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Reference of the PR19 final determinations: Explanation of our final determination for Anglian Water

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1. Anglian Water: A summary of our final determination

Introduction

1.1 In reaching our final determination for Anglian Water, we considered the company’s business plan in line with our statutory duties. We are satisfied that our final determination ensures that the company has adequate funding to properly carry out its regulated business, including meeting its statutory and regulatory obligations, and to deliver the outcomes within its final determination. As explained below, we took into account the evidence submitted by the company and accepted its proposals where they were justified, supported by sufficient evidence, and in line with comparative analysis across the industry. However, where the company's proposals were not adequately supported, we challenged assumptions and arrived at our own view.

1.2 When asking for a redetermination Anglian Water stated that customers supported its business plan and wanted the company to invest now and not wait.[1] While customers supported Anglian Water’s business plan as it was presented to them, independent research shows that they also supported our determinations.[2] While our final determination includes a lower expenditure allowance than Anglian Water’s plan, it includes better outcomes for customers in terms of reduced water supply interruptions and lower levels of leakage, and lower bills. Anglian Water is fully funded to meet the requirements set within its water resource management plan and the water industry national environment programme, as well as to meet the forecast population growth in its region and deliver a resilient service.

1.3 In the three main areas of our final determinations, cost efficiency, outcomes and risk and return, we anticipate that the following the key issues between us and Anglian Water will be:

- In relation to total expenditure allowance, there is a significant costs gap between us and the company, primarily reflecting a difference of views as to efficient costs.
- On delivering outcomes for customers, Anglian Water indicated in its representations that it considers several of its **performance commitment**

[1] See Decision by Board to request Ofwat to refer its PR19 Final Determination to the Competition and Markets Authority (CMA) published on the company’s website.
[2] See CCW’s research on Draft Determination acceptability published 25th February 2020.

levels are too stretching and disagrees with our removal of deadbands for several of its outcome delivery incentives.
- The key areas of difference **on the allowed return and financeability** concern the overall balance of risk and return and our approach to financeability. Anglian Water proposed a **higher allowed return**, raising issues with our assessment of market evidence for the **risk free rate, total market return, beta** and the **allowed cost of embedded and new debt**.

1.4 We summarise below what was included in our final determination in each of these three main areas, and provide more information the key issues that arose between us and Anglian Water during the PR19 process.

The company

1.5 Anglian Water Services Limited is both a water undertaker and a sewerage undertaker. It supplies water services to 4.8 million customers and wastewater services to 6.7 million customers in the east of England and Hartlepool.[3] Its appointment as a water undertaker includes a non-contiguous area in which it trades as 'Hartlepool Water'. Anglian Water Services Limited is a wholly owned subsidiary of Anglian Water Group Limited, a company registered in Jersey. That company is owned by a consortium of investors comprising Canada Pension Plan Investment Board (32.9% - Canada), Industry Funds Management "IFM" (19.8% - Australia), Infinity Investments SA of Luxembourg which is ultimately owned by ADIA, the Abu Dhabi Investment Authority (16.7% - Abu Dhabi), First Sentier Investors (15.6% - Australia), and Camulodunum Investments Limited a consortium of GIIL Infrastructure and Dalmore capital (15% - UK).

1.6 Price controls are set for the company as a whole and references to 'Anglian Water' in our submissions to the Competition and Markets Authority refer therefore to the company as a whole, and all of its relevant operational areas, unless otherwise specified.

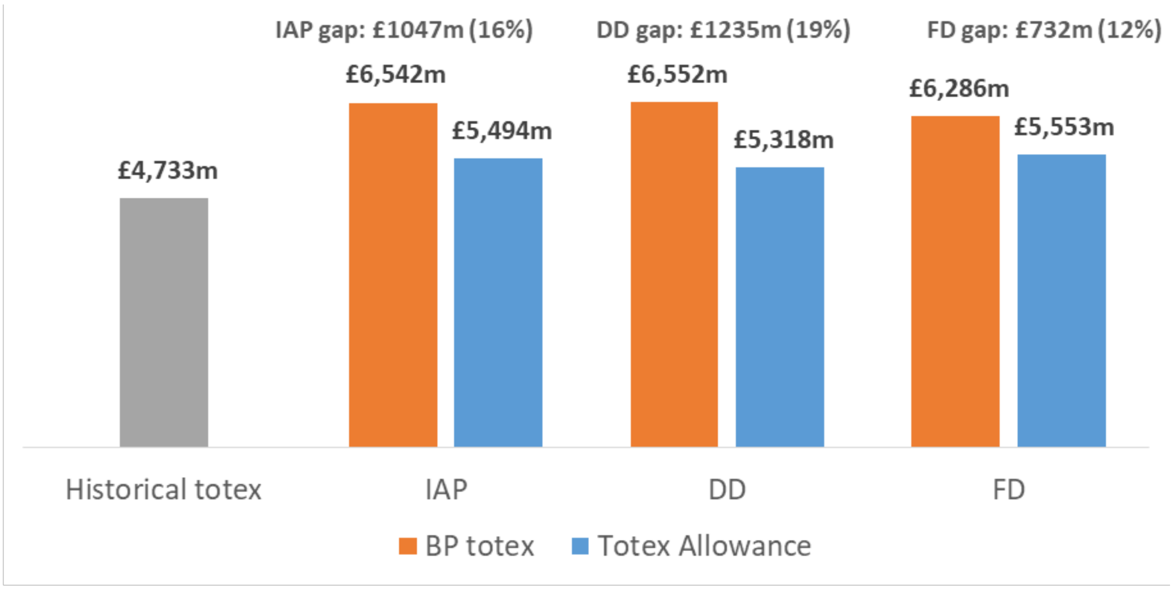
[3] The residential customers not supplied with water by Anglian Water within their sewerage service supply region are served by either Northumbrian Water, Affinity Water or South Staffordshire Water.

Securing efficient costs

The costs gap

1.7 In our final determination we have allowed Anglian Water a total expenditure ("totex") allowance of £5,553 million for wholesale and retail price controls for the period 2020-25. This is 12% below the £6,286 million requested by the company in its August 2019 representations on the draft determination. This overall cost gap of £732 million is the **largest across the industry**, both in terms of magnitude and as a proportional of requested investment. Likewise, Anglian Water's requested expenditure presents the largest increase relative to company historical levels of expenditure across the industry. As Figure 1.1 shows, the gap has existed throughout the PR19 process.

Figure 1.1: Overview of totex allowances for Anglian Water (2017-18 prices)[4]



1.8 At the initial assessment of plans ("IAP") stage, Anglian Water's requested totex (£6,542 million) was 16% higher than our view of its efficient costs, while its business plan provided only limited evidence to explain the significant increases in planned expenditure. This concern about cost efficiency was one

[4] We present our totex allowance as the sum of base and enhancement expenditure, including allowances for residential retail. We exclude operating lease adjustments, third party service costs, pension deficit recovery payments, atypical expenditure and non-section 185 diversion costs. If we included these items, our final determination totex allowance would be £5,712.7 million (£5,309.7 million for wholesale services, £403 million for retail services) compared to a requested cost of £6,460.5 million (£6,054 million for wholesale services, £406.5 million for retail services). Historical totex refers to actual spending over 2014-2019. See section 9 - totex definitions and comparison of 'Key elements of the methodology' for further details on our definition of totex expenditure.

of the main considerations that caused us to categorise Anglian Water as a ‘slow track’ company.

1.9 Anglian Water’s revised plan, submitted in April 2019, made minimal changes either to its requested costs or to its supporting evidence. The company did submit a late cost adjustment claim of £197 million for its capital maintenance programme to partially account for the cost gap (a figure that was subsequently increased to £238 million in its August representations). However, as this was submitted in June 2019, we were only able to consider it fully at the final determination stage.

1.10 In July 2019, we wrote to Anglian Water[5] to highlight our concern about the remaining cost gap to give the company as much time as possible to reflect on its plan prior to responding to our draft determination. We then based our draft determination on the April plan, allowing totex of £5,318 million.

1.11 By the time of the final determination in December 2019, we had carried out further work to evaluate the robustness of our modelling results, and Anglian Water had reduced its requested totex allowance. However, even after these changes its request remained 12% above what we consider to be its efficient costs.

1.12 We consider that Anglian Water’s totex allowance forms part of an **in-the-round package that is stretching but achievable**, and is set at a level that ensures that customers only pay for efficient costs.

1.13 Our confidence in the achievability of the package is consistent with the evidence to date. Anglian Water is currently **one of the most efficient companies** in the sector. It has underspent its PR14 totex allowance by 10%,[6] while still managing to achieve upper quartile performance across multiple areas of service delivery.[7] We take this as evidence that an efficient company can deliver leading performance.

1.14 The vast majority of the costs gap relates to the **wholesale price controls.** We believe Anglian Water to be largely efficient in terms of the cost allowance requested for the retail price control. Just over two thirds (£509 million) of the gap relates to **wholesale base costs**, with the remainder (£220 million) relating to **enhancement programmes** and **residential retail** (£3.5 million). While enhancement expenditure can vary between price control periods, base

[5] See Letter to Anglian Water about PR19 cost gaps, 3 July 2019.
[6] See Ofwat, ‘PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix’, p. 21, Figure 3.
[7] See Service delivery report 2018-19, p. 5.

expenditure consists of routine costs which companies incur in the normal running of their businesses.

Base costs

1.15 Our base cost allowances are derived from a comparative analysis of 17 companies that provide water services, 11 of which also provide wastewater services. We use econometric modelling to assess how companies' routine costs are likely to evolve in the light of factors such as population growth. Anglian Water, in its August 2019 representations requested base costs 15.7% above its historical level of base expenditure in the years 2014-15 to 2018-19. Key issues that arose during engagement with the company are:

- The company disagreed with how we had approached the modelling of **costs relating to population growth** – in particular, our forecast of population growth, the lack of a growth-specific cost factor in our econometric models, and other factors. We developed our approach to making allowances for growth after considering all company's representations throughout the price control process. In our final determination we gave **Anglian Water an additional allowance of £40.6 million** relative to our draft determination as an adjustment for its anticipated higher rates of population growth compared to the rest of industry. Our approach to setting our allowance for growth is set out in summary in sections 2.18 to 2.23 and fully in our final determination documents.[8]
- Anglian Water disagreed with us as to whether we had taken account of the prospect that **future maintenance** needs are not necessarily reflective of historical levels used in our base models. We agree that it is appropriate to focus on forward looking risk-based approach to maintenance but equally consider a company, such as Anglian Water, with a large, diverse asset base should be able to balance peaks, troughs within a long-term average allowance. We did not accept this claim as the company did not present sufficient evidence to demonstrate that this was not so. Our assessment of the Anglian Water claim is summarised more fully in sections 2.12 to 2.17 and set out in full in our final determination documentation.[9]
- The company requested £137 million as a cost adjustment to maintain its upper quartile **leakage performance** as at 2019-20. We expect Anglian

[8] See Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', p. 13, and Ofwat, 'PR19 final determinations: Anglian Water - Cost efficiency additional information appendix', p. 19.
[9] See Ofwat, 'PR19 final determinations: Anglian Water - Cost efficiency additional information appendix', p. 2.

Water, like the rest of the industry, not to require additional funds to maintain its leakage performance. Most other companies are expected to improve leakage performance without additional funds. However, we did evaluate evidence from alternative modelling approaches for our base allowance, some taking account of leakage performance, and as a result made a **£50.2 million uplift** to the company.[10]

Enhancement costs

1.16 The largest components of the costs gap in relation to enhancement investment relate to a **large-scale interconnection programme**, and the **Water Industry National Environmental Programme**. Our enhancement allowance in the final determination covers most of these requested costs including £305 million for the interconnection programme of the £344 million requested. The adjustment is because we concluded that the company had only review limited options and had not evidenced that its costs were efficient. Our assessment of the interconnectors programme is set out more fully in sections 2.42 to 2.46.

Conclusion on the costs gap

1.17 Anglian Water requested a larger increase in its totex allowance, relative to PR14 levels, than any other company. We did increase its wholesale costs allowances by £233 million between the draft and final determination stages. However, we did not find the company's evidence to be sufficient and convincing to justify all of the (very significant) upwards adjustments that it proposed. In assessing that evidence, we bore in mind particularly: that customers should pay only for efficient costs; that base costs should be routine expenditures that are normally similar from year to year; and that Anglian Water is actually one of the most efficient companies in the sector, which has managed to perform strongly while simultaneously underspending.

