Anglian Water

PR19 CMA Redetermination

Response to Provisional Findings

Submitted 27 October 2020

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Chapter A: Executive Summary

1   Opening Remarks

(1)   Anglian has considered in detail the CMA's Provisional Findings ("**PFs**") and is pleased to set out its response. Its region is the driest in the UK, and one of the fastest -growing, which means it faces quite different challenges to some other companies.

(2)   **Anglian recognises and appreciates the huge amount of work put in by the CMA Panel and the CMA Team, including adjusting to new ways of working forced by the Covid-19 pandemic. At all stages the CMA has adopted a professional, robust, measured and evidence-based approach.**

(3)   The issues considered by the CMA are critical to the long-term sustainability of the water sector, for UK infrastructure more widely and for customers now and in the future. The PFs underline how important it is that the regulatory system provides an opportunity for the CMA to undertake a full, independent, and expert redetermination of a price review when companies feel that the balance struck in a Final Determination ("**FD**") is not in the long-term interests of customers, the environment and investors.

(4)   Anglian notes that the PFs, if confirmed, would result in:

    (i)   the CMA agreeing with Anglian's Board that the FD did not meet the financeability duty, yet

    (ii)   even with an increased WACC, returns to investors being reduced by around 30% relative to PR14, with

    (iii)   bills being reduced significantly compared to PR14, whilst

    (iv)   enabling a step change in investment in resilience, and

    (v)   putting the sector back in balance in relation to its investability for the future, so it can attract the right long-term investors to drive the step change in investment needed to deliver net-zero carbon and ensure resilience to drought and flood.

(5)   This PFs move closer to the preferences customers expressed during Anglian's extensive engagement with them on the trade-offs facing the company for PR19. Customers indicated a willingness to see bills at levels higher than those implied by the PFs in order to ensure long-term resilience.

(6)   Further, recognising that for customers in vulnerable circumstances managing any level of bill can be challenging, **Anglian is significantly increasing support for vulnerable customers**, in AMP7, and has intensified this in response to Covid-19. This includes increasing the numbers on its Priority Services Register by c.400% since April 2019, broadening its Extra Care support with the aim of helping 350,000 customers each year, and launching a £1 million Positive Difference Fund, funded by shareholders, to support communities in its region during the pandemic.

(7)   Anglian notes that the CMA provisionally agrees with much of what Ofwat concluded in its FD. In many areas this is disappointing, as Anglian believes it has put forward compelling evidence to justify changes from those positions. **The PFs remain extremely challenging, leaving Anglian with an acute risk of not being able to meet the demand for water in its region during AMP7. Anglian also faces significant operational risk given the increased frequency of extreme weather events, the ongoing growth challenges, and the need to improve service quality, all of which often comes with additional costs that the PFs have not fully recognised**.

(8)   However, recognising that the CMA has considered these matters deeply, Anglian does not repeat arguments already made and not addressed in the PFs. Rather, where further comments are offered for consideration at this stage, they reflect evidence and data that seeks to respond to specific points set

out by the CMA. In a few cases, where the PFs seem at odds with the reality of the situation, or where evidence Anglian submitted appears to have been overlooked, Anglian draws this out in this response.

2   A necessary rebalancing: but real concerns remain

(9)   Anglian's Board unanimously decided to seek a reference to the CMA, as it was apparent that the FD rendered the company unfinanceable, was at odds with its core purpose as set out in its revised Articles of Association and did not meet the long-term interests of customers and the environment.

(10)   It is evident that the CMA has undertaken a very thorough review. The PFs rebalance the overall position to some extent and changes proposed go some way to addressing the most fundamental concerns that Anglian set out in its Statement of Case, further submissions and oral hearings.

(11)   For example, Anglian appreciates the consideration that the CMA has given to its arguments relating to the Strategic Interconnector programme and welcomes the provisional decision to allow the full funding and scope for this, alongside amendments to the Performance Commitment ("**PC**") and Outcome Delivery Incentive ("**ODI**") design to focus on outcomes delivered and an "end of AMP" assessment.

(12)   However, **the level of stretch and risk in relation to totex allowances implied by the PFs remains concerning in the context of very stretching service quality improvements that are expected.**

(13)   Anglian notes that the CMA considers that the PFs would leave the notional company just financeable, but right at the bottom end of the Baa1/BBB+ range, with essentially no risk buffer (just c. £5 million per annum) to maintain this rating as risks materialise. However, this is based on modelling and an assessment of costs and risks that in some areas Anglian disagrees with. **Considering the PFs in the round, Anglian remains subject to significant downside risk, and a c. £630 million shortfall in totex allowances for AMP7 that cannot be ascribed to inefficiency. Risks are particularly acute in relation to leakage, where the proposed PC and ODI are out of balance with what can be achieved within the totex allowances envisaged. This unbalances the PFs, with consequences for financeability, and threatens the sustainability of water supply during this AMP.**

(14)   This analysis is confirmed by the assessment of credit rating agencies, who had already placed Anglian on notice of downgrade pending the outcome of the CMA redetermination and have publicly stated since the PFs that they are considering taking further actions on credit ratings as the PFs are not sufficient to maintain the metrics required for the current ratings. **Anglian therefore presents additional evidence on leakage and a limited number of other issues, to embrace the broad approach proposed by the CMA, while seeking some further changes that recognise the particular needs of customers and the environment in the East of England and will ensure the company can achieve the Baa1/BBB+ credit rating that the CMA agrees it should be maintaining.**

(15)   More broadly, given the particularly **acute challenges faced by the East of England**, as the driest and among the fastest-growing parts of the country, the risks to the sustainable delivery of core services to customers remain very high, even with the improvements signalled in the PFs. Anglian asks that these specific challenges be given greater prominence in the CMA's Redetermination and that **more weight be given to the robust evidence it gathered on customer preferences on PCs and ODIs.**

(16)   Anglian's concerns regarding security of water supply during the current AMP are the most important aspect of the PFs on totex. As discussed in the oral hearing, there is an **urgent need for both supply and demand side measures to deliver during the next four and a half years if the region is to remain secure in terms of available public water supply** and for Anglian to meet its legal obligations.

(17)   The **level of leakage reduction Anglian must achieve, and the additional funding in the Redetermination to enable this, is essential to ensure security of water supply during AMP7.** This is a key example of the specific and different challenges facing the East of England which were fully

tested through the Water Resource Management Plan ("**WRMP**") process. This included extensive customer and stakeholder engagement and challenge, before gaining approval from the Secretary of State in 2019. For Anglian, the 15% leakage reduction target is not arbitrary, it is central to the overall package set out in its WRMP and PR19 Business Plan to maintain the supply-demand balance. Demand reduction will address around 50% of the deficit by 2045. But for the period to 2025 demand reduction will have to deliver nearly all of the required improvements, with leakage the biggest element. This is because the supply-side aspects of Anglian's plans (such as the Interconnectors Programme) only deliver benefits in AMP8. As they stand, the PFs create an unreasonable level of risk to Anglian's ability to meet the core elements of its WRMP and ensure the supply-demand balance is maintained in AMP7.

(18) The totex gap remains at around £630 million for AMP7, which Anglian contends cannot realistically be attributed to "inefficiency". Moreover, the retention of across the board of 10% efficiency adjustments, when other **evidence, such as the outcomes of the tender exercise for the Interconnector Programme, have shown Anglian's cost projections to be efficient**, is difficult to justify.

(19) Anglian welcomes the CMA's acknowledgment of the uncertainty risk related to metaldehyde, and the PFs allowance of £63 million to address the costs of its treatment. With the reintroduction of the ban on metaldehyde with effect from March 2022, and whilst metaldehyde will remain in the environment for some years beyond this date, **Anglian considers it no longer needs all of this metaldehyde funding and proposes a lower allowance of £13.4 million to reflect these changed circumstances, recognising the need to continue to manage abstraction and work with farmers in catchments until the effects of the ban are realised, so reducing totex by around £50 million.**

(20) Anglian is disappointed that the CMA has largely endorsed Ofwat's base models. This response sets out further evidence on a limited number of items within the base modelling suite – in particular on Average Pumping Head and large Water Recycling Centres – that reflect Anglian's particular circumstances and which warrant adjustments to the base model outputs, and to avoid unhelpful precedents being set for PR24. Anglian also suggests that the base models be updated to include the latest industry 2019-20 data that were not available earlier in the Redetermination process.

3 Growth

(21) Longer-term pressures from growth are likely to intensify. The Planning White Paper anticipates more homes, delivered more swiftly. Plans for new homes in the Oxford-Cambridge Arc are gathering pace and pressures on water resources continue to increase beyond the levels anticipated in the WRMP. [✂]

(22) Anglian welcomes the widening of the true-up mechanism to incorporate the costs of upgrading sewage treatment works to cope with population growth. However, in response to the PFs, **Anglian offers further evidence to show that growth remains underfunded by c. £280 million,** with a particular focus on the calculation of unit rates and sets out the risks to the delivery of sustainable new communities during this AMP. The CMA's question as to whether the true-up mechanism should be asymmetric is also addressed.

4 Direct Procurement for Consumers

(23) As noted in the PFs, Anglian has continued to explore with Ofwat revisions to the scope of the Elsham Direct Procurement for Consumers ("**DPC**") schemes. Despite significant efforts, these discussions have not resulted in an agreed position between Anglian and Ofwat.

(24) It is clear from the evidence that Anglian has supplied to Ofwat and which is included in this response that **without a reduced scope of DPC, Anglian will not be able to meet its legal environmental obligations during AMP7 and ensure security of water supply**.

(25)   Anglian has considered whether a reduced scope could be implemented through Ofwat's emerging DPC IDOK process. However, the uncertainty and time delays associated with this create timetable risks that could prevent Anglian from moving forward with these schemes as quickly as is needed. As mentioned above, the pressures on water resources seem likely to be even greater in AMP7 than anticipated in the WRMP with the Environment Agency ("**EA**") indicating that further abstraction reductions will be needed during AMP7. All of this means that **the region's water supply challenges are acute and urgent. Securing early resolution of a reduced scope of DPC is one essential means to address them.**

(26)   **Anglian therefore asks that the CMA reflect in its Redetermination a reduced scope of DPC, such that only the Treatment Works at Elsham goes through the DPC process.** Anglian is committed to doing all it can to make this scheme a success, given the importance of learning from this project for future, larger DPC schemes that are expected in AMP8 and beyond.

(27)   The proposed reduced scope is set out in **Chapter E: Enhancement**, which sets out how the CMA could implement a reduced scope of DPC, along with any consequential changes to the PFs position. The relevant exchanges of letters between Anglian and Ofwat are also provided.

(28)   Anglian will continue to discuss these issues with Ofwat in the coming days in the hope of reaching an agreed position. Should any such agreement be reached, this would be communicated to the CMA.

5   Financeability, Investability and WACC

(29)   **Anglian welcomes the CMA's recognition of the importance of assessing financeability in the context of maintaining strong credit ratings**, which will allow companies to continue to access capital at competitive rates, with consequent benefits for customers over the long-term.

(30)   The CMA has also rightly recognised that there is an **inextricable link between the levels of risk faced by a company and the level of returns investors** in that company should expect.

(31)   Moreover, and underpinned by the broadly shared understanding across Government and Opposition parties that the water sector must be at the forefront of the Green Recovery and the response to climate change. **Anglian supports the CMA's statements on the importance of securing continued investment in the sector**, and the recognition that there is an asymmetric risk here for the public interest. This is perhaps most clearly articulated in the paragraph:

> "*Should the cost of capital be set too low and this led to an exit of capital from the sector, this would have an adverse effect on the sector's longer-term attractiveness to investors. This would, in practice, be likely to result in a higher medium-term cost of capital and/or a risk to availability of finance for future investment.*"[1]

(32)   This conclusion is very important, given the volatile and uncertain environment, and the criticality of the UK's infrastructure sectors continuing to be an attractive proposition for international investors as the UK seeks to ameliorate the economic harm caused by Covid-19. The CMA also recognises that underinvestment in the sector is to the long-term detriment of customers and the wider economy.

(33)   Anglian agrees with the CMA that Ofwat's solution to financeability shortfalls created by its FD, i.e. accelerating revenue recovery through higher PAYG ratios, cannot be relied upon to improve credit ratings.

(34)   Anglian embraces the broad approach proposed by the CMA. However, as mentioned above, **additional evidence on leakage and a limited number of other issues is provided that show further changes are needed to meet the particular needs of customers and the environment in the East of England**

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[1]   PFs, para. 9.667.

and ensure Anglian can achieve the Baa1/BBB+ credit rating that the CMA agrees it should maintain.

(35) Analysis of the component parts of WACC has also clearly been undertaken with much care and consideration of all the technical arguments put before the CMA. Although Anglian broadly supports the CMA's approach to the evidence, there remains some parameter-specific areas where the CMA should adjust its provisional assessment. It offers some further evidence in relation to areas it considers the CMA should revisit in its Redetermination including a further technical report from Professor Alan Gregory.[2]

(36) **The rejection of the proposed Gearing Outperformance Sharing Mechanism is also welcomed**. Anglian notes that the CMA's provisional conclusions are in line with the response it made to the original Ofwat consultation on the matter, and with its Statement of Case arguments.

6   Looking Ahead

(37) Finally, looking beyond the Redeterminations, Anglian supports the CMA's observations regarding the need for changes to aspects of the future regulatory approach to ensure it is fit for purpose. **The recognition of the need for a forward-looking assessment of capital maintenance requirements is particularly important.** Anglian is now working closely with Ofwat on this issue; it would be helpful if the Redetermination re-emphasises the need for improved approaches to capital maintenance in future.

(38) Anglian believes the regulatory framework **must consider longer-term priorities alongside the assessment of the five year price review**. This will enable the sector to play its full part in addressing the acute challenges from climate change and growth and meet its target of delivering net-zero carbon by 2030.

(39) Achieving these goals will also rely on effective regulatory incentives being in place. Anglian welcomes the consideration given to the paper it submitted on this as part of the redetermination process.

(40) As the sector considers the next round of Water Resource Management Plans, and Drainage and Wastewater Management Plans, both with a 25-year outlook, it is crucial that the framework for PR24 is set up to be consistent with achieving the ambitions within those long-term plans. Anglian is pleased to see that Ofwat's long-term strategy also recognises the importance of setting a long-term direction for the sector and is encouraged by recent discussions with Ofwat on these issues.

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[2]   Gregory et al, Response to the CMA's PFs on water and estimation of beta (2020) (PF018).

Chapter B: Risk and Return

1 Overview

> Anglian's Statement of Case reflected the ambitious Plan it put to Ofwat in the PR19 process: increased investment, challenging productivity targets, with a WACC and other financial aspects consistent with that. This was in marked contrast to Ofwat's FD, which excluded important cost elements without adequate justification, imposed a very significant downward skew to the performance framework and failed to provide the level of returns needed to ensure this package was financeable.
>
> The PFs contain many elements correcting the FD that Anglian welcomes, particularly the more realistic assessment of WACC. However, they do not depart sufficiently from the FD in several areas, creating challenges and risks to Anglian's financeability over AMP7 and beyond. In particular, the PFs:
>
> (i)   Impose unrealistic targets, assessing Anglian to have inefficient costs when in fact Anglian provides evidence of its efficiency. Further cost savings therefore require innovation rather than 'catch-up'. Anglian is prepared for this challenge but results are inevitably uncertain.
>
> (ii)   Impose significant downside risks by not adequately reflecting the costs of growth in Anglian's fast-growing region. The partial adoption of Anglian's proposed true-up mechanism is welcome but significant uncontrollable risks remain with the company.
>
> (iii) Leave in place a heavy downside skew to the performance framework, leading to likely penalties even for sector-leading performance. This has perverse incentive effects in the long-term, and in the short-term creates more risk within a very tough determination. This is particularly the case for leakage. Against an imperative of maintaining the supply-demand balance, the PFs leave a significant funding shortfall for both maintaining current frontier performance and for improving further and expose Anglian to significant penalties.
>
> (iv)   Provide a cost sharing ratio that, whilst an improvement on the FD, is still asymmetric and thus leaves perverse incentives in place, without any benefits from information revelation.
>
> Anglian is aware that Ofwat has claimed that the CMA's estimate of WACC is overgenerous, in that its estimate exceeded companies' own proposals. This is misleading. As the PFs recognise, risk and return must be assessed in the round. In its DD Representation and Statement of Case, Anglian put forward a WACC range consistent with the allowances and risks it proposed. The PFs impose tougher challenges and more downside risk than contemplated in Anglian's DD Representation and the CMA's proposed WACC is within the range Anglian set out in its DD Representation. Anglian therefore proposes changes to a limited number of the totex and ODI elements, to recognise the particular needs of customers and the environment in its region and to ensure it can achieve the Baa1/BBB+ credit rating that the CMA agrees it should maintain.

2 Regulatory incentives for efficiency and high performance

(41)   Anglian recognises that the PFs are intended to provide incentives for efficient behaviour, in customers' interests, in the short and long-term. In many ways, they succeed in doing so, notably by providing a more balanced view on allowed returns on investment and by providing funding for some of the most important enhancement programmes that Anglian has identified as necessary.

(42)   However, **in places the CMA has not fully taken account of the unavoidable costs Anglian actually faces, nor its industry-leading performance**. This has two consequences. First, underfunding of necessary activity and a downside skew to the risks faced by the business poses challenges to financeability. Second, it has the perverse effect of disincentivising high performance in the long-term. Anglian disagrees, for example, that the models of base costs properly reflect the efficient costs of its high-performing network. This provides a disincentive over the long-term for Anglian or others to push the performance frontier. Within the ODI framework, Anglian's assessment is that some targets are so unrealistic that it would be financially better not to meet them and accept a penalty. This is not necessarily Anglian's plan, but the perverse incentive exists.

(43)   The PFs constitute a much more balanced regulatory settlement than Ofwat's FD. They are likely to lead to more and efficient investment, in the interests of customers and the environment. However, the incentives they provide

are weakened when the CMA has not fully reflected the factual position of Anglian's operations. Other sections of this response offer detailed proposals to rectify this, but they are also outlined in brief below.

3 The PFs do not fully reflect Anglian's efficient costs

(44) The PFs leave a large gap in most elements of totex, creating a shortfall of around £630 million for AMP7, arising from:

    (i)   £221 million on base.

    (ii)   £281 million on growth.

    (iii)   £128 million on enhancement.

(45) Anglian's requests to the CMA in each of these areas are explained in other parts of this document. Here, Anglian focuses on how the PFs contribute to the overall skew of risk against return.

(46) For Botex, Anglian disagrees with the botex modelling carried out by the CMA. In **Chapter C: Botex** of this response, Anglian proposes some modifications and additional evidence to respond to the PFs. Overall, if the CMA maintains its position in its redetermination, then Anglian will face a base cost allowance that assumes that the company is inefficient, when it has shown it is not. It is easier to catch up to the efficient frontier than to push it further out, so Anglian in fact would face a much more challenging task in meeting these cost targets than the CMA has assumed.

(47) This is particularly true for leakage. **The CMA acknowledges that further work is needed on leakage, but seems to assume that Anglian's task is easier than it is**. The CMA cites the nature of its region, past investments, and Anglian's existing high performance as reasons why it may not be appropriate to recognise leakage either in cost modelling, or through Anglian's cost adjustment claim. In **Chapter F: Leakage** and the supporting reports from Dr Farewell[3], Professor Hall,[4] and Oxera,[5] Anglian explains[6] why this is incorrect. It offers further evidence of the higher costs it faces both to maintain its frontier leakage performance and to improve on it, which it must do to meet its supply-demand balance in AMP7. Anglian is therefore forced to move up an ever-steeper marginal cost curve for leakage reduction, but the PFs allowances do not reflect this.

(48) It is particularly disappointing that the CMA does not accept as a matter of principle that higher performance often requires higher cost. This is despite the fact that in its detailed assessment of particular issues (for example, providing at least some additional allowance for above-UQ performance on leakage), it finds just such a relationship. **In the PFs, the CMA invites case-by-case evidence on this matter, and Anglian asks that the CMA consider again this question in relation to supply interruptions, where Anglian has shown increasing marginal costs are linked to service improvements.** If the CMA agrees on this specific topic, Anglian invites it to reconsider its broader rejection of this principle, which it sees as fundamental to effective incentive-based regulation.

(49) On enhancement, Anglian welcomes the CMA's decision properly to fund important major projects, notably strategic interconnectors. Nonetheless, **the CMA still applies a 10% "efficiency assumption" to reduce allowances for other aspects of enhancement. The basis for this – a link to an assessment of botex cost efficiency which has very different drivers – seems weak when the CMA has found Anglian's costs to be efficient in the major areas of enhancement where it has assessed "deep-dive" evidence**. This is a more relevant proxy for assessing efficiency of other enhancement costs, particularly given that Anglian's cost assessments for all areas of enhancement expenditure are all subject to the same benchmarking processes.

(50) On growth, the CMA underfunds the expenditure that Anglian expects to have to carry out. This underfunding arises from a combination of what Anglian considers to be unrealistically low forecasts and cost estimates that do not fully reflect the additional reinforcement required driven by forecast population growth in the Anglian

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[3]   Dr Farewell: Impact of Environmental Factors on leakage in the Anglian region (PF014).

[4]   Prof Hall Urgent challenge to water supply (PF013).

[5]   Oxera report on leakage cost adjustment claim (PF015).

[6]   Leakage third party report cover (PF012).

region. Anglian welcomes the CMA's adoption of its true-up mechanism but this only partially compensates for unexpectedly high costs and does so after the fact. **Consequently, the mechanism as currently designed does not fully deal with uncontrollable risk.**

4   The Performance Incentive framework remains heavily skewed towards risk

(51)   Although Anglian welcomes the CMA's decision to provide deadbands for unplanned outages and main repairs, **overall the Performance Incentive framework is skewed to the downside**, with very significant risks, limited recognition of customer views, and possible perverse incentives.

(52)   The CMA itself recognises this asymmetry, noting that expected performance by Anglian should result in an overall loss of 0.1-0.2% of return on regulated equity ("**RoRE**") across the AMP.[7] However, largely as a result of the constraints on cost allowances in the PFs and of Covid-19, [✂].

(53)   Anglian is especially concerned to see unduly tight constraints on the rewards available for UQ performance, notably pollution incidents but also internal sewer flooding and water supply interruptions. Anglian believes it is common ground that positive incentives to drive performance improvements are in customers' interests. The aggregate cap on ODI rewards protects customers from excess outperformance.

(54)   Anglian proposes some limited changes to the CMA's specific proposed ODI's relating to:

(i)   Water quality contacts, where the CMA's proposals do not reflect the historical evidence on costs for meeting this PCL;

(ii)   Internal interconnectors, where the concern is that a PCL that is too rigid could penalise efficient adjustments to its plans as it develops and optimises its chosen solutions. Customers' interest is in delivering outcomes, not unduly constrained engineering outputs, so Anglian proposes alternative formulations for the PCL.

5   WACC and financeability should be assessed against a revised assessment of costs and incentives in the CMA's Redetermination

(55)   Naturally, Anglian welcomes the CMA's rejection of Ofwat's unrealistic assessment of WACC. However, the fact that it has chosen a figure above this low comparator should not obscure the fact that the **PFs still result in an allowed return to investors that is substantially reduced (by more than 30%) relative to PR14.**

(56)   The CMA's point estimate of appointee WACC at 2.57% (2.49% wholesale) is at the bottom end of Anglian's range for an appropriate WACC allowance over AMP7. The PFs provide no risk buffer (just c. £5 million p.a.) on key financial ratios (in particular, the adjusted cash interest coverage ratio, AICR). But even this is based on modelling and assessments of costs and risks that in some areas Anglian disagrees with.[8]

(57)   Considering the PFs in the round, Anglian remains subject to significant downside risk particularly in relation to leakage, where the proposed PC and ODI are out of balance with what can be achieved within the totex allowances envisaged. Anglian therefore presents additional evidence on leakage and a limited number of other issues, to embrace the broad approach proposed by the CMA, while seeking some further changes: to recognise the particular needs of customers and the environment in the East of England and ensure the company can achieve the Baa1/BBB+ credit rating that the CMA agrees it should be maintaining.

(58)   Consequently, this is a very tight settlement indeed, in comparison to previous price controls and to business plans. **On the basis of public statements, Ofwat may claim that the CMA's approach is "generous". It is not.** The PFs seek to ensure companies are minimally financeable. Anglian believes that the CMA should revisit this assessment for its Redetermination, taking account of proposals on totex and ODIs in this response. However, that assessment will not provide anything "generous" – nor should it – it will merely provide the minimum that Anglian needs to carry out its functions.

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[7]   PFs, para. 7.237.

[8]   *See* Chapter H: Weighted Average Cost of Capital and Financeability, Section 5.

6   Metaldehyde

(59)   Anglian welcomes the recognition in the PFs that exposing Anglian fully to the risks of funding metaldehyde treatment as inappropriate. As the CMA is aware, the proposed ban of metaldehyde use was reintroduced to come back into force from 31 March 2022.[9]

(60)   As a result, **Anglian will not require the full allowance proposed by the CMA's PFs and proposes a reduction in the totex needed of c.£50 million.** Anglian provides full detailed of the necessary remaining expenditure requirements for metaldehyde during AMP7 in **Chapter E: Enhancement.**

7   Cost-sharing

(61)   Anglian recognises that the CMA has reduced the asymmetry imposed by Ofwat but disagrees with the CMA's provisional decision to retain asymmetry in its cost sharing ratio. The CMA identified two purposes for Ofwat's choice of cost-sharing ratio:

     (a)   *First, to provide incentives for information revelation – offering more advantageous sharing rates to those companies with lower costs in their business plans.*

     (b)   *Second, to provide incentives to be more efficient – offering companies the opportunity to keep a proportion of any underspend.*[10]

(62)   In its Statement of Case, Anglian suggested that the former of these was misconceived, especially in the context of an FD that in Anglian's view unduly rejected aspects of its efficient business plan. Ofwat's approach does not provide incentives for information revelation as such, only for agreeing with Ofwat and for forecasting lower costs. Such forecasts might even be unrealistic, distorting the regulatory process. As Anglian noted: imposing penalties on companies that have a different view to that of Ofwat seem to undermine the regulatory system, especially the right to a CMA redetermination. Ofwat can get things wrong – as the CMA has found in this case – so agreeing with its view is not always the right thing to do.

(63)   The CMA appears to agree with Anglian on this point of principle, and to conclude, for example that the second of the two objectives above is more important than the first.[11] It notes that *"However, this does not mean that the particular cost-sharing rates applied by Ofwat were necessarily the best way to achieve this [information revelation]"*.[12] It then specifically identifies as a matter of principle, the potential for perverse incentives to bid low (even if it found no specific evidence that this happened on this occasion).[13] It also notes that asymmetric cost-sharing rates could distort investment incentives.[14]

(64)   However, the CMA does not follow the logic of its argument through. It cites three principles for its own decision on cost-sharing ratios, one of which is to *"Maintain a distinction between the rates applied to fast and slow track companies, as part of the package of information revelation incentives."*[15] It then proceeds, in effect, to split the difference by imposing an asymmetric cost-sharing rate at 55%/45% on the Disputing Companies.

(65)   This is unsatisfactory: the CMA identifies the perverse effects that arise from asymmetric sharing rates, but nonetheless imposes one at a slightly less asymmetric level, in the hope of reducing those effects. Anglian contends that perverse incentives for investment itself are more important than incentives for how the regulator's process works (especially as the CMA's decision has no direct effect on the latter).

(66)   Even if there is value in such an incentive for information revelation, the CMA's discussion in this section exposes a fundamental tension that arises when one instrument is used for two totally different purposes. To the extent the CMA's compromise reduces (but does not eliminate) the perverse effects of asymmetric sharing ratios on investment, it also reduces any benefit they produce for information revelation. So, the CMA is not really trading

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[9]   *See* PFs, para. 57 and footnote 4 (pages 21-22).

[10]   PFs, para. 6.100.

[11]   PFs, para. 6.109.

[12]   PFs, para. 6.113.

[13]   PFs, para. 6.114.

[14]   PFs, para. 6.115.

[15]   PFs, para. 6.116.

off one (more important) objective against another (less important) one: it is maintaining a system that harms incentives while weakening any benefits it is intended to produce. It is a sound principle of policy design that one instrument should be used for one purpose. To weaken an instrument's effectiveness on one objective, in order to reduce its harmful effects on another, makes little sense.

(67) **Anglian therefore proposes that the CMA adopt a symmetric cost-sharing rate for the Disputing Companies in its Redetermination**, just as was adopted for other companies, and in line with recent precedent.

Chapter C: Botex

1   Overview

> The CMA has provisionally supported most aspects of Ofwat's approach to setting base cost allowances which Anglian had disputed. While Anglian retains its concerns, it acknowledges the CMA's decisions on these issues and does not restate its previous arguments here.
>
> Anglian has explained that capital maintenance will bear the brunt of its substantial remaining botex shortfall (£221 million) and create significant risks. In this chapter Anglian provides new evidence on further changes that are required to its base cost allowance to mitigate these.
>
> In this response, Anglian:
>
> (i)   Asks the CMA to update the models with industry data for 2019-20 that were not available earlier in the process and re-calculate modelled base allowances with these data included. Following the PR19 approach, the effect is to add £26 million to Anglian's allowance.
>
> (ii)   Provides new evidence on the relative quality of data on average pumping head and booster pumping stations as controls for topography and questions the CMA's implicit view that concerns over data quality and statistical significance should override the operational reality. Anglian therefore makes a cost adjustment claim for £32 million, as a conservative estimate of the incremental impact of the regional characteristics that drive Anglian's higher pumping-related power costs (i.e. without requiring changes to the CMA's models).
>
> (iii)   Provides evidence on the continuation of scale economies up to the very largest water recycling centres. The disbenefit Anglian suffers from having no very large water recycling centres is £53 million.
>
> (iv)   Demonstrates that Ofwat's two integrated water models are mis-specified and should be replaced by corrected alternatives.
>
> (v)   Re-presents evidence that appears to have been overlooked on the use of an eight-year random effects estimation in five-year data panels and some of its integrated wastewater models.
>
> (vi)   Offers new analysis to show that the PFs models are no better than the *Bristol (2015)* models where the CMA considered an average efficiency benchmark appropriate and invites the CMA to consider again whether, and on what basis, an upper quartile efficiency benchmark is therefore justified here. An average efficiency benchmark would increase Anglian's allowance by £122 million.
>
> (vii)   Questions the application of additional net frontier shift adjustments to Anglian's enhancement costs which results in a double count. Removing this adds £37 million to Anglian's allowance.
>
> **Request to the CMA for Redetermination**
>
> Anglian asks that the CMA recalculates Anglian's base expenditure requirements to take account of the amendments set out above.
>
> **Longer-term considerations**
>
> Anglian sets out in **Chapter I: Longer-term considerations** the range of future considerations necessary to address several of the shortcomings of the current cost assessment approach.

2   Overall approach to base assessment

(68)   The CMA has provisionally supported most aspects of Ofwat's approach to setting base cost allowances which Anglian had disputed.

(69)   Except where covered in the following sections, Anglian acknowledges the CMA's provisional decisions on these issues and does not restate its arguments for the purpose of this Redetermination. Anglian also acknowledges and welcomes the CMA's decisions on those topics where it has provisionally accepted its arguments and evidence. Anglian notes that the combined effect of the CMA's provisional decisions is to increase its base allowance while leaving it with a substantial efficiency challenge.

(70)   In the following sections Anglian:

(i)   notes the implication of the CMA's provisional base cost allowance for capital maintenance, and the risks this creates and that further changes to its botex allowances are required to offset these;

(ii)   proposes that for the Redetermination the CMA updates the models with the industry data for 2019-20 that were not available earlier in the process and re-calculates modelled base allowances accordingly;

(iii)   provides further evidence on two atypical characteristics of the region it serves that warrant further adjustment to the base cost allowance;

(iv)   re-presents evidence which the CMA appears to have overlooked on:

(a)   the mis-specification of the integrated water models

(b)   the use of an eight-year random effects estimation in five-year data panels

(c)   Integrated wastewater models

(v)   re-states its view, with new analysis, that the PFs models are no better than the *Bristol (2015)* models and so invites the CMA to consider again whether an upper quartile efficiency benchmark is justified; and

(vi)   challenges the application of additional frontier shift to enhancement costs.

(71)   The CMA included its findings on growth in Chapter 4 of its PFs (base costs).[16] Anglian's response to these findings are set out in **Chapter D: Growth**.

3   Capital maintenance[17]

(72)   In its Statement of Case, Anglian argued that, by virtue of their exclusive dependence on historical costs, the base models could not make adequate allowances for future capital maintenance expenditure requirements. Anglian argued that the top-down modelling approach should be triangulated with a bottom-up approach which considered information about the age and condition of assets and changes to future risks. Anglian provided such information about its own circumstances and future capital maintenance requirements.

(73)   In its PFs the CMA largely rejected Anglian's arguments with respect to factoring future capital maintenance costs into base cost allowances, and its cost adjustment claim. The CMA provisionally decided that the base models provide funding for capital maintenance costs without any need for an adjustment to the approach.

(74)   Anglian respects the CMA's provisional decision and does not restate its arguments in this response. However, it explained at its hearing on 5 August 2020, that capital maintenance will bear the brunt of the substantial remaining botex shortfall. The small increase in the base allowance in the PFs still leaves

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[16]   PFs, paras. 4.454-4.532.

[17]   PFs, paras. 4.150-4.181.

a gap of circa £220 million to Anglian's planned botex requirements.[18] This is 6.6% below its botex requirements, lower than its actual AMP6 botex expenditure and leaves a **13.6% shortfall in capital maintenance requirements**. Several of the decisions in the PFs, such as the assumption that early replacement of meters (£42 million) and investment to increase the resilience of water operations (e.g. critical shutdown panels, £5.3 million) should be subsumed into base expenditure, adds to the challenge. The provisional botex allowance therefore puts Anglian under extreme pressure and does not reflect the future deterioration of its assets, the higher performance standards it must meet, or the additions to its asset base.[19]

(75)   Notwithstanding the CMA's provisional decision that no specific additional allowances for capital maintenance are required, the CMA acknowledges aspects of Anglian's argument and that changes to future regulatory approaches may be appropriate. The CMA suggests "*that Ofwat consider developing indicators to track this issue and to enable it to enhance its analysis with a forward-looking element.*".[20] Anglian provides further comment in **Chapter I: Longer-term regulatory considerations**.

4   Use of 2019-20 industry data

(76)   The CMA has based its provisional base cost assessment on Ofwat's PR19 base modelling. Ofwat's base allowances at IAP (January 2019) and DD (July 2019) were set using a dataset with figures from the most recent financial year, 2017-18. By the time of the FD (December 2019) Ofwat had available to it the figures from 2018-19 and updated its dataset, models, benchmarks, forecasts and allowances accordingly. **Industry data for 2019-20 are now available and, in line with Ofwat's approach and to ensure the Redetermination takes account of the most recent available data, Anglian proposes that the CMA updates the models with these industry data and re-calculates modelled base allowances**.

(77)   Anglian commissioned Oxera to perform this updated analysis.[21] It shows that the modelled base allowance for Anglian increases by £26 million in comparison to the allowances proposed by the CMA in the PFs.

5   Explanatory variables

5.1   Anglian's atypical topography and sparsity and its impact on water: Average Pumping Head[22]

(78)   The CMA provisionally decided that Average Pumping Head ("**APH**") should not be included as an explanatory variable in Ofwat's base models. This was based on concerns about the quality of APH data and its observation that APH was not statistically significant when added to Ofwat's wholesale water and wastewater models.[23] The CMA also provisionally decided to drop Ofwat's alternative specification models, including the one which included APH (TV3) and which added £21 million to Anglian's FD water base allowance.

(79)   Anglian does not dispute the dropping of the alternative specification models but is **concerned that the net effect of the CMA's provisional decisions is to reduce its allowance attributable to APH**, which is a key driver of its unavoidable costs.

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[18]   Anglian's Statement of Case, para. 533.

[19]   *See* Asset Management Dashboards (SOC364).

[20]   PFs, para. 4.181.

[21]   2019-20 Oxera base modelling update (PF001).

[22]   PFs, paras. 4.48-4.60.

[23]   PFs, para. 4.59.

