonable base dividend yield that we set out in the 'Aligning risk and return technical appendix'.
- Our current assessment of the company's proposed dividend policy indicates that the company is falling short in a number of areas and we expect greater transparency from the company when reporting on dividends paid over 2020-25 in the annual performance report.
- On executive pay, Southern Water is in line with the 60% alignment to delivery for customers we identify as current good practice. We retain our expectation of the company that it will ensure its dividend and performance related pay policies demonstrate substantial alignment with the customer interest, underpinned by stretching performance targets throughout 2020-25.

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

- company dividend policies for actual financial structures and performance related executive pay policies show appropriate alignment between returns to owners and executives and what is delivered for customers[13];
- companies with high levels of gearing share financing gains from high gearing with customers; and
- companies provide assurance and supporting evidence to demonstrate their long-term financial resilience and management of financial risks for the actual financial structure, taking account of their future investment needs.

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

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

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

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

Our assessment of the company's proposals to balance the interests of customers
Gearing outperformance benefit sharing mechanism The company has confirmed it would implement our default gearing outperformance mechanism within its business plan. The company expects gearing at the level that will be close to trigger sharing payments under the gearing outperformance sharing mechanism in 2020-25.
Voluntary sharing mechanisms Southern Water has not proposed any voluntary sharing mechanism. However, the company does commit to making a company contribution to its payment matching scheme, NewStart. The NewStart scheme will see Southern Water match payments that customers make to reduce their balance of debt owed to the company, subject to certain eligibility criteria.
Dividend policy for 2020-25 Southern Water confirms that it is committed to the expectations on dividend policy as set out in our 'Putting the sector in balance' position statement but under our current assessment it falls short in a number of areas as set out below. Its September business plan indicated a base dividend yield of around 5% for 2020-25. We expect the company will need to revise its proposed base dividend yield for 2020-25 to take account of the lower allowed return in our final determination and our revised expectations for a reasonable base dividend yield that we set out in the 'Aligning risk and return technical appendix'. The company's dividend policy refers to all the areas included in the 'Putting the Sector in balance' position statement (out/underperformance & benefit sharing, employee interest & pension obligations, actual capital structure, need for future investment and financial resilience). The company confirms that the base level of dividend will be calibrated to be consistent with financial and non-financial performance commitments, but provides insufficient detail on the specific

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

Our assessment of the company's proposals to balance the interests of customers
obligations and commitments to customers that will be considered. In subsequent correspondence the company confirms that the level of performance delivery considered will, subject to any redetermination by the CMA in the event of an appeal, be the final determination. It confirms that dividends can be increased or lowered from the base depending on the actual performance of the company and explains how performance delivery will impact on dividends paid. The company commits to transparency in the payment of dividends and will clearly justify the payment in relation to its policy. It will publish its dividend policy annually as part of its annual performance report with any changes clearly signposted to stakeholders. Consistent with the lower allowed cost of equity in our final determination, we have revised our calculation of the dividend yield that we consider to be reasonable for assessing the base dividend for water companies in 2020-25. We consider the acceptable level of base dividend yield is up to 4% but this can be expected to vary depending on the scale of a company's RCV growth and future investment needs. We set out further details in 'Aligning risk and return technical appendix'. We expect Southern Water to be transparent when explaining its dividend policy and reporting on dividends paid over 2020-25 to demonstrate how it has delivered on the commitments in relation to its dividend policy and to ensure it meets the expectations we set out in 'Putting the sector in balance' as updated in the final determination 'Aligning risk and return technical appendix'. Specifically, the company should provide further transparency on: • the specific obligations and commitments considered under the policy.
Performance related executive pay policy for 2020-25 In our 'Aligning risk and return technical appendix' we identify that 60% alignment to delivery for customers is current good practice among the companies that we regulate. Based on our calculations, Southern Water's measures that are directly aligned to customer delivery exceed 60%, however we consider that there is scope for it to improve this position. We expect Southern Water's policy on performance related executive pay to demonstrate a substantial alignment to the delivery of service for customers throughout 2020-25. Southern Water states that it has embraced the expectations set out in our 'Putting the sector in balance' position statement, with regard to executive performance related pay for 2020-25. The company states that the specific metrics for 2020 onwards will be set at the end of 2019 and based upon the final determination and has committed to at least 50% of the bonus being based on customer outcomes in 2020-25. As an illustration of its commitment the company's proposals for 2019-20 are: • Annual bonus based on metrics that are weighted, 25% Totex, 20% on asset health outcome delivery incentives 5% regulatory dates delivery, 30% customer service delivery and 20% efficient customer service delivery. • Long-term bonus based on metrics that are weighted, 35% Totex glide path, 15% maturity assessment glide path, 20% people management, 10% data quality, 10% cash collection and 10% compliance resilience index performance. • For 2020 onwards the final determination will become the execution plan, from which budgets, targets and ranges will flow. • Targets for 2019-20 have been set, and will be updated for 2020 onwards aligned to delivering the commitments in the business plan, with metrics and targets will be reviewed annually but ensuring at least 50% remain based on customer outcomes. • The remuneration committee has overall discretion to vary any bonus payments based upon critical factors. In addition, 50% of the bonus achieved is retained and held over until the following year. • A commitment to publish the full details of the policy and how it has been applied in the annual accounts together with any changes and the underlying reasons. We expect the company's remuneration committee to ensure there is on-going rigorous challenge as to how the policies are applied and to ensure that only truly stretching performance is rewarded. In so doing, we expect it to be equipped with the appropriate powers to carry this out, including for example, the use of withholding periods, clawback arrangements and underpin / gateway arrangements.

Our assessment of the company's proposals to balance the interests of customers
We expect Southern Water to be transparent when explaining and reporting against its performance related executive pay policy in 2020-25, to ensure it meets the expectations we set out in 'Putting the sector in balance' as updated in the final determination 'Aligning risk and return technical appendix'.

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

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December 2019