Delivering outcomes for customers

1.18 Anglian Water proposed an outcomes package in September 2018 that generally reflected the views of its customers. However, the company proposed a large number of so-called deadbands, caps and collars on its Outcome

[10] See Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', p. 34.

delivery incentives.[11] We did not think that Anglian provided sufficient justification, in line with our PR19 methodology, for these deadbands, caps and collars. In particular, we raised issues with its customer research in this area.

1.19 At the draft determination stage, we therefore **removed the deadbands that Anglian Water had proposed in its business plan**, except in relation to those performance commitments for which there was a deadband on the common industry standard. We also **adjusted some caps and collars on its outcome delivery incentive penalties** in line with company comparisons and set **more challenging performance commitment levels** for three common performance commitments (**supply interruptions**, **pollution incidents** and **per capita consumption**).

1.20 Anglian Water expressed concern, in its representations, as to whether some of the performance commitment levels (such as that for mains repairs and water supply interruptions) were achievable. We have adjusted a number of performance commitment levels in the final determination. **We believe that the outcomes set out in the company's final determination are achievable**.

1.21 Anglian Water also made representations that the adjustments we made to its outcome delivery incentive regime did not reflect evidence of customers' views shown in its market research. As we set out in our PR19 methodology, **a company's own customer research is an important, but not the only, input into our approach**. We consider a wide variety of evidence in considering a company's outcome delivery incentive proposal including the robustness of its customer research, a company's historical performance, cross-company comparisons and whether the company has appropriate incentives to manage risk.

Aligning risk and return and financeability

Risk and return

1.22 The final determination set an **allowed return of 2.96% (CPIH)** which we consider provided a reasonable return for an efficient company based on the

[11] A deadband is a specified range of performance levels, within which the outcome delivery incentive underperformance or outperformance payment is zero. Caps and collars are the limits on outperformance payments and penalties for an outcome delivery incentive, respectively.

market evidence at the time. We are satisfied that our determination for Anglian Water provided an **appropriate balance of risk and return**.

1.23 Anglian Water's April 2019 business plan was based on our 'early view' of the allowed return set out in the PR19 methodology (3.40% in CPIH terms). We set a lower allowed return at draft determinations (3.19% in CPIH terms), reflecting movements in market rates and some refinements to our assessment of the market evidence on the allowed return. Our draft determinations signaled that trends in market data since the February 2019 data cut off used for the draft determinations could support an even lower allowed return in our final determinations.[12]

1.24 In its representations on the draft determination[13], Anglian Water raised concerns regarding the approach we had taken to estimate the risk-free rate, Total Market Return, the equity beta, and the cost of debt – the company claimed that our approach had understated these parameters, resulting in an allowed return that is too low.

1.25 The company said an allowed return of 3.4% (CPIH-deflated), consistent with its business plan, would be 'feasible', supported by legacy rewards, 'but only if the balance of risk in the draft determination can be improved'. Otherwise, it sought an allowed return between 3.5% and 3.8% to reflect its view of increased risks it faced due to our draft determination.

1.26 We considered the evidence raised by the company on the overall balance of risk and return in our final determination, having regard to revisions made in the final determination (including to allowed costs, outcome delivery incentives and revenues) which changed the **overall balance of risk and return in the company's favour**.

1.27 We **set an allowed return of 2.96% (CPIH)** in our final determination. This allowed return reflected some changes to our approach from draft determinations to address issues raised by companies in representations, and used market data up to the end of September 2019. Evidence from the share prices of the listed water companies and credit rating agencies after the final determinations suggest the allowed return is not too low. We explain these issues further **in the risk and return appendix** that accompanies this submission to the Competition and Markets Authority (CMA).

[12] See Ofwat, 'PR19 Draft Determinations: Cost of capital technical appendix' pp. 6-7.
[13] See Anglian Water – Response to PR19 Draft Determination for Anglian Water.

Financeability

1.28 Section 11 of the PR19 methodology[14] set out an approach to the assessment of **financeability** that is consistent with **established regulatory practice** adopted in previous price reviews. This was consulted on as part of the methodology to be applied at PR19.

1.29 In its representations on our draft determination,[15] Anglian Water stated that 'neither the notional nor the actual company is financeable' taking into account the overall balance of risk and return, including the level of the allowed return. However, we considered the financial ratios calculated in line with the company's final determination to **be consistent with a credit rating of Baa1/BBB+** for the notional capital structure following the advancement of £80 million through PAYG rates. On this basis we assessed **Anglian Water's final determination to be financeable**.

1.30 We consider advancement of revenue on NPV neutral terms is an appropriate response to address any financeability constraint that is driven by cash flow timing issues. We summarise our overall approach to financeability in the final determinations in the **risk and return appendix** that accompanies this submission to the CMA.

Actual company structure

1.31 Anglian Water is a highly geared company. It reported gearing of 79.7% at 31 March 2019. In its representations on the draft determination it indicated that it will aim to reduce gearing to 75% or below during 2020-25 through an equity injection of £35 million, reinvestment of profits from the non-appointed business and retention of dividends. The company set out these plans were subject to the terms of the final determination.

[14] See Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', pp. 187-203.
[15] See Anglian Water – Response to PR19 Draft Determination for Anglian Water.

2. Anglian Water: Our final determination

Introduction

2.1 Our final determination for Anglian Water reflects our statutory duties and detailed consideration of the company and other stakeholder views throughout all phases of the price review process. These include the use of working groups and a market place for ideas during the development and consultation of the PR19 methodology and detailed feedback on the companies September 2018 business plan. We published our draft determination for Anglian Water on 18 July 2019, based on our detailed review of the revised plan 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.[16]

2.2 Our final determination carefully considered all of the representations we received from companies and stakeholders on our draft determination and took into account the most up-to-date information available where appropriate.

2.3 The following sections set out the key elements of our final determination and what we consider may be the key areas of concern for Anglian Water:

- Securing cost efficiency;
- Delivering outcomes for customers; and
- Aligning risk and return and financeability.

What our final determination includes

2.4 We set out key metrics relating to our final determination package for Anglian Water in Table 2.1, which shows the latest version of data submitted by the company: August 2019 for cost data or April 2019 for other areas of the business plan. We did not request a full set of data with the company's August 2019 representations.

2.5 Our final determination provides £233 million more allowed wholesale expenditure, and £276 million more wholesale allowed revenue than our draft determination. Further explanation of our wholesale and retail controls is

[16] Our feedback at each stage of the process can found on our website by following these links - Initial assessment of plans, draft determination and final determination.

provided in the Anglian Water final determination[17] and Appendix 1 to this document.

Table 2.1: Summary of key metrics from the final determination

Wholesale	Revised business plan (April 2019)	Draft determination	Company view (August 2019 representations)	Final determination
Wholesale totex, 2020-2025 (£million, 2017-18 CPIH deflated prices)	6,144.6	4,917.1	5,879.0	**5,150.2**
PAYG rate (%)	46.9%	46.4%	49.3%	**50.9%**
Wholesale allowed return (CPIH basis, %)	3.30%	3.08%	3.33%	**2.92%**
RCV run-off rate (%)	4.66%	4.67%	4.67%	**4.67%**
Allowed wholesale revenue, 2020-2025 (£million)	6,341.3	5,432.3	6,252.5	**5,708.1**
Residential retail	**Revised business plan (April 2019)**	**Draft determination**	**Company view (August 2019 representations)**	**Final determination**
Residential retail cost allowance, 2020-2025 (£million, nominal)	407.6	400.4	406.5	**403.0**
Residential retail net margin (%)	1.00%	1.00%	1.00%	**1.00%**
Allowed retail revenue, 2020-2025 (£million, nominal)	495.2	462.9	485.2	**470.8**
Appointee	**Revised business plan (April 2019)**	**Draft determination**	**Company view (August 2019 representations)**	**Final determination**
Average bill per household customer, 2020-2025 (£, 2017-18 CPIH deflated prices)	419	370	419	**386**

[17] See Ofwat, 'PR19 final determinations: Anglian Water final determination'.

Securing cost efficiency

2.6 In September 2018 Anglian Water submitted a business plan for 2020-25 requesting £6,542 million. This represented costs 38% higher than its historical spend over the period 2014-19. Table 2.2 shows the changes in company requested costs and our view of efficient costs. At final determinations there remained a 12% difference between our and the company's view of efficient costs.

Table 2.2: Change in cost gap in totex throughout the price control process (£ million 2017-18 CPIH deflated prices)

	Company view in business plan or representation (£m)	Ofwat's view of efficient cost	Cost gap (%)
Initial Assessment of Plans	6,542	5,494	16%
Draft Determination stage	6,552	5,318	19%
Final Determination stage	6,286	5,553	12%

2.7 Table 2.3 provides a summary of where the differences lie in our and the company's view of costs across base and enhancement areas of water and wastewater wholesale services. We consider Anglian Water to be broadly efficient in the residential retail price control and our allowance of £403.0 million is not materially different from the company view (£406.5 million).

Table 2.3: Cost gap at final determination by area (£ million 2017-18 CPIH deflated prices)

Wholesale Expenditure area	Company view (August 2019)	Final determination allowance	Cost gap (£)	Cost gap (%)
Wholesale base expenditure	4,234.5	3,725.6	509.0	12%
Wholesale enhancement expenditure	1,644.5	1,424.6	219.9	13%
Total wholesale expenditure	**5,879.0**	**5,150.2**	**728.8**	**12%**
Residential retail expenditure	406.5	403.0	3.5	1%

Note: Residential retail expenditure is presented in nominal terms (£ million).

Setting our base allowance in wholesale services

Introduction

2.8 Table 2.4 provides more detail on the build-up of our base allowance and highlights the key areas that have been issues for the company leading up to the final determination.

2.9 Our view of wholesale base costs for wholesale price controls is derived from econometric models and from additional allowances to cover items less well suited to this approach such as business rates (unmodelled costs). We developed our econometric models after extensive consultations with the industry and full details of our approach are given in our final determination technical appendix.[18] We are aware of the limitations of econometric models in fully determining companies' efficient costs. We mitigate this through our consultations and triangulating a range of models using a range of variable that are considered to significantly influence costs. We continued to refine our models throughout the price control process to test the significance of further variables, often based on company representations. Between our draft and final determinations we evaluated a number of alternative modelling approaches including taking leakage as an explanatory variable. Our analysis did not reveal any significant factors that should be incorporated into our approach and applied across the industry. However, there was a body of evidence that supported an adjustment of £50.2 million to Anglian Water's wholesale water base costs.[19]

2.10 Our cost assessment framework allows companies to submit cost adjustment claims in their business plans. This mechanism allows a company to present evidence of unique operating circumstances which drive differences in costs for a company relative to its peers and thus account for cost gaps in either base or enhancement costs not captured by models. For final determination Anglian Water submitted the following claims that are relevant to wholesale water base costs:

- Capital Maintenance
- Smart metering
- Maintaining frontier leakage performance

2.11 For final determination Anglian Water also submitted a claim relating to the costs of sludge transport cost in the wholesale wastewater service. After

[18] See Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', p. 13.
[19] See Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', p. 34.

developing our approach to making cost allowances in the bioresources price control the value of this claim was no longer over our materiality thresholds set for cost adjustment claims.[20]

Table 2.4: Base expenditure for wholesale and retail, 2020-25 (£ million, 2017-18 CPIH deflated prices)

Base expenditure area		Company view (August 2019) (£m)	Final determination allowance (£m)	Cost gap (£m)	Cost gap (%)
Wholesale modelled	Wholesale modelled base costs (before adjustments and cost claims)	3,420.8	3,291.4	129.4	4%
	Growth adjustment	-	40.6	-	-
	Modelling adjustment	-	50.2	-	-
	Enhancement opex implicit allowance	-	-13.7	-	-
	Cost claim 1 - Maintain frontier leakage performance	136.9	0.0	136.9	100%
	Cost claim 2 - Sludge transport	17.6	0.0	17.6	100%
	Cost claim 3 - Capital maintenance	238.0	0.0	238.0	100%
	Cost claim 4 - Smart metering	42.4	0.0	42.4	100%
	Total wholesale modelled base costs	**3,855.7**	**3,368.5**	**487.2**	**13%**
Wholesale unmodelled	Traffic Management Act	6.4	5.6	0.8	12%
	Abstraction charges	49.7	48.4	1.3	3%
	Business rates	322.8	303.1	19.6	6%
	Industrial emissions directive	0.0	0.0	0.0	-
	Total wholesale unmodelled base costs	**378.9**	**357.1**	**21.7**	**6%**
Total wholesale base expenditure		**4,234.5**	**3,725.6**	**509.0**	**12%**
Total residential retail expenditure		406.5	403.0	3.5	1%

Note: Residential retail expenditure is presented in nominal terms (£ million).