(80) For the following reasons, Anglian disagrees with the finding that APH should not be included as an explanatory variable in Ofwat's base models:

    (i) The region Anglian serves has a unique combination of being very flat, large and sparsely populated and having a high proportion of groundwater.

    (ii) The lack of statistical significance which the CMA points to is not a compelling or proportionate reason to exclude variables of obvious economic significance, particularly in a small sample, as this will bias the model.

    (iii) Data on APH are at least as reliable as booster pumping station data and perform much better in explaining power costs, especially given that Ofwat's rationale for using booster pumping stations was as a proxy for power costs.

    (iv) APH as a control performs satisfactorily in both disaggregated and aggregate models.

    (v) APH has been widely used both by Ofwat, most recently at PR14 and by the CMA in *Bristol (2015)*.

(81) Accordingly, Anglian maintains that this variable should be included in the modelling. If not, it should be recognised by the CMA as justifying a cost adjustment claim, because of Anglian's higher power costs driven by its topography and demographics. This would be in line with Ofwat's acceptance of a cost adjustment claim by SES for high power costs in the FD.

(i) Academic critique on the relative importance of operational / economic rationale and data quality

(82) Anglian sought the opinion of distinguished econometrician Professor Subal Kumbhakar[24] on the extent to which data quality and statistical significance can justify the exclusion of variables which warrant inclusion on operational and economic grounds. Professor Kumbhakar set out that the estimated variance of a regressor, which contributes to the measurement of statistical significance, is dependent on numerous factors. He said that, with small sample sizes (such as exist in the CMA datasets), coefficients are estimated less precisely, making it harder to find statistical significance. In conclusion he said:

> "*I do not consider statistical significance to be a valid reason for rejecting APH. Statistical significance is useful but it cannot override the economic significance (i.e. economic importance) of a variable, given that the t-value (which determines statistical significance) depends on many things.*"[25]

(83) On data quality Professor Kumbhakar pointed out that measurement issues in one cost driver will affect the coefficients of all cost drivers, not merely the mismeasured one. Moreover, Professor Kumbhakar stated that:

> "*measurement error will, all else equal, … increas[e] the probability of rejecting the null hypothesis, thereby increasing the likelihood of omitting the variable measured with error if solely focused on statistical significance*".[26]

(84) That is, the CMA's approach is more likely to incorrectly reject the inclusion of APH in the models. He said that all cost drivers include measurement error. Professor Kumbhakar concluded that:

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[24] Comments on econometric issues, Subal Kumbhakar (PF002).

[25] Comments on econometric issues, Subal Kumbhakar, page 3 (PF002).

[26] Comments on econometric issues, Subal Kumbhakar, page 4 (PF002).

"If the CMA is concerned that APH is measured with error (affecting the consistency of the estimated parameters), excluding APH will not solve the problem. If APH is a legitimate cost driver, exclusion of APH will lead to omitted variable bias, and all the coefficients will be biased".[27]

(ii) Concerns about booster pumping station data quality

(85) Anglian recognises the CMA's concerns about the quality of APH data however considers that pumping station data also suffer from poor data quality and so should not supplant APH. First, two reported confidence grades for booster pumping stations have grade 4 accuracy (10%-25% accuracy), compared to one for distribution APH and none for aggregate APH. Second, when Ofwat attempted to improve the definition of the Pumping Station variable via a query in May 2019, the numbers submitted by companies changed considerably in comparison with the numbers they had submitted in their initial plans. Two companies reported uplifts of over 50%, three more reported uplifts of over 25% and others reported reductions.[28] Anglian reported four separate numbers for this line across the four submissions it made during the price review, reflecting the ambiguity in its definition.

(86) In subsequent reporting in 2020 APRs, several companies' figures have continued to change significantly. Anglian has refined its own reports against the revised definition issued by Ofwat in May 2019, with a further reduction in its total. Table 1 below shows the progress of a selection of other companies' data:

Table 1 Number of booster pumping station reported in successive submissions by selected companies.

Year	2017-18	2018-19	2018-19	2019-20
Data source	Sept 18 BP	Apr 19 BP	APR19	APR20
Anglian	464	450	450	441
Portsmouth	26	40	26	26
South East	191	244	161	166
Southern	174	240	207	209

(87) Apart from Anglian, the companies highlighted have continued to show considerable variation in the numbers they have reported for this line. Notably the figures they have reported in their latest APRs are much lower than those reported in their April 2019 business plans and used by Ofwat in setting their AMP7 cost allowances. The figures for Portsmouth, South East and Southern vary to such an extent that, if related to confidence grades,[29] would imply a grading worse than 3, or +/-10%, which is worse than *any* company report for aggregate APH in the 2010 June Returns and worse than any company, bar Southern, for distribution APH in PR19. It is particularly relevant that one of these companies is Portsmouth, which was identified as the frontier efficiency company by Ofwat's models.

(88) Figure 1 and Figure 2 below reinforce Anglian's **concerns about the reliability of the number of network booster pumping stations as a control variable for topography**. Whether measured for Water Resources Plus, treated water distribution ("**TWD**") or Wholesale Water, there is **no correlation at all between booster pumping station numbers and power costs.**

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[27] Comments on econometric issues, Subal Kumbhakar, page 4 (PF002).

[28] Ofwat Query ANH- DD-CA-006 that we received on 7 May 2019. Other company numbers submitted were revealed in Ofwat data file FM_WW1_ST_DD with the Draft Determination.

[29] Anglian analysis of data in the IAP and DD versions of that FM_WW1 file.

Figure 1   No correlation between power costs and number of pumping stations
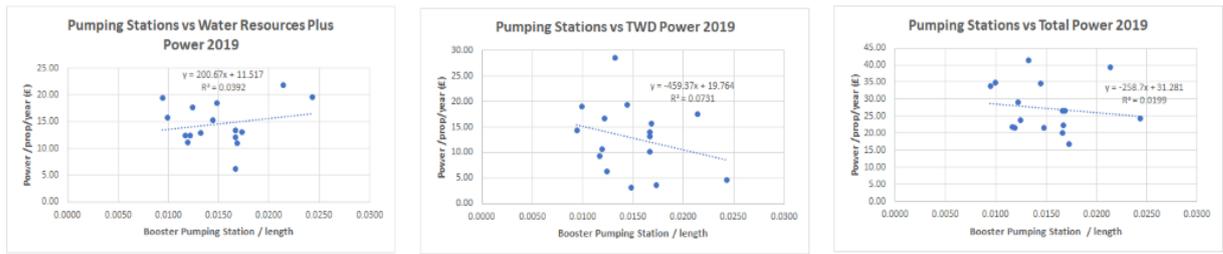
Source: Anglian Water analysis of published APR data

(89)   By comparison, the following charts demonstrate there is correlation between APH and power costs. This relationship demonstrates that this is a considerably more reliable control variable for topography.

Figure 2   Strong positive correlation between power costs and APH x DI
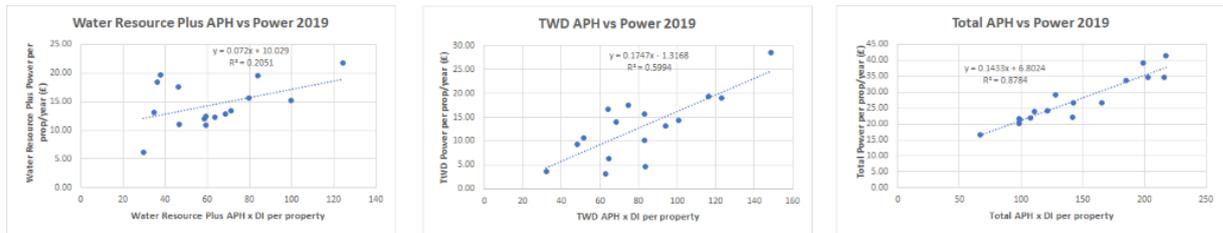
Source: Anglian Water analysis of published APR data

(90)   Anglian's view on the superiority of APH is supported by the impact on the relative efficiency of Portsmouth Water when booster pumping stations are replaced with APH in Ofwat's models. Portsmouth Water appears super-efficient in Ofwat's models, with costs 17% lower than Ofwat's assessment and far ahead of the second ranked company. Using models with APH rather than booster pumping stations, Portsmouth Water's efficiency reduces to a more credible level.

(iii)   Performance of APH in disaggregated models

(91)   APH can be incorporated into all of the water models used by Ofwat and the CMA. The results give consistent results which make sense from both an economic and an engineering perspective. Moreover, as shown in the accompanying Oxera report[30], APH performs well in a separate power model.

(92)   Anglian notes that the CMA tested the inclusion of APH as an explanatory variable in Ofwat's wholesale water models WW1 and WW2. Companies report four separate numbers for APH, relating to the head associated with each part of the value chain: raw water abstraction, raw water transport, water treatment and TWD. This means that APH can be used across the full range of Ofwat's disaggregated models: APH associated with the first three can be used in the Water Resources Plus models (where there are currently no drivers for topography), APH for treated water distribution can be used in the TWD model and total APH (sum of the four APH components) can be used in the Wholesale Water models (which is what the CMA did).

(93)   Anglian has tested the inclusion of the relevant APH component within Ofwat's FD models. Table 2 below presents for each model the coefficient on APH, the statistical significance of the coefficient (or p value), and the incremental impact on the cost prediction for Anglian of including APH in Ofwat's cost models relative to the cost prediction from models that do not include APH.[31] For TWD and WW models,

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[30] APH cost adjustment claim (PF003)

[31] Water & Sewerage Services Price Control 2021-27, Draft Determination Annex K, Opex and Capex Frontier Shift, September 2020.

Anglian replaced booster pumping stations per mains length with APH, while for WRP models it included APH as an additional driver.[32]

Table 2   Performance and impact of APH when added to Ofwat's water cost models

Model	WRP1	WRP2	TWD1	WW1	WW2
APH coefficient	0.022	0.105	0.207	0.156	0.162
P value	0.875	0.454	0.004	0.216	0.197
Incremental cost impact of APH	£8.6m	£30.0m	£148.6m	£186.7m	£184.4m

(94)   As can be seen from Table 2 above, while the coefficient on APH in WRP is not significant, it is aligned with operational insight in terms of the sign and magnitude of the coefficient. Moreover, the sum of the impact across WRP and TWD, £167.9 million, is broadly similar to the estimated impact in the aggregate model, £185.6 million. Anglian also notes that Ofwat similarly included statistically insignificant variables in its models for similar reasons.[33,34] Furthermore, as observed by Oxera below, **APH is no more affected by measurement error than other variables used by Ofwat and the CMA**.

> **(iv)   Oxera's analysis of APH's suitability as a cost driver and a cost adjustment claim for pumping head**

(95)   Anglian asked Oxera to review the CMA's provisional decision on APH.[35] In its report Oxera expands on the points made above.

(96)   If the CMA is not minded to change its models to reflect the influence of APH, Anglian requests that it considers a cost adjustment claim. Oxera examined what might be an appropriate adjustment to account for Anglian's exogenously driven requirements for higher pumping-related power costs if the CMA's models were to continue to exclude APH.

(97)   By modelling power costs, including APH as a cost driver, and botex plus excluding power costs, Oxera calculates a cost adjustment claim of £31.7 million to be added to Anglian's cost allowance. This is well below the value of SES Ltd's successful cost adjustment claim to Ofwat for higher abstraction related power costs (equivalent to £79 million pro-rated for Anglian's size) and the £140 million impact of replacing booster pumping stations with APH in the models which Oxera demonstrated in its previous submission to the CMA.[36] Oxera concludes this is therefore a conservative estimate of the incremental impact of the regional characteristics that drive Anglian's higher pumping related power costs.

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[32] WICS Strategic Review (PF008).

[33] For example, the co-efficient on the squared term of log of weighted average density in model WRP2 has a p-value of 0.12 and the coefficient on weighted average density in model SWC2 has a p-value of 0.146; the number of connected households and the proportion of metered households in retail, with p-values of 0.394 and 0.436 respectively. See: Ofwat Securing Cost Efficiency Technical Appendix (SOC243).

[34] Ofwat stated "*We do not consider that the common thresholds of statistical significance (e.g. 95% significance) need to be strictly followed for our model selection ... With a relatively small sample we are careful not to dismiss mechanistically variables that are not strictly statistically significant, so long as the significance is still reasonable and the estimation seems robus*t". See Ofwat PR19 Econometric Cost Modelling Consultation, page 9 (SOC362).

[35] *See* APH cost adjustment claim (PF003).

[36] Oxera's Report on cost assessment issues, pages 6-13 (REP13).

5.2 Anglian's atypical sparsity and its impact on wastewater unit costs: Proportion of load treated at Large Water Recycling Centres[37]

(98) The CMA provisionally decided to include "*load treated in sewage treatment works band 6 and above*" to account for economies of scale in wastewater treatment. In its Statement of Case, Anglian stated that Band 6, which includes all Water Recycling Centres ("**WRCs**") treating load with population equivalent (p.e.) more than 25,000 was too broad and that it was disadvantaged because it had no very large WRCs where greatest economies of scale could be achieved.[38]

(99) In its PFs the CMA said. "*We acknowledge that band six and above covers a large variety of treatment works size. However, it is not clear that, from an engineering perspective, it is appropriate to change the bands. For example, from an engineering perspective there may not be further economies of scale beyond band six. We have not seen evidence that using different size bands is justified ... Moreover, we do not have access to appropriate and reliable data to empirically test this variable, and, also, it is not practicable for us to collect the data within the timeframe available to us and given the breadth of issues under investigation.*"[39]

(100) To address this issue, Anglian has assembled for the CMA the data on Band 6 WRCs which has been reported by companies in 2012, 2013, 2017, 2018, 2019 and 2020.

(101) Anglian has calculated the unit costs of wastewater treatment by WRC size band after disaggregating Ofwat's Band 6 into five new bands, which group WRCs thus: 25,000-125,000 p.e., 125,000-250,000, 250,000-500,000, 500,000-1,000,000, and >1,000,000. The analysis shows that **the unit cost of wastewater treatment falls with each successive size band**. This trend applies at industry level in each of the six years for which it has data and, in all of those years with few exceptions, at company level. The data confirm that **economies of scale exist beyond Band 6** and are observable even when moving between the penultimate and largest WRC size bands Anglian has defined.

(102) Anglian provides the following examples to illustrate the practical consequences of the scale economy effect which is evident in the data:

(i) Inlet screens: every WRC has screens at the point where wastewater enters the plant. These remove solids, grit and other detritus from the influent wastewater. Maintenance of screens is a key function to prevent blockages in the treatment process and costly damage to equipment that the screen is intended to prevent. A screen typically comprises a motor and a chain and maintenance activities comprise electrical checks, visual inspections and tensioning and greasing of the chain. Screens vary in size according to the size of the WRC but whether passing forward 5 or 500 litres per second the maintenance activities are the same. Furthermore, the number of screens is not proportional to the size of the works: the WRC at Huntingdon, which serves 40,000 p.e., has two screens, whereas the WRC at Northampton, serving 325,000 p.e. has four.

(ii) Water quality sampling: in order to test the satisfactory performance of a water recycling centre, technicians typically perform daily analyses of samples taken from the final effluent stream (where treated wastewater is about to be returned to the environment) and the activated sludge plant. The task is the same for a WRC serving 25,000 p.e. as one serving a population ten times larger.

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[37] PFs, paras. 4.111-4.115.

[38] Anglian's Statement of Case, paras. 672-673.

[39] PFs, para. 4.114.

(103) Anglian has assessed the additional costs it incurs as a result of its distribution of load across WRCs compared to the costs it would incur if its load were distributed in proportion to the industry average. For this purpose, it uses industry UQ costs for each size bands to match the UQ benchmark used by the CMA in setting its allowances. Anglian offsets the benefit it gets in Ofwat's SWT1 and BRP1 models from the inclusion of the small WRC variable. Anglian shows that the net disbenefit from its pattern of WRCs across five years is £53 million (before adjustment for net frontier shift).[40]

(104) Although it now has a full industry data set for six completed years, including the last four, Anglian considers that taking the approach set out above avoids the need to re-estimate models using a full data set.

(105) Anglian believes that **the additional data addresses the issues the CMA cited in its PFs and allows for an adjustment to Anglian's cost allowance of £53 million** (before adjustment for net frontier shift) to be made in the Redetermination. Oxera has undertaken a review of Anglian's approach and confirmed it is robust.[41]

6 Mis-specification of water models

(106) Anglian suggested that the CMA should use models re8 and re9 in place of Ofwat's models re4 and re5. It did so on the basis of a concern expressed by Professor Saal that it was statistically and conceptually inappropriate arbitrarily to restrict its wholesale water integrated models. The CMA does not appear to have addressed this concern in its PFs, despite accepting Professor Saal's critique in other areas (such as the specification of water recycling collection model 1). Anglian therefore asks that the CMA replaces the mis-specified water models with corrected alternatives. This will increase Anglian's base cost allowance by £30 million.

(107) Saal pointed out the mis-specification in the water models in March 2019[42] and supported by another submission in August 2019.[43] In this case, the apparently single output models used by Ofwat in fact result from what amounts to a statistically rejectable imposition of parameter restrictions on a three output model, which imposes a negative elasticity of costs with respect to network length. Once the mis-specification has been corrected, the integrated models are consistent with economic rationale. **Anglian cannot find evidence in the PFs that the CMA has considered this issue** and so re-presents the case here.

(108) Anglian illustrates this by considering the first of Ofwat's Integrated models, Ofwat's model re4 (also referred to as WW1 by Ofwat).

a1ln(Properties) + a2(pctwater3-6) + a3ln(weighted average density) + a4ln(weighted average density)2 +a5ln(Booster PS/mains length) + K …………(1)

(109) As a matter of mathematics and not interpretation, equation (1) imposes a constraint that the coefficient on mains length is the negative of the coefficient of Booster PS. This can be seen when (1) is equivalently rewritten as (2):

a1ln(Properties) + a2(pctwater3-6) + a3ln(weighted average density) + a4ln(weighted average density)2 +a5ln(Booster PS) - a5ln(mains length) + K …(2)

(110) Incidentally, once again what appeared to be a model with a single output (properties) and several control variables turns out to be a model with three outputs (properties, length and booster PS).

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[40] Large works cost adjustment claim (PF004).

[41] Oxera assurance treatment works (PF005).

[42] Saal & Nieswand Assessment of Ofwat Cost Modelling (March 2019), page 5 (SOC125).

[43] Comments on Ofwat's DD wholesale water and wastewater modelling, pages 12-21 (SOC194).

However, in this case Ofwat has gone further, and restricted the model so that the estimated parameter for mains length must be the negative of the booster cost parameter.

(111) The appropriateness of this strong assumption can be statistically tested to see if it is really appropriate for the co-efficient of length to be the negative of that for booster PS, as is imposed in both Equations (1) and (2).

(112) Below, equation (3) is the result of running the re-specified model. Anglian refers to this model as re7 in its analysis.

$$0.415ln(Properties) + 0.005(pctwater3\text{-}6) – 2.701ln(weighted\ average\ density) + 0.201ln(weighted\ average\ density)2 + 0.259ln(Booster\ PS) + 0.349ln(mains\ length) + 2.837$$
$$……………………………………………………………………………..(3)$$

(113) Running a Chi squared test on the coefficients of booster PS and mains length confirms what is apparent: that the constraint imposed by Ofwat in (1) is not valid.

(114) Furthermore, whereas in (1) properties and booster PS/length are both significant, in (3) properties is only marginally significant and mains length is highly insignificant. In accordance with standard econometric practice, Anglian re-ran (3), dropping the insignificant variable. The result is shown in (4) below and as re8 in the accompanying workbook. All coefficients (aside from the constant) are strongly significant.

$$0.716ln(Properties) + 0.006(pctwater3\text{-}6) – 2.437ln(weighted\ average\ density) + 0.178ln(weighted\ average\ density)2 + 0.308ln(Booster\ PS) + 1.057 ……………..(4)$$

(115) Anglian's analysis demonstrates that the second Integrated Water model, re5 (also referred to as WW2), is also mis-specified in the same way as set out for the first Integrated Water model in equations (1), (2) and (3).

(116) It also empirically highlights that, **contrary to Ofwat's assertions that its treated water distribution model is a single output model with a pumping control, it is, in fact, also a multiple output model** including mains length and boosters. This is simply demonstrated by the following equivalent restatement of Ofwat's TWD model:

$$a1ln(mains\ length) + a2ln(Booster\ PS/mains\ length) + a3ln(weighted\ average\ density) + a4ln(weighted\ average\ density)2 + K ……………………………………(5)$$

$$(a1\text{-}a2)ln(mains\ length) + a2ln(Booster\ PS) + a3ln(weighted\ average\ density) + a4ln(weighted\ average\ density)2 + K …………………………..………………..(6)$$

(117) Anglian therefore contends that **models re8 and re9 should be used in place of re4 and re5 used by Ofwat**. Moreover, Anglian emphasises that the clear mathematical and empirical demonstration that Ofwat's TWD model is really a two output model only further highlights that it was not only statistically but conceptually inappropriate to arbitrarily restrict its wholesale water integrated models.

7   Use of an eight-year random effects estimation in five-year data panels

(118) In the PFs the CMA considered the time period used to compute efficiency.[44] Anglian had contended that using the random effect computed from an eight-year panel to calculate an efficiency challenge for a five-year period is conceptually incorrect.

(119) It is not clear to Anglian whether the CMA has rejected its contention or has not yet addressed it. The paragraphs leading up to its provisional finding in paragraph 4.266 focus on how long the period should

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[44]   PFs, paras. 4.261-2.266.

be within the eight-year data set that is used for estimation. It concludes that it should be the most recent five years. If the question is which years' data should be used for estimation, Anglian completely agrees.

(120) Anglian's point is that **if you wish to use five years of data to estimate efficiency, then this should be done using a five-year panel so that the single company-specific random effect that is effectively capturing relative efficiency matches the period over which efficiency is being measured**. In contrast, using a single eight-year random effect for each company as the basis of the efficiency estimates, means that the random effect will be different and not consistent with the actual five-year period in which efficiency is being assessed. Stated most simply, the models' efficiency estimates will be biased because the models' random effects will be influenced by data and performance outside the period of efficiency assessment.

(121) The potential solutions to the issue Anglian raises are (a) to estimate efficiency using an eight-year random effect with the CMA's eight-year panel models, or (b) to estimate efficiency using a five-year random effect and move to a five-year panel.

(122) The CMA has noted two factors which influenced its decision:

(i) More weight should be put on the most recent data. *As mentioned above, Anglian agrees.*

(ii) Using a small sample of years could lead to results which are unrepresentative of typical efficiency levels.[45]

(123) In returning to this issue, Anglian has undertaken some analysis which demonstrates that using a five-year wholesale water panel (with >85 data points) is perfectly acceptable with such parsimonious models. The analysis shows the quality of the models is at least as good when the models are estimated with only the most recent five years' data as the ones which use eight years' data. The key elements are set out in the Table 3 below.

(124) This shows that, in comparison to Ofwat's eight-year panel models, with the five-year panel models:

(i) there are at least the same number of significant independent variables

(ii) the R^2 values are marginally higher

(iii) the efficiency ranges are smaller, and upper quartile values higher, reflecting a better fit of the data.

Table 3   Comparison between Ofwat's eight-year panel models with five-year panel equivalents

	re1	re2	re3	re4	re5	re6	re8	re9
Ind variables with p<.1	Same	5 better	Same	Same	Same	Same	Same	Same
R^2	In all cases, 5-year panel is better than 8 year panel by 0-1%							
UQ efficiency – eight-year panel	Ofwat (re1-re5): 0.9612				ANH (re1,re2,re6,re8,re9): 0.9865			
UQ efficiency – five-year panel	Ofwat (re1-re5): 0.9733				ANH (re1,re2,re6,re8,re9): 0.9871			
Efficiency hi-low range – eight years	Ofwat (re1-re5): 0.387				ANH (re1,re2,re6,re8,re9): 0.335			
Efficiency hi-low range – five years	Ofwat (re1-re5): 0.289				ANH (re1,re2,re6,re8,re9): 0.267			

Source: Anglian analysis

(125) The evidence above suggests that option (b) is superior. **Therefore, Anglian contends that the CMA should use the most recent five years of data to estimate the models.** As well as having more

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[45] PFs, para. 4.264.

reliable models, doing so means that its use of a five-year random effect is appropriate. In line with the comments earlier, Anglian considers that the five years should be from 2015-16 to 2019-20. The inclusion of the most recent year and the alignment with AMP6 will, in Anglian's opinion, improve the cost modelling process.

8   Integrated wastewater models

(126)   Anglian accepts the CMA's point that the Integrated model put forward by Professor Saal in paragraph 591 of Anglian's Statement of Case does not perform well with the additional year's data added.[46]

(127)   After considering this and other integrated wastewater models, the CMA concludes that "*... we have not seen a satisfying integrated wastewater model*".[47]

(128)   **It is unclear whether the CMA has examined the subsequent models put forward in Saal & Nieswand May 2020**[48] as part of its Reply to Ofwat's response to its Statement of Case. The three Integrated models are set out in the final pages of the report.[49] Anglian therefore re-presents these models for consideration.

(129)   While the CMA may discount two of these models on the grounds that they use the disaggregated large sewage works data,[50] the third model still stands. This model uses the density and sparsity measures developed by Ofwat in collaboration with the Cost Assessment Working Group during 2016 and 2017 to capture the impact of demographics on sewage and sludge treatment costs. These models appear stable to changes in the years used for modelling.

(130)   Anglian urges the CMA to consider the cost models put forward in REP14. It contends that **the remaining Integrated model (and the parallel Bioresources Plus model set out in REP14) are worthy of consideration and provide the triangulation with the disaggregated wastewater models that the Ofwat model suite still lacks**.

9   Catch-up benchmark[51]

(131)   In its submissions to the CMA, Anglian proposed that setting the upper quartile efficiency was not justified by the quality of Ofwat's cost models.[52] Its case was supported by analysis by Oxera of the confidence intervals around the cost predictions from Ofwat's models. *Inter alia*, Oxera's analysis showed that Ofwat's water models were less accurate than the models which were built for the CMA's *Bristol (2015)* determination. Those models are particularly relevant comparators because the CMA concluded in 2015 that they were sufficiently reliable to allow no more than an average efficiency benchmark.

(132)   The CMA performed similar analysis to Oxera and compared its PFs models with others, including its own *Bristol (2015)* models. It concluded the models it has used perform at least in line with past models.

(133)   **Oxera has identified that the CMA's conclusion is flawed** for three reasons:

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[46]   PFs, para. 4.220.

[47]   PFs, para. 4.221.

[48]   *See* Prof. Saal and Dr Nieswand's Report on cost models (REP14), along with Excel workbooks and STATA DO files in REP49 – REP63.

[49]   *Idem*, see 10 and 11 in hard copy; 11 and 12 in the pdf.

[50]   PFs, paras 4.114 and 4.115.

[51]   PFs, paras. 4.253-4.297.

[52]   See Anglian's Statement of Case, Chapter E.1 (Botex), Section 4.3.

(i)   The accuracy of the PR19 wastewater models is *consistently worse* than that of the water models.

(ii) The CMA's assessment of model accuracy is dependent on the standard error measure used. As stated by Kumbhakar (2020), "*there is no hard and fast rule about which standard error to use*".[53] Robust standard errors, which are thus consistent with the application of OLS by the CMA in its redetermination of PR14, and bootstrapped standard errors could also have been used.

(iii) It does not account for the triangulation and aggregation of the outcomes from its suite of models.

(134) Oxera[54] maintains that there is greater uncertainty in the CMA PR19 water and wastewater models than the CMA 2015 models, where an average benchmark was used.

(135) Based on Oxera's analysis, **Anglian maintains that the quality and inherent uncertainty of the models do not justify an upper quartile efficiency challenge. An average efficiency benchmark would be a more appropriate, proportionate and consistent alternative.** Replacing the upper quartile benchmark with an efficiency benchmark in the existing PFs suite of water and wastewater models (and making no other changes to this suite) amends Anglian's base cost allowance by £122 million. This suggests the CMA should revisit the issue of the efficiency benchmark and/or consideration of cost adjustment claims in its Redetermination.

10   Frontier shift[55]

10.1   Value

(136) The CMA provisionally decided to apply a frontier shift of 1% p.a. This was based on the observation that relevant comparator companies have achieved improvements in total factor productivity of 0.7% p.a. over various time periods.[56] This figure was uplifted for productivity gains driven by embodied technological change and those calculated from a value-added assessment, but these two uplifts were not quantified.[57]

(137) The CMA's provisional assessment of 1% p.a. matches the figure Anglian applied to all its costs in its plan. Anglian stated that this figure is very challenging in the context of the productivity improvements being achieved in the UK economy and this remains its view.[58]

(138) Anglian notes that in its recent draft determination of price controls for Northern Ireland Water, the Utility Regulator set frontier shift estimates at 0.8% p.a. for opex and 0.6% p.a. for capex and said the former represented a "*substantial challenge*" to Northern Ireland Water.[59] In its draft determination for Scottish Water, WICS set a compound annual efficiency target of 1% which it said was "*very challenging*".[60]

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[53]   Comments on econometric issues, Subal Kumbhakar (PF002).

[54]   Oxera assessment of efficiency benchmark (PF006).

[55]   PFs, paras. 4.298-4.393.

[56]   PFs, para. 4.326.

[57]   PFs, para. 4.329-4.343.

[58]   Anglian's Statement of Case, Chapter E.4 (Frontier shift).

[59]   PC21 Draft Determination for NI Water, Annex K: Opex and Capex Frontier Shift, para. 3.16 available at https://www.uregni.gov.uk/sites/uregni/files/media-files/UR%20PC21%20DD%20Annex%20K%20-%20Opex%20and%20Capex%20Frontier%20Shift%2001.00%20Published.pdf.

[60]   WICS Strategic Review, page 80 (PF008).

10.2 Application

(139) At the FD Ofwat extended the application of frontier shift and RPEs (or net frontier shift, to use their term) to selected components of the enhancement programme (WINEP and metering). In its Statement of Case, Anglian disputed this application on the grounds that enhancement costs were assessed on the basis of companies' cost forecasts, which already included adjustments for such factors. Ofwat's action therefore constituted a "double count".[61] The PFs extend the application of net frontier shift to all enhancement costs on the basis of ambiguity about whether companies had included such adjustments in their forecasts. This action removed £16 million from Anglian's enhancement allowance (CMA's estimate) on top of the £21 million (Anglian's estimate) that was removed as a result of Ofwat's application of net frontier shift to WINEP and metering. The CMA accepted Ofwat's evidence that Anglian had applied frontier shift adjustments of 1% p.a. to its enhancement costs.[62]

(140) Anglian invited Oxera to provide an opinion on its case and the CMA's provisional decision. Oxera identified that within the areas of enhancement expenditure to which the CMA has applied frontier shift **there was already substantial scope for frontier shift to have been applied**. Oxera concluded that the CMA's methodology does not take these into account and suggested that **the CMA should consider the balance of evidence it has available for imposing a further frontier shift challenge**. Oxera said that if the CMA still considers the application of an additional frontier shift challenge for its Redetermination, it should explicitly set out how it has offset the extent of frontier shift already assumed within the assessment framework.

(141) Oxera's opinion[63] supports Anglian's case on the double count.[64] Anglian therefore invites the CMA to re-consider its provisional decision in this area. Removing the application of net frontier shift to its enhancement allowance adds £37 million to its allowance.

(142) Anglian raises a further key point about the application of frontier shift. Ofwat's FD applied future frontier shift and RPE adjustments from 2019-20 because base cost inputs and cost forecasts used in its costs models only take into account revealed values for those factors up to 2018-19. As set out above, Anglian proposes that the CMA updates its base models with 2019-20 data. In this circumstance it would be a double count to apply frontier shift and RPE adjustments from 2019-20 so these should instead be applied from 2020-21.

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[61] Anglian's Statement of Case, Chapter E.4 (Frontier shift).

[62] PFs, footnote 497 (page 184).

[63] Oxera Double counting frontier shift (PF007).

[64] Anglian's Statement of Case, Chapter E.4 (Frontier shift).

Chapter D: Growth

1   Overview

> Anglian continues to believe the Ofwat FD base models used by the CMA fail to provide sufficient funding for the level of growth forecast in the Anglian region.
>
> Whilst the approach to growth adopted in the PFs represents an improvement relative to the FD, primarily through the extension of the true-up to include costs associated with Water Recycling Centres expansion, the PFs retain a substantial risk of underfunding.
>
> Anglian estimates the PFs leave a gap of £281 million for its forecast level of growth in AMP7. Even if the lower ONS forecasts for new homes proved correct, population growth may occur anyway, and the inelasticity of strategic investment to changing volumes of connection, would leave Anglian significantly underfunded. While the true-up mechanism provides some protection, it is not total and only materialises at PR24. This puts Anglian's financeability at risk as, even with the improvements proposed in this response, it remains just financeable. It also increases risks of pollution and threatens current service levels for existing customers relating to flooding and water pressure. All of this undermines the acceptability of growth, as Mayor James Palmer stated to the CMA Panel during the virtual site visit, and creates risks both to the delivery of sustainable new communities, and the incentives to invest in a timely manner to accommodate further expected rapid growth during AMP7 and beyond.
>
> **Request to the CMA**
>
> Anglian proposes a revision to the unit rates used by the CMA, both for calculating initial growth allowances and the true-up mechanism. This revision is proposed on the basis that uncertainty arising from data issues and inconsistencies do not support an upper quartile efficiency challenge assumed in the PFs unit rates.
>
> Anglian provides its bottom up view of cost recovery from developers for the CMA's chosen forecast of growth.
>
> **Longer-term regulatory considerations**
>
> Given the importance of effective, timely investment to facilitate growth, Anglian suggests some options to improve the future approach in **Chapter I: Longer-term considerations**.

2   The role of growth unit rate adjustments

(143)   Through its Statement of Case and the redetermination process, Anglian has argued for alternative approaches to modelling future growth expenditure would remove the need for a model adjustment. Unit rate adjustments impose an assumption that each additional new connection relative to a historic level of growth will require the same investment to facilitate it. This is not what happens in reality as growth expenditure costs are driven by strategic investments related to population growth (as opposed to new connections directly) resulting in lumpy expenditure. However, as the CMA is nonetheless proposing to retain Ofwat's approach, Anglian has reviewed, in detail, the proposed unit rates which need to bear this lumpy expenditure.

(144)   **Anglian proposes an adjustment to improve the robustness of the 'growth unit rates' used in the PFs**. "Growth unit rates" mean the rates that the CMA uses to:

(a)   adjust allowances to reflect differences between projected growth in company regions and the historical rate of growth embedded in allowances from botex plus models;[65] and

(b)   parameterise a true-up mechanism to reflect uncertainty in the outturn rate of growth.[66]

(145)   Anglian's proposal is intended as a practical solution to address the limitations in the growth unit rates and modelling that the CMA acknowledges.[67] Anglian has already set out in full its position on how efficient growth costs can be determined.[68]

(146)   Prior to any adjustment for real price effects or a frontier shift, the growth unit rates the CMA supports in the PFs are £783 per connection for water and £1,715 per connection for wastewater. Anglian proposes alternative unit rates.

(147)   In this response, Anglian suggests an alternative approach to setting the growth unit rate that addresses some specific concerns without requiring wholesale methodology changes. **The proposal assumes that the CMA will: use botex plus models to assess growth costs at the historical average rate of new connections; and use historical capex data to set growth unit rates** for purposes (a) and (b) above.

(148)   There are two overarching reasons why the CMA's proposed growth unit rates, which are set at the upper quartile of historical capex per connection, are inappropriate.

(149)   First, **known data reliability issues mean there is insufficient certainty to apply an upper quartile adjustment.** The CMA notes 'data inconsistencies'[69] in the historical data on growth costs, which include a lack of reliable opex data and discretion in Regulatory Accounting Guidelines in apportioning certain offsite costs between growth and capital maintenance.[70] This implies:

(i)   historical capex is significantly lower than historical totex. The CMA cites examples of companies accounting for all costs of new connections costs as opex, highlighting the materiality of growth opex in the historical data. This means an efficiency adjustment has already been implicitly applied and further downwards adjustment for efficiency is not required.