[20] See 'Technical Appendix 2: Securing cost efficiency', p. 23.

2.12 The following section provides more detail of the areas of the cost gap in leakage, capital maintenance, smart metering and growth.

Key Issues in setting base allowances

Capital maintenance

2.13 In June 2019 Anglian Water submitted a late cost adjustment claim for £197 million relating to its capital maintenance programme within its base costs. This claim was further revised in its August submission to £238 million. Due to the late submission we were only able to fully consider this in our final determination and our assessment is set out in our documentation.[21]

2.14 In our final determination we did not make an adjustment based on Anglian Water's cost adjustment claim relating to capital maintenance funding as the company did not quantify the effects it described. The company's claim considered that capital maintenance requires consideration of the following points:

- The historical levels of expenditure, the period the expenditure is reviewed over and what it has delivered.
- The move away from a perceived capital bias to totex, and how changes in accounting standards affect the reporting of expenditure.
- Impacts of innovation and efficiencies.
- New regulatory obligations and future predicted asset deterioration.

2.15 Our econometric models use forecasts of cost drivers and we set an efficient allowance for the long-term based on eight years of historical cost data. We believe that companies with a large, diverse asset base should be able to balance peaks, troughs and atypical lumps in particular cohorts of assets within a long-term average allowance. Our sample of historical cost data includes two traditionally low years and six high cost years (due to the influence of the five-year price control). Therefore we consider our models are likely to over rather than under estimate allowances. We further reviewed our data to evaluate whether companies are considered to be efficient because of being in a trough of their maintenance expenditure cycle. We could find no evidence of this.

[21] See Ofwat, 'PR19 final determinations: Anglian Water - Cost efficiency additional information appendix', p. 2.

2.16 Our econometric models are based on totex. Therefore, any accounting differences that change cost reporting between base capex and opex would make no difference to our overall allowance.

2.17 We expect the company to be innovative and that this should deliver efficiencies. We could not identify any specific point in the cost adjustment claim relating to innovation being the basis of additional costs.

2.18 We agree with the company that it is appropriate to focus on forward looking risk-based approach to maintenance but as mentioned above a company should be able to balance peaks, troughs within a long-term average allowance. In order to make an adjustment we require the company to present the activities associated with any increase in base expenditure from previous periods. We would also expect it to robustly identify the link to asset health and other relevant outcomes. It further needs to include persuasive evidence that supports this need, and which articulates the company's specific and unique factors that would support taking a different approach from the rest of the industry. We did not consider that Anglian Water did this. For example, the company did not provide evidence to support the argument that the challenge of PVC pipes is unique to its region, or sufficiently demonstrate why the PVC pipe failures are expected to become substantially more prevalent in the 2020-25 period.

Growth expenditure

2.19 Growth expenditure relates to additional costs companies incur that are driven by population growth, such as work for connecting newly constructed houses or reinforcement work to build additional capacity in the network. We model growth-related expenditure within our econometric models for base costs due to the similar characteristics these costs share. Like base expenditure, which is routine expenditure companies incur in the normal running of their business, companies have always incurred costs for connecting new properties to the network and this expenditure can be explained by similar drivers to base costs (e.g. company scale). In addition, we do not expect a significant change in the drivers of this expenditure. Modelling these costs together also addressed reporting issues in how companies allocated historical expenditure between base and growth. We carried out deep dives for a few companies (including Anglian Water) where the gap between the growth requested cost and our view was more significant.[22]

[22] This resulted in an additional allowance of £42 million for South East Water.

2.20 While the majority of companies either agreed with our revised approach or did not comment on it, Anglian Water raised strong criticisms in its August 2019 representations to our draft determinations.[23] Anglian Water challenged the lack of a specific cost driver in our base models to capture differences in growth-related expenditure. It argued this results in an unfair redistribution of expenditure from companies with expected high growth to companies with expected low growth. Anglian Water also strengthened its case for a deep dive of its forecasted growth expenditure, which it considered is driven by atypical factors that other companies do not face. It also criticised our use of household projections from the Office for National Statistics (ONS) to forecast new connected properties. It argued these figures underestimated the expected population growth in its area and suggested that instead we adopt companies' projections, which use Local Authority forecasts of new properties and are based on guidance from Defra and the Environment Agency for the water resources management plans (WRMPs). In addition, to further protect its position against uncertainty related to growth costs, it put forward proposals for three uncertainty mechanisms in our outcome delivery incentive framework, related to various components of growth costs that it believed were not covered in our framework. Anglian Water was the only company to request such mechanisms.

2.21 For final determination, we did not include additional drivers in our models such as new connections due to the poor quality of this data and inconsistencies in reporting between companies, which would reduce the effectiveness of our models. We will continue to work with the industry to improve data in this area for the next price review. However, we acknowledged that the models may suffer from a missing growth variable and may only fund the average historical growth rate. We therefore carried out an additional post-modelling adjustment for growth costs, based on the comparison of a company's forecasted growth rate to the historical rate. Because Anglian Water is expected to face higher than historical population growth, this adjustment resulted in a further allowance for Anglian Water of £40.6 million.

2.22 We further assessed the company's arguments to justify its atypically high growth requested costs in a separate deep dive. We concluded that the company had not provided convincing evidence of its exceptional circumstances to justify an additional allowance.[24]

[23] See Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', p. 17, for further details on stakeholders' representations on our approach to growth costs and our assessment.
[24] See Ofwat, 'PR19 final determinations: Anglian Water – Cost efficiency additional information appendix', pp. 21-22, for further details.

2.23 We maintained ONS household projections to forecast connected properties. ONS is a recognized independent source and widely adopted to forecast population growth. Local Authority projection rates tend to be at the upper end of the possible range of growth projections and may be appropriate for long-term planning, such as water resources management planning, where they are used to identify long-term capacity requirements. However, for a short-term five year period we considered ONS forecasts to be more appropriate to protect customers from the risk of over-forecasting household growth, since ONS growth rates were typically higher than historical rates but lower than companies' forecasts. Companies are protected from the risk of higher outturn population growth through the developer services reconciliation mechanism. This is a new mechanism introduced at PR19 which will adjust companies' allowed revenue to account for the difference between our forecast and the actual number of new properties, therefore largely mitigating the risk companies face.

2.24 We also rejected Anglian Water's proposed three uncertainty mechanisms, either because the costs they related to were already covered by the developer services reconciliation mechanism, or because we considered this would distort the company's incentive to plan for efficient long-term solutions.[25] The company is also protected from uncertainty of high growth through the cost sharing mechanism and the re-set of the price control every five years.

Leakage

2.25 Anglian Water is a high performing company with respect to levels of leakage. Comparative leakage performance is considered in two normalised measures, leakage per property and leakage per length of mains. The company currently forecasts to be achieving upper quartile performance in both measures in 2019-20.

2.26 Anglian Water submitted two claims for expenditure related with leakage. Firstly a cost adjustment claim of £136.9 million for additional *base* expenditure to maintain (rather than further reduce) its leakage performance. Secondly, an *enhancement* request for £76.7 million to further reduce its leakage performance beyond its forecast 2019-20 level. Our assessment of the enhancement claim is set out in the following section.

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[25] See Ofwat, 'PR19 final determinations: Anglian Water – Cost efficiency additional information appendix', pp. 22-25.
See also Ofwat, 'PR19 final determinations: Anglian Water – Cost efficiency additional information appendix', pp. 15-18.

2.27 Anglian Water requested an adjustment of £136.9 million to our wholesale water base allowance. The company considered that the base econometric models would not provide a sufficient allowance to maintain its frontier leakage performance, as the models would only fund costs for maintaining average industry leakage performance.

2.28 We rejected the claim as Anglian Water did not provide convincing evidence that maintaining a low level of leakage requires additional costs over its base allowance. Neither the companies, their consultants, nor we could provide robust evidence that variation in performance across companies (e.g. on leakage or other outcomes) explain variation in costs. In fact, there is some evidence that high performance is correlated with efficient costs – although we are conscious that a correlation does not imply causation. We expect, across all measures of performance, that companies should maintain the levels of service achieved in the previous period through their base allowances.

2.29 We note that the company was funded to achieve the 2019-20 leakage level set in its PR14 performance commitments through a cost allowance at PR14, and through financial incentives within our outcomes framework. The company is currently outperforming the performance commitment requirements for the 2015-20 period. We also consider that the company did not identify the influence of the enhancement expenditure on its ability to maintain leakage levels. We would expect for example the data from smart metering installation to assist in both the maintaining of existing leakage levels and achieving further reduction.

2.30 In finalising our final determinations and to ensure robustness of our modelling results, we explored alternative base model specifications. The alternative specifications included models that incorporate variables relating to leakage.[26] On the basis of the collective evidence from these alternative specifications we made an additional allowance of £50.2 million to Anglian Water's wholesale water base allowance. We consider that this adjustment should address a possible link between leakage levels and expenditure. We note that the models that included leakage were not sufficient on their own merit to warrant a cost adjustment.

Smart metering

2.31 We fund the installation of new water meters for residential and business customers under enhancement expenditure and the maintenance of existing meters within base allowances. We are supportive of smart metering as this will

[26] Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', p.34.

provide benefits over that of a basic meter such as enabling the company to better understand leakage from customer's pipes and support detailed engagement with customers regarding water efficiency. Anglian Water intends to install new smart meters to help manage demand as an element of its water resource management plan, and our assessment of the enhancement expenditure in this area is set out in the following section.

2.32 Anglian Water submitted a cost adjustment claim seeking an adjustment of £42.4 million of its base allowance related to its smart metering programme. We rejected this claim as the company did not present sufficient or compelling evidence.

2.33 The company plans to roll out its smart metering programme on area by area basis. As a result they plan to replace fully functioning basic meters significantly before the end of their useful asset lives. The company considers the claim to cover this additional expenditure that would not be otherwise incurred. We did not accept this claim. The approach to rolling out smart metering is discretionary and within management control. We consider that the company has the opportunity to optimise the delivery of this programme efficiently within its base allowance and balance the benefits against the costs. We expect large companies to be able to manage long-term investment plans within their base allowance, which allows for an element of lumpy maintenance. We therefore consider this approach to be no different to any company selecting to bring forward asset replacement in order to deliver its chosen strategy. This is not an activity we consider appropriate to provide additional funding for beyond our base model allowance. This is consistent with the approach we have taken for other companies. We note that Northumbrian Water plans to undertake significant replacement of basic meters with smart meters and did not request any base allowance uplift.

Setting our enhancement allowance in wholesale services

2.34 Table 2.5 shows the cost gap between our allowance at final determination and the company's August representations in the wholesale enhancement expenditure area. Further details of the difference between our allowance for Anglian Water's wholesale water and wholesale wastewater enhancement programme and company requested expenditure is set out on our final determination company specific appendix.[27]

[27] Ofwat, 'PR19 final determinations: Anglian Water - Cost efficiency final determination appendix', p. 4 and p. 6.

2.35 The most significant element of the cost gap in wholesale water relates to expenditure to maintain adequate water supplies to meet demand (£104.5 million of the £148.7 million gap),[28] in particular the areas of the supply-demand programme relating to leakage and transferring water across the supply region (interconnectors programme). The allowance for water enhancement did not include our funding for the development of strategic water resources of £24.8 million.

2.36 For wholesale wastewater the majority of the cost gap (£59.6 million of the £71.2 million gap or 83%) relates to our assessment of the Water Industry National Environment Programme (WINEP). We allowed 92% of the requested investment at August 2020 based on our view of efficient costs including an adjustment for catch-up efficiency and frontier shift.

Table 2.5: enhancement expenditure, 2020-25 (£ million, 2017-18 CPIH deflated prices)

Wholesale enhancement expenditure area	Company view (August 2019) (£m)	Final determination allowance (£m)	Cost gap (£)	Cost gap (%)
Environmental obligations (WINEP)	809.3	744.0	65.2	8%
Resilience enhancement	44.7	32.2	12.5	28%
Supply-demand balance enhancement	541.3	436.8	104.4	19%
Leakage reduction	*76.7*	*71.4*	*5.3*	*7%*
Interconnectors programme	*343.8*	*304.9*	*38.9*	*11%*
Metering	136.8	126.3	10.5	8%
Other enhancement (e.g. investment to address raw water deterioration, sludge quality and growth, meet lead standards and improve taste/odor/colour)	112.4	85.2	27.2	24%
Total enhancement expenditure	1,644.5	1,424.6	219.9	13%

[28] This cost gap includes £55.9 million of expenditure that the company describes as Infrastructure network reinforcement. We considered that this is investment is implicit within our base allowance that includes funding for growth.

2.37 The following section provides more detail on the areas of the cost gap relating to the supply-demand programme and metering.

Key Issues in setting enhancement allowances

Supply-demand balance enhancement.

2.38 Water companies have a duty to make necessary arrangements to continue to be able to meet their water supply obligations. As part of this duty, every five years companies must prepare a water resources management plan (WRMP). The WRMP may include investment in supply-side options (such as boreholes or reservoirs) or demand-side options (water efficiency activities or leakage reduction). A further description of WRMP process and our assessment of company plans is set out the 'Key elements of our methodology appendix'.[29] Full details of our supply-demand balance components and assessment approach can be found in our final determination documentation.[30]

2.39 In general the draft WRMPs were available prior to the companies' initial business plan submission. As a statutory consultee for the draft WRMPs we worked closely with the environmental regulators and government during the development of the plans. We undertook detailed technical reviews of the draft WRMPs, publishing our consultation responses,[31] and sharing outputs with the environmental regulators and government. Following our statutory response to Anglian Water's WRMP we provided a further informal response to Defra and the Environment Agency based on the companies' responses to our representations.

2.40 Our assessment for supply-demand balance enhancement expenditure is divided into five components to allow better benchmarking across common activities and take into account longer term investment that does not deliver a benefit within the 2020-25 period.

2.41 Through the WRMP process companies identify the least cost options for ensuring long term resilience of supplies companies. In addition companies can consider opportunities to deliver further benefits such as resilience to non-drought hazards in order to create a 'best value' version of their plan. Through the final determinations we assessed Anglian Water's 'best value' plan and our

[29] See section 8 of our document 'Key elements of our methodology appendix'.
[30] Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', p. 65.
[31] See our website Ofwat's engagement on WRMP19.

allowance is set out on Table 2.6. In our final determination we allowed £436.8 million of the £482.8 million requested by the company.[32] The cost gap for this enhancement assessment is £46.0 million or 9.5% and the majority of this relates to Anglian Water's interconnection programme. We initially responded to this significant proposed investment in our statutory response stating that 'the company should ensure that it uses robust methods to identify and fully justify this investment in its final preferred plan' (June 2018),[33] and further assessed this investment within the price review as described below.

Table 2.6: Our allowance for Anglian Water's supply-demand enhancement programme (£ million 2017-18 CPIH deflated prices)

Supply-Demand Balance enhancement components	Company view (August 2019 representations) (£m)	Ofwat view of efficient cost (£m)
Short-term enhancements (2020-25)	56.6	56.3
Long term enhancement (benefits beyond 2025)	5.7	4.3
Leakage reduction	76.7	71.4
Intra-company transfers	343.8	304.9
Investigations and Future Planning	0.0	0.0
Total	482.8	436.8

Note: This excludes the allowance for the strategic water resource scheme development (£24.8 million) and the full cost of the Elsham scheme (up to £132 million) being progressed through DPC delivery route.

2.42 We have allowed expenditure for securing long-term the water resource security in two other areas.

- We made a £24.8 million allowance for Anglian Water to contribute to the industry wide assessment on Strategic Water Resources (the full amount they requested). Through this funding we expect the company to contribute to our wider cross-regulator initiative to improve the resilience of water resources for the longer term.

[32] We assessed the company's best value plan and it eventually presented its version of a least cost plan (which included a desalination option) at £439.7 million for comparison. Its 'alternative least cost plan' (interconnectors without best value additions) had a cost of £461.5 million. Therefore, the gap from our final determination allowance to the 'least cost plan' is 0.6% and the gap to the 'alternative least cost plan is 5.4%. If these plans were assessed separately it would be still appropriate as a minimum to challenge on optioneering and cost efficiency elements.

[33] See Anglian Water draft WRMP19 consultation response.

- We identified the Elsham Water Treatment Works and Transfer scheme as having the potential for direct procurement for customers. This scheme is needed to improve drought resilience associated with decreasing abstraction levels and increased growth. Our direct procurement for customer route is designed to evaluate whether it is more efficient for large discrete projects to be delivered by other providers rather than the incumbent water supplier. Where we identify a potential project we allow a company funding to progress the procurement and planning stages of the projects within their allowance. For this scheme we made a £9.4 million allowance. In addition to this we expect the other providers to invest up to £108 million for the construction of this scheme in the 2020-25 period and £23.8 million in the 2025-30 period. Under a direct procurement for customer route customers pay for the asset once it is operational and we expect Anglian Water's customers to start paying for this in the 2025-30 price control period. Without the DPC route, we would have made an efficient allowance for the £108 million for invest in 2020-25. Therefore any comparison of allowed costs between historical levels and our final determination allowance is understated unless this investment is included.

Interconnectors programme

2.43 Our final determination allowed £304.9 million of the £343.8 million requested for internal interconnectors. This investment is intended to deliver 17 inter-zonal interconnections and 4 intra-zonal interconnections within the company's network to resolve supply-demand deficits across the company's supply region but also to deliver more value through wider drivers such as resilience and future environmental uncertainty.

2.44 At a high level an interconnection programme making best use of surplus water in some areas to supply others in a company with many discrete water resource zones is a reasonable strategy. However, we engaged extensively on technical issues with the company from the WRMP pre-consultation (spring 2018) until the final determination. In our engagement we consistently challenged the company to evidence that its plan represented best value. Our challenge included:

- The need for transfer capacity to meet current and future supply-demand deficits and future use.
- Evidence that an appropriate range of options were considered.
- Demonstration that scheme costs were efficient

2.45 Consistent with the UK Government's strategic priorities and objectives (SPS)[34] we accepted the need for investment to meet the balance of supply and demand. In our assessment of the proposed interconnector capacity we did not challenge the proportion of the capacity that was identified in the WRMP as being utilised to balance supply and demand over the next 25 years. Therefore, all 21 schemes receive no challenge with respect to this need. However, we challenged where further increases in interconnector capacities to deliver 'best value' had not been adequately justified. The £304.9 million therefore includes allowance for capacity being utilised to balance supply and demand and increases in capacity relating to elements of 'best value' that were adequately justified.

2.46 We reviewed many updated iterations of evidence presented by the company in making our decisions and amended our assessment accordingly throughout the process. An example was the inclusion of the East Ruston scheme in our final determination assessment. This scheme had not been presented in the previous versions of the WRMP or business plans.

2.47 At final determination we still had several concerns with the evidence presented by the company to justify it interconnectors programme. These included:

- The company applied broad policy decisions to constrain the initial options being considered when developing a least cost plan, i.e. excluding supply-side options that required additional abstraction, desalination (due to technical feasibility to deliver on time) and effluent reuse for potable applications (due to lack of suitable sites). This resulted in a constrained or alternative least cost programme being the baseline scenario that was presented. Not applying a cost benefit type analysis to all options means that it is difficult to judge if an efficient best value plan is being presented.
- The company further limited options considered for decision making including constraining the range of capacities assessed for each of the interconnections. One interconnector capacity may be higher than the deficit to be resolved and another lower, meaning that only one option actually solves the problem and gets selected. The limited selection and range of capacities considered was not adequately explained.
- There was insufficient justification for increasing the capacity of solutions beyond those identified in the WRMP planning tables as required to maintain the supply-demand balance. This upsizing is part of the company's aim to present a 'best value' plan but additional benefits are often related to poorly quantified risks.

[34] See 'The government's strategic priorities and objectives for Ofwat' for further details.

- One area of 'best value' that the interconnection programme is linked to is the potential for additional trading facilitated by the increased connectivity. However, we note that there is potential duplication with other areas of allowed investment such as the funding to investigate a new strategic source and a strategic water transfer (£24.8 million) which would follow a similar north to south route as the spine of the interconnection programme. It is also noted that although the company attempts to partly justify the interconnection investment on the basis of increased trading the proposed programme is fully within the company area with neighbouring companies developing their own in-house solutions.
- Cost benchmarking was presented for only some of the common activities to be completed as part of the programme. The remaining activities had very little information presented for them in order to assess efficient costs. For example, the cost up-lift for project location costs appeared to be applied for all schemes without a clear explanation of what this represented.
- The company was contradictory in the certainty it presented regarding this programme. In its funding request it stated that it was necessary for all schemes to be funded exactly as stated in the WRMP. We set at draft determination an outcomes delivery incentive based on the company delivering new sources and zonal transfers at the capacities we had funded in our assessment. In response to this outcome delivery incentive, the company requested a degree of flexibility, this would enable the company to deliver lower scheme capacities than those stated in its plans without sharing cost savings with customers. The company also made reference to the potential delivery of alternatives to the Pyewipe schemes again in conflict to the position it takes that all schemes in the business plan (and WRMP) must be funded as presented.

Leakage – enhancement expenditure

2.48 Anglian Water requested £76.7 million to further reduce its leakage performance beyond its forecast 2019-20 level. We allowed £71.4 million of the amount requested, on the basis that Anglian Water's performance commitment extends beyond the industry upper quartile level of leakage at 2024-25. Our challenge to the company's costs of £5.3 million relates to its unit cost for leakage reduction, which is third highest in the industry. Its unit cost is only lower than that of Thames Water, who acknowledged high costs relating to the challenges of undertaking network improvements in London, and SES Water who proposed significant mains renewal (but less metering enhancement than Anglian Water) as a method of reducing leakage. Anglian Water's unit cost for leakage reduction is also significantly higher than that of the two other companies that are also industry leading on leakage. We therefore applied a 7% efficiency challenge based on the evidence presented. Further detail of our approach to assessing leakage enhancement expenditure is included in the 'Key elements of the methodology appendix'.[35]

Smart metering – enhancement expenditure

2.49 We made an enhancement allowance of £126.3 million (of £136.8 million requested) for metering enhancement. This will further support the reduction of leakage levels for Anglian Water and thus we consider that we made a significant allowance for Anglian Water to achieve its proposed reduction in leakage levels.

2.50 For the enhancement element of the expenditure we reviewed the evidence in the company representations regarding the technology it is installing and the cost breakdown. At final determination we allowed £126.3 million for this component compared to the company's request for £136.8 million. The disallowance of £10.5 million results from the application of our metering cost model for new installations, the use of the company's unit cost for meter replacement activities included in the business plan narrative and the removal of the basic meter installation allowance for new developments (included in the final determination base modelled allowance). Our final determination is an increase of £18.2 million from the draft determination as a result of the company providing additional evidence justifying its programme efficiency in comparison to other companies. Further detail of our approach to assessing metering enhancement expenditure can be found in the 'PR19 final determinations: Securing cost efficiency technical appendix'. [36]

Delivering outcomes for customers

2.51 Our final determination documentation sets out our final decisions in terms of changes to our draft determination for the company's performance commitments and outcome delivery incentives.[37]

2.52 Anglian Water is a leading company for internal and external sewer flooding. Internal sewer flooding is one of the three performance commitments where we set a common level based on the upper quartile of the forecast performance that companies made in their business plan. We took a similar approach to

[35] See section 5 of 'Key elements of our methodology appendix'.
[36] See Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', p. 79.
[37] See Ofwat, 'PR19 final determinations: Anglian Water – Delivering outcomes for customers final decisions'.

external sewer flooding as well. This means that leading companies can outperform during 2020-25 just by maintaining performance.