(ii)   inter-company variation in unit costs may be driven by inconsistent accounting. Significant variation in historical unit costs would be expected to result from the inconsistencies the CMA cites. As a result, the upper quartile reflects variation in accounting practices rather than fundamental differences in efficiency. This is evident in the level of the upper quartile challenge applied, 21% for water and 16% for waste, which is much higher than the respective challenges of 4.6% and 2% applied to base costs, an area where the range of relative performance would be expected to be similar given both base and growth costs stem from "routine" activity.[71]

(150)   Second, **the historical mean incorporates a strong efficiency challenge and Anglian's proposals are conservative.** Three factors support this:

(i)   the lack of opex. This accounts for between 0.5% and 9.6% of spend in company business plans for wastewater and between 0% and 47% for water, based on company submissions at the draft

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[65]   PFs, paras. 4.478-4.480.

[66]   PFs, paras. 4.503-4.512.

[67]   PFs, para. 4.478.

[68]   *See* Anglian's Statement of Case, Chapter E.2 (Growth), Section 6.

[69]   PFs, para. 4.468.

[70]   PFs, para. 4.458.

[71]   PFs, para. 4.469.

determination representations: its omission from the estimation thus constitutes a significant efficiency challenge in itself that varies by company according to their accounting.[72]

(ii) the lack of complexity drivers. As the CMA notes, efficient growth costs will be affected by drivers other than new connections.[73] For companies such as Anglian that face complex growth profiles, and therefore relatively high unit costs, the use of an average unit cost represents a material challenge.

(iii) a comparison with unit costs from the botex plus model. Analysis by Vivid Economics shows that the unit costs implied by the botex plus models,[74] *net* of the upper quartile challenge, are £1,464 per connection on average for water (£1,526 for Anglian) and £2,705 for wastewater (£2,939 for Anglian). These unit costs, which already incorporate an efficiency challenge and are embedded in the CMA's proposed allowances, are over 30% higher than those Anglian proposes for growth unit rates.

(151) Accounting for these shortcomings, Anglian proposes the historical mean of capex per connection as a proxy for efficient totex per connection. The use of mean benchmark would also be consistent with: (i) the CMA's approach in the redetermination of PR14 for Bristol, where it considered that the precision of the base expenditure models, which included complexity drivers, justified the use of a mean, rather than upper quartile benchmark;[75] and (ii) Oxera's finding that the CMA's current botex plus models are less precise than those of its PR14 redetermination.[76] Anglian also proposes that the unit rate for water includes expenditure for low pressure, which has been treated as growth in the PFs.[77] This would be consistent with the wastewater unit rate which includes sewer flooding. This can be readily calculated using the data the CMA already possesses, and results in unit rates of £1,003 per connection for water and £2,045 per connection for wastewater.[78]

(152) This would go some way to enabling Anglian to accommodate growth. The use of growth unit rates of £1,003 per connection for water and £2,045 for wastewater would have a modest impact on allowances. Applying these unit rates would increase Anglian's up-front allowances by £3.2 million for water and £4.9 million for wastewater.

3 Growth true-up mechanism

(153) Given the CMA's position on growth forecasts used for setting up-front growth allowances, a true-up mechanism for growth which covers all growth-driven expenditure is of paramount importance. Anglian estimates the PFs leave a gap of £281 million for its forecast level of growth in AMP7. While the true-up mechanism does provide some protection, the protection is not total and only materialises at PR24. Anglian estimates the residual gap for its forecast of growth after accounting for the true-up mechanism is £111 million.

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[72] FD G&Cs model update for ONS2018 (PF009).

[73] PFs, para. 4.469.

[74] FD G&Cs model update for ONS2018 (PF009).

[75] *Bristol (2015)*, paras. 4.205-4245 (SOC275).

[76] Oxera assessment of efficiency benchmark (PF006).

[77] The CMA do not appear to comment specifically on this, but note in para. 4.530 that they have used "*similar integrated growth models*" to Ofwat.

[78] Anglian notes that the inclusion of low pressure in the calculation of the upper quartile unit rate for water actually reduces the figure. This further highlights the data quality issues which undermine the use of an upper quartile rate.

(154) In absence of a more granular, robust approach to assessing growth expenditure within the redetermination, **Anglian supports the broadening of the scope of a growth true-up mechanism proposed by the CMA**.

(155) The inclusion of growth at WRCs is a material area of expenditure, roughly 25% of total growth costs for Anglian and, as the CMA notes for the industry.[79]

(156) Anglian understands the logic of a volume driver that is not under direct management control. The CMA's proposal is pragmatic and Anglian agrees that the tests outlined by the CMA for inclusion of a true-up mechanism, namely forecasting uncertainty and limited management control, are met in this instance.[80]

(157) Anglian notes that Ofwat's Developer Services Revenue Adjustment ("**DSRA**") already includes risk sharing for investment in strategic assets, as its scope includes network reinforcement. This activity, which accounts for a significant proportion of growth expenditure, does not vary 1:1 with connection activity. It is inconsistent that some growth-related strategic investments should be covered by a true-up mechanism and others should not. Anglian agrees with the CMA that both network reinforcement and investment in water recycling treatment linked to growth should be covered by the true-up mechanism.

(158) Anglian proposes that its suggested **unit rates for growth outlined above should also apply to the true-up mechanism**, in the same manner as applied by the CMA in the PFs.[81] This proposal increases the protection provided by the true-up mechanism compared to the PFs by £13.5 million for water and £24.1 million for wastewater should Anglian's forecast volume of connections, based on local authority forecasts, materialise. This approach would not fully remedy the overall growth shortfall and would still leave Anglian with a shortfall of £66 million against its growth forecast.

3.1 Asymmetry

(159) Anglian supports the CMA's proposal[82] for an asymmetric true-up for growth expenditure, particularly for wastewater. This is supported by the Anglian evidence that population growth and its location, rather than the connections themselves, drives the need for growth investment.[83]

(160) **Anglian proposes the downward adjustment unit rate should reflect the relative inelasticity of strategic investments to the volume of connections**. This is shown by the revised expenditure requirements provided in REP34, where investment for strategic water network[3] reinforcement and wastewater networks[4] increased despite forecast volumes of connections falling for both services. This is due to higher population levels and the locations of the forecast growth.[84]

(161) As strategic investments make up a more significant proportion of expenditure for wastewater, Anglian proposes different levels of asymmetry for the two services. For Anglian on the water service, strategic network reinforcement equates to approximately 10% of the total investment proposals. For this expenditure, which is lumpy and driven by the location of growth and capacity in local assets, there is not a 1:1 relationship with connection activity. It is proposed that if growth is lower than forecast, 90% of the unit rate be reflected in the downward adjustment. Therefore, there would be minimal risk of over-funding companies for water.

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[79] PFs, para. 4.502.

[80] PFs, para. 4.503.

[81] PFs, paras. 4.505-4.511.

[82] PFs, para. 4.512.

[83] See Vivid Technical Note on Growth Modelling Issues (REP12).

[84] Anglian's Statement of Case, paras. 360-361.

(162) For wastewater, over 90% of the expenditure is on strategic assets. In Anglian's revised totex proposals for growth, a reduction in wastewater connections of 14% resulted in a reduction in investment of 2%. Anglian proposes that if growth is lower than forecast, 50% of the unit rate is reflected in the downward adjustment. This is on the basis of the high levels of inelasticity for these cost items and is consistent with the high-level assumption used by Anglian in its estimate of grants and contributions. Again, given the high proportion of costs that are strategic for wastewater, Anglian considers the risk of over-funding is low. The CMA could consider a sliding scale where the rate of funding returned increases as the actual growth moves further below the forecast in the PFs.

4   Grants and contributions

(163) Anglian highlighted in its Statement of Case[85] that it had reservations regarding Ofwat's approach to grants and contributions which was based on top down adjustments. Grants and contributions are defined as the proportion of growth expenditure recovered from developers. As the CMA proposes to use the latest ONS figures to determine levels of growth in AMP7,[86] **Anglian has developed a bottom up forecast of grants and contributions**.[87]

(164) The outcome is shown below. Total values are similar but slightly higher than Ofwat's FD, while there is some variation in the profiling. One factor affecting profiling in year one will be the collection of receipts based on the current year's infrastructure charges which would not be updated to reflect any changes in cost allowances. Anglian has sought to smooth these receipts in the remainder of the AMP rather than collect revenues in the same year as expenditure.

Table 4   Anglian view of grants and contributions for the growth forecast used in the PFs

	£m, 2017-18	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Anglian view	Water	16	20	23	22	21	**103**
	Wastewater	13	30	35	34	34	**146**
	Total	**30**	**50**	**58**	**56**	**55**	**249**
FD	Water	22	22	21	20	19	106
	Wastewater	27	23	18	28	43	139
	Total	**49**	**46**	**39**	**49**	**62**	**245**
Difference		*-19*	*4*	*19*	*7*	*-7*	*4*

(165) Anglian proposes that its view of grants and contributions be reflected in the Redetermination.

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[85] Anglian's Statement of Case, paras. 705-712.

[86] PFs, para. 3.24.

[87] FD Gs&Cs model update for ONS2018 (PF009).

Chapter E: Enhancement

1 Overview

> This section provides views on the CMA's provisional approach to Enhancement. In summary, Anglian:
>
> (i)   Requests that the CMA reconsider whether it is reasonable to apply a 10% efficiency challenge to its enhancement costs generally. The 10% is based on a read-across to assumed botex inefficiency. However, the CMA has evidence on specific areas of Anglian's enhancement costs that show it is efficient: this is a more appropriate proxy for judging efficiency of other enhancement costs.
>
> (ii)   Asks the CMA to consider whether an upper quartile challenge to WINEP to which costs challenges have already been applied (in addition to frontier shift), and which have already had a cost challenge applied through individual WINEP investment models, remains appropriate.
>
> (iii)   Welcomes the CMA's provisional decision to allow the full scope and costs for its Strategic Interconnectors Programme.
>
> (iv)   Proposes adjustments to the approach to Smart Metering set out in the PFs that will both enable the desired outcomes from an accelerated programme, whilst protecting customers from paying again for these in future AMPs.
>
> (v)   Welcomes the CMA's recognition of the need to provide a means by which the costs of treating metaldehyde can be recovered but proposes returning c. £50 million of the PFs allowance for this now that the Government has reintroduced the ban on metaldehyde with effect from 2022.
>
> (vi)   Recognises the challenges of modelling lead replacement and P-removal costs, provides further detailed points on the approach to setting cost allowances for both of these areas and offers its initial views on the CMA's proposed reputational incentive for P-removal costs.
>
> **Request to the CMA for Redetermination**
>
> Anglian requests that the CMA consider the arguments, evidence and proposed solutions put forward by Anglian for each area of enhancement.

2 Enhancement Costs

2.1 Enhancement efficiency[88]

(166)   The CMA's provisional decision is to adopt the same approach as Ofwat of using a base cost as a proxy for calculating shallow dive company-specific efficiency factors. The **aggregate impact of the efficiency challenge applied in the PFs is £19 million.**

(167)   Anglian agrees that areas of enhancement should have a proportionate level of review, and not all areas can be assessed using a deep-dive approach. Where a deep-dive approach is not proportionate and reliable models are not available, Anglian agrees that a proxy should be used to assess the efficiency of costs.

(168)   The CMA uses botex cost efficiency as the proxy for its enhancement cost challenge. However, Anglian considers base costs to be a poor proxy for this purpose, with no real read across to enhancement

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[88]   PFs, para. 5.155.

costs. There is a **fundamental difference in the characteristics of botex and enhancement costs**[89] as highlighted in the Table 5 below.

Table 5   Expenditure Characteristics

Botex Capital Expenditure	Enhancement Capital Expenditure
Routine	Irregular
Existing assets	New assets
Recurring multi AMP	Typically one-off with recurring opex
Schedules of rate – low capital unit costs	Specific site requirements and costs
Typically high volume, low cost	Typically low volume, high cost
Maintain risks and service	Reduce risks and improves service
Addresses unexpected operational risks	Includes project risks
c. 60:40 Opex:Capex	c. 10:90 Opex:Capex

(169)   This means that an **assumption that a company which appears to be inefficient in botex also is equally inefficient in enhancement is not robust**. If there were no further evidence available, then the use of botex – despite these limitations – could be the only possible feasible proxy to use. However, where there is relevant evidence on a firm's efficiency on enhancement, then this is relevant evidence when considering the efficiency of other areas of enhancement and is a better proxy than base costs (botex). Anglian considers this would be a considerably better basis for arriving at an efficiency assessment of shallow (non-material expenditure) dive spend, rather than a read across from botex, not least because of a difference in the composition of botex and enhancement spend.

(170)   Indeed, the CMA has such evidence available to it. Anglian has demonstrated through benchmarking and market testing that it is efficient in the enhancement deep dive challenge areas, most notably the smart meter and strategic pipeline programmes.[90]

(171)   The same internal processes and cost models were followed in the development of the larger areas of enhancement expenditure that were subject to a deep-dive, as the smaller areas of expenditure to which the CMA applies an efficiency challenge.

(172)   Anglian has a mature standard approach for cost estimation which is used consistently across the company, and its standard cost models are used as the building blocks for all its investment programmes whether large or small.[91] **The models that are used to develop the costs for those areas of enhancement expenditure which the CMA considers to be efficient (such as strategic interconnectors and smart meters) are also used to develop costs for other, smaller areas of expenditure with c. 94% the water enhancement portfolios using the same models as applied to derive the interconnector and smart metering expenditure requirements.** Anglian considers that, given the same models are used to develop costs in multiple areas of enhancement, the deep-dive enhancement areas are a more reliable indicator of enhancement cost efficiency than botex models.

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[89]   See Anglian's Statement of Case: Section E3 (Enhancement), paras. 802-804.

[90]   KPMG Strategic Pipeline Scheme Review (SOC132) and KPMG Smart metering benchmarking (SOC131).

[91]   See Anglian's Statement of Case, para. 389.

(173) Using the areas of enhancement expenditure where the CMA has considered the evidence of cost efficiency in detail as a proxy for shallow-dive enhancement costs not only makes use of a more applicable set of costs, but also sets more appropriate incentives for future price reviews. Using botex as a proxy places the wrong incentives on companies. The approach applies the botex efficiency challenge to enhancement as a percentage reduction to costs the company puts forward itself. This approach presents a risk that where companies consider they are likely to present botex costs in their plan which have a lower cost than Ofwat's botex models (e.g. because they are in a capital maintenance trough), they could put forward enhancement costs which they know will be unchallenged.

(174) Therefore, Anglian asks the CMA to draw upon this evidence on efficiency of enhancement costs, and to recognise the shortcomings of relying only on a link to modelled botex costs which can be affected by factors other than efficiency. Anglian **requests the CMA remove the arbitrary 10% stretch efficiency applied to all enhancement costs,** on the basis that these costs have been developed in exactly the same way as for the enhancement areas assessed as efficient following its deep-dive analyses.

2.2 WINEP UQ challenge

(175) The CMA has retained Ofwat's upper quartile "WINEP in the round" challenge in its PFs. This is additional to the individual modelled cost challenges and the WINEP frontier shift. Anglian recognises the need to challenge its proposed WINEP costs but considers this catch-up efficiency challenge to be inappropriate.

(176) The UQ challenge is based only on AMP7 costs, and therefore set by companies proposing low WINEP costs in AMP7. This is assumed to be due to efficiency but takes no account of the fact that these companies could be proposing costs which are lower in the short-term and greater in the long-term, or companies that are taking greater risks in their WINEP delivery than others.

(177) The approach also neglects to acknowledge any forward-looking catch-up efficiency already included in Anglian's plan (in addition to frontier shift). These are built in to Anglian's enhancement costs as highlighted in the section above, and **Anglian also reflected an additional cost challenge of £43 million in addition to this to reflect the potential synergies of delivering a large programme such as WINEP**.[92]

(178) Anglian considers the cost challenges it applied to its WINEP programmes and choosing solutions which offer best whole-life value, **negates the need for an additional UQ challenge** based on AMP7-only costs.

3 Strategic Interconnectors Programme

3.1 Summary of CMA's approach

(179) In its PFs, the CMA considers that Anglian has followed a "*reasonably robust and transparent process and tried to balance meeting business as usual needs with the need for resilience in the face of future uncertain events*".[93] The PFs remove cost challenges associated with capacity reductions that were included in the FD. **The CMA recognises the need for an overall strategic view to ensure future operational resilience**[94].

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[92] SOC511 – WINEP Waterfall tab (Cell F6 and chart).

[93] PFs, para. 5.351.

[94] PFs, para. 5.349.

(180)   The CMA also considered that Anglian had followed a robust process to ensuring cost efficiency, testing costs against benchmarks where possible to establish that costs proposed were reasonable.[95] On optioneering, the CMA considered that it was a low risk that Anglian had considered insufficient options.[96] Collectively, these findings increase Anglian's totex by £38.9 million. There is also a need for a reduced DPC scope, as set out below.

3.2   Capacity of Interconnectors

(181)   **Anglian supports the CMA's provisional conclusions on the balance between reducing cost and planning for uncertainty**. The findings mean that capacity can be built in AMP7 which allows Anglian to accommodate future requirements, rather than taking a low-cost approach which does not reflect the expected long-term needs, which would result in repeated costs in future years to expand interconnector capacities.

3.3   Cost Efficiency of Interconnectors

(182)   **Anglian supports the CMA's view on the efficiency of its strategic interconnector costs**.[97] As set out in Section 2.1 above Anglian considers that the strategic interconnector benchmarking should be considered when reviewing the efficiency of other areas of enhancement expenditure too.

3.4   Customer Protection

(183)   Anglian's response to the PFs on the customer protection mechanism are set out in **Chapter G: Outcomes - Performance commitments and incentives**.

3.5   Direct Procurement for Customers

3.5.1   Outline of Request to the CMA

(184)   As noted in the PFs,[98] Anglian has continued to explore with Ofwat revisions to the scope of the Elsham DPC schemes. Despite significant efforts, these discussions have not resulted in an agreed position between Anglian and Ofwat. **It is clear from the evidence that Anglian has supplied to Ofwat and which is included in this response that, without a reduced scope of DPC, Anglian will not be able to meet its legal environmental obligations during AMP7, and ensure security of water supply and meet the level of drought resilience prescribed in the WRMP19 guidelines.**

(185)   The FD listed the following three components of the Elsham scheme as being subject to the DPC process:

(i)   Elsham to Lincoln transfer (Ref: CLN16);

(ii)   Elsham Transfer and storage from East Lincolnshire (Ref: CLN15); and

(iii)   New Elsham Water Treatment works (Elsham treatment) (Ref: CLN13a).

(186)   As the CMA will see from the attached materials exchanged with Ofwat[99], Anglian has shown that the timetable constraints related to the first two components above will prevent them being delivered within the timeframe required by the EA, and will not allow the additional water to be available by 2025. The timetable constraints created by these components being delivered through DPC are driven by a number of factors, but in particular the interface with Network Rail's Basic Asset Protection Agreement ("**BAPA**")

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[95]   PFs, paras. 5.351 and 5.357.

[96]   PFs, para. 5.359.

[97]   PFs, paras. 5.351 and 5.357.

[98]   PFs, para 5.502 (e) made reference to the on-going discussions with Ofwat.

[99]   DPC Letter and note October 2020 (PF010) and DPC presentation to support meeting held on 28 September 2020 (PF010A).

process. Anglian has challenged itself to create a stretching timetable for DPC, but even with optimistic assumptions, its legal obligations cannot be met. Moreover, the DPC schemes being progressed with other companies have much longer timeframes between control points than has been allowed for the Elsham scheme. Anglian has also done further work to establish that the treatment works component still represents value for money for customers as a stand-alone DPC project, and has committed to do all it can to ensure the DPC process is successful, recognising the value of learning lessons from this early scheme to deploy for expected larger DPC schemes in future.

(187) **Anglian therefore asks that the CMA in its Redetermination revise this scope, so that only the Elsham treatment element (CLN13a) is taken through the DPC process.** The transfer and storage elements of the scheme would be delivered by Anglian along with the remainder of the AMP7 Strategic interconnectors programme. This change, combined with Anglian's smart metering programme and further leakage reduction, will ensure the supply-demand balance in every Water Resource Zone in the region is maintained through AMP7.

(188) Anglian is now asking the CMA to make this change as part of its Redetermination as this would resolve matters swiftly and mitigate the risk of its environmental obligations not being met. Anglian has considered whether these changes could instead be addressed through a DPC IDoK mechanism, but this process is uncertain and can take many months to resolve, all of which prevents the necessary early start on the schemes and fails to use the CMA redetermination process to expediently mitigate this risk. [✂]

(189) The corollary changes to the PFs that would need to be included in the Redetermination are set out below.

3.5.2 Totex expenditure requirements

(190) The FD removed from Anglian's overall totex requirements the totex associated with the three aspects of the Elsham scheme that Ofwat considered suitable for DPC (i.e. CLN16, CLN15 and CLN13a).

(191) The totex removed, based on Anglian's Business Plan costs, is illustrated in Table 6 below.

Table 6   Totex removed from Business Plan

Elsham component (£m 2017-18 prices)	Capex	Opex	Totex
CLN 16 Elsham to Lincoln transfer	72.636	0.138	72.774
CLN 15 Transfer and storage	16.204	0.071	16.275
CLN 13a Elsham treatment	40.684	0.318	41.002
Total	129.524	0.527	130.051

(192) If the CMA agrees that delivery of CLN16 and CLN15 should revert to Anglian, an increase to its totex allowance should be made in the Redetermination, as detailed below.

3.5.3 Totex expenditure requirements for Transfer (CLN16) and Transfer and Storage (CLN15)

(193) The assessment of the totex requirement for delivery of the Elsham transfer, and the transfer and storage components aligns with the costs submitted as part of Anglian's Business Plan submission, viz:

Table 7   Assessment of totex for CLN16 and CLN15

Elsham component (£m 2017-18 prices)	Capex	Opex	Totex
CLN 16 Elsham to Lincoln transfer	72.636	0.138	72.774

CLN 15 Transfer and Storage	16.204	0.071	16.275
Total	88.840	0.209	89.049

(194) The PFs recognised that Anglian's costs for strategic interconnectors are efficient, evidenced by internal benchmarking and external market information. The PFs apply different frontier shift (productivity and RPE) assumptions to those used in Anglian's Business Plan including the assumption that RPE should only apply to labour costs.

(195) Anglian's proposed totex costs is therefore based on these PFs positions. This has the impact of reducing the totex requirement as follows:

Table 8   Proposed amendments to totex requirements

Elsham component (£m 2017-18 prices)	Capex	Opex	Totex
CLN 16 Elsham to Lincoln transfer	72.636	0.138	72.774
Application of CMA PFs	-1.411	0.006	-1.405
Revised value	71.225	0.144	71.369
CLN 15 Transfer and storage	16.204	0.071	16.275
Application of CMA PFs	-0.314	0.003	-0.311
Revised value	15.890	0.074	15.964
Previous total	88.840	0.209	89.049
Revised total	**87.115**	**0.218**	**87.333**

(196) The proposed profile of costs in AMP7 is as follows:

Table 9   Proposed profile of costs in AMP7

Capex (£m 2017-18)	2020-21	2021-22	2022-23	2023-24	2024-25	AMP7
CLN16		£3.594	£21.446	£35.565	£10.620	£71.225
CLN15		£0.802	£4.784	£7.934	£2.369	£15.890

Opex (£m 2017-18)	2020-21	2021-22	2022-23	2023-24	2024-25	AMP7
CLN16					£0.144	£0.144
CLN15					£0.074	£0.074

3.5.4   Totex expenditure requirements – Running the DPC process

(197) The FD provided Anglian £9.4 million to run the DPC process: £6.812 million for Design costs, £1.135 million for Tender, £0.450 million for Contract Management and £1.0 million for Pre-Tender. In rescoping the Elsham scheme Anglian has reassessed the expenditure requirements based on any changes

arising as a result of the revised scope. In addition, Anglian has analysed what changes are required to reflect both the expenditure incurred, and the experience of the DPC engagement and activity to date.

(198) Anglian proposes that the totex requirement for delivery of the Elsham treatment component is aligned to the value removed by Ofwat's FD, which is consistent with the costs submitted in its Business Plan. Table 10 below assumes a value of £40.979 million for Elsham treatment as the basis for calculating the 6% design allowance used in the FD to assess the original DPC costs of £9.4 million. Non-infrastructure projects design costs such as those expected for Elsham treatment would be significantly above 6% of the total project costs, so retaining this percentage of total scheme costs for design is very stretching. The revised DPC development allowance based on Elsham treatment works only going through DPC is:

Table 10   Revised DPC development allowance for Elsham treatment works only going through DPC

DPC Development Allowance (£m 2017-18)	Full scope	Revised scope	Difference
Design	6.812	2.459	-4.353
Tender	1.135	1.135	0
Contract Management	0.450	0.450	0
Pre-Tender	1.000	1.000	0
Total	**9.397**	**5.044**	**-4.353**

(199) Anglian assumes no reduction in costs associated with pre-tender/tender/management costs for taking only Elsham treatment through the DPC process.

3.5.5   Interconnector Performance Commitment and Outcome Delivery Incentives

(200) Anglian supports the principle of a specific customer protection mechanism associated with the delivery of the Interconnector Programme. Increasing totex allowances to reflect the increased scope of works to be undertaken by Anglian has a corollary impact on the incentive rate for the Interconnectors Performance Commitment given the total totex allowance is the numerator for the formula to calculate the incentive rate. Therefore, including the additional totex allowance in the calculation increases both the incentive rate and the level of protection provided to customers for non-delivery. The current formula is:

*(Cost allowance (£)/capacity (Ml/d)) * cost sharing rate* = incentive *rate (£/Ml/d)*

(201) Reflecting the delivery of CLN15 and CLN16 by Anglian has the impact on this measure of increasing the capacity to be delivered captured by the measure but the following amounts:

- Elsham to Lincoln transfer CLN 15:   25Ml/d

- Transfer and storage CLN 16:   62Ml/d

(202) This results in a revised total capacity of 442.2Ml/d if added to the figures in the FD customer protection mechanism.

(203) Updating the incentive rate from the FD with the additional totex allowance and scope for Anglian delivering the transfer and storage schemes, with the costs set out above and reflecting the PFs 45/55 cost sharing ratio increases the FD rate from £0.3158 million per Ml/d to £0.44 million per Ml/d: (£432.85 million/442.2Ml/d) * 45% = £0.44 million per Ml/d

(204)   The addition of the two Elsham schemes has the impact of increasing the incentive rate for each and every strategic interconnector. This increases the overall protection for customers. **By increasing the incentive rate to reflect the additional cost allowance, the incentives for non-delivery across the entire internal interconnector programme are sharpened.**

(205)   Anglian discusses the wider construct of the Interconnector ODI in **Chapter G: Outcomes - Performance commitments and incentives**.

3.5.6   DPC Performance commitment and outcome delivery incentives

(206)   Anglian proposes that the revised totex requirement for delivery of the DPC process is reflected in the incentive rate within the DPC Performance Commitment. The FD states:

"For the Elsham treatment *works and transfer scheme there will be an outperformance payment of £0.94 million being 10 per cent of the scheme's totex allowance in the period."*[100]

(207)   Taking the reassessed expenditure requirements above into account results in a reduction in the costs for running the DPC process from £9.4 million to £5.044 million. In developing this proposal Anglian has assessed the options for amending this incentive, specifically whether:

(i)   the incentive should be retained at the FD level to maintain the same financial incentive to deliver DPC

(ii)   the incentive should be reduced in line with the revised DPC costs; or

(iii)   the incentive should be removed to become a reputational only measure.

(208)   Anglian concludes that retaining a financial incentive is important in the development of the nascent DPC market. This is over and above the wider incentive on Anglian of ensuring the DPC market works effectively, given the likely use of the DPC process for future longer-term water resource supply solutions.

(209)   On balance, the most appropriate way to amend the ODI would seem to be to retain the 10% outperformance payment with the revised DPC value. Therefore, the performance commitment text could be amended as follows:

"For the Elsham treatment works and transfer scheme there will be an outperformance payment of £0.5 million, being 10 per cent of the scheme's totex allowance in the period".

4   Smart metering

4.1   Base Cost Allowance

(210)   In its PFs, the CMA identified that Anglian's base cost adjustment for smart meters was to reflect its proposal to *"accelerate its rollout of smart meters by replacing existing dumb meters which are not yet at the end of their useful lives".*[101] This approach is required in order to roll out over one million smart meters in AMP7. However, the CMA had concerns that, were it to make an allowance for these costs, *"Anglian would receive the equivalent of its AMP8 metering costs in AMP7 from this base cost adjustment claim, and the same again as part of its base cost allowances in the next AMP".*[102]

(211)   Anglian recognises that were an adjustment made in AMP7, but no further adjustments made in future AMPs, there would be a risk of over-recovery. Anglian also supports the aim of the PFs to avoid such over-recovery. However, **whilst the PFs mitigate the risk of over-recovery, in doing so they create**

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[100] Anglian FD Outcomes PCs appendix, page 128 (SOC223).

[101] PFs, para. 5.402.

[102] PFs, para. 5.404.

a multi-AMP cashflow issue, exacerbated by the uncertainty of recovering the appropriate costs in future AMPs.

(212) The PFs also support Ofwat's view that large companies could be expected to manage a degree of lumpiness within their base costs.[103] Anglian accepts that it experiences lumpiness in its current meter replacement costs. This occurs due to factors such as the time at which dumb meters were initially installed,[104] and whether and when meters were historically replaced due to faults. Such factors mean there are variations in meter replacement activity across multiple AMPs.

(213) However, **the proposed smart metering programme is different to this**, in that it is:

(i)   An essential and non-discretionary component of the long-term water resource management plan to rollout over two million smart meters over 10 years. Anglian cannot install the number of meters as set out in the WRMP and required by the ODI *without* early meter replacement.

(ii)   On a different scale to the range of normal 'lumpy' expenditure. This involves replacing 600,000 meters, doubling the number compared to the amount absent the smart metering programme.

(214) This leaves Anglian with some **significant risks which are not addressed in the PFs**:

(i)   Cost sharing. The CMA's suggestion that Anglian will recover the costs associated with the required early replacements in future AMPs is not consistent with the asymmetric cost sharing rates the CMA has provisionally proposed.[105] If Anglian were to overspend its botex allowance by £42 million to deliver early replacements it would recover only 45% of these costs from customers under the PFs cost sharing ratio whereas if the same rates were to be applied in future AMPs, Anglian would only keep 45% of its £42 million outperformance. Assuming Anglian underspends by the same amount over the next two AMPs due to the accelerated replacements, it would need to have a 55:45 outperformance cost sharing rate to recover the remaining 55% of smart meter replacement costs. Rectifying this would require a guarantee of cost sharing rates in future AMPs or Anglian will under-recover its costs.

(ii)   Further botex and cashflow pressure. Whilst not disputing the need or the efficiency of Anglian's smart meter costs in this area, the PFs leave over £42 million of the smart meter programme without funding in AMP7, whilst retaining a PCL which is dependent on this investment being made.

(iii) Regulatory process. The solution proposed in the PFs assumes that the approach for determining base cost allowances in future AMPs will be the same as at PR19. There can be no guarantee of that: changes occur between price reviews. Future cost sharing rates also cannot be guaranteed.

(iv)   Perception of efficiency/inefficiency. In AMP9, Anglian expects meter replacement costs to be significantly lower due to the necessary early replacements in AMP7. Under the botex cost assessment mechanism used at PR19, this would be viewed as "efficiency", when in fact it would represent a scope reduction. This would subsequently have inappropriate knock-on effects for other areas of the price review (e.g. efficiency factors for enhancement).

(215) Without certainty of cost recovery Anglian cannot ensure the multi-AMP investment required to maintain the supply-demand balance and facilitate sustainable growth. The PFs neither provide this certainty, nor

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[103] PFs, para. 5.405.

[104] i.e. companies did not historically install the same number of new meters every year, so there is not a flat annual profile of meter replacements.

[105] PFs, footnote 1087, page 362.

do they allow Anglian to recover costs it must incur to secure the supply-demand in its region and achieve its PCL.

4.1.1 The outstanding issue

(216) Anglian considers that the outstanding issue to be resolved is the appropriate balance of risk. On the one hand is the risk of customers paying twice for meter replacement (through the base cost adjustment in AMP7 and modelled base costs in future AMPs), and on the other of Anglian under-recovering smart meter costs. The solution proposed in the PFs addresses the former issue, but not the latter.

4.1.2 The solution

(217) **Anglian proposes an alternative approach to recognise the upfront cost of replacing 600,000 additional meters in AMP7** to ensure timely investment to secure the supply-demand balance, whilst ensuring that customers benefit from the lower costs of replacing meters that this will drive in the medium term. This alternative approach also addresses the risk of double funding and avoids knock-on impacts on cost-sharing and artificial efficiency as discussed above.

(218) Anglian's proposed solution involves allowing the cost adjustment claim in AMP7 while embedding negative cost adjustment claims for metering in future AMPs. This would take the form of:

$$AMP7: B1 = M1 + X$$
$$AMP8: B2 = M2 + Y$$
$$AMP9: B3 = M3 + Z$$
$$Where\ X + Y + Z = 0\ (in\ NPV)$$

Where: B is the total base allowance for each AMP. M is the total base allowance before any smart meter adjustments. X is the cost adjustment required in AMP7 to allow the necessary early meter replacements. Y and Z are the adjustments in AMP8 and AMP9 to reflect the scale of meter replacements in those years due to the early replacements in AMP7.

(219) AMP8 will involve the installation of approximately one million smart meters to complete the full two AMP rollout. This will involve both additional replacements which were due to be undertaken in AMP9, and fewer replacements where meters due for replacement in AMP8 had already been replaced in AMP7. Anglian expects the net of these two factors to be an additional allowance requirement in AMP8, though smaller than in AMP7. At this stage the cost adjustment required in AMP8 is not defined as it will be influenced by a number of factors including whether any Green Recovery investment is made to increase smart metering investment in AMP7. In any case, Anglian's proposal is that any adjustments required in AMP7 and AMP8 are simply trued-up on an NPV neutral basis with a negative adjustment in AMP9.

4.1.3 Benefits of this solution

(220) The solution proposed is simple. All that is required in future AMPs is an NPV calculation, and the adjustment can be applied to botex allowances in the same way as a cost adjustment claim.

(221) Critically, it can be applied regardless of how botex modelling develops in future. The solution involves a simple negative adjustment and can be applied irrespective of the approach used to determine botex allowances in future. It also protects Anglian from under-recovery should, for example, the number of meters replaced be reflected in botex costs for future AMPs (in such an instance no negative adjustment would be required as a lower allowance would be picked up from data showing fewer meter replacements in AMP9).

(222) **Anglian's proposed solution protects customers, both from over-recovery of costs, as it embeds a mechanism to avoid this situation, and from resilience risk, by ensuring Anglian has sufficient allowance in AMP7 to reduce demand through the full smart metering rollout**.

(223) It ensures Anglian has the allowance needed in AMP7 to deliver its smart meter rollout, and appropriately reflects the allowance required to deliver the Performance Commitment Level in the PFs. It also avoids the risk of any under-recovery of costs in future AMPs due to the choice of cost-sharing rates.

(224) It could also be flexed to reflect any increased expenditure on smart metering approved via the Green Recovery investment currently under discussion with Defra and Ofwat.

4.2 Installing meters at properties which have not previously had a meter installed (enhancement)

(225) The CMA states it has not found evidence to support Anglian's view that the benchmark model does not reflect the costs drivers associated with higher meter penetration.[106]

(226) Whilst Anglian recognises that no econometric model has been developed which shows a significant impact of meter penetration on costs, Anglian considers that this is because **the impact of meter penetration on costs is observed at only the highest levels of meter penetration**, reached by only a small group of companies. Selective meter installation programmes will replace meters up to a penetration where the costs to install a meter outweigh the benefits of the property having a meter (the feasible limit of meter penetration). It is when a company approaches the feasible limit of meter penetration that the number of higher cost installations significantly increases. Whilst Anglian acknowledges the challenges of building this into the meter installation model, it does have evidence of this change in costs of meter installations.

(227) **Anglian's region has a meter penetration of c. 92%** and Anglian has attempted, at least once, to meter all properties under its Enhanced metering programme. This has meant that the easier, cheaper meter installations have already been completed.

(228) For example, between AMP5 and AMP7, the proportion of screw-in meter installations has decreased from 16% to 10% of all installations. However, the proportion of internal meter fits, which are 4-5 times more expensive than screw in fits, have increased from 11% to 47% over the same period. The impact of these changes is not seen when considering the number of meters replaced in aggregate.