2.53 For internal sewer flooding Anglian Water's 2018-19 performance was 0.93 incidents per 10,000 connections. This had improved from 1.32 in 2017-18, continuing a similar improvement from 2016-17. Performance is far better than the final determination levels that start at 1.68 for 2021-22 and reduce to 1.34 for 2024-25. Performance for 2018-19 is beyond the outperformance cap for any year in the 2020-25 period. If it maintains its 2018-19 performance it would receive £18 million in outperformance payments over the period, under our final determination. In its September 2018 Business Plan the company forecast performance of 1.31 by 2024-25 which is still below the final determination levels. If the company delivers the performance levels in its September plan it would receive outperformance payments of £4 million over the 2020-25 period, under our final determination.

2.54 For external sewer flooding its 2018-19 performance was 2,333 incidents. This had improved from 2,924 in 2017-18, continuing a similar improvement from 2016-17. Performance is far better than the final determination levels that start at 4,191 for 2021-22 and reduce to 3,991 for 2024-25. Performance for 2018-19 is close to the outperformance cap for any year in the 2020-25 period. If it maintains its 2018-19 performance it will would receive £36.7 million in outperformance payments over the period under our final determination. The maximum it could have received if performance improved would have been £39.7 million, under our final determination.

2.55 In its business plan Anglian Water set out upper case expectations for what it might achieve in the 2020-25 period. This is the level for which performance is only likely to be better than this in less than 10% of possible scenarios in the 2020-25 period. The performance it delivered in 2018-19 for internal and external flooding is better than the estimates Anglian Water provided for the next five year period.

Key issues for Anglian Water

Customer engagement

2.56 In its September business plan, the company proposed a large number of caps, collars and deadbands across its outcome delivery incentive package. Our PR19 methodology required companies to provide evidence of customer support for applying caps and collars on individual performance commitments.[38] In our initial assessment of plans we gave feedback that the company's customer research on caps and collars was not performance commitment specific.

2.57 Our PR19 methodology also discouraged the use of deadbands because they remove the incentive for companies to improve their performance and reduce transparency to customers. We therefore said that companies that wished to propose deadbands would need to provide strong evidence as to why their proposals were appropriate and in the interests of their customers. However in our initial assessment of plans we considered that the company proposed to apply deadbands to key performance commitments including leakage, mains bursts and sewer collapses, without providing specific evidence of customer support.

2.58 In its April 2019 revised business plan the company provided new customer research with in-principle support of deadbands. However, this did not demonstrate support for deadbands being applied to specific performance commitments at specific levels.[39] We deemed this insufficient because it did not evidence the extent to which customers support the dampening of incentives for specific performance commitments and the interval of performance over which incentives should apply. The company provided no further customer research in support of its caps and collars.

2.59 At draft determination we therefore intervened to remove deadbands and remove/or adjust caps and collars to more appropriate levels in line with our policy on setting caps and collars[40].

2.60 In its representations on our draft determination[41] the company stated that it disagreed with our interventions on caps and collars in relation to key performance commitments, including water supply interruptions, leakage and internal sewer flooding. However in the absence of sufficient and convincing evidence of customer support for caps and collars at specific levels, rather than the general principle, we continued to intervene at final determination to ensure caps and collars are placed at levels that provide appropriate incentives for the company, while protecting customers from the risk of higher than anticipated outperformance payments.

[38] For details see Ofwat, 'Delivering Water 2020: Our methodology for the 2019 price review, Appendix 2: Delivering outcomes for customers', p. 96.
[39] See the company's April Business Plan 'PR19 IAP Response ANH', p. 154, for an example of the new evidence submitted on the application of deadbands for leakage.
[40] See Ofwat, 'PR19 final determinations: delivering outcomes for customers policy appendix', p. 161.
[41] Anglian Water – Response to PR19 Draft Determination for Anglian Water.

2.61 The company also argued that our interventions resulted in an outcomes package which did not reflect the results of its customer engagement as it ignored the preferences of its customers with regards to incentive rates, deadbands, and caps and collars. However, as set out above, in many cases we did not consider the evidence to be compelling. Moreover, the evidence of customer support put forward by the company is only one input into our approach. We considered all evidence submitted by the company, including the robustness and relevance of customer research, historical performance, cross-company comparisons and whether the company has appropriate incentives to manage risk.

2.62 We also note key areas of the company's plan where we did not intervene, as we were satisfied with the quality of the supporting customer research, including its proposed outcome delivery incentive rates for key common and comparable performance commitments, including leakage, pollution incidents, water quality contacts, external sewer flooding, internal sewer flooding (outperformance rate). Likewise, we also based our final determination caps and collars for the company for key common asset health performance commitments (sewer collapses, treatment works compliance and unplanned outages) on the results of the customer research it submitted on maximum incentive values. This performance commitment specific research was considered sufficient quality and the results were consistent with our cross-check against our own methodology for setting caps and collars on common performance commitments.

Leakage

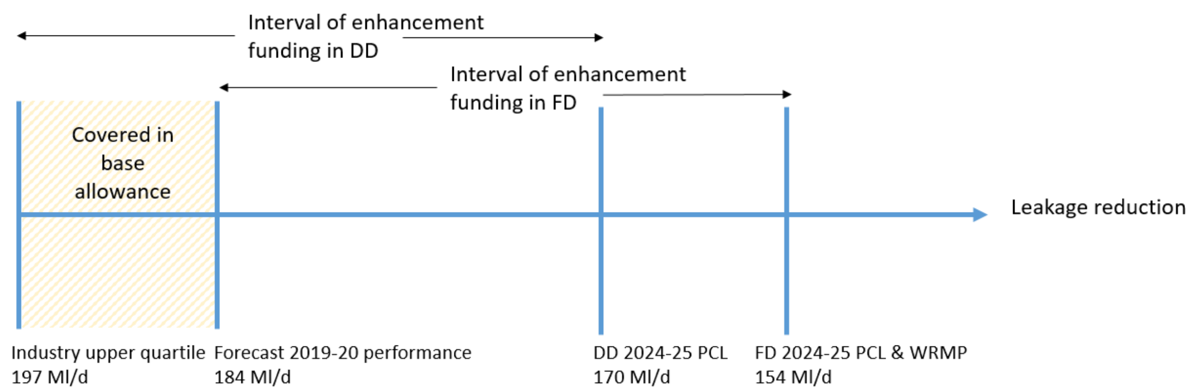
2.63 The company is currently an upper quartile performer in terms of comparative leakage measures. In its September business plan the company proposed a 6.2% reduction in its leakage performance commitment level by 2024-25 (taking it to a leakage level of 166 Ml/d on a 3 year average basis). In our initial assessment of plans we gave the company an action to increase the degree of stretch, to align its leakage performance commitment level with that set out in its water resources management plan (WRMP).

2.64 In its April business plan the company revised upwards its forecast 2019-20 leakage level. It also revised its proposed performance commitment level to a reduction of 7.6% (taking it to a leakage level of 170 Ml/d on a 3 year average basis). The company stated that this was consistent with a leakage reduction in excess of the industry upper quartile (on a 3 year average basis) by 15% (as calculated using the newly available information from companies' September business plans). This revised performance commitment level remained less stretching than the level set out in the company's WRMP (a target of 154 Ml/d on a 3 year average basis).

2.65 In our draft determinations we made an enhancement expenditure allowance of £69.2 million for leakage reduction because the company's performance commitment went beyond the forecast upper quartile threshold.[42] This allowance was for the reduction from the industry upper quartile level to the company's 2024-25 level. We applied a higher tier outcome delivery incentive rate to the leakage performance commitment over this interval. This was to recover both the funding and forgone marginal benefit for customers in the event that the company did not deliver the leakage reduction for which it was awarded enhancement funding. The company had the ability to earn outcome delivery incentive outperformance payments for leakage reduction beyond its performance commitment level, including to its WRMP level of leakage reduction.

2.66 In our final determinations we recognised that our approach to leakage enhancement funding at draft determination (i.e. allowing funding from upper quartile to performance commitment level) meant that the company was receiving enhancement funding for maintaining its current performance (forecast as 184 Ml/d 3 year average in 2019-20), which is included within our base allowance (see Figure 2.1 below).

Figure 2.1 Interval of leakage enhancement funding



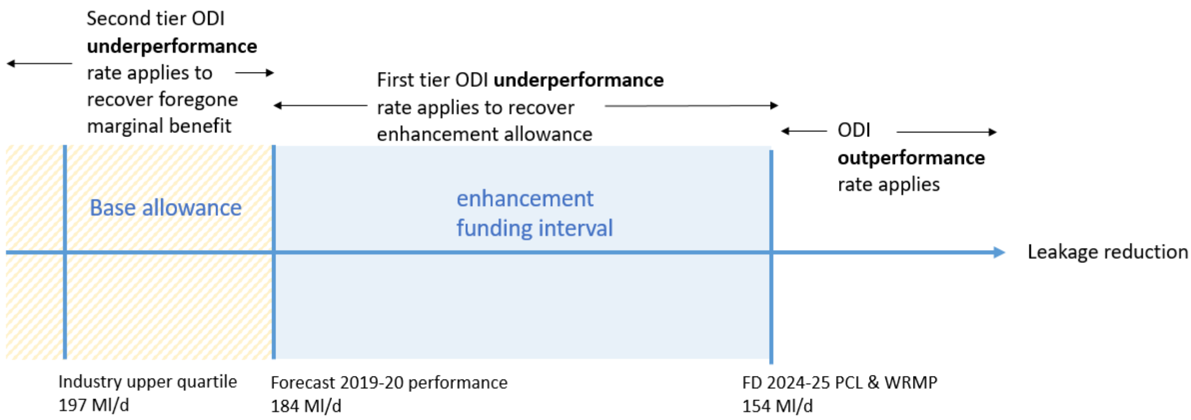
2.67 We therefore amended our approach to remove the overlap between base and enhancement expenditure. We considered that enhancement expenditure funded the reduction from the company's forecast 2019-20 leakage level. The

[42] See Ofwat, 'PR19 draft determinations: Anglian Water draft determination', p.25, and 'Wholesale Water Enhancement feeder model: Supply demand balance'.

maintenance of the 2019-20 level was funded by the base allowance and we assessed the company's associated cost adjustment claim on this basis (see 2.25 to 2.30).

2.68 Our enhancement allowance (see 2.48) was associated with an annual average leakage reduction identified as being required by the company to meet its WRMP leakage target (154 Ml/d, 3 year average). This was equivalent to a 16.4% reduction in 3 year average terms.[43] We intervened to amend the company's leakage reduction performance commitment to be consistent with customers funding this reduction through the enhancement allowance. The resulting performance commitment level is consistent with the company's stated aim of delivering leakage reduction levels beyond those set out in its WRMP (see Figure 2.2).

Figure 2.2. Final determination configuration of standard outcome delivery incentive rates for leakage.



2.69 In recognising that the company would still be delivering industry leading levels of performance even in the event that it maintained current performance we reduced the company's first tier outcome delivery incentive rate so that it only recovers enhancement funding and not the foregone marginal benefit to customers (see Figure 2.2).

Mains repairs

2.70 Mains repairs is an important indicator of the health of a water company's assets. In our PR19 methodology we explained that mains repairs would be one of our 14 (subsequently 15) common performance commitments.

[43] See section 5 in 'Key elements of the methodology appendix' for further details.

2.71 In its September and April business plans the company proposed that a non-financial incentive apply to the common definition mains repairs performance commitment. It also proposed a bespoke performance commitment with financial incentives measuring reactive mains repairs only. The company argued this was appropriate due to the relationship between leakage reduction and proactive mains repairs. However, the company did not provide evidence in its April business plan to demonstrate a positive relationship between leakage reduction and the total volume of mains repairs.

2.72 Furthermore there is no common industry standard on the reporting of reactive mains repairs which means it is not possible to assess companies' proposed performance commitment level on a comparative basis across companies. We are therefore unable to determine the extent to which it represents stretching performance. In our draft determinations we therefore intervened to apply a financial incentive to the common performance commitment, for which there is a common industry reporting standard, and to remove the financial incentive from its bespoke performance commitment. This ensured there was no double counting of incentives across the two mains repairs performance commitments and that outperformance payments are only earned by the company for genuinely stretching performance.