(229) In light of this, Anglian proposes that the best way to resolve this issue is to **make an allowance of £3.1 million to Anglian's metering enhancement costs on top of the modelled allowance**, to reflect the more costly nature of the remaining meter installations. This is consistent with Ofwat having made an additional allowance outside of modelled costs for other areas of enhancement where its models do not reflect important drivers. For example, Welsh Water received an additional allowance outside of the Storage in the Network Model.[107]

4.3 Smart meter costs for new properties (enhancement)

(230) In its PFs, the CMA states that it has not seen sufficient evidence to suggest that the activities undertaken in installing smart meters at new connections differ substantially from the activities undertaken by companies in the past, and therefore maintains Ofwat's allowance for the smart meter technology costs only.[108]

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[106] PFs, paras. 5.401 and 5.103-5.105.

[107] *see* https://www.ofwat.gov.uk/wp-content/uploads/2019/12/FM_E_WWW_spill-frequency_FD.xlsx 'analysis' tab, cell E65.

[108] PFs, paras. 5.416-5.417.

(231)   Anglian notes that the CMA has supported Anglian's arguments that the FD did not appropriately reflect the installation costs at properties which already have a meter, and has made an additional allowance to reflect these costs in its PFs.[109] Whilst this recognition is welcome, Anglian considers that the rationale behind not applying the same approach to smart meter costs at new properties is unclear and that in order to be consistent **an allowance of £1.9 million should also be made to reflect the additional installation costs of smart meters at new connections**.

4.4   Smart metering performance commitment

(232)   The CMA has retained the smart metering performance commitment level in its PFs. It has also applied a deadband at 80% smart meter delivery and increased the ODI penalty rate to cover a wider set of smart meter costs than Ofwat's FD, and a 50% cost sharing rate.

(233)   **Anglian supports the principle of having a customer protection mechanism in place** for the smart meter delivery programme and aligning this to the number of smart meters that Anglian plans to deliver in AMP7. However, Anglian is **concerned that the PCL is inconsistent with the number of smart meters that the PF's totex allows Anglian to deliver in AMP7** due to the rejection of the cost adjustment claim.

(234)   The PCL is designed by reference to delivery of Anglian's "entire smart meter programme".[110] But there is a material shortfall in totex funding to reach this level, as explained above, as some 60% of Anglian's entire smart meter programme is dependent on early replacement. Anglian proposes a solution to this issue above which would align the PCL with the appropriate funding requirement.

(235)   Finally, Anglian requests that in the Redetermination, the CMA corrects an error in the calculation of the penalty rate. The CMA has used a 50% cost sharing rate; however the cost sharing rate applied in the PFs is 45%, with the remaining 55% already shared with customers. Anglian proposes that its cost sharing rate should be 50:50. This would resolve the issue. If the CMA does not agree with Anglian on this conclusion, then the cost sharing rate applied to the smart meter ODI should match that applied to totex (45% in the PFs).[111]

5   Metaldehyde

(236)   Anglian welcomes the CMA's provisional assessment and decision in the PFs[112] that it should receive the full totex allowance for metaldehyde that was removed from its September 2018 business plan after Ofwat's IAP, as well as the introduction of a claw-back mechanism that protects customers in the event that the ban were re-introduced.

(237)   However, in light of Defra's recent announcement that the ban will be re-introduced from March 2022, Anglian has reviewed the totex requirements for dealing with metaldehyde as well as the proposed customer protection measures. As a result, Anglian proposes that, for the Redetermination, the CMA:

(i)   reduces the allowed totex from £63 million to £13.4 million; and

(ii)   removes the proposed clawback mechanism

(238)   These two proposals are described in more detail below.

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[109] PFs, para. 5.408-5.412.

[110] PFs, para. 5.420.

[111] £104.71 per meter *45% cost sharing rate.

[112] PFs, paras. 5.505 and 6.75.

5.1 Adjustment to totex

(239) At the time of the original September 2018 business plan submission, totex requirements were calculated based on the continued use of metaldehyde in agriculture throughout AMP7. This included the requirement for metaldehyde removal on those interconnectors transferring water from a zone with a metaldehyde undertaking to a zone that did not have one. It also included totex for farmer subsidies to incentivise use of Ferric Phosphate as a substitute for metaldehyde-based products. The terms of the new ban are that there will be a ban on manufacture from March 2021, followed by a ban on both sale and use from March 2022. Slightly unusually for this type of ban, there will be no use-up period after the ban on sale is introduced, increasing the possibility that any stocks of the product may be used illegally after March 2022. Catchment management results show that metaldehyde remains in the environment as a residual the following season, particularly in catchments with large volumes of pumped storage of raw water. The allowable limit of metaldehyde in drinking water is very low, so even small residuals will constrain water use.

(240) Therefore, even if no product is used illegally, the likely result of these timings is that there will still be metaldehyde in the environment in the Autumn run-off period from October to December 2022 as well as lower levels due to residuals in the environment (and potentially illegal use) in October to December 2023. During this period, Anglian's undertakings with the Drinking Water Inspectorate will remain in place.

(241) On this basis Anglian has reviewed its forward programme of commissioning of strategic interconnectors and identified those that will be in operation ahead of December 2023. Anglian has also reviewed options at those locations, including both catchment management and treatment options:

Table 11   Interconnectors required before December 2023

Interconnector	Did the interconnector have metaldehyde removal in Sept-18?	Will we require metaldehyde treatment?	Will we require additional catchment management?
ELY9	Y	Y	Y
RTS Meppershall	Y	Y	N
HPB1 Ludham/East Ruston	Y	N	Y

(242) There are two interconnectors listed above (ELY9 and RTS) which will require temporary treatment. At those locations investment requirements have been re-costed, and to keep costs to a minimum have been designed so that the new treatment requirements match 'business as usual' flows required for supply-demand balancing, without the additional capacity required to meet resilience requirements. This is because the resilience requirements are only required to be delivered at the end of AMP7, at which point metaldehyde should be almost entirely removed from the environment. For the purposes of temporary treatment, any costs associated with the permanent solution such as land purchase, permanent buildings, roads and landscaping have been stripped out. Where possible, costs such as equipment hire are estimated, although some treatment processes for metaldehyde removal are specialised and not commercially available to hire. Operational costs for power and chemicals up to December 2023 are also included.

(243) There are also two interconnectors above (ELY9 and HPB1) where limited re-introduction of product substitution subsidies prior to the ban in March 2022 are proposed. For the third interconnector (RTS) the source is from Grafham Water which has a very large pumped storage catchment where the subsidy approach would not have sufficient effect in the timeframe, therefore a combination of managing abstraction, balancing supplies and treatment is needed, and the costs for this are assessed.

(244) The new totex requirements are shown in Table 12 below. Note the treatment costs will be incurred in Water Network+, whereas the catchment management opex will be incurred in Water Resources price control:

Table 12   New metaldehyde totex requirements (2017-18 prices)

Investment	2021-22 (£m)	2022-23 (£m)	2023-24 (£m)	2024-25 (£m)	Total (£m)
ELY9 New treatment capex New treatment opex	 1.108 0	 2.298 0.046	 0 0	 0 0	 3.407 0.046
RTS Meppershall New treatment capex New treatment opex	 2.892 0	 6.000 0.110	 0 0	 0 0	 8.892 0.110
Catchment Mgmnt (ELY9&HPB1) New CM opex	 -	 0.964	 -	 -	 0.964
Total	4.001	9.415	0	0	13.419

5.2   Removal of the proposed uncertainty mechanism

(245) The uncertainty mechanism that was proposed in RFI 14 and in the PFs was based on a trigger of the ban being re-introduced. On the basis that it is now known that the ban will be reintroduced from March 2022, the mechanism as proposed has been overtaken by events.

(246) As the ban has been reintroduced there is now less uncertainty about the outcome. However, the wording of the ban allows for metaldehyde to be purchased and used until March 2022. This means **there is now certainty about when the ban will come into force.** Although metaldehyde may still be present in the environment several years later, Anglian's proposals above will address the residual impacts. On the basis that there is no longer uncertainty regarding the required expenditure and the total value is less material than previously, **it is proposed that the normal cost sharing arrangements apply to this cost allowance.**

6   Meeting lead standards

(247) The PFs maintain the same allowance for meeting lead standards as Ofwat's FD. Anglian has some concerns with the approach that the CMA has taken in its PFs. These are highlighted in the sections below.

6.1   Water in Buildings programme

(248) The CMA adopts Ofwat's approach to lead enhancement in full, and thereby bundles the cost of Anglian's 'Water in Buildings' programme into the lead pipe replacement model. The Water in Buildings programme (an integrated package of measures to assess and manage the risk to consumers posed by the quality of water in public buildings) is a completely separate area of investment to the lead replacement programme. It is therefore inappropriate to assess these costs within the lead pipe replacement model as Ofwat did in its FD (and therefore in the CMA's PFs). It also has the effect of artificially increasing the unit cost of Anglian's lead pipe replacements, making Anglian appear less efficient.

(249) **Anglian requests that in its Redeterminations, the CMA assesses the costs associated with the Water in Buildings programme separately** to the lead pipe replacement costs.

6.2 Deep-dive assessment of supply pipe replacement

(250) The PFs adopt Ofwat's approach to assessing lead pipe replacement costs. Part of this reflected a deep-dive assessment of supply pipe replacement costs. In this, Ofwat applied a flat rate of £647 per supply pipe replacement, regardless of the length of the pipe. A figure derived from an estimated figure of £2,000 per communication and supply pipe replacement (i.e. £2,000 minus the £1,353 median unit rate for comms pipe replacements in its model). The £2,000 appears to be based on a statement in Hafren Drfydwy's ("**HD**") business plan stating this to be the estimated average cost for the industry but including no reference of how this was derived or how this is split between communication and supply pipe replacement.[113]

(251) Although this figure is taken from HD's business plan, the allowance it has made to HD does not equate to an allowance of £2,000 per pipe. HD's business plan sets out that it intends to replace 460 pipes at a cost of £1.49 million (over £3,200 per pipe). It is also allowed an additional £1.44 million in its cost adjustment claim for related expenditure[114] (leading to a unit rate of over £6,300 per pipe replaced).

(252) **Anglian therefore considers it inappropriate to a) apply an assumption of £2,000 per pipe replacement to Anglian, and b) apply this inconsistently across companies**. **Anglian requests that the CMA reject the application of a flat £2,000** cost allowance for communication and supply pipe replacement costs, which has not been applied consistently across companies in the Lead deep-dives. Instead, **Anglian requests that, in its Redetermination, the CMA make an allowance for the costs associated with supply pipe replacement** drawing on the evidence Anglian has presented on the greater length of pipe it plans to replace (due to replacement of both communications and supply pipes) and the variable costs associated with this.

7 P-removal

(253) The CMA makes no change to Anglian's P-removal allowance compared with the FD.[115] The CMA runs four models to help form a view of the appropriate P-removal costs for Anglian and applies this to both its business plan costs (£450 million) and the lower costs put forward in its DD following additional cost challenge (£435 million).

(254) Anglian supports the PFs consideration of different modelling approaches to form its view of the P-removal costs and supports the inclusion of different consent thresholds within this model suite.

(255) However, **Anglian does not support the application of an additional cost challenge on top of that which it self-imposed in its Draft Determination representation**. The modelling approach implies that, had Anglian not proposed this additional cost challenge (on top of that already applied in its business plan), it would have received an allowance of £439 million, £8 million more than the allowance in the FD. Anglian considers this approach disincentivises constructive engagement during the price review process. It also does not address the fact that further cost challenges are placed on companies through the "WINEP in the round" cost challenge.

(256) Anglian recognises that modelling P-removal costs using costs it submitted in its business plan would result in an allowance greater than it proposed in its DD Representation. **Anglian therefore suggests capping its proposed allowance at £435 million** rather than the £439 million suggested by applying

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[113] Hafren Drfydwy PR19 Business Plan, Appendix 4: Enhancement business cases and cost adjustment claims, page 91 available at https://www.hdcymru.co.uk/content/dam/hdcymru/about-us/pr19/hdd_appendix_a4_enhancement_claims_combined_r.pdf.

[114] *Ibid*, page 108.

[115] PFs, para. 5.133.

the CMA's approach to Anglian's business plan costs. This seems the most appropriate way to resolve the concerns highlighted above.

7.1   A reputational incentive for P-removal spend

(257)   In section 5 of the PFs[116] the CMA suggests that Ofwat introduce a mechanism for obtaining from the disputing companies the actual costs for individual P-removal schemes so they can be compared to forecast and allowed sums to understand the variances. The CMA suggests that this would have two benefits: (a) to provide a reputational incentive on companies for accurate cost forecasting; and (b) to provide an improved information base for determining future cost allowances. The CMA suggests that this mechanism could involve all sites or just a sample, and that companies' reports would be subject to independent review.

(258)   In response to this suggestion Anglian notes the following:

(i)   Efficiency improvement is a desirable outcome of regulation and most regulatory regimes include incentives for efficiency. There is therefore an obvious potential conflict between the CMA's proposed mechanism, which would discourage outperformance, and others which promote it (e.g. the totex sharing mechanism). It would also be against customers' interests if companies were discouraged from applying innovations which might reduce costs because of the reputational harm resulting from the mechanism.

(ii)   If a purpose of the mechanism is to test the reliability of the models which were used to derive the costs of any given scheme, the outturn cost driver values for each scheme should be collected as well as the costs. Companies should be given the opportunity to identify exceptional circumstances which had a bearing on costs.

(iii)   To meet the CMA's second objective (to provide an improved information base for determining future cost allowances) the mechanism would need to be applied to all wastewater companies, not just the disputing companies, in order to identify the efficiency frontier.

(iv)   Companies may achieve efficiencies in scheme delivery by accepting higher levels of risk. If these risks materialised in future, the cost of addressing them would be borne by the company. These future costs would not be apparent to stakeholders when the findings of its proposed mechanism were published.

(v)   Most schemes within companies' P-removal programmes are scheduled for completion towards the end of the price control period. At the time that Ofwat needs the information for setting cost allowances it would therefore have only data from a subset of schemes, which were not necessarily representative of the whole programme. Furthermore, because "completed" schemes continue to incur costs in the years after they have been reported (for snagging, compensation payments, landscaping, etc.), even those costs which are available will be incomplete. A final practical point is that costs would clearly have to be reported in a manner that was consistent with forecasts and allowances (e.g. in the treatment of overheads) to ensure like-for-like comparability.

(vi)   Companies would have a justifiable concern that this mechanism could, in time, be extended across an increasing number of areas. History shows how a steady creep of reporting requirements has led to situations where the costs of reporting outweigh the benefits.

(259)   It should be noted that companies already publish the costs of their enhancement programmes through their annual performance reports. P-removal programmes are reported across two separate lines.

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[116] PFs, paras. 5.84-5.86.

Comparisons between forecasts, allowances and outturn costs can therefore already be made at programme level.

8 Bioresources

(260) As regards bioresources, in its PFs, the CMA concludes that "(*a) there are likely to be limited or no third-party suppliers in the foreseeable future to which it is able to outsource these services (either other WASCs or non-WASCs); and (b) whilst Anglian building in-house capacity has a higher upfront cost, the lower whole life cost represents a more efficient form of delivering the necessary activities.*"[117]

(261) Anglian supports this conclusion, which is consistent with the evidence presented in its Statement of Case and subsequent submissions demonstrating that a) trading capacity within the bioresources is currently highly constrained, despite Anglian's efforts to develop the market and b) on a Whole Life Cost basis, additional capacity at Whitlingham is the best value option for customers (e.g. Response to RFI008, question 28).

8.1 Industrial Emissions Directive

(262) Anglian supports the CMA's findings in relation to the Industrial Emissions Directive ("**IED**").[118] Although IED was not included as part of Anglian's Statement of Case, the CMA rightly reflects that the issue will affect the whole industry.

9 SEMD/non-SEMD

(263) Anglian supports the CMA's view that planned SEMD should attract additional funding in AMP7, noting the investment flows from a legal requirement with limited opportunity to reduce scope and where delivery is through approved vendors.[119] Anglian welcomes the £1.7 million cost allowance to deliver this in AMP7.

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[117] PFs, paras. 5.486-5.490.

[118] PFs, paras. 4.643-4.664.

[119] PFs, para. 5.441-5.466.

Chapter F: Leakage

1   Overview

The CMA noted in its PFs it wished to do further work on aspects of its findings regarding leakage. Anglian welcomes this, as achieving its leakage reduction targets is essential to meeting the demand for water in AMP7. The supply-demand balance is at risk during AMP7 from pressures such as:

(i)   The EA's reductions to Anglian's existing licenses to abstract water in remote locations like in the Norfolk Chalk area to protect chalk streams which reduces available water supply;

(ii)   Population growth across the region which increases demand for water;

(iii)   Increased household demand for water, linked to the impacts of Covid-19 where more people are working from home rather than travelling to London, and holidaying in the region not abroad.

The scale of activities and investment required in AMP7 are a direct function of previous regulatory decisions which delayed action on the mitigation of climate change impacts and prevented earlier rollout of smart meters to support delivery of environmental obligations under the Water Framework Directive. Leakage, along with smart metering, are the only options available to Anglian to effectively manage the supply demand balance during AMP7. Supply enhancement schemes will not begin to deliver significant improvements until AMP8. That is why Anglian has adopted a target of 16.4% leakage reduction by 2025 – **it is essential, not optional, to achieve this level of reduction if Anglian is to maintain the security of water supply for its customers**.

As they stand the PFs severely underestimate the base costs required to maintain Anglian's current frontier performance. Anglian's costs of maintaining upper quartile leakage control performance are not covered by the implicit base allowance. Anglian's estimates, in its cost adjustment claim, are based on its actual leakage costs, not even reflecting the high expenditure resulting from the "Beast from the East" (and therefore implicitly containing no contingency for such events in future). This is not inefficient cost.

The CMA seems to have assumed that dealing with leaks is easier for Anglian given the region it serves. It is not and has never been. Further evidence from academic experts in the field, Dr Tim Farewell and Professor Jim Hall, along with economic analysis from Oxera is provided to demonstrate that soil conditions, weather patterns, levels of soil moisture deficit, and the pipe materials prevalent in the region add up to a more challenging environment for leakage. All of this underpins the difficulties facing Anglian on leakage, and the relative value of a Ml/d of leakage reduction in Anglian's region compared to elsewhere in the UK.

As the frontier performer, Anglian's further progress will bring benefits to customers across the UK as best practice and innovation are shared. If it is underfunded these benefits will not accrue, thus harming the Government and Ofwat's ambitions for leakage reduction. In the PFs, Anglian's underfunding is also at odds with the approach taken to Yorkshire Water's claim for leakage funding, which has been allowed in full.

Finally, the CMA's proposed ODI framework has the perverse effect of penalising Anglian even if it continues to deliver and improve upon its sector-leading performance.

Anglian therefore requests that the CMA:

(i)   reconsider its rejection of the majority of Anglian's cost adjustment claim;

(ii)   recognise Anglian's leakage enhancement expenditure as efficient; and

(iii)   adjust its proposed ODI framework for leakage (depending on its decision on cost allowances).

2   Maintaining the supply-demand balance in AMP7: the critical role of leakage reduction

(264)   As the CMA has recognised,[120] Anglian has been a strong performer on leakage since privatisation. It has also continued to reduce leakage over the last 20 years, in stark contrast to the industry, which has flat-lined as shown below.

Figure 3   Anglian's performance compared to the rest of the industry
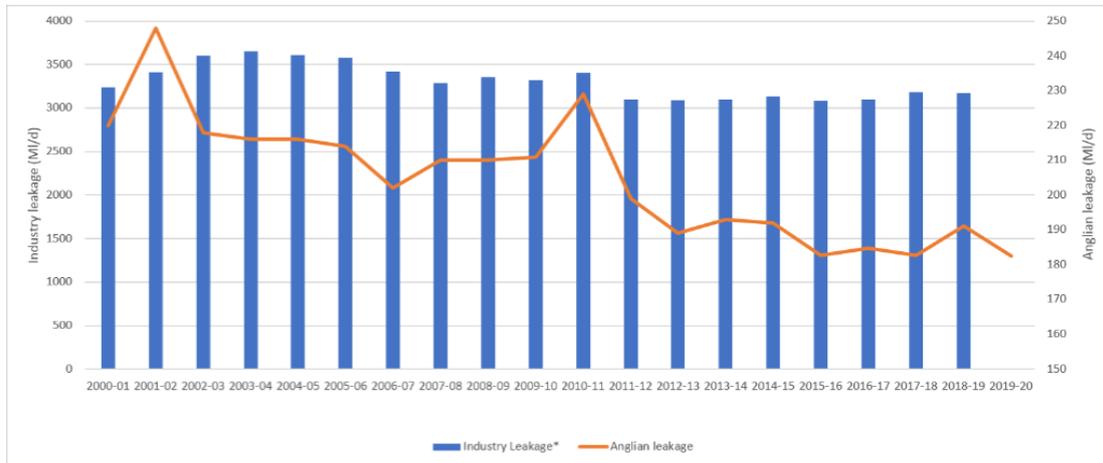
Source: Ofwat's Overall Stretch Appendix, Figure 4 (SOC229) combined with Anglian's data (Reported leakage from annual performance reports)

(265)   Anglian's historically strong performance is driven by a necessity to balance supply and demand, given the stresses on its supply-demand balance from climate change, population and housing growth and the need to protect and enhance the natural environment; stresses which are particularly acute in Anglian's region. Anglian's supply-demand balance pressures and the need to reduce leakage is highlighted in Professor Jim Hall's report, "Urgent Challenges to water supply in the South and East of England October 2020".[121]

(266)   **In AMP7, Anglian faces a step change in supply-demand balance pressures. This is primarily driven by the need to reduce abstractions, and the adoption of a more stretching 1 in 200 year drought resilience standard. These factors mean that Anglian will be in deficit by 2025 unless its leakage and demand reduction plans can be realised** (as shown in Figure 4 below from Anglian's WRMP which was discussed at Anglian's hearing on 5 August 2020).

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[120] PFs, Figure 8-1, page 484.

[121] Prof Hall Urgent challenge to water supply (PF013).

Figure 4   Pressures on Anglian's Supply-Demand Balance[122]
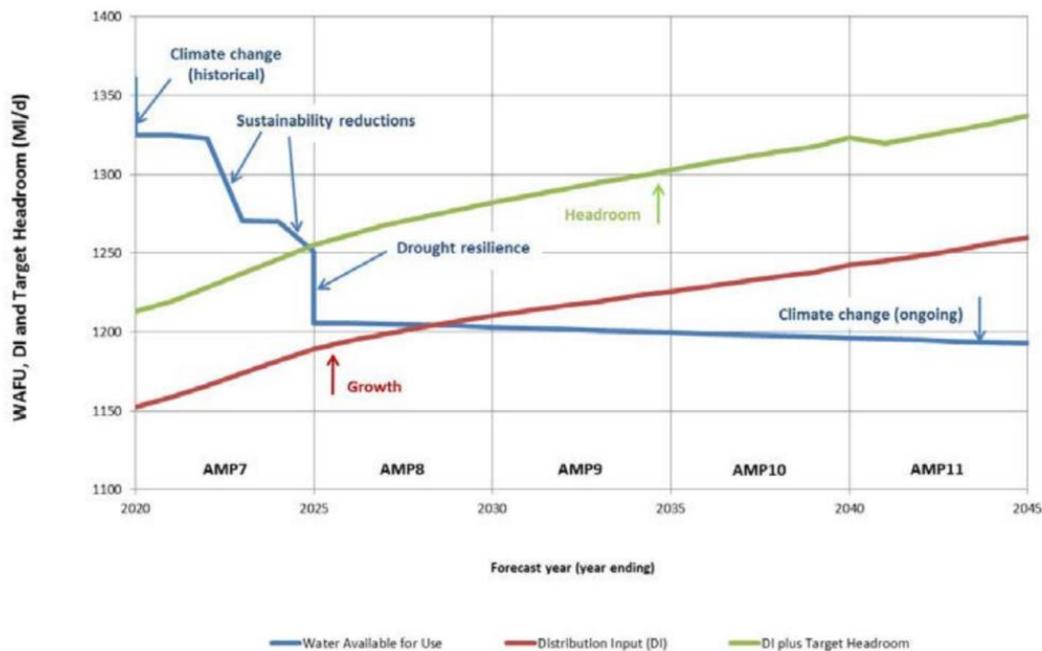
Source: Anglian WRMP, page 5

(267) In other words, without taking action to address supply-demand challenges in AMP7, people in the Anglian region face the prospect of not having a secure water supply by 2025. **The position would have been far more serious had Anglian been delivering the levels of leakage seen from other companies in recent years, or if it had spent on leakage only in line with the costs allowed by Ofwat in the PR14 FD.**

(268) The urgency of the situation **increases the value of leakage reduction and control in the Anglian region** and so Anglian has no option but to push the frontier on leakage and face the costs of doing so. For AMP7, leakage is expected to contribute c. 30Ml/d of the 43Ml/d demand reduction targeted in the WRMP.

(269) Anglian is delivering multiple investments to secure the long-term supply-demand balance of the East of England. Its strategic interconnectors programme will enable water to be transferred from areas of surplus to areas of need, as well as allowing greater flexibility in developing new water resource options in future AMPs. Anglian's smart meter programme will help customers to reduce their water consumption and identify leaks on customers supply pipes. However, whilst these actions will support the supply demand balance in the long term, **reducing leakage is imperative to ensure the immediate supply needs of the region are met within AMP7**.

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[122] The steep steps in AMP7 are driven by:

a) Historical climate change. In WRMP19 companies were allowed to include climate change impacts on DO for the first time. Following EA guidance, the DO impact (for the median scenario, medium emissions) was then scaled back to 1975 (1961-1990 mid-point), with nominal historical climate change impact (i.e. 1975-2020) then taken off DO in 2020.

b) Sustainability reductions. Anglian has a huge number of individual sustainability reductions (e.g. all of its groundwater licences are being capped at recent actual levels). The WRZ-level figures and year of reduction are listed in Anglian's WRMP19 Main Report (see Anglian's Statement of Case, Table 2.2, page 31) https://www.anglianwater.co.uk/siteassets/household/about-us/wrmp-report-2019.pdf. They have generally been imposed to meet the EU WFD no deterioration requirement or with respect to EU Habitats Directive.

c) Drought resilience. This is an adjustment to move the 5 WRZs currently not resilient to a 1 in 200 year drought to that standard (the standard being that a drought of that severity wouldn't require the most severe form of restrictions i.e. rota-cuts and standpipes).This was based on extensive analyses of drought return periods in all 28 WRZs.

(270) In summary, Anglian's reasons for high performance on leakage are principally driven by the need to address tighter drought resilience standards and manage pressures from population growth, climate change, and reduced abstractions, **all of which are particularly acute in the Anglian region**. These create a supply-demand balance position where the value of leakage reduction now and in future, is greater in the East of England than in other parts of the UK, and mean high performance on leakage is a necessity, not an option.

3 Regional and historical differences: making leakage reduction more challenging not easier

(271) In its PFs, the CMA states in the context of Anglian's assessment of base costs for leakage:

> "*We have some concerns that the reasons for high performance are likely to be a combination of regional differences, historical levels of investment and past efficiency in achieving targets*".[123]

(272) Anglian observes that:

(i) Its strong performance on leakage is principally driven by rigorous management focus on the issue over many years, supported by shareholder investment at risk. This is in recognition of the tight supply-demand position, and that leakage reduction is a necessity, rather than a choice, to maintain security of supply. The statement above as to why Anglian performs strongly fails to recognise these factors.

(ii) The CMA has not provided evidence to suggest <u>how</u> Anglian benefits from the three factors it refers to. In fact, all three reasons referred to make controlling leakage in Anglian's region in future more challenging, not less. However, the greater value of leakage reduction in the region (deriving from the acuity and urgency of supply-demand needs), means that driving further improvements despite these challenges is essential.

(273) The CMA suggests that regional differences may explain Anglian's high performance on leakage.[124] Whilst it has not specified what these regional differences are, Anglian has considered the exogeneous factors that have the most significant influence on leakage levels and how these are reflected in the Anglian region.

(274) To support this investigation, Anglian commissioned Dr Tim Farewell to examine the impact of regional factors on leakage and how these manifest in its region.[125] This demonstrates that far from being benign, East Anglia contains some of the most aggressive ground conditions for water networks in the UK. These relate to pipe materials, soil conditions and weather patterns.

3.1 Pipe materials, soil and environmental conditions

3.1.1 Pipe materials

(275) Anglian's region includes **abnormally large amounts of Asbestos Cement ("AC") pipes** compared to other English regions (18% of the network, versus a national average of 7%) due to pre-privatisation pipe replacement schemes in the 1960s and 1970s. These are particularly susceptible to ground hazards and have a **greater propensity to burst** than other pipe materials, as shown in Figure 5 below.

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[123] PFs, para. 8.46.

[124] PFs, para. 8.46.

[125] Dr Farewell: Impact of Environmental Factors on leakage in the Anglian region (PF014).

Figure 5 Normalised rate of non-winter failures per 10km of pipe[126]
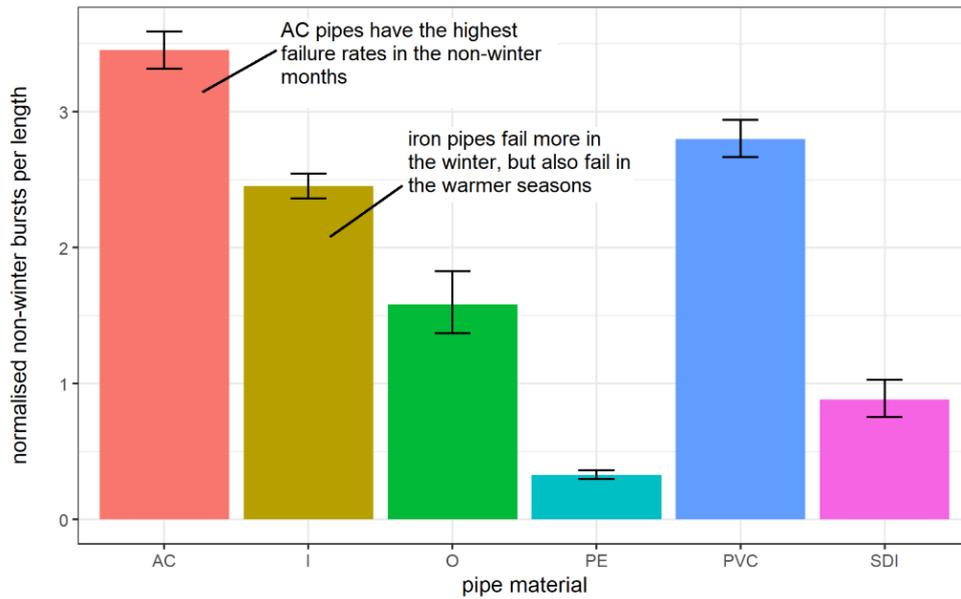
Source: Dr Farewell: Impact of Environmental Factors on leakage in the Anglian region, Figure 5 (PF014).

3.1.2 Soil conditions

(276) **Anglian's region has a higher proportion of shrinkable clay, lowland peats** and other naturally compressible soils which **have a greater propensity to lead to mains bursts** than is typical in other English regions (see Figure 6 below). Further to this, 10.5% of the Anglian region is covered in soils which are moderately to highly corrosive, three times the average coverage for all water companies. Corrosion can lead to pin-hole leaks which are particularly difficult to detect and resolve.

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[126] AC: asbestos cement; I: Iron; O: other / unknown; PE: polyethylene; PVC: polyvinylchloride; SDI: steel and ductile iron.

Figure 6   Normalised rate of failure by NSRI's Soilscape class[127]
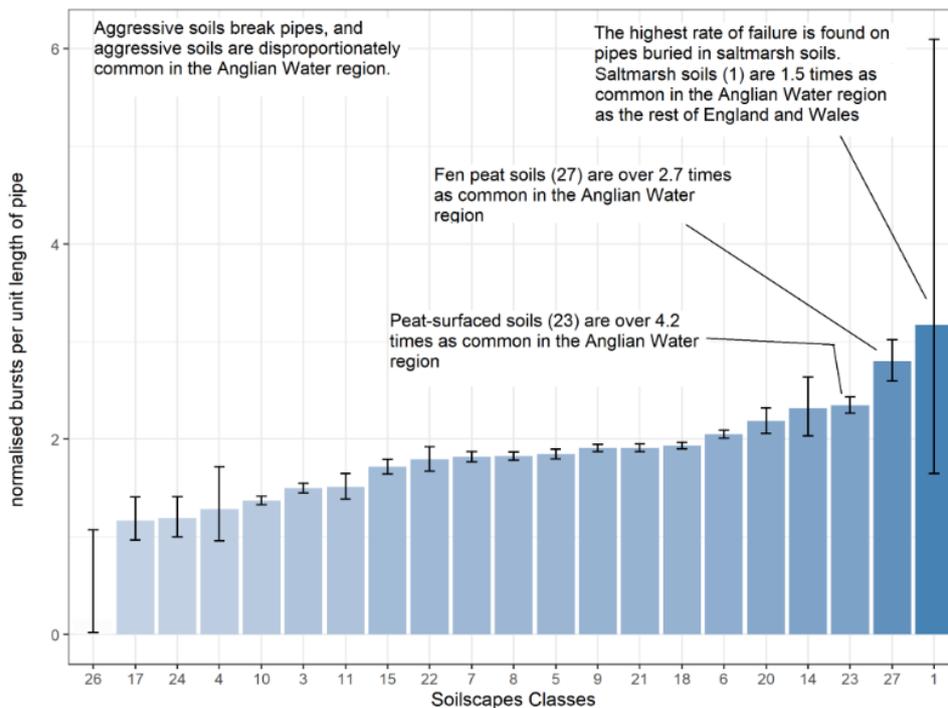

Source: Dr Farewell: Impact of Environmental Factors on leakage in the Anglian region, Figure 11 (PF014).

3.1.3   Extreme and volatile weather patterns

(277) Anglian's region has **higher than average summer temperatures and soil moisture deficits** than the rest of England. Both factors contribute to ground movements, which increase numbers of burst mains and pipe leakage repairs. Both are rising faster in Anglian's region than the national average rate of increase.

3.1.4   Conclusions on pipe materials, soil and environmental factors

(278) Anglian believes the evidence shows that reducing leakage is more challenging in its region than in other areas. Anglian's supply-demand position means that it must nevertheless continue to reduce leakage against a backdrop of increasing volatile weather patterns, specifically the combination of higher than average temperatures and soil moisture deficit. Both of these factors are rising at a faster rate in the Anglian region than the national average. Further evidence is provided in "Impact of Environmental Factors on leakage in the Anglian region" (PF014).

3.2   Population Density

(279) Anglian notes that population density was raised as a potential explanatory variable in its hearing. Anglian confirms that it is not widely recognised as the main explanatory variable. This is consistent with how the International Water Association categorises and explains leakage performance internationally. Anglian's full response on population density as a factor in leakage control is set out in its Hearing follow-up on 12 August 2020.[128]

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[127] Soilscapes are a classification of soil types used to describe to soils of England and Wales. The list of soilscapes and their descriptors are available at http://www.landis.org.uk/soilscapes/soilguide.cfm. In this figure, the soil classes are ordered aggressiveness (number of bursts per length of main pipe).

[128] Anglian post hearing follow-up (PF016).

3.3 Historical Levels of investment

(280) The CMA suggests that historical levels of investment may explain Anglian's strong performance and leakage.[129] The CMA correctly identifies that Anglian has historically made significant investment in leakage control and reduction. However, the inference that this historical investment gives Anglian an advantage in its leakage performance fails to **recognise the recurring nature of leakage control costs and the increasing marginal costs of maintaining leakage reduction at low levels**.

3.3.1 Leakage base costs are recurring in nature

(281) The recurring nature of leakage base costs is demonstrated in Anglian's response to RFI012 and RFI018a.This showed that **all areas of leakage maintenance expenditure have recurring costs**, not one-off costs which give lasting leakage benefits without further leakage investment.

(282) Anglian has provided the CMA a breakdown of its AMP7 enhancement expenditure (which is more heavily weighted towards capex) in response to RFI012. With the exception of the mains replacement programme, all this investment (80% of total leakage enhancement costs) represents recurring costs that require further investment in future AMPs to maintain the benefits delivered.

3.3.2 The marginal costs of leakage control rise as the level of leakage reduces

(283) A critical factor in assessing leakage costs relates to the marginal costs of removing the next unit of leakage. As detailed in its Statement of Case, Anglian has shown that the **marginal costs of leakage control rise as the level of leakage reduces**. This relationship is evidenced in Figure 7 below.[130]

Figure 7   Marginal costs of leakage reduction – Anglian historical cost and service performance
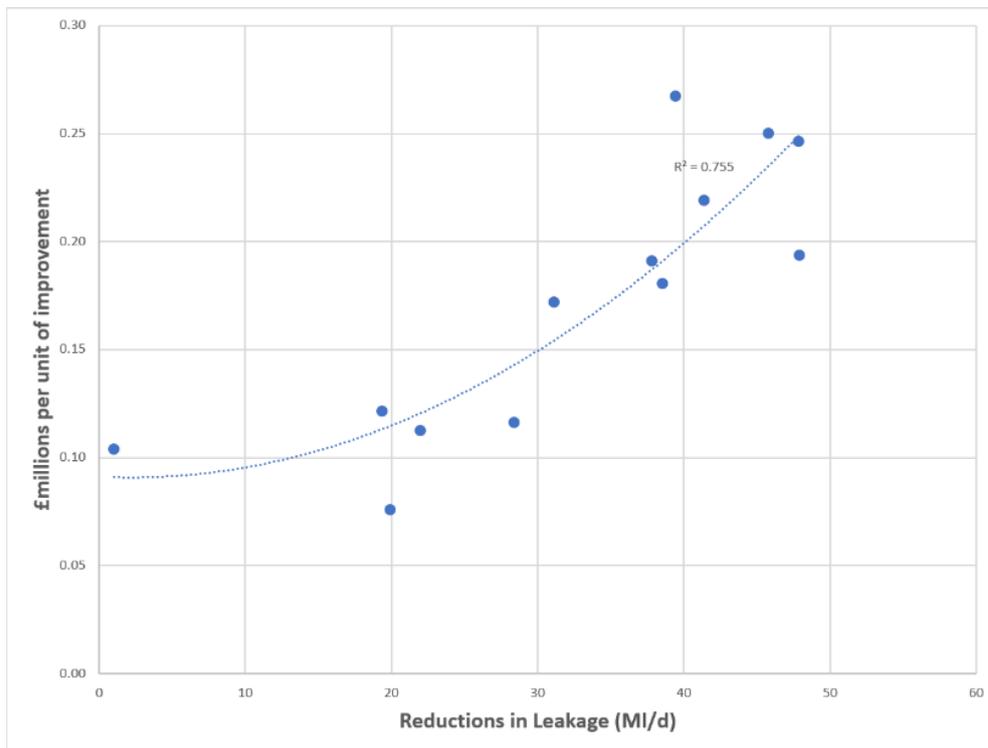
Source: ICS based on historic cost and service data provided by Anglian (SOC502)

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[129] PFs, para. 8.46.

[130] Anglian's Statement of Case, Figure 65, page 224.

3.3.3 The CMA accepts that leakage costs are recurring and marginal costs increase as leakage falls but has not followed the logic of this in its PFs cost allowances

(284) The CMA accepts both the points above in its PFs:

(i) leakage control costs are recurring in nature. Notably, "*[t]o maintain a lower level of leakage, a company needs to spend more money on both Capex (such as noise sensors to find the leaks) and Opex (such as staff to repair the leaks). Given the limited asset life of the Capex involved, these expenditures needed to be made on an ongoing basis*".[131]

(ii) marginal cost increases as leakage levels fall. Notably, "*NERA showed that the marginal cost of leakage reduction rises as companies reduce leakage to lower levels.*"[132]

(285) However, the recognition of these points does not follow into the CMA's views on the reasons for Anglian's strong leakage performance.

(286) Anglian contends that the CMA should, in its further assessment of leakage, recognise that:

(i) **Anglian's historical levels of investment do not reduce the need for ongoing matching levels of base expenditure**; and

(ii) **Further frontier shift will occur on a steeply increasing marginal cost curve**.

(287) The next section provides evidence from Anglian's AMP6 leakage performance that supports these conclusions.

4 Anglian's AMP6 Leakage Performance

4.1 AMP6 Costs Overview

(288) The CMA suggests that past efficiency in achieving leakage targets explains some of Anglian's strong performance on leakage.[133] Anglian's cost adjustment claim for maintaining leakage levels at AMP6 outturn levels is based on the historical costs it experienced in delivering its sector-leading level of leakage. Therefore, any past efficiency is built into assumptions of AMP7 cost estimations. Anglian has set out in response to RFI018a how it has ensured that its base costs are efficient.[134]

4.2 AMP6 Costs Breakdown

(289) During AMP6, Anglian's base costs to maintain its leakage performance were over £270 million, with costs increasing during the AMP, (a) reflecting the rising marginal cost of maintaining leakage at lower levels than at the start of the AMP, and (b) reacting to the increase in the number of leaks following severe weather events later in the AMP (including the "Beast from the East" and the hot summer of 2018).

Table 13   Anglian's base leakage costs during AMP6

Year	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Leakage base expenditure (£m)[135]	42	45	51	62	71	271

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[131] PFs, para. 8.42.

[132] PFs, footnote 1275 (page 489 which quotes Bristol's Statement of Case, para. 386).

[133] PFs, para. 8.46.

[134] For example, bidders for Anglian's Integrated Maintenance and Repair (IMR) alliance were assessed against commercial criteria including the hourly rates for staff and the rates for plant and equipment.

[135] Values 2017-18 price base.

4.3 AMP6 Botex Cost Allowances

(290) Anglian was allowed no totex cost adjustment in AMP6, and so the only allowance was that included in the totex cost models. As set out in Anglian's cost adjustment claim (SOC173), the estimated implicit allowance for leakage from these models is just **£95 million**. This compares with the actual costs in the AMP of £271 million as shown in the table above, therefore requiring a significant shareholder investment in leakage to deliver its AMP6 outturn level (of 182Ml/d). Investing as per the base modelled cost allowance (£95 million), Anglian estimates that it would have outturned at c. 211Ml/d in AMP6. This would have meant that Anglian's supply-demand balance would have been under extreme pressure today.

4.4 AMP6 Leakage Performance

(291) Figure 8 below shows Anglian's historical leakage performance. AMP6 (pink bars) shows significant improvement on previous AMPs. The blip up in leakage in 2018/19 is due to the harmful impact of the Beast from the East. For context, performance going back to AMP4 (blue bars) is also shown.

Figure 8   Anglian's historical leakage performance
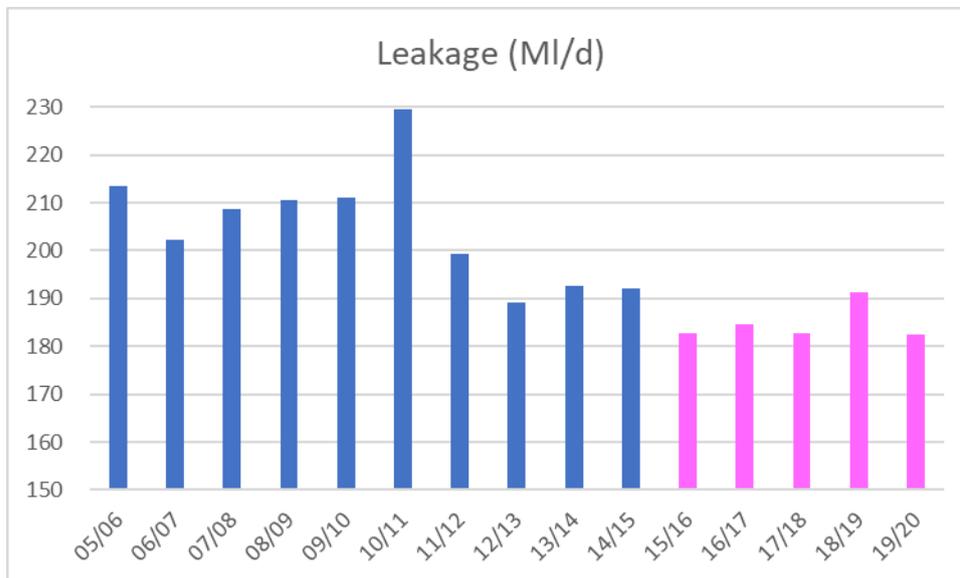
Source: Anglian analysis

4.5 Anglian's leakage performance in AMP6 was possible only because of shareholder investment

(292) Anglian delivered leakage levels in AMP6 which were lower than any previous AMP – despite totex allowances being significantly below the levels of expenditure incurred. However, Anglian had to invest in leakage reduction because of its supply-demand balance challenges. Leakage costs beyond those implicitly allowed within the PR14 totex models were therefore fully funded by shareholders.

(293) Anglian's shareholders also invested a significant amount to reduce leakage. However, despite this substantial investment in both base and enhancement activities, only £17 million was recovered through the ODI mechanism, giving rise to an unfunded investment in leakage in AMP6 in the region of £186 million.[136]

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[136] Estimate based on Anglian's total leakage expenditure (base plus enhancement) minus an assumption of costs to maintain SELL of £95m assumed to be reflected in Ofwat's previous totex models minus the £17m recovered through the ODI mechanism.

4.6 Anglian recent experience shows that as bigger leaks are found and fixed, remaining smaller leaks are more costly to fix

(294) Figure 9 to Figure 10 below show the base costs and repairs undertaken over the last three AMPs. As Anglian's ability to detect leaks has improved, and **as Anglian's leakage performance has improved, the remaining leaks have a higher cost to fix**. This both demonstrates the increasing marginal base costs of leakage as evidenced in Section 3.3.2 above and shows how costs increases as leakage reductions over time.

Figure 9   Leakage maintenance expenditure and repair numbers
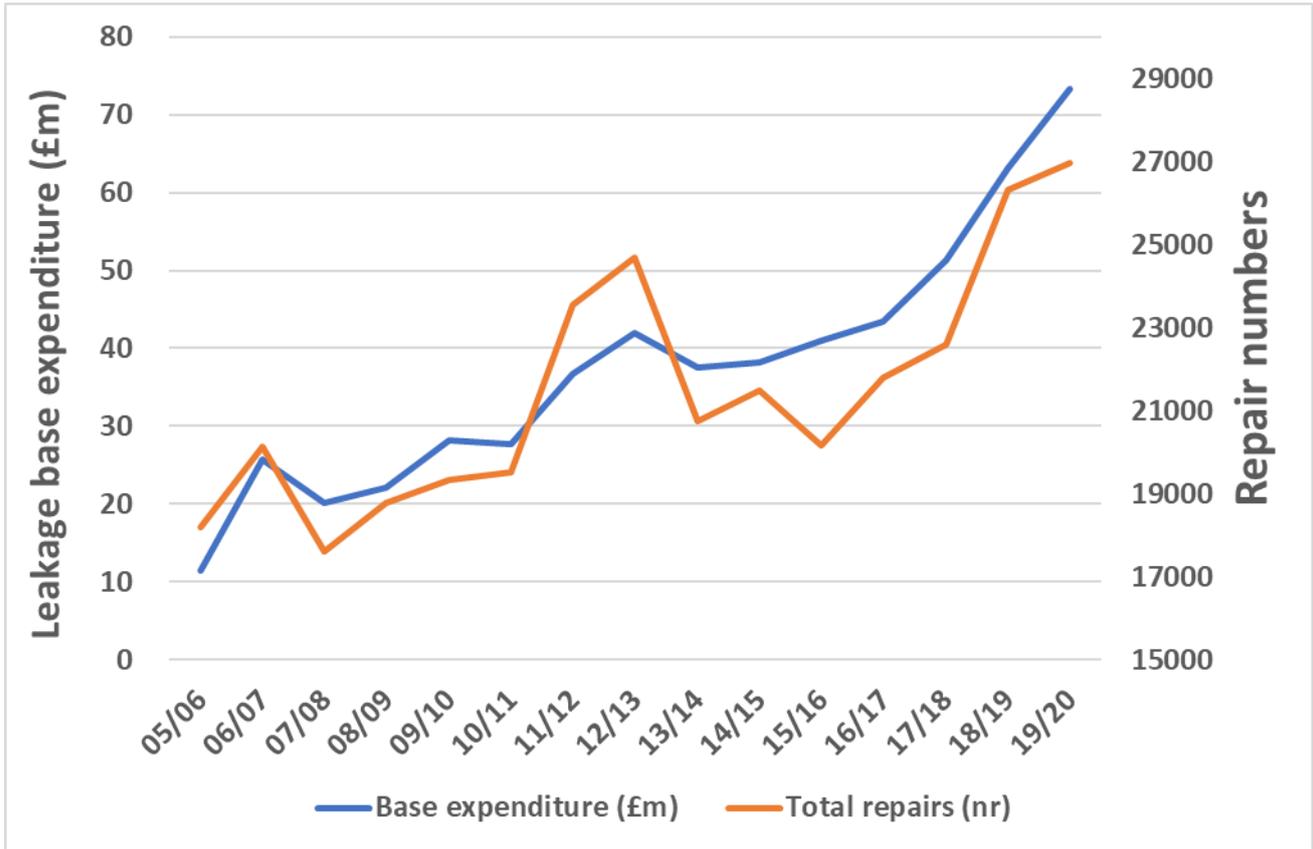
Source: Anglian analysis

(295) This cost increase is significantly driven by the fact that **the remaining leaks are smaller, so the gain is less per activity**. This is shown in Figure 10 below: the proportion of main leaks is falling, and these leaks are 10 times larger than non-main leaks (3,000 litres per hour vs 300 l/hour).

Figure 10   Average volume of leaks repaired
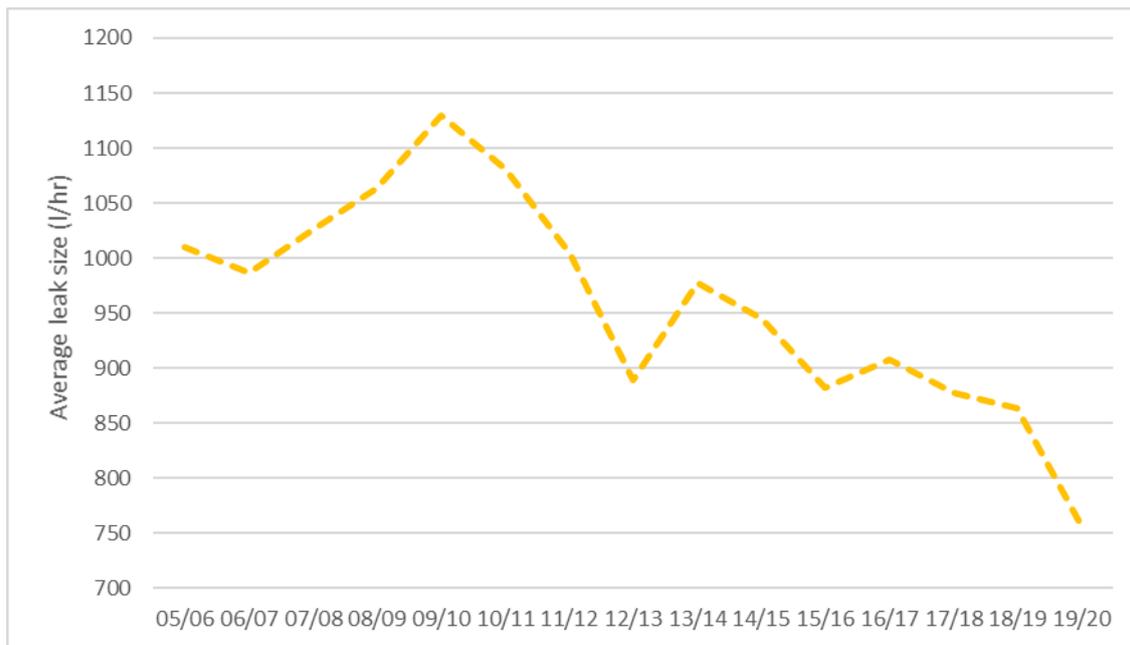
Source: Anglian analysis

(296) Anglian estimates the average size of each leak fixed over the last decade has reduced by 20%. Therefore, all other things being equal, we are now required to find and fix significantly more individual leaks in order to achieve the comparable leakage reduction in Ml/d terms. This further evidences the increasing marginal costs observed in Section 3.3.2 above.

5   Botex allowances for AMP7

5.1   Summary of CMA's position

(297) The CMA suggests that base costs for controlling leakage up to the upper quartile level are covered by the implicit base allowance "*since all companies incur these costs, and have incurred these costs throughout the period covered by the base cost models, an allowance for them is implicit in the base cost allowances*".[137]

(298) For base costs for leakage control beyond upper quartile, the CMA granted a share of the amount that companies "*said they would need to spend, the share corresponding to the percentage by which each company outperformed the upper quartile in 2019-20*"[138] (19% for Anglian which is applied to Anglian's cost adjustment claim value).[139]

(299) Anglian considers that:

   (i)   all the evidence captured above (in Sections 2 to 4) demonstrates that Anglian's cost adjustment claim remains appropriate;

   (ii)   the CMA has misunderstood the leakage costs covered by its cost adjustment claim: the £137 million claim was additional to an assumed £95 million for leakage in modelled base costs, so

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[137] PFs, para. 8.43.

[138] PFs, para. 8.47.

[139] PFs, para. 8.49.

the CMA's approach, if adopted, should be applied to Anglian's full leakage cost of £232 million; and

(iii)   the CMA has also applied a linear adjustment to UQ leakage costs not reflecting the rising marginal cost of leakage reduction.[140]

These issues, and their proposed resolutions are set out below.

5.2   The CMA's approach incorrectly interprets Anglian's cost adjustment claim

5.2.1   Reflecting the increasing marginal cost of controlling leakage in the cost adjustment claim

(300)   The marginal cost of controlling leakage increases as performance improves. This point is not addressed in the CMA's approach to leakage costs allowances in the PF. However, it is addressed in Anglian's cost adjustment claim by comparing actual costs incurred in maintaining leakage levels as leakage performance has improved.

(301)   Anglian is confident that its cost adjustment claim presents an appropriate allowance for leakage which is not covered by the leakage botex models.

(302)   These costs are subject to the bottom-up controls on cost efficiency as set out in response to RFI18a and are also efficient on a top-down assessment.[141]

(303)   Therefore, Anglian considers that **reflecting the increasing marginal cost of leakage reduction is best achieved by allowing Anglian's cost adjustment claim allowance**. Failing to do so would result in a significant shortfall in the costs Anglian requires to deliver its WRMP and meet its PCL for leakage. This shortfall in totex would be compounded by ODI penalties and risk the supply-demand balance not being met.

(304)   Anglian has worked with Oxera to examine the evidence that the costs adjustment claim presents efficient costs[142] and whether any further efficiency challenges should be applied. Anglian recognises that there is merit to applying frontier shift efficiency challenges to the cost adjustment claim, in a similar approach to Anglian's base costs covered by modelling. **Anglian therefore reduces its leakage cost adjustment claim to £132 million in order to reflect frontier shift efficiency of 1% p.a. less RPEs.**

5.2.2   Anglian's cost adjustment claim

(305)   In the absence of leakage explanatory variables within the **CMA's Botex models, the models do not reflect the costs of maintaining leakage at industry-leading levels, or the higher costs and value to customers of reducing leakage in Anglian's region.** Together, these factors mean that the **implicit allowance for Anglian is well below that needed to maintain Anglian's AMP6 outturn level of leakage** and the CMA's additional allowance for maintaining leakage below the upper quartile level falls far short of that required. Anglian's cost adjustment claim addresses both of these issues.[143]

(306)   Anglian's proposed base leakage costs for AMP7 reflect the costs of maintaining leakage at its AMP6 outturn level (c. 184Ml/d) with appropriate adjustments (see below). These costs assume no further improvements in leakage and would be required even if no leakage reduction (enhancement) was planned in AMP7.

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[140] PFs, footnote 1275, page 489 which quotes Bristol SOC, para. 386.

[141] Oxera report on leakage cost adjustment claim (PF015).

[142] Oxera report on leakage cost adjustment claim (PF015).

[143] DD Leakage CAC (SOC173).

(307) The costs used to develop Anglian's cost adjustment claim do not include historical enhancement expenditure, so as to ensure that there is no double counting of AMP7 enhancement allowances across Anglian's base and enhancement costs.

(308) **Anglian's forward view of base leakage costs is an estimated annual cost of c. £46.3 million (£232 million over the course of AMP7).** As set out in Anglian's cost adjustment claim, Anglian considered that £95 million was implicitly allowed within Ofwat's base cost models for leakage. This is the basis on which Anglian made a cost adjustment claim of £137 million (to give the total estimated base costs of leakage in AMP7 of £232 million).

Table 14   Anglian's base cost adjustment claim in context

	DD representation (£m)	Final Determination	CMA Provisional Findings	Anglian view (post PF)	Change to PF requested (£m)
Base	**232**	**119**	**121**	**227**	**+106**
Of which assumed implicit in base models	95	95	95	95	0
Of which in base cost adjustment	137	24	26	132	**+106**

(309) Anglian's cost adjustment claim value therefore represents the incremental costs of leakage maintenance relative to maintaining the SELL. Anglian's level of leakage is 13% lower than the SELL, a smaller gap than the benchmark used in the CMA's assessment of upper quartile (against which its level of leakage is 19% lower). Using the upper quartile as the implicit allowance baseline would therefore have resulted in a higher cost adjustment claim.

(310) Anglian has also only applied the cost adjustment claim to the costs of maintaining leakage at the level reached at the start of AMP7, not the costs of maintaining leakage at the level reached within each year of AMP7, which would have resulted in a greater cost adjustment claim (reflecting the higher costs of maintaining the lower levels of leakage expected to be achieved in each year of AMP7).

(311) Following the "Beast from the East" event in 2018, Anglian undertook a significant amount of activity, both to limit leakage increases in response to the "Beast from the East" event and the hot summer of 2018, and to maintain the leakage level it had previously achieved. Whilst recovering its position involved significant investment in 2019/20, Anglian chose not to include the 2019/20 costs in the cost adjustment claim model. Anglian's cost estimate is therefore **absorbing the risk of similar high-cost severe weather events within its base cost allowance for AMP7**.

5.2.3   The CMA has applied its cost adjustment allowance for maintaining performance beyond the upper quartile incorrectly

(312) Anglian considers that the evidence it has presented above demonstrates that its cost adjustment claim remains appropriate and should be allowed in full. The CMA considers Anglian's view was that it should be funded in addition to base totex for all costs it has identified as being associated with achieving leakage targets.[144] This is not correct. Anglian's Statement of Case set out that a base cost adjustment

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[144] PFs, para. 8.46.

of £137 million was required to cover the incremental costs to maintain leakage at the AMP6 outturn performance.[145]

(313) This is based – as set out above – on the allowance required in addition to the implicit allowance within botex models. Should **the CMA decide to retain this approach in its Redetermination, the methodology should be applied to the full estimate of base leakage costs (i.e. £231.5 million). This would give a base cost adjustment increase of £18 million (£44 million rather than £26 million)**.[146]

Table 15   Correction to the CMA's leakage base allowance methodology

	Assumed base costs (£m)	Multiplier (UQ outperformance)	Allowance (base cost x multiplier) (£m)
CMA PF (using cost adjustment claim only)	137	19%	26
Corrected value (using Anglian's actual assumed base costs)	232	19%	44

6   Enhancement costs

(314) In its PFs, the CMA highlights "*We will be seeking more detailed information on the business case for this enhancement funding in parallel with this provisional determination*."[147]

(315) Anglian provided information relating to its business case for enhancement expenditure in response to RFI018a. Further evidence on Anglian's options development process and the efficiency of its enhancement costs is in WRMP2019 Demand management options report by Mott Macdonald[148] which sets out Anglian's options consideration process for demand management options. The approach for developing its leakage options and ensuring efficiency is summarised below.

6.1   Optioneering

(316) In developing its enhancement plan, Anglian considered leakage reduction activities which covered approximately 1,700 specific interventions. It ordered this long list of detailed sub-options by Average Incremental Cost (AIC) and adjusted for overlaps and dependencies. It used this AIC ranking to generate three sub-option bundles for each of its Water Resource Zones. The three bundles align to Anglian's broad option packages ('enhanced', 'enhanced plus' and 'aspirational') which cut across leakage, metering and water efficiency. These options are above and beyond the activities Anglian is currently undertaking. Anglian's leakage option development and strategy is set out in the WRMP Demand Management strategy.[149]

6.2   Efficiency challenge

(317) In the CMA's PFs, Anglian's enhancement costs for leakage are subject to an efficiency challenge coupled with additional productivity and RPE adjustments. Anglian considers that it is not appropriate to

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[145] Statement of Case, footnote 667, page 267.

[146] £231.5 million * 19% = £44.0 million.

[147] PFs, para. 8.74.

[148] WRMP 2019 Demand management options (PF011).

[149] See Anglian's WRMP 2019 Technical Document: Demand Management Strategy (December 2019), available at https://www.anglianwater.co.uk/siteassets/household/about-us/demand-management-strategy-2019.pdf, Section 5.3 (Leakage reduction plan); Section 6 (Option development (for all areas of demand management)); Section 7.13 (Leakage costs, building blocks and assumptions) and Section 7.14 (Leakage benefits).

apply either of these challenges to the leakage enhancement costs it has put forward for the reason set out below.

(318) Anglian sets out its arguments in relation to the appropriateness of the company-specific efficiency challenge which is applied to leakage in **Chapter E: Enhancement**. The costs for each element of the AMP7 leakage strategy have been developed bottom-up by the same teams responsible for leakage delivery in AMP6, and then verified by Anglian's central Cost Intelligence team. The enhancement costs for leakage went through the same rigorous process of cost estimation as all of the other areas of enhancement expenditure. Anglian has subsequently benchmarked the largest enhancement investment areas as an additional check on costs, most notably for the strategic pipelines and smart meters. These benchmarks have shown those costs to be efficient, further supporting the approach undertaken to develop enhancement costs. Anglian set out in detail its approach to benchmarking and ensuring efficient costs in its Reply to Ofwat's Response on cost issues (REP08 Part G4.4). **Anglian therefore disagrees with this flat 10% efficiency challenge to significant areas of enhancement expenditure, including leakage**.

(319) The CMA applies a frontier shift challenge on top of the costs put forward by Anglian. This is a **double count, as a frontier shift challenge has already been applied to Anglian's leakage enhancement costs** in developing its plan. The leakage enhancement costs in Anglian's plan reflect its proposed frontier shift assumptions for AMP7, leading to a double count of the £1 million frontier shift (post-RPE) applied to leakage.[150]

(320) Anglian therefore considers that its **leakage enhancement request of £77 million remains appropriate**, and increase of £9 million from the PFs, and should be allowed in full in the CMA's Redetermination.

7 The need to reconsider the incentive properties of the ODI framework

7.1 Clawback of enhancement expenditure

(321) In its PFs the CMA stated that Anglian misunderstood the purpose of the tier 1 penalty: to recover enhancement expenditure should it not deliver the level of leakage reduction anticipated.[151] However, Anglian's position is that this penalty rate is inappropriate if the totex allowance is insufficient to reach the PCL. As noted above, there was a **£111 million shortfall on its botex costs through the disallowance of 81% of its cost adjustment claim**. Therefore, while there is an allowance to develop new ways of finding leaks, without the base cost to control leakage levels, Anglian cannot reduce leakage to the levels expected from its enhancement expenditure. For example, thanks to its enhanced sensor rollout, Anglian identified more leaks in Q1 of 2020/21 than ever before. However, because Anglian has not been able to fund recruitment of technicians to go out and fix these leaks (due to the maintenance expenditure shortfall in the FD), the proactive find rate has had to be reduced to below its potential capacity. Should an appropriate allowance be in place to cover both maintenance and enhancement expenditure, Anglian would support the ODI clawback mechanism being in place.

(322) Further to this, in applying the clawback penalty to Anglian's leakage ODI mechanism, the CMA applies a cost sharing rate of 50%, whereas the actual cost sharing rate it applies to Anglian's totex is 45%. If the CMA maintains the use of an enhancement clawback rate in its FD, it should **align this with the sharing rate** it applies to Anglian's plan, i.e. the ODI multiplier should be reduced to 45%, or the cost sharing rate applied to Anglian's totex should be increased to 50% as proposed in Section 7 of **Chapter B: Risk and return**.

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[150] See Chapter C: Botex, Section 10.

[151] PFs, para. 8.87.

7.2 Additional tier 1 penalty rate

(323) The PFs state that, as the tier 1 penalty rate acts as a clawback for enhancement expenditure, rather than a penalty, it is appropriate to apply a penalty rate on top of this.[152] Anglian disagrees with this line of reasoning.

(324) This approach effectively **penalises Anglian for its historic strong performance**. As this penalty rate applies in addition to the enhancement clawback rate, Anglian could face penalties whilst reducing leakage from an industry-leading level, even if no enhancement allowance were made available.

(325) The **additional penalty does not reflect the fact that leakage is not fully within management control**. As demonstrated by severe weather events in 2018-19 and 2010-11, leakage is often affected by factors which both increase the level of leakage in the affected year and require increased investment after the event to recover the level of leakage in subsequent years. Anglian therefore faces greater costs on multiple fronts under the PF:

(i) a totex shortfall (through the rejection of 81% of its required additional base costs and additional enhancement cost challenges);

(ii) the enhancement clawback mechanism; and

(iii) the application of standard ODI penalty rate.

(326) Together, these factors place excessive risk on Anglian in an activity which is not optional but critical to maintaining supplies in AMP7.

7.3 Reward rates

(327) In its PFs, the CMA removes the enhanced reward rate and applies only a standard reward rate to outperformance beyond the leakage PCL.[153] Anglian proposes that, as it is operating at the frontier of leakage performance, and both its own customers and the industry stand to gain significantly from breakthroughs that it makes in further driving down the leakage frontier, **the enhanced reward rate should operate from its Performance Commitment Level,** effectively acting as Anglian's standard outperformance rate.

(328) As Anglian would be significantly stretching the frontier on leakage reduction in meeting its PCL, and it is facing a higher penalty rate under the PFs, it considers the there is a disproportionate skew towards risk over reward. This is effectively driven by (and penalises) Anglian's strong historic performance on leakage and the necessity to deliver significant leakage reductions due to its acute supply-demand challenges (rather than to improve from a position of stagnating performance as for the rest of the industry).

(329) As a result, Anglian could invest all the enhancement expenditure it has been allowed, continue to push the frontier on leakage, yet still face sizeable penalties. Anglian does not consider this delivers the appropriate balance of risk in reducing leakage, nor the appropriate incentives for others to improve performance.

(330) The inappropriate balance of risk and reward can be seen in assessing leakage scenarios over AMP7.

(331) **Scenario 1 – Leakage reduction of 0% in AMP7** – This is the scenario Anglian faces through being allowed the majority of its enhancement expenditure, but only 19% of its cost adjustment claim. Under this scenario, even if Anglian assumed it were able to hold the level of leakage at the level achieved at the end of AMP6, despite the shortfall in totex, it would be subject to a penalty of £64.6 million over the

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[152] PFs, para. 8.87.

[153] PFs, 8.75-8.99.

AMP, despite delivering a level of leakage performance far below that reached by other companies who could potentially earn rewards for inferior performance relative to Anglian. The penalties in each year are shown in Table 16 below:

Table 16   Expected penalty where leakage level remains at AMP6 outturn level

Year	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Three-year average performance (Ml/d)	185.4	185.4	185.4	185.4	185.4	
ODI impact (£m)	-2.0	-8.2	-12.4	-18.1	-23.9	-64.6

(332)   **Scenario 2 – Leakage reduction negatively impacted by extreme weather event in year 2 which increases leakage by 10Ml/d. It then falls following the PCL gradient –** This scenario assumes that Anglian has sufficient totex allowance to reduce leakage by its PCL, but is hit by an event similar to the "Beast from the East" which leads to a 10Ml/d increase in leakage in year 2. After year 2, leakage reduction continues at the same rate as before, but at a level 10Ml/d higher than the PCL. This leads to a **penalty of £26.1 million** over the AMP. Anglian's experience from the "Beast from the East" shows it also required c. £25 million extra in the following year to return leakage to the level achieved before the extreme weather event. Performance in each year is shown in Table 17 below (note there is a lag in the impact on the PCL due to three-year averaging).

Table 17   Expected penalty where Anglian follows the PCL trajectory but for an event which increases leakage by 10Ml/d in year 2.

Year	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Three-year average performance (Ml/d)	182.8	178.3	176.3	172.4	165.0	
ODI impact (£m)	0.0	-2.6	-5.3	-7.9	-7.9	-23.6

(333)   Whilst Anglian is subject to these penalties, under the PFs the maximum reward Anglian could achieve is only £6.2 million, even if it delivers an extraordinary performance that would further stretch the industry frontier on leakage due to the capping of standard rewards at the previous enhanced reward level. Anglian considers this imbalance between penalty and reward to be inappropriate and potentially harmful to the long-term incentive for companies to aim for the frontier on leakage.

7.4   Summary of proposed changes to the leakage PC and ODI package

(334)   Taking the above into account, provided that Anglian is allowed the necessary botex and enhancement expenditure that it has requested, Anglian proposes the following PCL, in line with the stretching levels set out in the CMA's PFs.

Table 18   Anglian's PCL glidepath in AMP7

Year	2020-21	2021-22	2022-23	2023-24	2024-25
% reduction	1.4	5.6	8.5	12.4	16.4

(335)   Anglian proposes the following reward and penalty rates which it considers give better incentives both for Anglian, and in the signals it sends to the rest of the sector in aiming to deliver frontier levels of leakage:

Table 19   Anglian's proposed reward and penalty rates

	Rate (£m/Ml/d)
Standard reward rate	0.94
Tier 1 penalty (between AMP6 outturn and PCL)	0.47[154]
Tier 2 penalty	0.37

(336)   Anglian proposes that the cap for the standard reward rate should apply at the level as set out in the Final Determinations for the 'Enhanced outperformance cap'.[155] This approach ensures a consistent approach across companies because:

(i)   the performance commitment level is aligned with the enhancement funding allowed for leakage reduction for all companies;

(ii)   the penalty rate reflects the enhancement costs allowed for reducing leakage; and

(iii)   it does not additionally penalise Anglian for delivering an absolute level of leakage per km of main (achieved through significant investment over multiple AMPs) at which these other companies would be earning a reward.

(337)   The reward rate reflects the highly stretching challenge Anglian faces in seeking to push the leakage frontier even further during AMP7 and reflecting the critical value of leakage reduction in the Anglian region to ensure the supply demand balance is maintained.

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[154] This is on the basis of an enhancement allowance of £76.7m with a 50% totex cost sharing rate. If the CMA maintains a 45% totex cost sharing rate, this rate should accordingly be updated to £0.38m/Ml/d.

[155] i.e. "For each performance commitment with an enhanced ODI, we will apply a cap (in £) in each year on enhanced outperformance payments (ie payments for performance above the enhanced threshold) equal to 1% of either water or wastewater regulated equity (as relevant) in that year. Water regulated equity refers to the subset of appointee regulated equity which is linked to either the water network plus or water resources price controls, whilst wastewater regulated equity refers to the subset of appointee equity which is linked to either the wastewater network plus or bioresources price controls." Anglian FD Outcomes PCs Appendix, page 12 (SOC233).

Chapter G: Outcomes - Performance commitments and incentives

1   Overview

> Anglian welcomes the addition of deadbands for unplanned outages and mains repairs, which are in line with its business plan proposals and supported by its customers.
>
> However, Anglian notes that except for leakage, the PFs do not recognise any need for cost increases to deliver service improvements and increase the overall asymmetry of incentives.
>
> The result is a compounding of the asymmetric risk that Anglian, as a high performing company, will incur penalties during AMP7 despite continuing to improve service quality provided to customers and the environment. There is a significant downside skew on the PC and ODI suite.
>
> Anglian is disappointed that in some circumstances the CMA has not accepted Anglian's arguments regarding the weight which can and should be placed on customer engagement outcomes and this leaves its role uncertain for future reviews.
>
> Anglian presents further information, including evidence from additional targeted engagement with its customers, on the proposed interconnectors programme ODI.
>
> **Requests to the CMA**
>
> Anglian requests that the CMA adopts the following targeted amendments:
>
> (i)   Reduce asymmetry for upper quartile performance commitments by increasing the reward cap for Anglian to be more consistent with other companies.
>
> (ii)   Moderate the challenge on water quality contacts in line with historic levels of improvement.
>
> (iii)   A redefinition of the Internal Interconnector Programme customer protection mechanism.