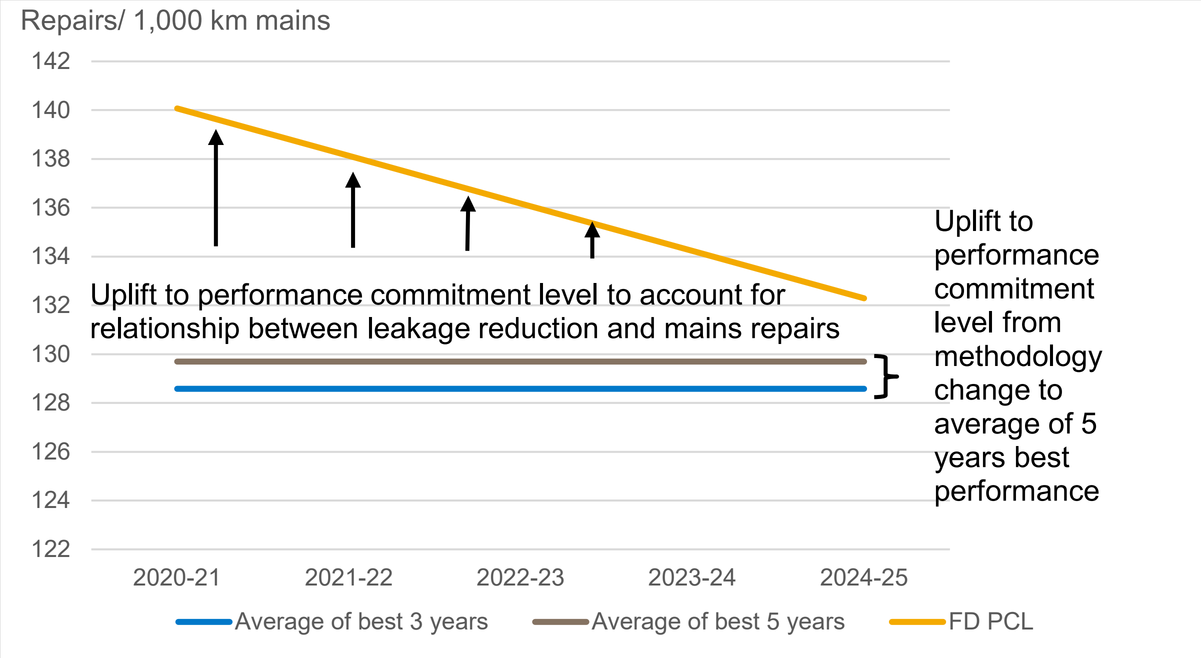
2.73 In its representations on our draft determination the company argued that the financial incentives should revert to the bespoke performance commitment. To support this the company submitted statistical analysis of the relationship between proactive mains repairs and leakage levels. It also argued that our approach to setting performance commitment levels fails to account for the impact of external factors such as weather and proposed a less stretching performance commitment level based on industry upper quartile in 2018-19.

2.74 We remained of the view that the financial incentive should be attached to our common performance commitment, for the reasons set out in our draft determination. However, we reached the conclusion that there is a link between increasing proactive mains repairs and leakage reduction.[44] In our final determinations we therefore increased performance commitment levels for all companies by a reducing percentage in each year of the 2020-2025 period, thereby reducing the degree of stretch, to afford companies more flexibility in earlier years to deliver a step change in leakage through proactive mains repairs. We also amended our approach to setting the underlying performance commitment levels (i.e. prior to the upward adjustment for leakage reduction), basing it on the average of the companies best five years of historic performance which we consider provides a more representative level of good

[44] See section 2 of 'Key elements of the methodology appendix' for further details.

performance required to improve the overall health of companies assets over the long run. This results in a less stretching performance commitment level in each year (see Figure 2.3).

Figure 2.3 Impact of methodology changes on mains repairs performance commitment levels



Water supply interruptions

2.75 Water supply interruptions is one of the 3 common performance commitments which we set at a common level, based on the upper quartile of companies proposals.

2.76 In its September business plan the company proposed a reduction in the average duration of water supply interruptions to 5 minutes and 34 seconds by 2024-25. This compared with our estimate of the forward-looking industry upper quartile of 3 minutes by 2024-25.

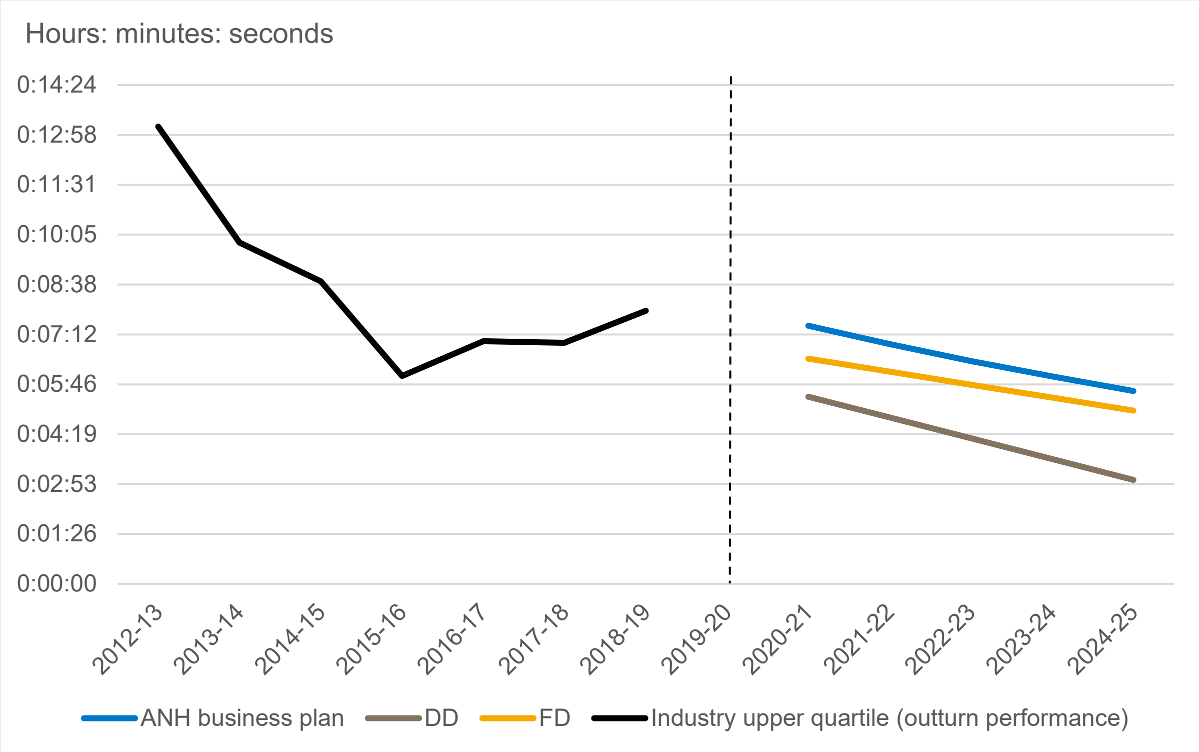
2.77 In its revised April business plan the company continued to propose a less stretching level of service than our estimate of industry upper quartile. The company argued that our estimate of upper quartile was based on levels of performance proposed by companies in their September business plans which contained outlier values that were not realistic based on historic performance. The company also argued that its own supply interruptions performance was influenced by the rural nature of parts of its network (however it did not submit evidence to demonstrate the influence of rurality on its supply interruptions performance).

2.78 In calculating industry upper quartile in 2024-25 we have not removed any outlier observations given the asymmetry of information that exists and the general incentive for companies to understate their forecast performance in order to obtain lower performance commitment levels. We did assess the scale of performance improvement in previous periods which led us to conclude that while 2024-25 upper quartile levels are achievable, the forecast upper quartile levels in earlier years did not appear to be.[45] We therefore intervened at draft determination to set a glidepath to industry upper quartile in 2024-25, starting from the upper quartile of companies' 2019-20 forecast data. This resulted in a less stretching performance commitment level for all companies in earlier years of the period.

2.79 In its draft determination representations the company maintained its proposed performance commitment level of 5 minutes, 34 seconds by 2024-25. The company argued that the draft determination performance commitment level was unrealistic based on recent historic performance and would result in the industry incurring significant underperformance payments even if it delivered significant improvements in performance on 2018-19. In our final determinations we revised our approach to calibrating stretch taking into account newly available information on 2018-19 outturn performance and further analysis of historical trends on the rate of performance improvement. This results in a less stretching performance commitment (compared to our draft determinations) of 5 minutes by 2024-25, with an associated glide-path that is also less demanding in each year (see Figure 2.4).

[45] See section 3 of 'Key elements of our methodology appendix' for further details.

Figure 2.4 Water Supply interruptions performance commitment levels



Outcome delivery incentives – downside skew

2.80 In its representations on our draft determination, the company argued that our methodology introduces significant downside skew for outcome delivery incentives, arising from setting performance commitment levels at upper quartile; the requirement for common performance commitments with underperformance-only incentives; and Ofwat's approach to intervening in incentive rates resulting in higher underperformance rates relative to outperformance rates. The company noted that the P10 and P90[46] range of outcome delivery incentive payments (as a % regulated equity, or RoRE) are outside Ofwat's Final Methodology guidance range of ± 1% to 3%.

2.81 Our PR19 methodology set expectations for a broad potential RoRE range for outcome delivery incentives of ± 1% to 3%, however we did not require or set an expectation for symmetry of outcome delivery incentives between up and downside. With regards to the upside, we note that this is largely limited as a consequence of the large number of caps proposed by the company in its business plan. With regards to the downside, we consider it appropriate that

[46] 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.

companies are exposed to sufficient downside risk to provide incentives to be resilient and manage that risk. Furthermore, we note that at PR14 companies similarly expected their outcome delivery incentive packages to be skewed to the downside whereas this has not been the case based on outturn performance.

2.82 We also note that the RoRE range associated with the company's outcome delivery incentive package was similarly skewed to the downside (-1.5% to +0.7%) in our PR14 Final determinations, and that the company has earned outcome delivery incentive rewards equivalent to 0.4% of regulated equity during the period 2015 to 2019.

2.83 In relation to the company's point on mandatory performance commitments with underperformance-only outcome delivery incentives, this is the case only where outperformance payments are not appropriate, for example, with respect to new metrics such as unplanned outages, for which we have less confidence that outperformance against the performance commitment level is genuinely stretching. We also note that previous price controls prior to PR14 also had large negative-only performance related financial incentives (such as short-falling for failing to meet asset health reference levels) and that, aside from the Service Incentive Mechanism, outcomes-related upside incentives are a novel feature of our price control frameworks since PR14.

2.84 Nevertheless, we have considered all representations and have adjusted a number of performance commitment levels and outcome delivery incentives in our final determinations to provide a more balanced spread of incentives and risks for the company and deliver a package that is more aligned to the results of the company's customer engagement on the overall range of incentives. These include:

- amending the outcome delivery incentive rates to be symmetrical with the outperformance rates for the water supply interruptions and internal sewer flooding outcome delivery incentives;
- reducing the outcome delivery incentive rate to industry average levels for mains repairs; and
- reducing levels of stretch on key common performance commitments such as water supply interruptions and mains repairs.

2.85 These interventions reduce the asymmetry in the company's P10 and P90 outcome delivery incentive payments to -1.9% to +0.8% of regulated equity, to provide a more balanced spread of incentives and risk, resulting in a package that is stretching but achievable for an efficient company.

2.86 While we recognise that the resulting distribution is not symmetric we consider it remains appropriate given our assessment of companies' outcome delivery incentive packages was made in the context of information asymmetry between companies and the regulator; and companies' incentive to focus on downside risk rather than scope for outperformance in their representations. Further detail on this and our response to companies' representations on the skew of returns, more broadly, can be found in our cross-cutting issues document.[47]

Aligning risk and return and financeability

Key issues for Anglian Water

2.87 Anglian Water's September 2018 and April 2019 business plans were based on our 'early view' of the allowed return set out in the PR19 methodology (3.40% in CPIH terms). Anglian Water submitted Board assurance with its business plan that its plan was financeable on both a notional and an actual basis.

2.88 The allowed return was lower in our draft determinations (3.19% in CPIH terms), reflecting movements in market rates and some refinements to our assessment of the market evidence on the allowed return. We assessed Anglian Water's draft determination to be financeable on the basis of the notional capital structure.