2   General considerations

2.1   Balance of incentives

(338) The PFs increase the asymmetry in Anglian's ODI package. Anglian has some reservations about how the CMA has reviewed asymmetry. **Anglian does not agree with the CMA's assessment that the asymmetry is an expected loss of 0.1-0.2% of RoRE**.[156] While it is implausible to assume no improvement in performance, taking account of the constraints on cost allowances in the PFs and Covid-19, [✂]. This level of performance is based on Anglian's expert judgement on possible improvements permitted by the provisional expenditure allowances, the impact of Covid-19 and past experience of the impact of extreme weather events on performance.

(339) It is in this context that Anglian makes the following targeted requests on the PC and ODI package (including leakage, discussed in **Chapter F: Leakage**).[157]

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[156] PFs, para. 7.237.

[157] *See* Chapter F: Leakage.

2.2 Role of customer engagement evidence

(340) In its Statement of Case, Anglian highlighted its concern as to how the quality of its customer engagement had been appropriately accounted for within Ofwat's comparative assessment and interventions within the ODIs developed as part of Ofwat's FD.[158]

(341) The PFs reaffirm the importance of comparative information in the regulatory process, which Anglian does not dispute. Anglian's concern is that its business plan package has been decoupled from customers' stated preferences, notwithstanding the accepted high quality of its customer research. Interventions made at an individual measure level have lost sight of the bigger picture.[159]

(342) The outcome moves the PC and ODIs package to a position of being largely homogenised across England and Wales, rather than taking account of legitimate differences in customer priorities. This leaves **significant uncertainty as to the role of customer evidence in future reviews**, despite the fact that the PR19 Methodology stated this was to be at the heart of the development of business plans.[160]

3 Asset health measures

3.1 Unplanned outages

(343) **Anglian agrees with the CMA's assessment of unplanned outages and the level of risk associated with them**.[161] Deadbands appear an appropriate way to manage this risk, given the relative immaturity of the measure and the existing strong incentives to secure supplies to customers in the event of an outage.

(344) Anglian proposed a deadband for this PC in its business plan.[162] While the CMA's deadband is at a lower level than Anglian proposed, in light of greater information now available, Anglian accepts the CMA's proposal. Overall, Anglian considers that the deadband is appropriate as:

   (i)   there is good support from customers for the use of deadbands on volatile measures. 69% of those participating in acceptability testing of a short list of PCs indicated support;

   (ii)   there is limited understanding of volatility in performance and deadbands limit bill volatility;

   (iii) the metric is in its infancy, with application and definitions evolving ahead of AMP7; and

   (iv)   it helps mitigate many of Anglian's concerns regarding this incentive listed above. There are already strong incentives in place under the CRI, water supply interruptions and other measures of asset health that will ensure any customer impacts from unplanned outages are avoided or minimised.

3.2 Mains repairs

(345) **Anglian agrees with the CMA's assessment of mains repairs and welcomes the CMA's recognition of the relationship between mains repairs and proactive leakage detection**.[163]

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[158] Anglian's Statement of Case, Chapter G (ODIs).

[159] In this respect, Anglian considers that para. 7.54 of the PFs which states that "*Anglian requested that we largely reverse all Ofwat's changes on PCs and ODIs on the basis that Ofwat had put in place a process under which companies obtained and took into account customer views when formulating their business plans, so Ofwat should not have then intervened to change those plans*" is not an appropriate characterisation of Anglian's submissions (see also e.g. Anglian's Statement of Case, para. 1016).

[160] Anglian's Statement of Case, paras. 975-976.

[161] PFs, paras. 7.164-7.171.

[162] See September 2018 Plan, Section 13.39.3 (SOC001).

[163] PFs, para. 7.172-7.180.

Additionally, weather, particularly cold weather and freeze thaw events, influences performance and is beyond management control.

(346) The CMA's inclusion of a deadband is also supported by Anglian's customers. In its business plan, Anglian proposed a deadband for reactive mains bursts (now a reputational incentive). However, the rationale for this applies equally, if not more strongly, to mains repairs. The proposed deadband would mean that companies are penalised if underlying performance deteriorates. In principle, 69% of Anglian's customers support the use of deadbands on the basis that some flexibility to account for extreme weather or a small allowance if things 'go wrong' will ultimately lead to better performance. The deadband will also protect against unnecessary bill volatility – a key theme from Anglian's customer research was that its customers do not like bill volatility, rather they would prefer a smooth bill profile to allow them to better plan their household budgets.[164]

4 Upper quartile performance commitments

(347) In the PFs, the CMA proposes increasing the penalty collar for **pollution incidents**.[165] Anglian understands the theoretical rationale behind the CMA's proposal but has concerns regarding its practical impact.

(348) This **intervention further increases the asymmetry of the incentive package**, and overlaps completely with existing regulatory incentives in the Environment Agency's Environmental Performance Assessment (EPA). This includes very strong reputational incentives from the star rating system and the risk of enforcement action by the EA.[166] This increases the risk for this PC relative to others.

(349) Considering this overlap, Anglian requests that the CMA consider a **consequential increase in the reward cap for this performance commitment to balance these incentives.** Anglian also proposes that the revised penalty collar moves on a glide path in line with the performance commitment level, to reflect the expectation that performance will improve during AMP7 and keeping penalty risk constant.

(350) Anglian also asks that the CMA consider whether increases to reward caps are warranted on the other upper quartile PCs (internal sewer flooding and water supply interruptions). Anglian highlights that, on these metrics, the potential for outperformance by other companies is higher, as highlighted in the figures below. As Ofwat noted in its decision to increase Severn Trent's ODI reward cap in AMP6, increasing positive incentives to drive performance improvements "*is in customers' interests if the incentives are proportionate to the costs required to continue to deliver stretching performance and do not exceed the benefits*".[167] Anglian notes the aggregate cap on ODI rewards protects customers from excess outperformance.

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[164] Accent Acceptability Testing PCs/ODIs (SOC046).

[165] PFs, paras. 7.135-7.147.

[166] Environment Agency, Water and sewerage companies in England: environmental performance report for 2019, Section 12.1. Formal actions include a written warning, enforcement notices, issuing a formal caution, undertaking a prosecution or accepting an Enforcement Undertaking (EU) offer.

[167] Ofwat, Final determination of in-period ODIs for 2018, page 18 available at https://www.ofwat.gov.uk/wp-content/uploads/2018/11/In-period-ODI-final-determinations-December-2018.pdf.

Figure 11   Variation in outperformance caps for water supply interruptions
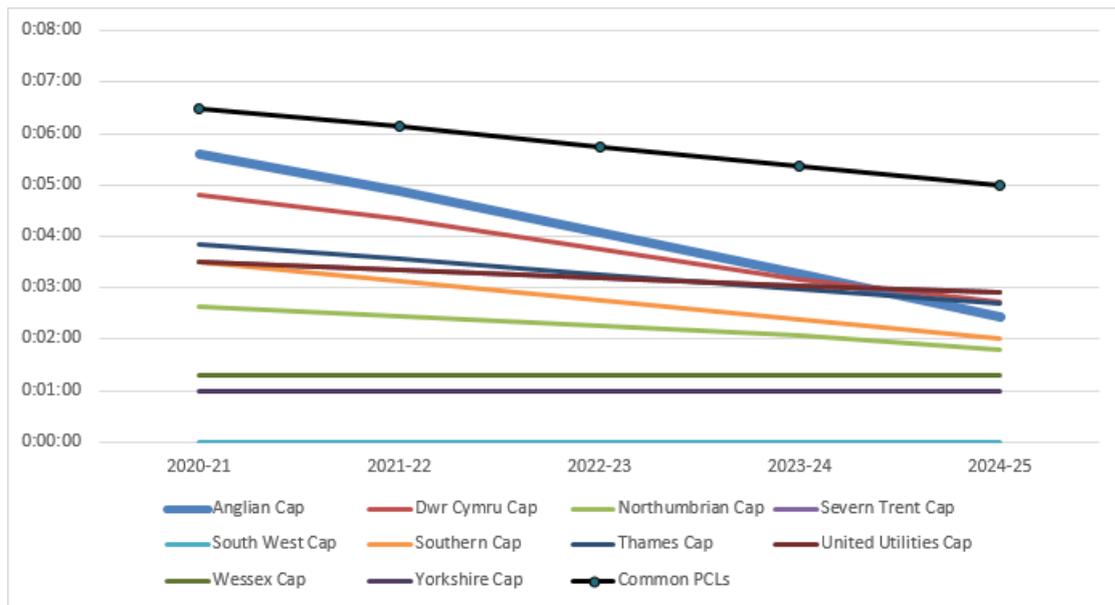
Source: Anglian analysis of the Ofwat Final Determination

Figure 12   Variation in outperformance caps for internal sewer flooding
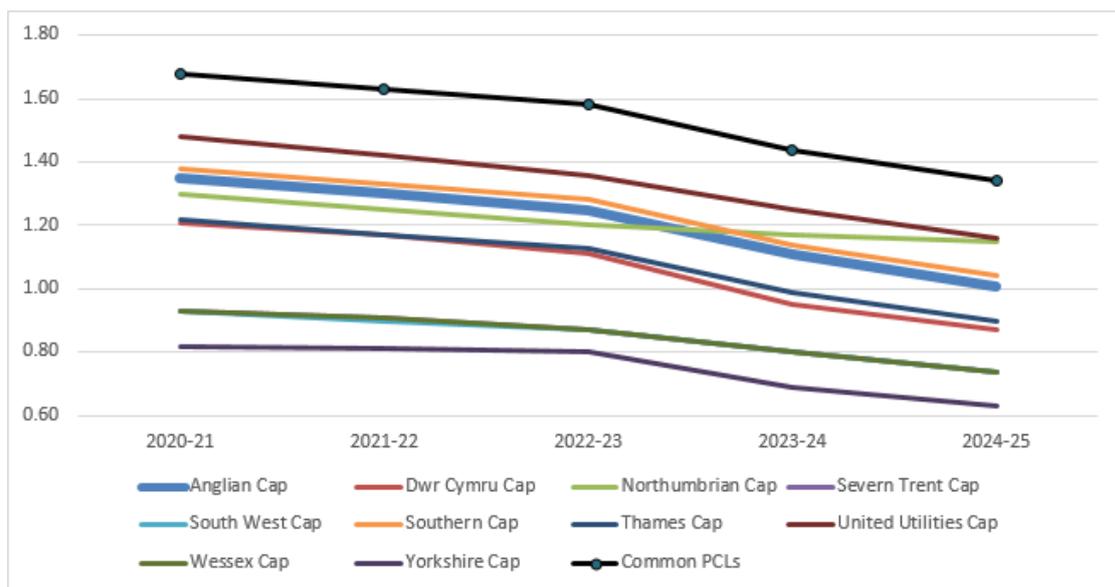
Source: Anglian analysis of the Ofwat Final Determination

5   Bespoke ODIs

5.1   Water quality contacts

(351)   In its Statement of Case, Anglian outlined that its customers supported maintaining current performance and that Ofwat's proposals set a very challenging target for companies with existing good performance.[168]

(352)   Discolouration contacts remain Anglian's largest customer contact area with respect to the appearance of the drinking water. To minimise discolouration risk within its distribution system, Anglian undertakes

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[168] Anglian's Statement of Case, case study on pages 249 to 250.

an annual discolouration risk assessment which ranks all its District Metered Areas ("**DMAs**"). Anglian also undertakes a programme of planned preventative maintenance of sediment removal flushing through the highest risk DMAs. If Anglian were to uplift the number of DMAs where sediment removal flushing is completed by 100 DMAs it predicts a reduction of 191 discolouration contacts per year, 0.04 once normalised (0.2 over the AMP) for the performance commitment.

(353) Based upon Anglian's 2018 Business Plan costs, this activity would add an additional cost of £1.4 million per annum (£7 million over the AMP) to the existing baseline costs. Even with additional funding for this activity, it alone is not sufficient to meet the PCL set in the FD and other interventions would be required. This suggests a relatively low level of value for money with the investment representing a poor cost-benefit option, particularly given customers' clear views about the relative priority of this issue.[169]

(354) Ofwat has set the upper quartile percentage reduction target for WQCs at 34%.[170] Industry data, presented in Figure 13 below, shows that no company scoring better that 2.22 on the DWI acceptability[171] score managed a 34% reduction during AMP6 (although one company scoring 1.74% managed a 33% reduction) and that there is an inverse correlation between current performance and ability to improve.[172]

Figure 13   Relationship between DWI acceptability score at the PR14 FD and improvements delivered between 2014 and 2019
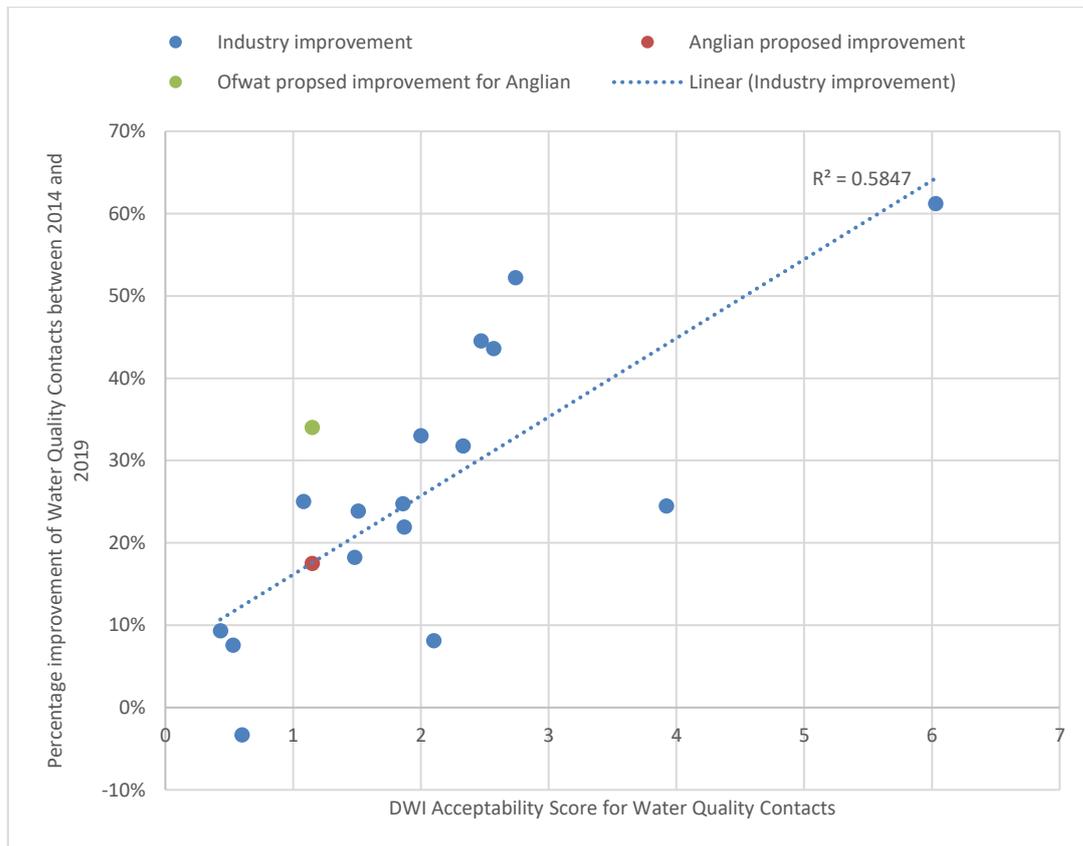
Source: Anglian analysis of the DWI's annual reporting of drinking water acceptability

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[169] Anglian's Statement of Case, case study on pages 249 to 250.

[170] Delivering Outcomes for Customers Policy, page 69 (SOC241).

[171] The DWI's measure of acceptability includes complaints regarding taste and odour, discolouration and illness. Illness is not included in the definition of the AMP7 performance commitment, but it is a relatively minor component.

[172] DWI annual reporting of drinking water acceptability available at http://www.dwi.gov.uk/about/annual-report/index.htm.

(355) Anglian believes the level of challenge for this performance commitment level should be moderated in the Redetermination. Delivering improvement without funding increases asymmetric risk on companies. Anglian notes that base models are used to fund consistent levels of performance for water supply interruptions and the other common upper quartile performance commitments, but not water quality contacts where the same level of *improvement*, rather than the same absolute level of *performance*, is mandated.

(356) Anglian proposes that **the PCL for 2024-25 should be in line with the magnitude of reduction achieved by a similar company in AMP6**, as this is the level of improvement historically funded by base models. This is calculated using the linear correlation between company scores at the PR14 FD and the percentage reduction that they have achieved since then. From the attached graph this is shown to be 17.5% (red dot). This equates to a final target of 0.90 for 2024-25 (1.09 x 82.5%). A starting PCL would be in line with the target set by Ofwat and performance for 2019-20, with a glidepath between the two.

Table 20   Anglian's proposed performance commitment level

	2020-21	2021-22	2022-23	2023-24	2024-25
PCL	1.09	1.04	1.00	0.95	0.90

6   Strategic interconnector performance commitment

(357) The following section outlines Anglian's views on why an outcome-based customer protection mechanism is preferable to an output-based one, building on its response to RFI015, Q5. Anglian also presents customer views on this topic, gathered through the online community. Finally, this section outlines how the PFs and discussions with Ofwat on the scope of the DPC projects affect the customer protection mechanism.

(358) Anglian supports a robust customer protection mechanism for this enhancement expenditure allowance. Anglian's response is focussed on improving the focus of this mechanism rather than seeking to dilute it.

6.1   Concerns with output-based approaches

(359) **Anglian agrees** with the CMA's statement[173] regarding the limiting nature of scheme-specific PCs that are based on outputs rather than outcomes, and **that customers should be protected if schemes are not delivered**.[174] Anglian agrees that the PC should be based on capacity rather than water delivered.[175] This is in line with its RFI015 Q5 response, which proposed outcomes based on 'capacity'.

(360) However, Anglian considers that **the prescriptive nature of the PC,** as currently understood, **could limit or prevent the ability to develop and optimise solutions** throughout the design process. As set out in RFI015, a PC which focuses explicitly on the capacity delivered in each individual connector with a named source and destination (e.g. Ely Water Resource Zone ("**WRZ**") to Newmarket WRZ) neither measures the actual outcome delivered (namely securing a supply-demand balance across all Anglian's WRZs) nor incentivises innovation in delivery. Under these arrangements, Anglian would be penalised if it delivers an outcome which does not precisely match the output set out in the Company's Business Plan, even if that were the better solution for customers and the environment.

(361) A further limitation of the CMA's proposed mechanism is that it effectively double-counts water that is passing through the interconnectors to where it is needed. By contrast, an outcome-based mechanism

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[173] PFs, para. 5.364.

[174] PFs, para. 5.364.

[175] PFs, para. 5.364(a).

would focus on **delivering the benefit of additional water where it is needed**, not on intermediary interconnectors.

(362) As an example, an output-based PC would limit Anglian's ability to respond to the significantly increased sustainability reductions now being proposed by the EA. As the EA starts to apply changes to Anglian's abstraction licences, it has indicated a preference to update the method used to inform WRMP19. Initial modelling of the information provided by the EA suggests the likelihood of significant sustainability reductions beyond that previously agreed, with a different geographical spread. These changes will require funding either during AMP7 or at PR24, and may require changes to the way that deficits are addressed. At this stage, given the uncertainties in how sustainability reductions will be applied, it is imperative to retain flexibility in solutions. As such, it is **critical that the PC allows flexibility to respond to increasing and geographically sensitive needs**, without unfairly penalising any re-optimising of the interconnector design.

6.2 Refining the design

(363) Anglian welcomes the CMA's invitation[176] to suggest alternative approaches to the PC definition. In this response, Anglian expands on its RFI015 Q5 response to provide further detail on how the PC could be constructed to give the required outcome focus, whilst still protecting customers.

(364) Anglian has expanded the table previously provided in its RFI015 Q5 response to show how net supply benefit capacity delivered (Ml/d) aligns to WRMP19 and Ofwat's FD PC (with "pass-through" water removed).

(365) Pass-through water is water not specifically being delivered to the named WRZ but moving through the interconnectors to the next WRZ or further downstream. This pass-through only affects interconnectors on the main 'spine' that typically service the higher demand WRZs.

(366) The inclusion of this pass-through water in the 'transfer' capacity for interconnectors serving 4 of the 15 target WRZs effectively causes a 'double-count' in each interconnector (in some cases counting the water conveyed downstream 10 times over). This is unhelpful, and the resulting multiple penalisation risk unreasonable. It dilutes management focus away from outcomes and onto intermediary interconnectors' "transfer" capacity.

(367) For example, if design planning highlights an alternative interconnector as optimal in providing capacity to a given WRZ, rather than the one originally planned (such as by bringing water northwards from the south or by using a different source zone), then implementing this option would result in a penalty (as the pass-through component in the other interconnectors would still be expected to be met within the PC). The inclusion of the source WRZ as well as the target WRZ has the same impact. This is not mitigated by the lower penalty rate that a higher level of capacity would imply and is a perverse outcome given that the capacity required by the target WRZ would be better achieved by the alternative option (with consequent benefits to customers).

(368) As noted above, this is not the case for every scheme: it affects 4 of the WRZs, and 11 of the schemes set out in Table 21 below. Nonetheless the double counting, directional specificity and fixed source zone reduce Anglian's ability to deliver on the PC whilst maintaining a commitment to adaptive long-term planning that can respond to evolving events (e.g. EA requirements for abstraction licence) or unforeseen factors such as ground conditions.

(369) Anglian therefore proposes that the 'Net supply benefit (Ml/d) required' column below better defines the capacity to be delivered by the internal interconnection programme and should be adopted as the PC. The proposed PC value itself is lower than the Ofwat value given the focus on outcomes; however, the

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[176] PFs, para. 5.365.

level of customer protection is equivalent as the cost allowance 'numerator' remains the same, consequently increasing the penalty rate.

Table 21   Proposed PC showing read across to the WRMP and Ofwat's FD PC

A	B	C	D	E	F
WRZ receiving the net supply benefit	WRMP scheme	Ofwat FD PC (Ml/d)	Final Business Plan (Ml/d) [D = E + F]	Pass through water (Ml/d)	Net supply benefit (Ml/d) – proposed PC
WRZ Capacity					
Central Lincolnshire	The 6Ml/d identified in the RFI015 WRZ capacity table that is then accounted for in CLN16 in the Ruthamford North WRZ, so it has been removed from this version of the table.				
Nottinghamshire	NTM1	2.1	3.5[177]	n/a	3.5
Ruthamford North	**CLN16**	-	**62**	35	
	SLN6	63	**63**	36	**27**
	RTN27	67	**67**	40	
Ruthamford Central	RTC2	7	7	n/a	7
South Fenland	**SFN4**	**35**	**40**	**20**	**20**
Cheveley	CVY1	1	1	n/a	1
Ixworth	THT1a	3	3	n/a	4.8
Thetford		1.8	1.8	n/a	
North Norfolk Rural	NNR8	3.4	5[178]	n/a	5
East Suffolk	**NFN4**	**15**	**20**	**15**	**5**
	ELY9	**20**	**20**	**15**	
	NWM6	**20**	**20**	**15**	
	BHV5	**20**	**20**	**15**	
	ESU8	**10**	**20**	**15**	
South Essex	**SEX4**	**14**	**15[179]**	**0**[7]	**15**
Happisburgh (and East Ruston)	HPB1	1.3	1.5[180]	n/a	6.5
		2	5[181]	n/a	
Intrazone capacity					

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[177] Increased scope in PFs compared to FD.

[178] Increased scope in PFs compared to FD.

[179] Increased scope in PFs compared to FD.

[180] Increased scope in PFs compared to FD.

[181] This figure for East Ruston presumes that the full capacity is included in CMA's final determination. This is to reflect additional non-household demand and additional sustainability reductions.

A	B	C	D	E	F
WRZ receiving the net supply benefit	WRMP scheme	Ofwat FD PC (Ml/d)	Final Business Plan (Ml/d) [D = E + F]	Pass through water (Ml/d)	Net supply benefit (Ml/d) – proposed PC
Bury Haverhill - Haverhill PZ	BHVIntra1	8	8	n/a	8
North Norfolk Rural - Diddlington PZ	NNRIntra1	0.2	1.5[182]	n/a	1.5
Ruthamford South - Woburn PZ	RTSIntra1	5	5	n/a	5
Ruthamford South - Meppershall PZ	RTSIntra2	5	5	n/a	5
Total (Ml/d):		303.8[183]	394.3	-	114.3[184]

6.3 Customer views

(370) Anglian asked the online community in mid-October 2020 about their preferences for a customer protection mechanism for the interconnector programme. Overall, customers strongly supported an outcomes-based approach, with 83% of 144 customers selecting this option over an outputs-based mechanism. The following quote from the community sums up customer sentiment:

"Option 2. The goal is to eliminate the water deficit in an identified geographical area and achieving that goal is the yardstick against which AW should be measured. That provides flexibility in the way that option 1. does not; the argument that achieving (or not) a target based on delivery of inter connector capacity is specious and to an extent, misses the point".

(371) Further details of this engagement can be found in ANH Online community customer engagement on risk sharing for interconnector investment.[185]

6.4 Setting incentives

6.4.1 Updating the incentive rate to reflect the Redetermination

(372) As Anglian highlighted in its response to RFI15, question 5, the final incentive rate should be determined based on the cost allowance provided in the Redetermination and relevant cost sharing rate. This would replace the rate specified on Presentation of September 2018 Plan to Ofwat, page 97 (SOC223).

(373) As described in **Chapter E: Enhancement** the discussions between Anglian and Ofwat have not reached a firm conclusion. As discussed above, **Anglian has requested that the CMA reflect in its Redetermination a reduced scope of DPC, such that only the Treatment Works at Elsham goes through the DPC process**.

(374) Focusing the uncertainty mechanism on outcomes reduces the denominator in the incentive rate calculation. In addition, including the two Elsham schemes for delivery by Anglian and consequential

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[182] Increased scope in PFs compared to FD.

[183] FD PC total for the interconnectors is 303.8 (including the treatment plus the Pyewipe transfer this was 355.2Ml/d).

[184] By comparison to the RFI015 table, this value is comparative (minus six for Central Lincolnshire, plus three for East Ruston).

[185] *See* Online community interconnector investment (PF017).

totex allowance in this calculation will increase the incentive rate for all strategic interconnectors. By increasing the incentive rate to reflect the additional cost allowance, incentives for non-delivery across the entire interconnector programme are sharpened.

6.4.2 *Ex post* review

(375) **Anglian remains concerned about the potential for an *ex post* review of the cost efficiency of the programme**, even if the required outcomes are delivered.[186]

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[186] This is outlined by Ofwat on page 97 of the outcomes FD appendix (SOC223). This concern was highlighted in Anglian's response to RFI015 Q5.

Chapter H: Weighted Average Cost of Capital and Financeability

1   Overview

(i)   Anglian's position, as set out in its Statement of Case, is that the appropriate range for the weighted average cost of capital (WACC) is 2.5-2.9% RPI-real but that an allowance at the bottom end of this range (2.48% wholesale) would be financeable only if the balance of risk and return were to be addressed in line with its Draft Determination Representation.

(ii)   Anglian broadly supports the CMA's approach to estimating the cost of capital and assessing financeability. Anglian considers that the CMA's approach confirms best regulatory practice for assessing financeability. In particular, Anglian welcomes the CMA's recognition of WACC as the key determinant of financeability and adherence to rating agency methodologies as well as the clarification made by the CMA on the importance of maintaining a strong credit rating in the industry and the need to incentivise long-term investment in the sector.

(iii)   However, the CMA's PFs still result in an allowed return to investors that is substantially reduced (by more than 30%) relative to PR14. The CMA's point estimate of appointee WACC at 2.57% (2.49% wholesale) is at the low end of Anglian's range for an appropriate WACC.

(iv)   Anglian notes that the CMA considers that the PFs would leave the notional company just financeable, achieving ratios right at the bottom end of the Baa1/BBB+ range, with essentially no risk buffer (just c. £5 million per annum) to maintain this rating as risks materialise. However, this is based on modelling and an assessment of costs and risks that in some areas Anglian disagrees with. Considering the PFs in the round, Anglian remains subject to significant downside risk, and a c.£630 million shortfall in totex allowances for AMP7 that cannot reasonably be ascribed to inefficiency. Risks are particularly acute in relation to leakage, where the proposed PC and ODI are beyond what can be achieved within the totex allowances envisaged. As a result, risk and return are out of balance in the PFs. This undermines financeability, and threatens the sustainability of water supply during this AMP.

(v)   This analysis is confirmed by the assessment of credit rating agencies who had already placed Anglian on notice of downgrade pending the outcome of the CMA Redetermination, and have publicly stated since the PFs that they are considering taking further actions on credit ratings as the PFs are not sufficient to maintain the metrics required for the current ratings. In **Chapter F: Leakage, Chapter E: Enhancement** and **Chapter C: Botex** Anglian therefore presents additional evidence on leakage and a limited number of other issues, to embrace the broad approach proposed by the CMA, while seeking some changes to recognise the particular needs of customers and the environment in the East of England. This will ensure it can achieve the Baa1/BBB+ credit rating that the CMA agrees it should be maintaining.

(vi)   The CMA's PFs continue to underfund Anglian's efficiently incurred cost of debt. The CMA has provisionally allowed 4.81% on cost of embedded debt, which is lower than Anglian's efficiently incurred cost of 4.97%. This is primarily driven by the CMA's decision, which does not appear to be justified, to adopt the bottom end of its range on the cost of embedded debt.

(vii)   The cost of equity provisionally determined by the CMA is c. 30% lower than PR14. As a result, there is a significant reduction in the equity buffer available to Anglian to absorb future shocks or withstand forecasting error in the CMA's modelling. Anglian has concerns with some of the analysis that the CMA has conducted. In particular, it does not believe that the evidence on TMR, equity beta and risk-free rate supports the low end of the range of the cost of equity adopted in the CMA's PFs.

2   Introduction

(376)   Overall, **Anglian broadly supports the CMA's point estimate for the appointee-level vanilla weighted average cost of capital (WACC) of 2.57% real RPI (3.50% real CPIH)**. It is within the range of estimates proposed by Anglian's experts. The CMA's Financeability scenarios demonstrate that the notional company would just be able to achieve the minimum AICR threshold of 1.50x under this allowed return (headroom of c. £5 million), suggesting that the package is 'just' financeable in the central scenario. However, this is based on modelling and an assessment of costs and risks that in some areas Anglian disagrees with the overall position remains extremely challenging, especially when viewed in the context of previous regulatory settlements and given the significant downside risk exposure Anglian faces in AMP7.

(377)   Anglian welcomes the CMA's more balanced approach to the evidence. However, there remain some parameter-specific areas where the CMA should adjust its provisional assessment. In the remainder of this section, these areas are highlighted, with additional evidence to support Anglian's assessment.

3   Aiming up of cost of equity and aiming down of cost of debt

(378)   The CMA is required to pick a point estimate for key components of the WACC as well as the overall cost of capital allowance. The CMA noted that it was "*required to balance all of its relevant duties when setting an appropriate cost of capital allowance*" and sought to consider all evidence as to where the regulator should aim their point estimate within the range.[187] The CMA did not try to "*aim up or down*" when setting the individual metric estimates, and was satisfied that the overall WACC range was its best estimate of the actual cost of capital over the price control.

(379)   However, while picking point estimates for the key components, the CMA accounted for the varying levels of uncertainty to aim up or down accordingly. The CMA recognises that aiming up is required where there is uncertainty in the estimation of parameters. The CMA acknowledged that such underinvestment caused by a cost of capital being set too low damages the overall welfare of consumers (and potentially the wider economy) materially more than the welfare lost through bills that may be slightly too high.[188] The CMA also noted that there are broader reasons to aim up, including where there is asymmetry in the expected distribution of returns (e.g. due to penalty only ODIs) or when there is a significant investment requirement that might be deterred by setting the allowed return too low.[189]

(380)   The CMA provisionally concludes that aiming up on the cost of equity is required, in light of the cost of equity being inherently subject to estimation error and asymmetry in expected returns due to penalty only ODIs.[190] With regard to the cost of debt, the CMA has aimed down because it considers that the balance of evidence supports numbers at the lower end of the range and there is less uncertainty in the cost of debt estimation.[191] The overall result is a point estimate for the WACC at the 58th percentile of the CMA's range.[192]

3.1   Anglian response

(381)   **Anglian agrees with the CMA that aiming up is required where there is uncertainty in parameter estimation**, in order to mitigate the risks of setting the cost of capital too low. Anglian also agrees that

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[187] PFs, para. 9.633.

[188] PFs, para. 9.667-9.668.

[189] PFs, para. 9.671.

[190] CMA post-tax cost of equity range is 3.56% to 5.60%, real CPIH with a mid-point of 4.58%, real CPIH (Table 9-24). CMA point estimate is 5.08% (Table 9-26), real CPIH. 5.08%-4.58%=50bp.

[191] PFs, paras. 9.664-9.674.

[192] PFs, para. 9.676.

this estimation uncertainty is likely to be greater for the cost of equity than the cost of debt. By taking different approaches across different components and aiming up in relation to cost of equity, the CMA attempted to balance the Financing Duty and the Consumer Duty and "*adjust for any risks to customers from underinvestment without being unnecessarily generous to shareholders*".[193] The CMA's reasoning, particularly around the risk of availability of finance for future investment, is also consistent with the CMA's approach and Defra's SPS which asks that Ofwat should "*sustain long-term investor confidence in the sector with the aim of protecting customer interest*".[194] However, Anglian has two main concerns with the CMA's approach:

(382) First, **aiming down on the cost of embedded debt is not justified.** The correct approach is to model precisely how embedded debt will unwind over the AMP and then take a mid-point from the range based on A and BBB rated debt (see Section 5.2.4 below).

(383) Second, the CMA's cost of equity ranges are wide (as the CMA acknowledges).[195] In several instances, these **wide ranges do not reflect the most robust data from the CMA's substantial evidence base**. The result is that not all points within the CMA's ranges are equally likely i.e. the uniform probability distribution that the aiming-up approach assumes is unlikely to hold for the CMA's cost of equity ranges. Were the CMA to construct its ranges to contain only the most robust and therefore likely estimates, it would find that its point estimates are closer to reflecting the midpoint and not the 75th percentile. This principle is highlighted on a parameter-specific basis in the appropriate sections below and illustrates that the CMA's point estimate for the cost of equity parameters is in fact the approximate midpoint from the market data.

4   Cost of Equity

4.1   Total market return

4.1.1   Summary of CMA's approach

(384) The CMA considers that a reasonable range for the TMR is 5.25% to 6.25% real RPI (having a mid-point of 5.75%) and proposes a point estimate of 5.99% as a result of the decision to aim up (6.20% to 7.21% real CPIH, point estimate 6.95%).The CMA considers that the most robust approach to estimating TMR is to use historical *ex post* returns.[196] TMR estimates are calculated using returns under both CED/CPI and CED/RPI inflation series and a range of different averaging techniques. The CMA continues to apply long-run ex ante cross checks, using a Fama-French dividend discount model and the DMS decomposition approach. Bias Adjustments are applied to these ex ante cross checks in recognition of the inherent geometric averaging.[197]

4.1.2   Anglian Response

(385) **The CMA's discussion of inflation is not reflected in the final TMR.** Anglian welcomes the CMA's recognition that the CED/CPI series has significant flaws and that the CMA now places some weight on estimates derived using the CED/RPI.[198] However, whilst the CMA's discussion of the CED/CPI and CED/RPI series appears more balanced than corresponding judgments made in Ofwat's FD[199] and the

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[193] PFs, para. 82.

[194] Defra's SPS, para. 38 (SOC257).

[195] PFs, para. 9.632.

[196] PFs, para. 9.216.

[197] PFs, paras. 9.195-9.199.

[198] PFs, para. 9.160 (c).

[199] Ofwat, PR19 FD: Allowed Return on Capital Technical Appendix (December 2019).