2.89 Our draft determinations signaled to companies that movements in the market data suggested it was possible that the allowed return could be lower by 0.37 percentage points in our final determinations. The detail underpinning this analysis was set out in in our draft determinations.[48]

2.90 In its representations to our draft determination, Anglian Water said "at the level of the WACC set out by Ofwat in its Draft Determination, in the context of the overall balance of risk and return represented by the Draft Determination, neither the notional not the actual company is financeable".[49] The company said in its representations that the Board was not able to provide assurance that the draft determination was financeable on either a notional or an actual basis.

[47] See section 4 of 'Cross-cutting issues' for further details.
[48] See Ofwat, 'PR19 draft determinations: Cost of Capital technical appendix', pp. 6-8.
[49] See Anglian Water – Response to PR19 Draft Determination for Anglian Water, p. 7.

2.91 Anglian Water said that “a lower WACC of 2.4% [in RPI terms], as used in our September 2018 Plan and supported by legacy rewards, could be feasible, but only if the balance of risk in the DD can be improved for the Final Determination. If this is not possible, a higher WACC would be required, within the range of 2.5% to 2.8% to address the increased overall level of risk”.[50] In CPIH terms, the return stated by Anglian Water is equivalent to 3.5 to 3.8%.[51]

2.92 Anglian Water said that its business plan targeted a credit rating of Baa1. In its representation it set out that “the notional company cannot achieve a Baa1 rating based on the DD”.[52]

2.93 Based on updated market evidence and some revisions we made to the calculation of the allowed return that took account of company representations, the allowed return for the sector in our final determination was 2.96% (CPIH).

2.94 The most material issues relevant to Anglian Water’s representations on the draft determination related to the overall balance of risk and return in our draft determinations, our assessment of the allowed return and our overall approach to financeability. We summarise issues raised by Anglian Water and our response below.

2.95 As companies are responsible for their own financial resilience and our determinations focus on the financeability of the notional capital structure, we focus our commentary on the notional capital structure in the sections that follow. We comment on the actual financial structure for the company in the **risk and return appendix** that accompanies this submission to the CMA.

Allowed return

2.96 In its representations to our draft determination, Anglian Water set out that it disagreed with certain elements of our assessment of market evidence to inform the allowed return. The key issues raised by the company were:

- **Total market return** – Anglian Water set out we should use historical RPI in preference to the historical CPI series we adopted to calculate historical real returns, and that we should base our point estimate on a direct arithmetic average of one-year returns. The company also implied that dividend discount models should use World rather than UK GDP growth

50 See Anglian Water – Response to PR19 Draft Determination for Anglian Water, p. 150.
51 This estimate assumes a 100 basis point long-term wedge between RPI and CPIH.
52 See Anglian Water – Response to PR19 Draft Determination for Anglian Water, p. 150.

forecasts as the FTSE All Share derives most of its revenues overseas. We consider that changes in the measurement of RPI over time reduce comparability of historical RPI-deflated returns to recent data, and that the more comparable CPI is therefore a better index to use. We also do not agree with the use of a direct arithmetic average, which is vulnerable to distortion from exchange rate effects, and an upwardly-biased estimator of returns for holding periods of longer than one year. Finally, we were not convinced a move towards a world growth rate assumption was necessary – use of world parameters for TMR would be inconsistent with other CAPM parameters, and reduce the relevance of the derived cost of equity to assess returns for water companies operating in the UK.

- **Risk-free rate** – Anglian Water set out we should place more weight on nominal gilt yields, noting this was what our advisors (Europe Economics) had done for its estimate. Our analysis suggested the pricing of nominal gilts embedded an inflation risk premium of around 40 basis points, and that the liquidity risk premium in RPI-linked gilt yields was negligible. Given a true risk-free rate should not reflect any risk premia, we consider RPI-linked gilt yields provide a better basis for our estimate. We also consider that basing our assessment on the nominal gilt yields would over-remunerate investors for inflation risk in a sector where investors benefit from inflation indexation.
- **Beta** – Anglian Water set out our estimate was too low, referencing risks such as nationalisation. The company suggested more weight should be placed on 5 year betas for consistency with PR14. It also suggested that evidence for our debt beta of 0.125 was weak and that it should be lower. Our final determination set out that by placing more weight on 5 year betas in final determinations we had adopted a cautious approach. This resulted in an estimate of unlevered beta (0.29) higher than our advisors' (Europe Economics) recommendation of 0.26. Our estimate of debt beta is conservative, lying at the bottom of the range recommended by Europe Economics – we consider a further reduction to debt beta would not be credible.
- **Cost of new debt** – Anglian Water set out its view that a weaker implied credit rating for our notional company than for our benchmark index meant that we should assume no outperformance in our allowance. We were unconvinced that there would be no outperformance, noting that bond yields for one Baa3-rated company were at least 25 basis points below the iBoxx A/BBB, suggesting it could comfortably outperform our new debt benchmark with new issuance. We nonetheless reduced our 'outperformance wedge' from 25 to 15 basis points, acknowledging uncertainty around historic levels of outperformance persisting. Evidence since our final determination suggests that companies with gearing levels

close to the notional level are able to maintain credit ratings consistent with, or better than, the credit rating targeted in our financeability assessment.
- **Cost of embedded debt** – Anglian Water considered it was inappropriate to include an outperformance adjustment to the benchmark index, as there was no outperformance once credit rating and tenor were controlled for. The company argued that our allowance should reflect swap costs as they were efficiently incurred. We considered that it was not necessary to control for tenor or credit rating as our aim was to calibrate the index-based allowance to be reflective of efficient borrowing costs. We consider excluding swaps in our assessment to be justified, as the swaps companies have in place generally reflect risk management due to company-specific factors (including high gearing). As our allowed return is predicated on a notional company structure, including swap costs would seem to go against the principle that companies – not customers – should bear risks associated with their choice of financing structures.
- **Share of new debt** – Anglian Water considered the share of new debt of 20% was too high and that 15% should be used. We found once we estimated new debt implied by RCV growth and the maturity profile of the sector's outstanding debt that there was a stronger case for an estimate of 20%.

2.97 In addition to our decisions on equity beta and new debt - which were clearly favourable to the company when compared to our draft determination - we also increased the company's effective return through reducing the retail margin adjustment. Collectively, we estimate that these three decisions amounted to an allowed return on capital 33 basis points higher than it would have been using our approach from our draft determinations.

2.98 We set out in our final determination that we were satisfied that our determination included a reasonable allowed return that was sufficient to reward investors for the risk they face in a sector that benefits from significant risk protections.

Balance of risk and return

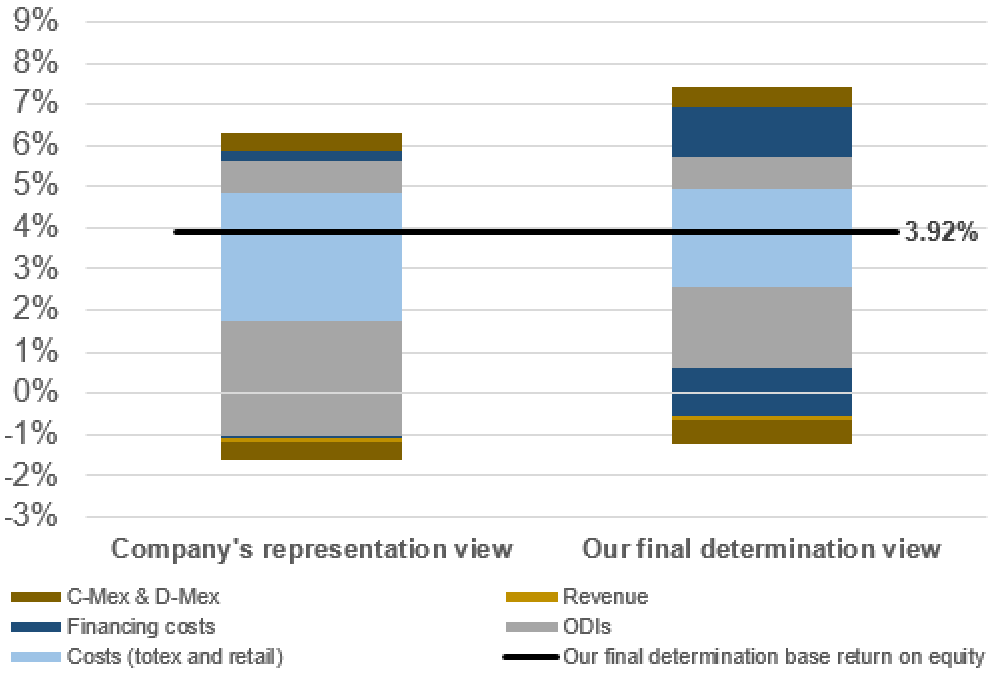
2.99 Anglian Water considered the draft determination adversely changed the balance of risk and return relative to its September 2018 plan given "totex challenges" and "asymmetric downside risks on ODIs". Anglian Water set out its views were supported by a consultancy report it commissioned with Northumbrian Water, Welsh Water and Yorkshire Water from Economic Insight.

2.100 We considered issues raised by Anglian Water regarding our assessment of efficient costs and our assessment of outcome delivery incentives and made a number of revisions in the final determination as referenced in section 1.15 to 1.21 of this document and in our final determinations.[53]

2.101 Our final determinations aim to be stretching to encourage companies to deliver efficiencies and better levels of service to customers. In making representations on draft determinations, companies are likely to focus on downside risks rather than scope for outperformance. Companies also benefit from the asymmetry of information which means they have more information about the scope for outperformance.

2.102 We assessed that Anglian Water has significant scope to earn upside from outperformance as a well as the risk of lower returns from underperformance with modest skew to the overall risk range, driven primarily by outcome delivery incentives. We set out our view that Anglian Water, if efficient, should be able to achieve the base return on the notional structure. We set out in Figure 2.5 our assessment of the company's represented risk range as measured by the return on regulatory equity and the range we set out in our final determination based on the common approach we took to the calculations.

Figure 2.5 Company representation and final determination RoRE ranges for Anglian Water



[53] See PR19 final determinations: Anglian Water final determination.

Financeability

2.103 In its representations to the draft determination, Anglian Water identified concerns with our approach to financeability, including that it considered financial ratios were inconsistent with a target credit rating of Baa1 and explained that certain credit rating agencies "do not regard the advancement of cash through the use of PAYG or RCV run-off to be credit positive".[54] Anglian Water set out its views in a discussion paper on notional financeability.[55]

2.104 We addressed the points raised by Anglian Water at various points in the price setting process and in the final determination. We summarise below the issues raised by Anglian Water and our response:

- **PAYG rates** - Anglian Water set out that PAYG must be aligned to the plan where there are changes and set out that its underlying PAYG rate has increased as a result changes to totex. Taking account of representations from Anglian and other companies, and following an informal consultation with all companies in Autumn 2019, we revised our approach to determine the mix of operating and capital expenditure for all companies to take better account of the nature of our decisions on cost allowances in calculating PAYG rates.
- **Revenue advancement** - Anglian Water set out that certain credit rating agencies do not take the benefit of revenue advanced from the use of PAYG rates into account when calculating adjusted interest cover and so, in its view, revenue advancement does not enhance financeability. It also set out that certain rating agencies advise targeting the middle of the interest cover range to achieve the target rating. Our aim in determining the allowed return is to set it at a level consistent with market evidence, such that investors are fairly rewarded for the risk associated with their investment; we do not consider that setting the allowed return on equity to attain a specific level of indicative adjusted interest cover protects the interest of customers. Applying an increase to the allowed return at a time when cash returns are low would require a reduction in returns below market rates in future periods to prevent customers paying more over the economic cycle. We consider that net present value neutral cash flow profiling adjustments more fairly balance customer interests. Revenue advancement using PAYG rates or RCV run-off rates has the effect of crystallising some of the inflationary return related to the partial transition from RPI to CPIH as the measure of inflation.

[54] Anglian Water PR19 Draft Determination Representation, section 9.2.5
[55] Anglian Water PR19 – Notional Company Financeability – a discussion paper.