CMA's provisional findings for the NATS appeal,[200] in practice the CMA's range continues to place little weight on the CED/RPI. This is illustrated by Figure 14 below.

Figure 14   CMA's CED/CPI and CED/RPI estimates compared to its TMR range, real RPI
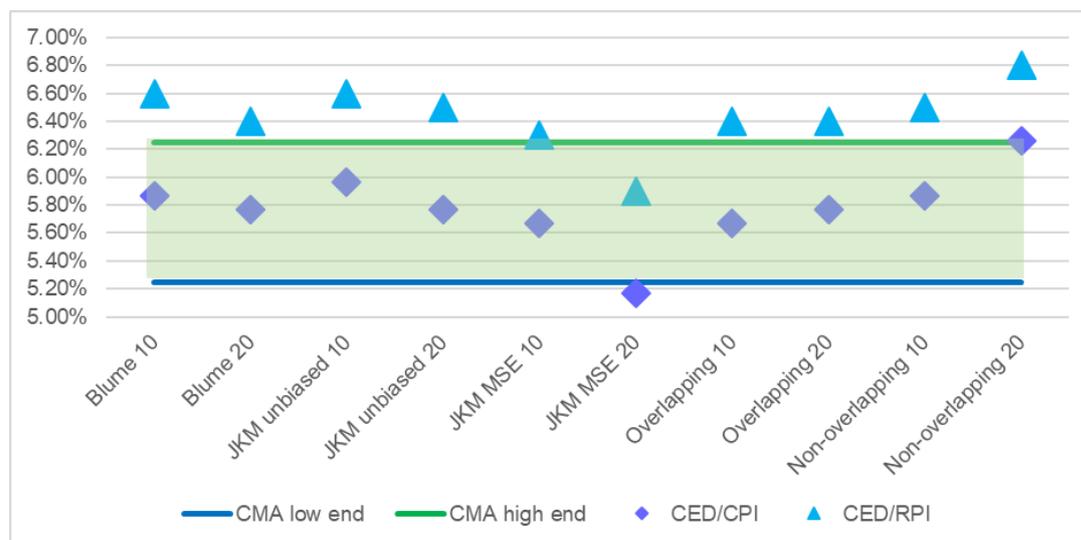
(386) Figure 14 above shows that the CMA's range effectively aligns with the CED/CPI and continues to remain below all but one of the estimates derived using CED/RPI. In addition, the low end of the range is based on a single point estimate (the CED/CPI JKM MSE 20 estimator), which seems significantly out of line with the other 9 estimates of the CED/CPI series. Therefore, **it is suggested that the upper end of the range should be increased to include a number of CED/RPI-based estimates**, so that evidence provided using the CED/RPI series is placed on an equivalent footing to the evidence provided by CED/CPI-based estimates.

(i)   Arithmetic averages have been excluded

(387) When computing its range for TMR using CED/CPI and CED/RPI historical series, the CMA has excluded the two results derived using arithmetic averages, being:

(i)   non-overlapping returns, which are 10 and 20-year arithmetic averages;[201]and

(ii)   the 1-year arithmetic average.[202]

The CMA's rationale for disregarding the non-overlapping returns is the small sample size.[203] However, **disregarding non-overlapping returns on the basis of small sample sizes is erroneous** because it is not sample size *per se* that should determine the statistical validity of an estimator, but its efficiency, or level of variation around the true parameter value. Whilst an increase in sample size typically leads to a reduction in the standard error, the presence of correlation between observations will increase it. As overlapping returns using holding periods of 10 years or more are significantly dependent, it is not clear that non-overlapping returns will be less efficient. Blume, in his paper detailing his unbiased estimator[204], presents a simulation which demonstrates that non-overlapping estimates can, in fact, be

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[200] Provisional Findings in *NATS (2020)* (SOC440)*.*

[201] PFs, Table 9-3, page 549.

[202] PFs, para. 9.181.

[203] The 120-year period can be divided into 6x 20-year periods and 12x10-year periods.

[204] Blume, M., Unbiased Estimators of long-run rates of return (1974).

more efficient than overlapping estimates, despite larger sample sizes. Therefore, the CMA should place material weight on non-overlapping returns when computing appropriate ranges for TMR.

(388) With regard to the one-year arithmetic average, it is notable that both Cooper (1996) and Schaefer (2020) have demonstrated that the discount rate investors should use to give an unbiased estimate of the present value of future cash flows will assume a TMR at least as high as the arithmetic average of historical returns.

(ii)   Corrected range supports a mid-point TMR of at least 6.0%, real PRI

(389) After adjusting the CMA's range for the aforementioned points (but still prudently excluding the 1-year arithmetic average), its range becomes 5.25% to 6.8% real RPI, with a midpoint of 6.0-6.1% real RPI.

4.2   Beta

4.2.1   Summary of CMA's approach

(390) The CMA takes an expansive approach to raw equity beta estimation – estimating betas for a range of time windows (2, 5 and 10 years and the period between structural breaks) and sampling frequencies (daily, weekly and monthly) and ultimately uses judgement to select a range of 0.27 to 0.32. This range has a mid-point of 0.30 but the CMA's point estimate is 0.31, based on aiming up to the 75th percentile.[205]

4.2.2   Anglian Response

(391) Anglian welcomes the CMA's recognition that short-run beta estimates can lock in noise and that there is merit in placing some weight on the longest run of data since the last structural break.[206]

(392) However, Anglian is **concerned that the lower end of the CMA's provisional range is informed by beta estimates which are not statistically robust**. Detailed analysis in the accompanying independent academic report demonstrates this point empirically.[207] The key findings by the authors are as follows:

(i) The CMA's 0.31 point estimate is *'far from'* being at the 75th percentile. Instead, the CMA's estimate is somewhat below the mid-point.

(ii) The theoretically correct way to estimate beta is a single OLS estimate using the longest run of data since the last structural break, adopting a range of sampling frequencies.

(iii) Structural break tests support a structural break in September 2014 and again in February 2020 i.e. before Covid-19.

(iv) Detailed analysis of the Covid-19 period shows that Covid-19 had a significant, negative impact on beta but that this effect was temporary and hence should not be locked into the long-run WACC. The appropriate time window is therefore the 65-month period between September 2014 and February 2020.

(v) However, the fact that a temporary effect on beta can be identified suggests an alternative approach to beta estimation, advocated in the Indep Report for Ofgem.[208] This would involve using data up until the end of September 2020, but dropping observations for "Early Covid-19" months where a significant and temporary structural break can be identified.

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[205] PFs, para. 9.284.

[206] PFs, paras. 9.269, 9.285-9.287.

[207] *See* Gregory et al, A Response to the CMA's PFs on water and estimation of beta (2020) (PF018).

[208] Indep, Ofgem Beta Study RIIO-2 (2018).

(vi) If structural break tests are to be ignored altogether, the beta should be estimated using all available data since 1991.

(vii) Asset betas estimated using the period between structural breaks and the longest run of data since 1991 support estimates at the top of (or indeed above) the CMA's range, with very little support for the lower end of the range. Overall, Anglian does not therefore consider that the lower end of the CMA's range is supported by robust evidence.

(viii) Their range estimate for the asset beta is 0.3 to 0.35, so whilst the CMA's point estimate of 0.31 lies within this plausible range, it does not therefore hinge on aiming up to the 75th percentile but instead is **below the mid-point from the market data.**

4.3 Risk Free Rate

4.3.1 Summary of CMA's approach

(393) The CMA recognises that the RFR in the CAPM must strictly be a rate that market participants can borrow and lend at, and therefore places weight on both index-linked gilts and AAA bond yields. It has adopted 6-month trailing averages of spot yields on its chosen benchmarks, with no explicit allowance for the risk that the RFR may change over the course of the price control. The result is a range of -2.26% real RPI (-1.40%, real CPIH) to -1.68% real RPI (-0.81%, real CPIH), based on 6month trailing averages of UK ILGs and AAA corporate bonds with remaining maturity of c.20years.[209]

4.3.2 Anglian response
(i) Estimating "today's" RFR

(394) Anglian welcomes the CMA's recognition that, in practice, no instrument is able to satisfy the requirements of a truly risk-free asset. Therefore, all suitable instruments, such as ILGs, nominal gilts, AAA-rated non-gilt yields and interbank rates, can provide valuable evidence, and should be included in the assessment on the basis of their 'closeness' to meeting the requirements.

(395) As a result, **Anglian supports the CMA's inclusion of evidence provided by AAA-rated non-gilt yields**. In addition, Anglian agrees with the CMA that ILG yields are likely to sit below the true RFR. This is because the significant difference between AAA-rated non-gilt and ILG yields suggests that even the highest-rated investors cannot borrow at the rates of the UK government.[210] Placing sole weight on ILG evidence would therefore underestimate the true RFR.

(396) Anglian notes that EE has submitted an expert report,[211] which concludes that AAA bonds are not suitable for the purposes of determining the RFR for several reasons, including:

(i) AAA-rated non-gilt yields may be subject to sector-specific distortions; and

(ii) Investors can borrow unlimited amounts at the risk-free rate by short-selling government bonds.

(397) Anglian disagrees with these conclusions for the following reasons. Firstly, Anglian agrees with the CMA that all proxy risk-free assets are subject to distortions to some degree. Secondly, EE's claim that investors can effectively borrow by short-selling government bonds is not feasible in practice. Investors are required to post collateral to the lender of the government bond being sold, meaning that no financing is ultimately raised. Put another way, short-selling government bonds is not an effective way for investors to borrow money.

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[209] PFs, Table 9-2: RFR estimate, page 534.

[210] PFs, para. 9.134.

[211] Europe Economics (July 2020), Comments Arising from CMA Expert Panels of July 2020.

(398)   In relation to a suitable averaging period, **Anglian supports the CMA's conclusion that one month is too short to reasonably mitigate against the risk of short-term market fluctuations**.

(ii)   Estimating the RFR for 2020-2025

(399)   The RFR estimate needs to hold for (at least) the duration of the charge control, as the allowed cost of equity needs to be sufficient to attract and retain investment over the duration of the 2020-2025 period. The CMA's current approach, however, only estimates "today's" RFR (for a 20-year investment horizon)[212] and makes no allowance for the possibility that the RFR might be expected to deviate from this level over the course of the charge control.

(400)   The introduction of a 6-month trailing average of spot yields does not capture any more information on forward-looking considerations than the prevailing spot yield, and therefore is unlikely to reflect the trajectory of the RFR with any greater precision. This is illustrated in the Brattle report, which is cited by the CMA.[213]

(401)   In addition, this is particularly problematic at present because the Covid-19 pandemic and uncertainty around Brexit mean that the possibility of material deviations from current yields is higher than normal.[214] The CMA's 6-month trailing average does not resolve the issue because at the time of the Final Decision, the trailing average will cover a period which falls entirely within the Covid-19 pandemic and therefore is unlikely to represent the UK RFR over a pro-longed forward-looking period.

(402)   There are two (not mutually exclusive) approaches to allowing for the evolution of market rates over the charge control.

(403)   First, **a market-driven approach could be taken**, which would involve applying the forward uplift. The CMA rejected this uplift because it has not observed sufficient evidence supporting the claim that forward curves offer a better indicator of future spot rates than the current market price. Anglian disagrees with this position. Market prices of forward contracts provide breakeven levels of interest rates (at future dates) which investors are indifferent to buying or selling and are ubiquitous in financial markets. Therefore, forward rates provide a valuable source of evidence which encodes the expectations of a wide investor base, in the same way that the spot yields used by the CMA do. Anglian acknowledges the possibility that forward rates may contain a 'term premia', but this is likely to be modest over short time periods.[215] For consistency with the CMA's current 'market driven' approach to estimating 'today's' RFR, the CMA should therefore adopt the forward rate adjustment, as a minimum.

(404)   Second, the CMA could place weight on the Bank of England's estimate of the UK's long-run equilibrium interest rate (R*). Anglian agrees with the CMA that this offers a useful and independent assessment of long-term interest rates but notes the CMA's concern that the 2018 R* is somewhat outdated. Anglian has therefore updated the estimate provided by a model on which the Bank of England's R* estimate depends, using current market data. The benchmark model contained in a paper authored by Malik and Meldrum (2014)[216] indicates that market expectations for long-run UK interest rates have fallen from 0.2% real CPI in August 2018 to -0.3% real CPI (-1.2% real RPI) as of July 2020. **The updated R***

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[212] More specifically, the CMA estimates the RFR as at July 2020.

[213] We note that strictly the Brattle report should have compared trailing average yields to outturn yields over the charge control to perfectly address the question of what trailing average period balances volatility and accuracy.

[214] Anglian Cost of Equity NATS (2020) Submission, Figure 7, page 39 (SOC420).

[215] We note that the projections of the BoE's monetary policy committee are shown conditional on the Bank Rate following a path implied by forward market interest rates (*See* Bank of England (August 2020). 'Monetary Policy Report', Table 1.A, available at https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-report/2020/august/monetary-policy-report-august-2020.pdf?la=en&hash=75D62D3B4C23A8D30D94F9B79FC47249000422FE).

[216] Malik and Meldrum (December 2014). Evaluating the robustness of UK term structure decompositions using linear regression methods', Bank of England Working Paper No.518, available at https://www.bankofengland.co.uk/working-paper/2014/evaluating-the-robustness-of-uk-term-structure-decompositions-using-linear-regression-methods.

therefore supports the upper end of the CMA's range. In light of the current uncertainty in markets and the fixed cost of equity allowance, Anglian suggests that the CMA should place weight on this equilibrium evidence to mitigate the risk that today's RFR is not reflective of the RFR over the 2020-2025 period.

4.4 Conclusion on cost of equity

(405) The cost of equity provisionally determined by the CMA is c. 30% lower than at PR14. As a result, there is a significant reduction in the equity buffer available to Anglian to absorb future shocks or withstand forecasting error in the CMA's modelling. Anglian continues to have concerns with some of the analysis that the CMA has conducted. In particular, Anglian does not believe that the evidence on TMR, equity beta and risk-free rate supports the low end of the range of the cost of equity adopted by the CMA in the PFs.

5 Cost of Debt

5.1 Key Messages

(406) The CMA has carefully considered how to set the cost of embedded debt and the PFs address core issues raised in Anglian's Statement of Case – in particular, the CMA (1) does not apply the outperformance wedge applied by Ofwat as it is unjustified by robust market data and evidence; and (2) recognises the importance of the timing of debt issuance across the sector by extending the trailing average to 20Y which is critical to the recovery of efficient financing costs based on asset liability matching. This results in a nominal cost of embedded debt range of **4.81% to 5.23%.**

(407) The CMA's approach emphasises the importance of long-term financing in line with asset lives and raises legitimate concerns that Ofwat's approach could encourage issuance of shorter tenor debt and increase refinancing risk.

(408) However, the implementation of CMA's approach risks under-funding efficient financing costs due to (1) the starting point assumed for the 20Y trailing average period (CMA's trailing average period extends to July 2020 – beyond the starting point for AMP7 i.e. March 2020); and (2) 'aiming down' in deriving a point estimate, which results in a point estimate of **4.81%** (the lower end of the range).

(409) **The CMA's estimate, based on A rated iBoxx only, is not consistent with the target credit rating for the notional company (Baa1)** and does not capture the dynamics of embedded debt falling mechanically across AMP7 as older debt matures. This could be achieved by using an "inverse trombone", where a year of the trailing average period "drops off" for each year of the price control period.

(410) The best estimate of the cost of efficiently incurred debt, based on a 20Y trailing average period which ends in March 2020 and the average of the A and BBB iBoxx indices, is 4.95%. This is consistent with: (1) the projected cost of efficient embedded debt for Anglian (4.97%); and (2) the all-in actual cost of debt for the sector (4.95% implied by the balance sheet cross check). **The CMA's provisional allowance of 4.81% risks under-funding efficient financing costs**.

5.2 Anglian response

5.2.1 Benchmark-led approach and selection of the benchmark index

(411) Anglian agrees with the benchmark-led approach to setting the cost of debt allowance as it incentivises efficient issuance and remunerates efficiently incurred financing costs, as well as providing a clear link to financeability.

(412) Ofwat, the Disputing Companies and CMA agree that an equally weighted blend of A/BBB iBoxx non-financial 10 years+ indices is a suitable benchmark index as it reflects the target rating for the notional company and asset lives of the notional company, as well as the average tenor at issue across the sector.

(413) Empirical analysis comparing the yields at issue of water bonds with the yields on the iBoxx A and BBB indices, whilst controlling for credit and tenor effects, demonstrates that A/BBB iBoxx is a suitable proxy for the cost of debt of a water company with the notional financial structure. Ofwat consulted with the industry on the suitability of various indices and agreed that the iBoxx A/BBB non-financial index was most suitable for water companies given the tenor and average rating within this index.[217]

5.2.2 Outperformance wedge applied by Ofwat

(414) Anglian welcomes the sources of analysis quoted by the CMA, which find no statistical evidence to suggest that there is an outperformance wedge after accounting for tenor and credit-related factors. Whilst there may be a degree of variation on an instrument-by-instrument basis, the overarching conclusion at an industry-wide level remains robust.[218]

(415) KPMG's analysis of water company bonds spans a 20-year period which captures and considers different macroeconomic environments and accurately reflects the period covered by the embedded debt allowance for PR19. The evidence clearly shows that a typical water company is unlikely to expect to achieve a cost of debt that materially over- or under-performs the iBoxx benchmark index, after according for tenor and credit-related factors.

(416) Figure 15 below shows that the yields on bonds issued by water companies (up to September 2019) that have at tenor at issuance within five years of the weighted average tenor of constituents contained in the benchmark index (with an equivalent credit profile), do not differ materially from the benchmark yield, on average.

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[217] Ofwat, Cost of debt workshop: Water 2020 Risk and Return (20 January 2017) available at https://www.ofwat.gov.uk/wp-content/uploads/2016/09/Cost-of-debt-workshop-20-January-17.pdf.

[218] PFs, paras. 9.352-9.353.

Figure 15   Yields on bonds issued by water companies
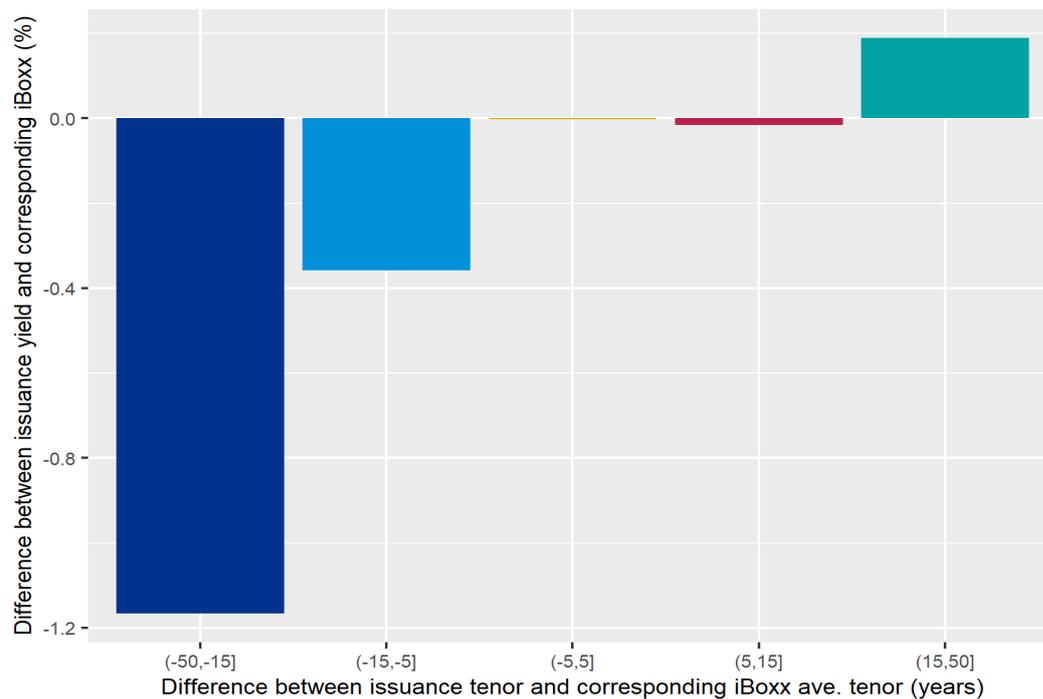
Source: IHS Markit, Capital IQ, KPMG analysis

(417)   KPMG has updated its analysis of the difference between water bond yields and the benchmark after accounting for tenor and credit related factors. It finds that after the inclusion of bonds issued by water companies up to 30 September 2020 that meet the criteria set out in its expert report,[219] the average difference between water bond yields and the relevant benchmark, for bonds having a tenor at issue within five years of the weighted average tenor of the benchmark, remains approximately unchanged. **The evidence therefore continues to support the conclusion that there is no statistical basis to the claim that water companies are able to systematically outperform the benchmark** after accounting for tenor and credit related factors.

(418)   In addition, the finding that there is no outperformance wedge after accounting for tenor and credit rating is to be expected. A finding to the contrary would suggest that credit rating agencies do not accurately capture the industry-wide risks to an investor of holding debt in water companies. The scale and market-wide credibility of rating agencies makes this unlikely. Therefore, the non-existence of an outperformance wedge after accounting for tenor and credit related factors should be presumed.

(419)   By applying an outperformance wedge driven by issuances at shorter tenors, as Ofwat does, regulation will implicitly discourage long-term financing resulting in:

(i)   a lack of appropriate balance in the allocation of risk and value between companies and consumers, because it will imply unjustified and opportunistic value transfer to consumers in the short-term while making it ultimately impossible for companies to finance themselves.

(ii)   a detrimental impact on consumers due to abandonment of asset-liability matching, lack of support for long-term investments as well as refinancing risk which will have to be passed on.

(420)   The CMA correctly considers that the outperformance adjustment would create wrong incentives for companies to issue short-dated debt and take on more interest rate risk than assumed for the notional

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[219] KPMG Embedded Debt Report (SOC441).

company.[220] Short-term issuance creates exposure to rising interest rates; a risk that would ultimately be passed on to customers in the form of higher bills where shorter-tenor strategies are reflected in regulatory policy risk.

5.2.3 Trailing average period for embedded debt

(421) Anglian considers that the CMA's extension of the trailing average period to 20Y is the right approach for the following key reasons:

(i) **Recognises the importance of the timing of debt issuance** and remunerates significant outstanding debt in the industry (c. 94%) which is critical to the recovery of efficient financing costs based on asset-liability matching given how the markets have moved over time – the macroeconomic environment was materially different before 2010 and, in particular, rates were higher prior to the financial crisis. This could not have been predicted at the time.

(ii) **Is consistent with the tenor at issuance for water company bonds** of at least 20Y[221] as well as the long-term remaining maturity of the benchmark indices (21Y). This ensures that a company issuing 20Y debt on a continuous basis can expect to recover costs equal to the yield at issuance across the maturity period of each instrument.

(iii) **Encourages and incentivises long-term financing consistent with the long-term nature of the assets** (20Y implied by run off rates) within the water industry – acknowledged by Ofwat as relevant for calibrating the allowance.[222] Locking in long-term financing in line with asset lives reduces refinancing risk, implies a more stable exposure to interest rates over time and protects customers against rising interest rates.

(iv) **Regulatory policy should be consistent over time as markets change**. In the past Ofwat has consistently recognised the long-term nature of the industry, long asset lives, and encouraged long-term financing. Ofwat expected companies to issue long-dated debt noting that *"the industry needs **long-term finance**. Much of this is likely to be in the form of long-term bonds"*[223] and that *"it is clearly appropriate to consider returns over the life of assets, which are **long-lived** in the water industry, and not simply the period of current borrowings."*[224] It would not be appropriate for regulatory policy to deem long-term debt issuance in the early 2000s inefficient retrospectively and with the benefit of hindsight and leave efficient past issuance in line with previous policy out of money.

(422) Companies should be incentivised to incur efficient costs based on what is controllable by the company, i.e. securing an efficient cost of debt against market rates prevailing at the time of issuance.

(423) Ofwat has argued that in practice its 15Y trailing average is consistent with the 20Y economic life of assets in the sector and the weighted average years to maturity of the iBoxx indices. However, the 15Y trailing average applied by Ofwat is not consistent with a 20Y investment horizon as it only considers market conditions up to 15Y before the start of AMP7 (i.e. 2005 to 2020). As a result, market conditions before 2005 when (1) market rates were higher prior to the financial crisis; and (2) companies raised long-term 20Y debt in line with the average asset life in the sector are not taken into account by the

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[220] PFs, para. 9.353.

[221] The tenor at issue is 20 years for fixed rate debt and 38 years for index-linked public debt. On a weighted basis (67% / 33%) for the notional company the tenor at issue is c. 25 years.

[222] Reference of the PR19 final determinations: 'Risk and return – response to common issues in companies' 27 May submissions to the CMA, para. 3.39.

[223] Ofwat, Cost of capital – a consultation paper, volume 1 (1991) available at https://webarchive.nationalarchives.gov.uk/20100514011151/http://www.ofwat.gov.uk/legacy/aptrix/ofwat/publish.nsf/Content/navigation-consultation-papers1991-99.html.

[224] Ibid.

Ofwat trailing average period. Ofwat's policy omits approximately 20% of outstanding debt across the sector which was raised before 2005.

(424) Ofwat argues that setting the cost of embedded debt using a 15Y trailing average period appropriately mitigates companies' exposure to changes in market prices and remunerates efficient costs. This is flawed for several reasons:

(i) Ofwat's solution based on a 15Y trailing average is too short – it is shorter than the average tenor of debt as part of the cost of debt index it uses (20Y+), and effectively implies that no debt should be issued with a tenor of more than 15Y.

(ii) Companies should be able to recover efficiently incurred costs. It is not appropriate for the regulator retrospectively and with the benefit of hindsight to deem long-term debt issuance in the early 2000s as inefficient.

(iii) Ofwat's approach also creates wrong incentives for companies to issue shorter term variable interest rate cost of debt, which is inconsistent with typical infrastructure financing, and creates re-financing risk that Ofwat does not consider.

(iv) By setting a 15Y trailing average period, Ofwat is extracting realised benefits *ex post* reflecting how markets have moved, whilst leaving companies which issued long-term 20Y+ debt exposed to losses due to falling rates.

(425) For the reasons set out above, Anglian agrees with the CMA's adoption of a 20Y trailing average period.

5.2.4 Selecting the point estimate under the CMA's benchmark-led approach

(426) Anglian believes that two adjustments are needed to implement the 20Y trailing in line with the CMA's benchmark-led approach. The first adjustment is to reflect a correction for the period over which the trailing average is calculated; and the second adjustment is to capture the dynamics of embedded debt as each year drops off (the "inverse trombone"). Once these changes are made, as seen from Table 22 below, the cost of embedded debt following the CMA's approach comes to 4.95% instead of the CMA's estimate of 4.81%.

Table 22   Summary of the different data points on the benchmark-led approach

Nominal	Range	Aiming down	Aiming straight
CMA's estimate (August 2000 – 2020)	4.81-5.23%	**4.81%**	5.02%
Corrected period (April 2020 – March 2020)	4.91-5.32%	4.91%	5.12%
"Inverse trombone" (August 2000 – July 2020)	4.66-5.08%	4.66%	4.87%
"Inverse trombone" (April 2000 – March 2020)	4.74-5.16%	4.74%	**4.95%**

Note: The CMA's calculations based on the August 2000 – July 2020 start from 31st of August, omitting one month's worth of data. This has been corrected in the "Inverse trombone" (August 2000 – July 2020).

(427) Set out below is the rationale for those changes.

(i)   Period covered by the debt allowances

(428) The CMA's calculations underestimate the range for the cost of embedded debt since they cover the period August 2000 – July 2020 i.e., the period before PFs were issued. The embedded debt allowance for redetermination should cover the 20-year period before the start of AMP7 (i.e. April 2000 – March 2020); instead CMA's analysis covers August 2000 – July 2020. Whilst the embedded debt allowance should remunerate the cost of debt outstanding at the start of the price control period, the CMA's methodology results in an overlap with the new debt mechanism (April – July 2020). The CMA's proposal

also makes use of data that could not have been available to Ofwat (April – July 2020) when setting the allowance. Figure 16 below illustrates the difference in the periods covered.

Figure 16   Periods covered by the cost of new and embedded debt allowances
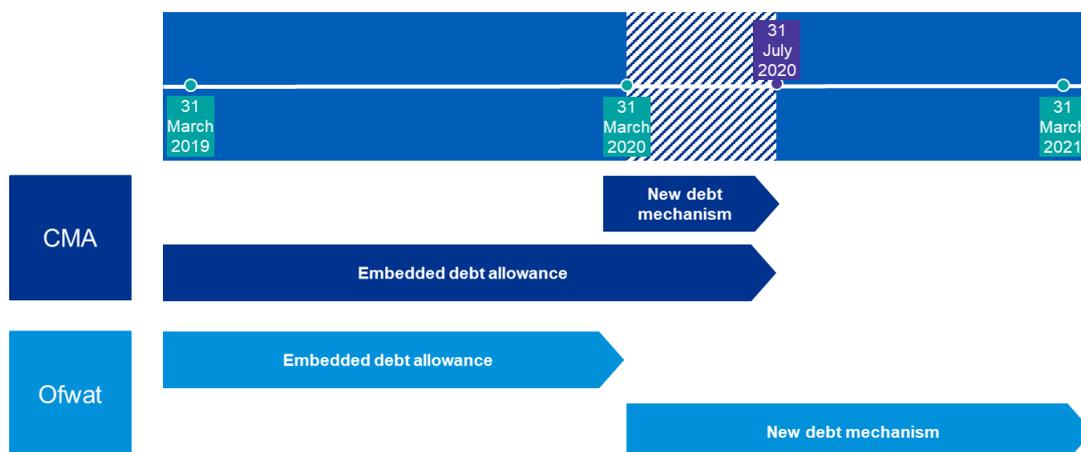
Source: KPMG Analysis.

(429)   Adjusting to align with the price control period implies a cost of debt at the low end of the CMA's range of 4.91% (an increase of 10bps). The range for cost of embedded debt is 4.91-5.32% (vs 4.81-5.23% per the CMA).[225]

(ii)   Deriving a point estimate

(430)   In addition, the CMA's range for the cost of embedded debt is based on the yields of the A rated index at the lower end and BBB at the upper end. Anglian would expect the CMA to 'aim straight' when choosing the point estimate, but the CMA has adopted the lower end of the range and based its estimate on the A index as a proxy for the dynamics of embedded debt mechanically falling across AMP7 as older debt matures.

(431)   Adopting a point estimate based on the A-rated index does not capture the dynamics of embedded debt mechanically falling across AMP7 in line with the CMA's stated intent. An alternative mechanism based on A/BBB iBoxx such as an "inverse trombone" (where a year of the trailing average period 'drops off' for each year of the price control period) would mechanically simulate embedded debt maturing across AMP7.[226] An "inverse trombone" based on the August 2000 – July 2020 period is 4.87% and 4.95% based on the correct periods consistent with the price control period. The provisional allowance of 4.81%, based on A-rated iBoxx is materially lower than these estimates and therefore inconsistent with the target credit rating of Baa1/BBB+.

(432)   Anglian also notes that setting the allowance based on the A rated index means that the cost of debt is not consistent with the target credit rating (Baa1/BBB+) achieved by the notional company based on the PFs. This inconsistency of the credit rating between the allowed debt funding and credit metrics is not captured by the CMA's financeability assessment, which suggests that an efficient notional company which has raised Baa1/BBB+ debt in the past will be able to recover efficiently incurred financing costs.

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[225] The range for cost of embedded debt is 4.91-5.32% and is based on actual yields on iBoxx throughout the 20-year period. The estimate included by Ofwat in the FD was based on actual data up to 30 September 2019 and forward projections up to March 2020. Using the same data as available to Ofwat at the time would result in a range of 4.90-5.31%.

[226] The "inverse trombone" calculates the overall cost of embedded debt for the AMP by averaging the cost of debt for each year of the price control. The annual cost of debt is calculated by fixing the end of the trailing average window at 31 March 2020 and applying a 20Y average for the first year of the price control (1 April 2000 – 31 March 2020), 19Y average for the second year (1 April 2001 – 31 March 2020), etc.

Figure 17   Cost of embedded debt under the "inverse trombone" approach
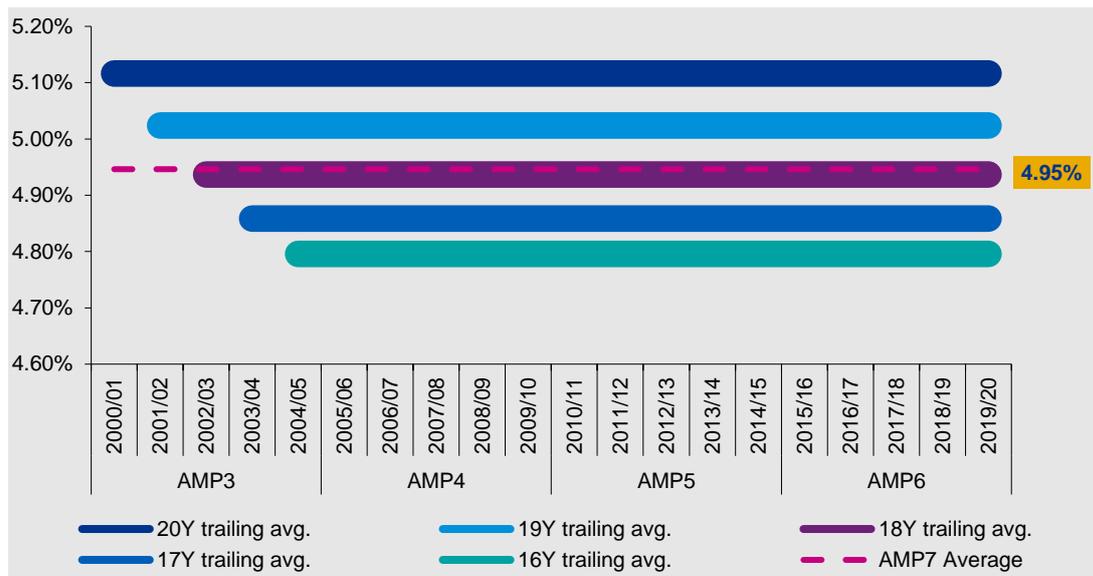
Source: KPMG analysis

5.2.5   Cost of debt implied by the CMA's benchmark-led approach

(433)   The CMA's conclusions on the removal of the outperformance wedge and assumption of 20Y trailing average are consistent with Anglian's position. Anglian also believes evidence provided below on "inverse trombone" should be taken into account as CMA makes its Redetermination.

5.2.6   Cross-checks against actual company costs are required

(434)   Historically the regulators have cross-checked the allowance for the cost of embedded both against the observed actual costs for individual companies and also against costs incurred on average by the industry. This section sets out the rationale for doing that and goes on to provide evidence on those cross-checks which corroborate the point estimate implied by the benchmark-led approach (Section 5.2.4 above).

(435)   The general principle of Ofwat's approach that water companies financing long-term infrastructure assets should be exposed to the risk that efficiently incurred costs are not funded is contrary to observed market outcomes, where the financing of other infrastructure assets typically depends on the long-term stability of revenue to match debt profiles (for example long-term PPAs, CfDs).

(436)   As a result, Anglian remains of the view that the balance sheet approach, based on the all-in observed cost of debt at company and sector levels, is a key cross-check.

(437)   It is important to have regard to the actual financing costs incurred by water companies in setting the cost of debt to ensure that investors can recover a good approximation of costs incurred. Where observable actual costs are not considered as a cross-check, there is a risk that the cost of debt allowance could materially under-fund companies for efficient financing costs based on asset-liability matching.

(438)   The CMA's limited review of companies' actual cost of debt positions represents a departure from its PR14 approach for Bristol Water as well as its approach to calibrating the CSA for Bristol in the PFs, which suggests that actual costs may be considered a relevant cross-check. At PR14 the CMA considered that "*in establishing the costs of an efficient company, we considered that it was important*

to have regard to the actual financing costs incurred by water companies. This reflects the reasonable expectation that investors will, on average, be able to recover their efficiently incurred financing costs."[227]

(439) Similarly, the CMA set the cost of embedded debt in its recent PFs for NATS with reference to actual observed embedded debt costs.[228] The CMA's approach recognises that long-dated issuances are a key part regulated utilities' financing and should be reflected where efficiently incurred in the cost of debt allowance.