- **Target credit rating** - Anglian Water targeted a credit rating of Baa1 in its plan, but considered the draft determination to be more consistent with a credit rating of Baa2 for the notional structure. It set out a company rated at Baa2 could not be expected to achieve the level of financing indicated by the index Ofwat has chosen in its calculation of the allowed return on debt. We assessed that the financial ratios underpinning our determination were consistent with a credit rating of Baa1 taking account of advanced revenues in our financeability assessment. We note that evidence since our determination suggests that companies with gearing levels close to the notional level are able to maintain credit ratings consistent with, or better than, the credit rating targeted in our financeability assessment.
- **Treatment of pension deficit in the calculation of financial ratios** - Anglian Water set out in its representations that our financial model for the draft determination overstated the adjusted interest cover financial ratio due to the treatment of pension deficit recovery payments. We corrected the treatment of pension deficit in the financial ratios for the final determination which lowered the financial ratios compared with our draft determination.

2.105 Our draft determination applied the RCV run-off rates proposed by the company. Anglian Water did not make any representation in relation to RCV run-off rates used in our draft determination which we applied for the final determination. Anglian Water set out its view in its business plan that it had reduced its RCV run-off rates for the water resource, water network plus and wastewater network plus controls to below its assessment of ‘natural’ rates to assist with affordability in 2020-25 and provide a gradual transition to natural rates at PR24.

2.106 We identified a constraint in our initial assessment of financeability in our final determination. We assessed the financial ratios in Anglian Water’s final determination to be consistent with the credit rating the company had targeted for the notional structure in its business plan (Baa1/BBB+), following the advancement of £80 million through PAYG rates. Our financeability assessment set out our expectation that equity in the notional financial structure should contribute to funding significant RCV growth. For Anglian Water, real RCV growth exceeded 10% before adjustments for financeability.

2.107 In Table 2.7 we set out the key financial ratios provided by the company in its business plan, and in our draft and final determinations. The financial ratios underpinning our final determination were better, on average, than those proposed by the company in its business plan that underpinned its Board assurance statement that its plan was financeable on the basis of the notional capital structure.

2.108 We set out further detail of our overall approach to the financeability assessment in the [risk and return technical appendix to the day 1 submission]. The detail underpinning our financeability assessment in the final determination was set out in section 5.2 of the Anglian Water final determination[56] and in the Allowed return technical appendix[57] that accompanied the final determination.

Table 2.7: Ofwat calculation of key financial ratios – notional structure before reconciliation adjustments (5 year average)

	Revised business plan (April 2019)	Draft determination	Final determination
Gearing	61.34%	60.80%	59.97%
Interest cover	3.77	3.79	4.02
Adjusted cash interest cover ratio (ACICR)	1.46	1.44	1.50
Funds from operations (FFO)/Net debt	9.19%	9.28%	9.49%
Dividend cover	1.08	0.68	1.44
Retained cash flow (RCF)/Net debt	7.56%	7.24%	8.29%
Return on capital employed (RoCE)	3.74%	3.48%	3.54%

2.109 We set out the basis of the calculation of the ratios 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.

2.110 In its April revised business plan, Anglian Water used additional revenue from past performance reconciliation adjustments to improve the financeability for the notional structure. This was a departure from the PR19 methodology which, in common with the accepted approach at previous price reviews, set out that

[56] See Ofwat, 'PR19 final determinations: Anglian Water final determination', pp. 78-83
[57] See Ofwat, 'PR19 final determinations: Allowed return on capital technical appendix'.

we assess financeability before reconciliation adjustments for past performance to maintain the strength of regulatory incentives.

2.111 Our draft determination accepted Anglian Water's approach as a departure from the PR19 methodology on the basis it was an approach proposed by the company that, in this instance, protected the interests of customers with bills that would be lower in 2020-25 than if we brought forward revenue through PAYG. However, for final determinations, taking account of the lower allowed return, we applied a consistent approach across companies.

Appendix 1: Calculation of our final determination

The main body of this document sets out the key interventions that we made to Anglian Water's business plan. This appendix provides further detail of the calculation of the final determination for the wholesale and retail price controls. This builds on Tables 3.2, 4.1 and 4.2 in our final determination documentation for Anglian Water.[58] To make the final determination we made a number of interventions to Anglian Water's business plan and/or representation position. These are summarised in the Anglian Water final determination.[59] The tables provide details of where further explanation of these interventions can be found in the extensive final determination documentation. To assist the CMA we have developed a detailed spreadsheet which compares the company plan and representations to the draft and final determinations by year and price control, 'Anglian Water - Detailed calculation of the final determination revenue allowances'. We also provide a financial model comparison of Anglian Water's April 2019 revised business plan to the final determination: see 'Anglian Water – Financial model comparison of April 2019 revised business plan and final determination'. Further detail on the interventions on outcomes are set out in our documentation[60].

The following tables shows the latest version of data submitted by the company, which is August 2019 for cost data or April 2019 for other areas of the business plan. We did not request a full set of data with the company's August 2019 representation. We first provide detail of the relationship between the wholesale expenditure allowances and the total expenditure that is used for the calculation of Pay As You Go expenditure.

[58] See Ofwat, 'PR19 final determinations: Anglian Water final determinations', pp. 37, 54 and 56 respectively.
[59] See Ofwat, 'PR19 final determinations: Anglian Water final determinations'
[60] See chapter 3 of Ofwat, 'PR19 final determinations: Anglian Water final determination' and 'PR19 final determinations: Anglian Water - Delivering outcomes for customers final decisions'.

Table A1.1: Calculation of total wholesale expenditure for Pay As You Go (£ million over five years unless otherwise stated, 2017-18 prices)

	Final determination allowance
Wholesale base expenditure	3,726
Wholesale enhancement expenditure	1,425
Operating lease adjustment	-14
Gross allowed totex for calculation of cost sharing rates	**5,136**
Strategic regional water resources solutions and other cash items	25
Third party costs	77
Non-section 185 diversions	1
Ex-ante cost sharing adjustment	0
Gross totex	**5,240**
Grants and contributions after adjustment for income offset	245
Net totex for PAYG calculation	**4,995**

Note: We provide a breakdown of wholesale base expenditure and enhancement expenditure in Tables 2.4 and 2.5. For further details on operating lease adjustments, strategic regional water resource solutions, third party costs and non-section 185 diversions see p. 35 and Table 3.2 in Anglian Water final determination p. 37.

Table A1.2: Calculation of the wholesale revenue control (£ million over five years unless otherwise stated, 2017-18 prices)

	Revised business plan (April 2019)	Draft determination	Company view (August 2019 representation)	Final determination	Further explanation
Net Totex for PAYG calculation	6,021	4,815	5,679	4,995	Cost adjustments are explained in chapter 3 of the Anglian Water final determination, Anglian Water cost efficiency appendix and cost feeder models. The relationship between gross totex and net totex for PAYG is set out in Table 3.2 of the Anglian Water final determination.
PAYG (%)	46.92%	46.43%	49.31%	50.86%	PAYG % is based on the opex and capex split of the expenditure allowance adjusted for the revenue brought forward for financeability reasons. Further details are provided in section 4.2.1 of the Anglian Water final determination, Anglian Water allowed revenue appendix and Anglian Water aligning risk and return final decisions and pay as you go model – Anglian Water.
Totex PAYG	2,825	2,236	2,800	2,540	
Pension deficit repair costs	57	70	70	70	
Total pay as you go	**2,883**	**2,306**	**2,870**	**2,610**	
Average opening RCV in each year	8,469	8,193	8,327	8,120	RCV run off rates have not been adjusted. Further details are provided in section 4.2.4 of the Anglian Water final determination, Anglian Water allowed revenue appendix and Anglian Water aligning risk and return final decisions.
RCV run off rate (%)	4.66%	4.67%	4.67%	4.67%	
RCV run-off	**1,975**	**1,913**	**1,944**	**1,896**	

	Revised business plan (April 2019)	Draft determination	Company view (August 2019 representation)	Final determination	Further explanation
Average RPI RCV in each year	3,473	3,474	3,457	3,444	The allowed return on capital is based on prevailing market evidence. Further details are provided in section 4.2.3 of the Anglian Water final determination, Anglian Water allowed revenue appendix, Anglian Water aligning risk and return final decisions and Allowed return on capital technical appendix.
RPI return (%)	2.30%	2.08%	2.33%	1.92%	
Total RPI Return on RCV	399	361	403	331	
Average CPI RCV in each year	4,798	4,528	4,675	4,486	
CPI return (%)	3.30%	3.08%	3.33%	2.92%	
Total CPI Return on RCV	792	697	779	655	
Total Return on RCV	**1,192**	**1,058**	**1,182**	**986**	
Revenue adjustments for PR14 reconciliations	21	26	23	24	Adjustments made to the reconciliation of PR14 incentives are described in section 4.3 of the Anglian Water final determination, Anglian Water past delivery appendix and Anglian Water accounting for past delivery final decisions. Note adjustments are explained relative to 15 July submission rather than representation.
Fast track reward	-	-	-	-	Not applicable.

	Revised business plan (April 2019)	Draft determination	Company view (August 2019 representation)	Final determination	Further explanation
Tax	-	-	-	-	The tax allowance reflects the corporation tax that the company expects to pay in 2020-25. Tax adjustments are explained in section 4.4.1 of the Anglian Water final determination and Anglian Water aligning risk and return final decisions.
Grants and contributions (price control)	335	187	298	236	An allowance for the revenue that water companies will receive from developers for the work that they undertake to service new developments. Adjustments to grants and contributions forecasts are set out in section 4.4.2 of the Anglian Water final determination. In our final determinations we amended our approach to grants and contributions. This included the removal of non-section 185 diversions to outside the price control. More details of our approach are set out in Our approach to regulating developer services.
Deduct other income (non-price control)	(64)	(64)	(64)	(64)	This reflects income water companies receive from outside the price control. Adjustments to non-price control other income are described in section 4.4.3 of the Anglian Water's final determination and is described in Our approach to regulating developer services
Innovation fund/competition	-	-	-	21	This represents the additional revenue that the company will collect from its customers for the purpose of a collectively funded

	Revised business plan (April 2019)	Draft determination	Company view (August 2019 representation)	Final determination	Further explanation
					innovation competition for the period 2020-25 This described in section 4.1.1 of the Anglian Water final determination and Driving Transformational Innovation in the Water Sector.
Revenue re-profiling	-	6	-	(0)	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, on a net present value neutral basis. This is described in section 4.1.1 of the Anglian Water final determination.
Final allowed revenues	**6,341**	**5,432**	**6,253**	**5,708**	The calculation of final allowed revenues is set out in Table 4.1 of the Anglian Water final determination, Anglian Water allowed revenue appendix and Financial Model – Anglian Water

Table A1.3: Calculation of the retail revenue control (£ million over five years unless otherwise stated, nominal prices)

	Revised business plan (April 2019)	Draft determination	Company view (August 2019 representations)	Final determination	Further explanation
Total wholesale revenue	6,599	5,708	6,526	5,987	Wholesale revenues adjusted from 2017-18 prices to nominal prices.
Proportion of wholesale revenue allocation to residential, %	80.20%	80.34%	80.12%	80.22%	We did not intervened in the proportion of wholesale revenue allocated to residential retail and any differences reflects movements in revenues across different wholesale controls.
Wholesale revenue allocated to residential	5,293	4,586	5,229	4,803	Wholesale revenues multiplied by proportion allocated to retail.
Residential retail costs	415	400	414	403	Cost adjustments are explained in chapter 3 of the Anglian Water final determination and residential retail cost feeder models.
Total retail costs	5,730	4,998	5,657	5,221	Wholesale revenue allocated to retail plus retail costs.
Residential retail net margin (%)	1.00%	1.00%	1.00%	1.00%	Retail allowed margins are set out in Anglian Water allowed revenue appendix .
Residential retail net margin	58	50	57	53	This is calculated as (1-retail margin)* (total retail costs mins retail adjustments.

	Revised business plan (April 2019)	Draft determination	Company view (August 2019 representations)	Final determination	Further explanation
Residential retail adjustments	23	12	14	15	Retail adjustments from the reconciliation of PR14 incentives, PR14 service incentive mechanism and residential retail revenue reconciliations. These adjustments set out in table 4.11 of the Anglian Water final determination, Anglian Water past delivery appendix and Anglian Water accounting for past delivery final decisions. Adjustments have been converted from 2017-18 prices to nominal prices.
Residential retail revenue (£ million)	**495**	**463**	**485**	**471**	The sum of residential retail costs plus retail net margin plus residential retail adjustments.

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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