(440) Both the sector-wide and company-specific cross-checks support an **estimate based on the mid-point of range from benchmark led approach**, which is covered in the two sub-sections below.

(i) Sector-wide cross-check

(441) The CMA argues that the costs likely to be faced by the notional company are not necessarily represented by the average of actual debt costs which could differ from the notional company due to company characteristics, financing structures and strategies.

(442) Anglian agrees and considers that the actual debt costs calculated by Ofwat and its advisors for the balance sheet cross-check understate the costs incurred by the average company in the sector. This is because the balance sheet approach has not been adjusted to exclude any instruments which could understate cost such as short-dated debt issuance.

(443) The chart below illustrates the decreasing weighted average tenor of debt across the sector – a trend that has become more pronounced following Ofwat's introduction of both a 10Y trailing average and outperformance wedge adjustment in PR14.[229] This indicates that the balance sheet cross-check is likely to be downward biased and should represent a floor for the cost of embedded debt.

Figure 18   Tenor at issue (fixed public debt): weighted average, min, max
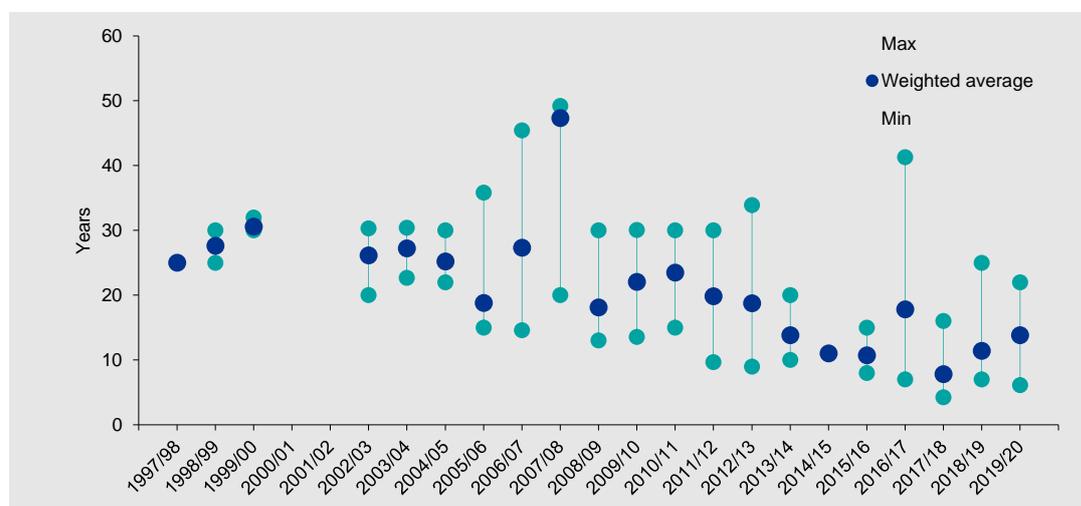
Source: KPMG Analysis

(444) In order to accurately capture the all-in costs of financing that water companies face the balance sheet cross-check must include the costs of efficient derivative instruments. Derivatives are a standard risk management tool used extensively by regulated companies that form inextricable parts of their debt

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[227] *Bristol (2015)*, para. 10.5 (SOC275).

[228] For NATS the cost of embedded debt was based on its one existing bond, which was raised in 2003 and matures in 2026 (tenor at issue of 23Y).

[229] In PR09, for example, Ofwat drew on direct observations from companies' existing debt portfolios and forward projections to set the cost of debt allowance.

portfolios and should not be excluded from an assessment of the cost of embedded debt where incurred efficiently and for non-speculative purposes.

(445) The median all-in cost of debt for the sector is 4.95% for WaSCs and large WoCs (including all but eight most expensive swaps) and corroborates the need to 'aim straight' when selecting the point estimate under the CMA's benchmark-led approach.

(ii)   Company-specific cross-check

(446) Anglian has adopted a prudent financing strategy consistent with (1) the long-term financing in the sector, (2) the CMA's chosen investment horizon and target rating for the notional company and (3) the timing of debt issuance in the sector – 25% of Anglian's debt was issued more than 15 years compared to 20% in the sector.

(447) KPMG has assessed the efficiency of the more expensive tranches of debt and swaps and concluded that these were efficient based on regulatory guidance in the past, the dynamics of the regulatory framework, macroeconomic conditions prevailing at the time of issuance and pricing achieved on comparable issuances.[230]

(448) Anglian's actual financing costs (4.97%) are relevant for the calibration of market benchmarks. The company-specific cross-check, based on the projected **cost of efficiently incurred historic debt for Anglian of 4.97%, is consistent with the cost of embedded debt under the "inverse trombone" approach** and corroborates the need to 'aim straight' consistent with the target credit rating.

5.2.7   Conclusion on overall allowance for cost of embedded debt

(449) Anglian considers that the cost of the efficiently incurred embedded debt for Anglian, the sector and the "inverse trombone" should be used as a means of calibrating the cost of debt allowance, in particular, the selection of the point estimate within the range.

Table 23   Summary of overall estimate for embedded debt

Nominal	Range	Aiming straight	Actual CoD
"Inverse trombone" (April 2020 – March 2020)	4.74-5.16%	4.95%	
Anglian actual cost of embedded debt			4.97%
Sector average cost of embedded debt			4.95%

(450) Overall, this analysis suggests that the cost of efficiently incurred embedded debt is 4.95%, consistent with (1) the estimate under the "inverse trombone" approach (4.95%); (2) the target rating of the notional company i.e. A/BBB; (3) the projected cost of embedded debt for Anglian (4.97%); and (4) the all-in actual cost of debt for the sector (4.95% under the balance sheet cross-check). The CMA's provisional allowance of 4.81% risks underfunding efficient financing costs.

5.3   Cost of new debt

(451) **Anglian agrees with the CMA's approach to new debt, save for the lack of forward uplift**. Applying the forward uplift simply sets the cost of new debt at a level which the market considers will prevail during the charge control, rather than at the start of the charge control.

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[230] KPMG Embedded Debt Report (SOC441).

5.4　New: embedded debt ratio

(452)　The CMA has adopted a range of 13-21% for the ratio of new debt based on the results from both notional and actual methodologies. In particular, the upper end of the range takes into account average maturity of debt currently held by companies in the sector (including adjustment for RCV growth).

(453)　This is inconsistent with the fully benchmark-led approach applied by the CMA to derive the estimate of the cost of debt. It would be more appropriate to base the estimate on the fully notional approach using the average maturity in Anglian's A/BBB benchmark debt indices.

5.5　Conclusion on cost of debt

(454)　To conclude, the CMA's PFs continue to underfund Anglian's efficiently incurred cost of debt. The CMA has provisionally allowed a nominal cost of debt of 4.81%, which is lower than Anglian's efficiently incurred cost of 4.97%. This is primarily driven by the CMA's decision, which does not appear to be justified, to adopt the bottom end of its range on the cost of embedded debt. This could be addressed by setting the cost of debt based on the "inverse trombone" as explained above.

6　Financeability

6.1　Introduction

(455)　In its PFs, the CMA determined that the assessment of Financeability should consider a number of factors, particularly the assessment of WACC, wholesale totex and RCV adjustments.[231] In this section, Anglian comments on the effect of the PFs on Anglian's financeability.

(456)　In its Statement of Case, Anglian presented evidence that Ofwat's conclusion that its FD was financeable relied on unjustified assumptions and adjustments, and that once these were reversed the company's projected metrics would fall significantly below the levels required to maintain a Baa1 credit rating. These errors included advancing £80 million of revenues from future control periods by adjusting the pay-as-you-go ("**PAYG**") ratio, incorrectly allocating opex and capex when modelling financeability, downside skew on ODIs and totex that was not priced and underestimating the cost of debt.

(457)　Anglian submitted that an allowed return on capital of 2.5% (RPI-real) would make the settlement financeable as long as the balance of risk and return were addressed. It was noted, however, that "*if the balance of risk and return is not addressed, Anglian will require an allowed return higher than 2.5%*".[232]

(458)　**The CMA's PFs go some way to addressing the concerns raised by Anglian**. The CMA has reviewed the overall balance of the provisional redeterminations in the round to check whether it is consistent with all its duties, including the financeability duty. It has identified a number of principles that are critical to the assessment of financeability and which should continue to underpin the CMA's approach in its Redetermination. In particular, the CMA has explicitly recognised that:

(i)　　Financeability assessment is a binding constraint on the overall calibration of the price control;

(ii)　　the level of the WACC is the 'most important determinant of financeability' and the primary remedy that should be applied when constraints are identified;[233]

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[231] PFs, para. 10.49.

[232] Anglian's Statement of Case, Chapter A: (Executive Summary), para. 144.

[233] PFs, para. 10.95.

(iii)   setting the allowed WACC at a reasonable level should, as a matter principle, allow debt and equity investors to earn sufficient returns to cover the costs of financing;[234]

(iv)   credit ratio analysis provides a cross-check in assessing whether the allowed return is sufficient to achieve an investment-grade credit rating;[235]

(v)   in line with the approach adopted by water companies, and implicitly by Ofwat, it is reasonable to analyse debt financeability in terms of ratios consistent with a BBB+/Baa1 rating;[236]

(vi)   simulation of credit ratings should be based on methodology applied by each rating agency, as these are the tests applied in the market;

(vii)   asymmetric risk should be explicitly factored into the calibration of the WACC;

(viii)   the adjustments made by Ofwat to PAYG ratios are an ineffectual means of addressing financeability concerns (and the analysis of financial ratios should exclude the impact of accelerated cash flows from PAYG);[237]

(ix)   Ofwat mischaracterised opex as capex when setting allowed revenues and modelling financeability, and this should be reversed for the CMA's Final Determination. This is explained further in Section 7 of this chapter.[238]

(459)   These principles are closely aligned with the submissions that Anglian has made to Ofwat and to the CMA over the course of the PR19 process. The CMA's point estimate for the WACC (2.57%, RPI-real) is at the bottom end of the range (2.5-2.9%, RPI-real) set out in the Anglian's Statement of Case. Moreover, the changes the CMA has made to the totex allowance and the cost sharing factor have a positive impact on financeability and the balance of risk and return relative to Ofwat's FD.

(460)   However, the **CMA PFs still result in allowances at the minimum level required to achieve a Baa1 in the central case**, while the balance of risk and return remains heavily skewed to the downside as a result of the continued significant totex funding gap and the asymmetric package of incentives. This means that there remains a material risk that the Anglian notional company would be unable to maintain a Baa1/BBB+ rating throughout AMP7 and an inconsistency between the projected credit rating achieved and the allowed cost of debt. Rating agencies have stated that even taking account of PFs, credit metrics remain towards the lower end of their expected range. This section sets out the areas that Anglian requests the CMA considers further in reaching its Redetermination.

6.2   There remains insufficient headroom on key credit ratios

(461)   The CMA considers that credit ratio analysis plays a role in testing whether the financeability duty has been met and forecasts Anglian's credit ratios over AMP7 assuming a notional financial structure with 60% gearing.

(462)   The two key ratios that credit rating agencies focus on in the water sector are the adjusted cash interest cover ratio ("**AICR**") and funds from operations to net debt ("**FFO/net debt**"). Applying the CMA's provisional changes to the WACC parameters and the totex allowance, the CMA reports an AICR of 1.50x and an FFO/net debt of 9.8%. It concludes that: "*The revised cost of capital and Totex allowance produce a ratio for FFO/Net Debt above 9% which is consistent with a BBB+/Baa1 credit rating, and an AICR ratio of 1.5 which corresponds with Moody's target for this ratio and credit rating… We consider*

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[234] PFs, para. 10.58.

[235] PFs, para. 10.59.

[236] PFs, para, 10.64.

[237] PFs, para. 10.98.

[238] PFs, para. 10.100.

that, having regard to the range of ratios that are considered by the rating agencies, and allowing for a reasonable downside scenario, that the financial ratios in Table 10-3 in the round appear consistent with an investment-grade credit rating."[239]

(463)   As set out in Anglian's Statement of Case, an AICR ratio of 1.50x is at the very bottom of the AICR range (of 1.50x-1.70x) that is consistent with a Baa1 rating under credit rating agency guidance for the notional company.[240] Both Moody's and Fitch advise targeting the 'middle' of the range (i.e. 1.60x) for Baa1. This allows for some headroom for unforeseen shocks and is particularly important for AMP7 given the asymmetric risk created by the provisional price control package.

(464)   Moreover, the CMA has not modelled expected penalties arising from asymmetric ODI mechanisms, which all else equal exert additional pressure on projected credit metrics.

Figure 19   AICR of the notional company relative to Moody's and Fitch guidance
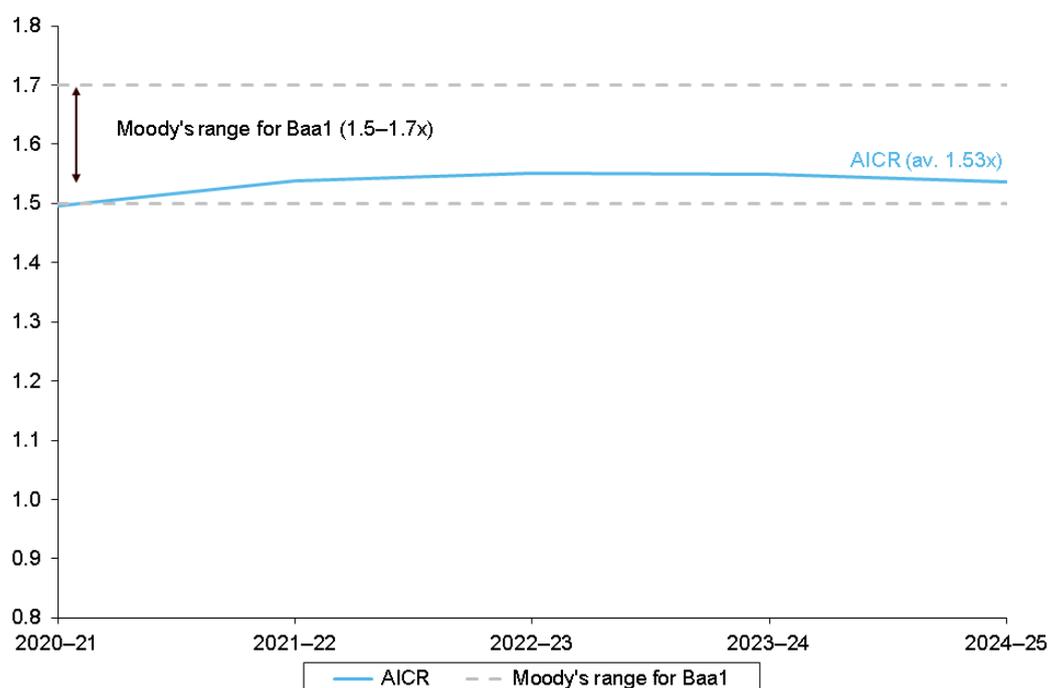
Source: Oxera

(465)   The CMA's provisional allowances result in an increase in FFO/net debt to 9.8% (from 9.5% under Ofwat's FD). This remains below the threshold for a 10% Baa sub-factor rating on the Moody's scale.

(466)   The lack of headroom is corroborated by the response of the credit rating agencies to the PFs. Moody's has reiterated that the AICRs of the four disputing companies "*will still fall below historical levels and be weakly positioned against our ratio guidance.*"[241] Similarly, S&P has outlined its view that the companies' credit ratings remain under strain: "*Although credit metrics could improve, compared with the projections we based on inputs from Ofwat's FD, we still expect these U.K. water networks to face tougher operating conditions in AMP7 than in the current regulatory period, like the rest of the sector. The ratings remain under strain.*"[242]

(467)   The guidance from credit rating agencies and their reactions to the PFs, further support the conclusions that the notional financeability is finely balanced. The notional company is unlikely to achieve a stable

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[239] PFs, para. 10.78.

[240] Anglian's Statement of Case, Chapter J (Financeability), para. 1268(i).

[241] Moody's, Credit Outlook (5 October 2020).

[242] S&P, UK Water Utilities: Was Appealing Ofwat's Determination Worth it? (1 October 2020).

Baa1 credit rating in the base case and there is insufficient headroom in relation to the key credit metrics to reliably conclude that Anglian is financeable on the basis of the notional capital structure.

6.3 This risk is exacerbated by the negatively skewed price control package

(468) The 'base case' financeability analysis is conducted on the assumption that the notional company meets its regulatory cost allowances and performance targets (i.e. there is no outperformance or underperformance). The extent to which this is financeable in practice depends on the likelihood that the price control package is achievable. If the cost allowances and performance targets are unachievable then the cash flows and credit ratios of the notional company under the 'base case' scenario will not provide a meaningful indication of actual financeability.

(469) Consequently, it is important that regulated companies have sufficient financial headroom to absorb downside shocks that are outside the company's control and to withstand estimation error by the regulator in setting the price control. As set out in previous submissions to the CMA, Anglian considers that it is appropriate to test the settlement against plausible downside scenarios, involving shocks to expenditure and penalties from regulatory incentive mechanisms. This is particularly important for AMP7 given the performance commitments and cost sharing rates are asymmetric and negatively skewed.

(470) While the CMA's PFs provide a small increase in the totex allowance and a revised cost sharing rate, there remains significant risk of underperformance, which is not matched with equivalent scope for outperformance:

    (i)   A large proportion of Anglian's AMP7 totex requirement (c. £630 million) remains unfunded under the PFs.

    (ii)   The ODI package continues to combine extremely difficult targets with high penalties relative to potential rewards. Based on modelled performance at the revised cost allowances provided by the CMA, [✕].

    (iii)   The cost sharing rate continues to provide Anglian with a smaller proportion of any underspend (45%) than overspend (55%). Anglian continues to have significant exposure on totex.

(471) The CMA has modelled a downside sensitivity based on a 1% RORE penalty in each year of the price control. This leads to a reduction in the AICR to 1.3x and an FFO/net debt of 9%. The CMA states that this "*may indicate some pressure on headroom for key credit ratios which may cause management to consider other mitigating actions if the company targets a higher rating.*"[243]

(472) Anglian agrees with the CMA that there is downside risk. However, it considers the risk to be understated. Anglian has assessed how the forecast level of the AICR changes under plausible downside scenarios based on a totex overspend of 10% and the level of penalties that it expects to incur over the AMP7 period. Figure 20 below shows that the AICR would fall from 1.53x to 1.35x under a 10% overspend scenario, and to 1.2x if the company were to also receive the expected ODI penalties. This would leave the Anglian notional company below the Baa2 level (range 1.3x-1.5x). This highlights the limited headroom available to Anglian under the PFs given the heavily downward-skewed balance of risk and return.

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[243] PFs, para. 10.77.

Figure 20   AICR relative to Moody's and Fitch guidance, downside sensitivity
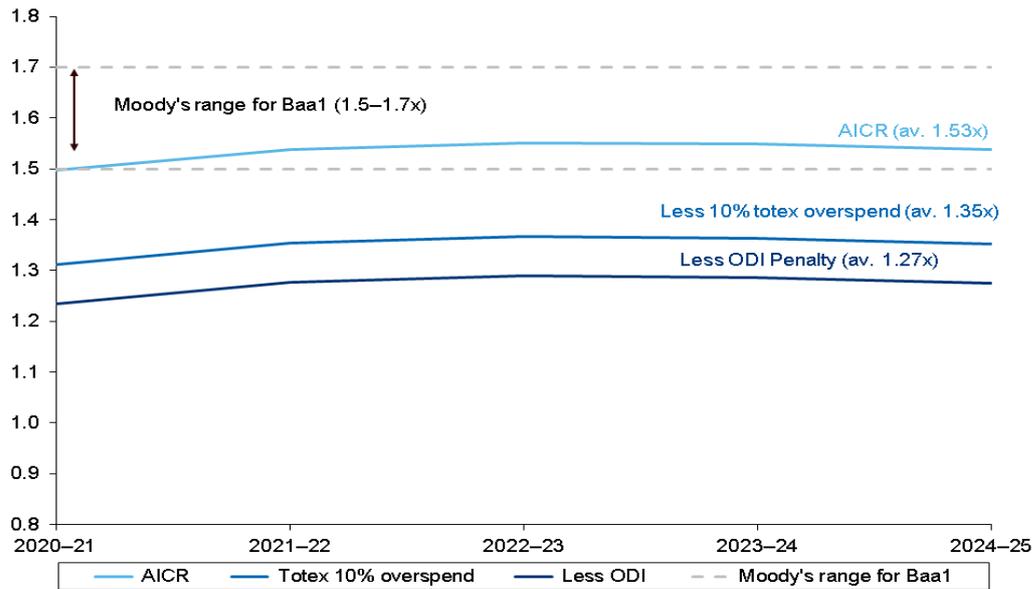
Source: Oxera

6.4   There is limited analysis of equity financeability

(473)   The CMA's financeability assessment considers the extent to which notional company credit ratios exceed minimum thresholds under rating agency guidance. However, it has presented limited analysis from the perspective of equity investors.

(474)   For AMP7, Ofwat used a base dividend yield of 3% with real growth of 1.18% as the basis of its financeability assessment with the exception that a lower base dividend yield was assumed for companies whose RCV growth exceeds 10% in real terms. Ofwat's FD assumed a 1.84% dividend yield for the Anglian notional capital structure given the growth in RCV. The base 3% dividend yield was calculated based on 48% of the nominal cost of equity (6.26%) for the final determinations, where 48% reflected the average payout ratio for STOXX Europe 600 companies.[244]

(475)   Given the CMA has increased the nominal cost of equity to 7.18% in its PFs, the base dividend yield would increase to around 3.5% if Ofwat's approach were applied. The CMA has assumed a dividend yield of less than 2%. As noted in the Statement of Case, the dividend policies of the listed water companies indicate that both Severn Trent and United Utilities intend to pay dividend yields on regulated equity of over 6% over AMP7.[245] Consequently, a dividend yield of under 2% may be an inappropriate assumption for the notional company, even once accounting for RCV growth, and may act to artificially inflate credit ratios.

6.5   Conclusion on financeability

(476)   Anglian notes that the CMA considers that the PFs would leave the notional company just financeable, but right at the bottom end of the Baa1/BBB+ range, with essentially no risk buffer (just c. £5 million per annum) to maintain this rating as risks materialise. However, this is based on modelling and an assessment of costs and risks that in some areas Anglian disagrees with. Considering the PFs in the round, Anglian remains subject to significant downside risk, and a c. £630 million shortfall in totex allowances for AMP7 that cannot be ascribed to inefficiency. As a result, the risk and return implied by

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[244] Ofwat PR19 final determinations: Aligning risk and return technical appendix (SOC242).

[245] Anglian's Statement of Case, Chapter K (Gearing Outperformance Sharing Mechanism), Figure 98, page 329.

the PFs are out of balance in the round, which undermines financeability and also threatens the sustainability of water supply during this AMP.

(477) This analysis is confirmed by the assessment of credit rating agencies who had already placed Anglian on notice of downgrade pending the outcome of the CMA redetermination, and have publicly stated since the PFs that they are considering taking further actions on credit ratings as the PFs are not sufficient to maintain the metrics required for the current ratings. Elsewhere in this response, Anglian presents additional evidence on leakage and a limited number of other issues, to embrace the broad approach proposed by the CMA, while seeking some further changes that recognise the particular needs of customers and the environment in the East of England. This will ensure the company can achieve the Baa1/BBB+ credit rating that the CMA agrees it should be maintaining.

7 Opex/Capex Misallocation

(478) Anglian welcomes the CMA's conclusion that Ofwat has incorrectly characterised some of Anglian's opex as capex in its Final Determination. As requested, Anglian has updated its calculations to reflect the accounting definition of totex in line with the PFs and calculate that gross totex of £5,417 million should be split as £2,606 million opex and £2,811 million capex. Please refer to the annex document on the natural PAYG rate[246] which should be considered alongside the evidence provided in Chapter E.5 (Misallocation of opex and capex) in Anglian's Statement of Case.

(479) Table 24 below steps through various changes to the natural opex as set out in the PFs to calculate expected change from the FD natural opex.

Table 24   Natural opex (in line with accounting definition)

		£m	£m
	FD natural opex (including incorrect allocation)		**2444.4**
Adjust 1	Opex/capex allocation correction to FD[247]	156.4	
Adjust 2	PFs change to modelled base allowances	3.3	
Adjust 3	PFs change to unmodelled base allowances	1.4	
Adjust 4	PFs change to enhancement allowances (excl metaldehyde)	2.1	
Adjust 5	PFs metaldehyde allowance	20.8	
	Total PFs changes	184.1	2628.5
Adjust 6	Anglian – metaldehyde allowance returned (change of scope)	-19.7	
	Total PFs changes (incl metaldehyde allowance returned)	164.4	**2608.8**

(480) Anglian notes that Ofwat has responded to CMA's RFI017 with a different opex/capex allocation for Anglian based on Ofwat's previous model, which does not reflect the PFs. Ofwat's model incorrectly apportions a significant amount of opex to capex as explained in Anglian's Statement of Case and accompanying annexes.[248]

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[246] *See* Anglian Natural PAYG Rate Submission (PF019).

[247] Anglian, Opex / Capex spreadsheet (SOC401).

[248] Anglian, Opex / Capex spreadsheet (SOC401).

8   Gearing Outperformance Sharing Mechanism

(481)   Anglian welcomes the CMA's rejection of Ofwat's Gearing Outperformance Sharing Mechanism and notes that the CMA's provisional determinations are in line with Anglian's response to Ofwat's original consultation on the matter and with its Statement of Case. In particular, the CMA has noted that Ofwat's assumption that the cost of equity is broadly stable with gearing above a certain level is inconsistent with finance theory. It has also agreed that the mechanism is a significant break from well-established regulatory precedent and may be seen as "*punishing companies for previously sanctioned structures without offering sufficient evidence, clarity of justification or time to make cost effective adjustments.*"[249]

(482)   Anglian notes that the CMA has suggested that Ofwat could consider whether alternative remedies targeted at specific financial resilience issues are warranted. Anglian believes that recent changes introduced by Ofwat, in particular in strengthening the regulatory ring-fence, have already sufficiently managed that risk.

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[249] PFs, para. 9.628.

Chapter I: Longer-term considerations

1 Overview

> Looking beyond the Redetermination, Anglian supports the CMA's views on the need for changes to the regulatory approach to ensure it is fit for purpose for the future.
>
> Anglian believes the regulatory framework **must consider longer-term priorities alongside the assessment of the five-year price review**. This will enable the sector to play its full part in addressing the acute challenges from climate change and growth, and to hit its 2030 net-zero carbon target.
>
> Achieving these goals will also rely on effective regulatory incentives being in place. Anglian welcomes the consideration the CMA has given to its paper submitted on this as part of the redetermination process.[250]
>
> In commenting on changes needed to the future regulatory framework, Anglian specifically asks the CMA to:
>
> (i) recognise the need for more effective and consistent regulatory incentives to deliver long-term investment;
>
> (ii) re-emphasise the need for a forward-looking assessment of capital maintenance requirements;
>
> (iii) acknowledge that where customer evidence is of high quality (as in Anglian's case), this should be given greater weight;
>
> (iv) suggest further work on the relationship between service improvements and their related costs;
>
> (v) reaffirm the need for the regulatory framework to avoid double counts of frontier shift assumptions;
>
> (vi) ensure that future definition and expectations for scope of base costs are clearly defined to avoid data issues on important variables;
>
> (vii) assess whether its PFs position on RPEs is internally consistent, and whether an extension of the coverage of RPEs and true-ups would improve the robustness of the regulatory framework;
>
> (viii) call for clear guidance from Government on consistent and appropriate growth forecasting; and
>
> (ix) recommend that the sector explore modelling of growth-related expenditure to facilitate sustainable new communities.

(483) In this chapter, Anglian sets out its thinking on areas where the CMA could help to improve the future regulation of the sector – and minimise the chances of such a divergence between Ofwat and the sector reoccurring again. The CMA's words will carry weight with Ofwat and the sector and there is time for analytical work to be done before PR24.

2 Framework of regulatory incentives

(484) Anglian has set out a number of problems[251] with the current suite of regulatory incentives. Specifically:

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[250] Challenges to incentive-based regulation (REP18).

[251] Anglian's Statement of Case, Chapter D (Risk and Return); Challenges to incentive-based regulation (REP18).

(i)   the design of "fast-tracking" which incentivises companies to submit low cost plans, with no effect on their base cost allowances;

(ii)   a cost-sharing incentive setting which penalises companies' plans where they did not agree with Ofwat's preferred "low" view on scope of activities and related costs;

(iii)   asymmetric cost sharing rates which have detrimental incentives for investment across multiple AMPs such as the Smart Meter rollout; and

(iv)   setting efficiency challenges based on arbitrary proxies, without reference to relevant benchmarking evidence where it is volunteered by companies, creating perverse incentives for future cost forecasting exercises.

(485)   The CMA can resolve many of these issues for this AMP in its Redetermination. **Anglian encourages the CMA to recognise the interaction between these incentives and the overall balance of risk for companies**.

3   Capital maintenance

(486)   Notwithstanding the CMA's provisional decision that no additional allowances for capital maintenance are required, it acknowledges aspects of Anglian's argument, namely, to take account of forward-looking maintenance requirements when setting base cost allowance, and that changes to future regulatory approaches may be appropriate. The CMA suggests *"that Ofwat consider developing indicators to track this issue and to enable it to enhance its analysis with a forward-looking element...".*[252]

(487)   Anglian **requests that the CMA underline in its Redetermination the importance of a forward-looking approach** to be put in place well before discussions on PR24 begin in earnest. This should be **informed by independent analysis and reflect on the conclusions of the Bush-Earwaker report into Capital Maintenance**.[253] This could help shape Ofwat's welcome new initiative to work with the sector to set up frameworks to improve asset management over the long-term. This includes how companies predict impacts and manage risks to their networks arising from climate change.

(488)   Building on the model put in place after PR99, an agreed sectoral framework and guidance could, *inter alia*:

(i)   collect sufficient data on asset health and expenditure to allow a thorough understanding of the risk to service from past, current and planned activity levels and investment;

(ii)   develop appropriate tools to enable robust top down and bottom up analysis;

(iii)   triangulate historical evidence, future requirements and detailed analysis; and

(iv)   give guidance and expectations on the requirements of Asset Management Plans.

(489)   Anglian sees this as a logical extension to existing planning frameworks, standards and models, all of which have created value to customers. It would align to the WICS Strategic Review of Charges 2021-27 Draft Determination, which states:

> "*The move from taking investment decisions on the basis of lowest economic cost, to one in which choices are made on the basis of the most beneficial long-term outcomes including service, net zero, environment, amenity and economic terms, is a significant one for Scottish Water. It will require them to balance technical expertise with the expectations of customers,*

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[252] PFs, para. 4.181.

[253] Bush & Earwaker Capital Maintenance Report (May 2019) (SOC153); Supplementary Paper to the Bush & Earwaker Capital Maintenance Report (SOC154).

communities, regulators and other stakeholders. Scottish Water will need to assess and evaluate decisions in new ways, changing the approach of the organisation. This will take time to get right."[254]

4   Role of customer engagement

(490)   Anglian agrees with the CMA that the extensive engagement and research undertaken by companies in PR19 has gone a long way to inform company plans.[255] Anglian also supports there being a regulatory assessment of the quality of the engagement and how it was used in developing plans, as happened at the IAP.

(491)   Anglian agrees with the CMA that customer evidence should not in and of itself be determinative.[256] However, **in order to maintain the incentive for high quality customer engagement within the future regulatory processes, it is imperative that, where customer evidence has been found to be of high quality (as in the case of Anglian), this evidence should be given greater weight**. Both Ofwat's FD and the PFs fail to draw clear links between the quality of customer engagement and the direct implications of the findings thereof for the price control. Unless resolved, this will have negative consequences for incentives for both companies and customers to engage, and for the role of customer engagement in future price reviews.

5   Cost service disconnect

(492)   With the exception of leakage, the PFs reinforce the disconnect between the level of service delivered and the costs of doing so. In reaching this conclusion, the CMA, and Ofwat, rely on the historic relationship between ODI rewards and totex performance.[257]

(493)   However, a historical base cost assessment is an imperfect guide to the costs of funding future service improvements. Furthermore, Anglian believes that the discussion of recurring versus on-off costs has been unsatisfactory: often, for example, investment and opex serve different purposes and are not substitutes (for example: finding leaks and fixing leaks).The discussion with Ofwat became polarised, with Ofwat insisting on the basis of a few scatter charts that no such link exists.[258] Anglian does not want to be dogmatic on the point either, but there is merit in considering whether and how service quality can be included as a cost driver in models or otherwise reflected in allowances, so that companies are incentivised to undertake efficient service improvements.

(494)   **Anglian encourages the CMA to suggest further work be undertaken on the relationship between improvements in other components service and the related costs**. Future approaches should be based on robust economic appraisal of service improvement proposals, assessing customer views and regional differences.

6   Cost assessment

6.1   Clarity of the definition of base costs

(495)   During the PR19 process the definition of what is expected to be considered base costs has changed significantly, specifically where Ofwat, and then the CMA, have:

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[254] WICS Strategic Review, page 23 (PF008).

[255] PFs, para. 7.55.

[256] PFs, para. 7.58.

[257] PFs, paras. 7.72-7.77.

[258] *See* Anglian's Statement of Case, Chapter F (Cost Service Disconnect).

(i) rejected the costs for improving service, which are considered to be covered in base allowances (albeit those base allowances do not reflect the service quality differences between companies);

(ii) modelled growth expenditure, as part of Ofwat's "botex plus" framework;

(iii) rejected many enhancement expenditure proposals which the FD said were funded from base;[259] and

(iv) not robustly captured and controlled for enhancement opex.

(496) **For PR24, Ofwat should set clear expectations well in advance of PR24 which activities it considers base to remove unnecessary ambiguity and consequential misperceptions of companies' relative efficiency**.

6.2 Clarity of the role of benchmarking of enhancement costs

(497) The Redetermination should set clear expectations as to the appropriate and proportionate level of evidence required to demonstrate appropriate efficiency in order to set the right incentives for companies when preparing future enhancement investment proposals.

7 Application of frontier shift

(498) As set out in Anglian's Statement of Case and this response, both the FD and the PFs have struggled to state with certainty whether companies have consistently applied frontier shift assumptions to their proposed costs.[260] Without this clarity, there is a strong risk of double-counting company and regulator assumptions of frontier shift.

(499) This can be avoided in future reviews. **Anglian suggests that the framework and data capture for PR24 evolve to clearly expose companies' assumptions in developing their submitted costs to remove this double-counting risk in future.**

8 RPE[261]

(500) The CMA provisionally decided to follow Ofwat's approach to the calculation of RPEs and the nature and scope of true-ups. Anglian retains concerns about this approach for the reasons set out previously but does not restate its arguments in this response.

(501) While not restating its arguments on RPE, Anglian asks the CMA to consider the inconsistency between its provisional decision on RPE and that on frontier shift. On frontier shift, the CMA seems to have determined a 'base position' of 0.7% pa, then added unsubstantiated uplifts for embodied technological change and value-added assessment. Furthermore, it did not include any mechanism for this assumption to be adjusted should it prove to be overly ambitious. By contrast, the CMA recognises the scope for real price effects, but in only one area of companies' costs bases and has provided a true-up for these allowances to be clawed back in the event that they do not materialise. In the light of this, **Anglian asks the CMA to assess whether the PFs position on RPEs is logical and consistent, and whether an extension of the coverage of RPEs and true-ups would improve the strength of the regulatory framework for its redetermination**.

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[259] PFs, para. 5.20.

[260] PFs, para. 5.520.

[261] PFs, paras. 4.394-4.453.

(502) Anglian is also concerned that the PFs may establish a precedent for how regulatory RPE assessments should be made in future rather than, for example, the methodology which the NIUR adopted in its recent draft determination of price controls for NI Water.[262]

9 Growth

(503) **Anglian asks the CMA to call for an improved approach to growth at PR24**.

(504) The approaches taken to growth both in the FD and in the PFs have no elements which encourage long-term planning. Instead they rely on trend-driven forecasts with off-model adjustments if the trend-driven forecast exceeds historical rates of growth. Indeed, the off-model adjustment as proposed uses historical upper quartile unit rates.

(505) Anglian does not repeat its concerns, nor those expressed by third parties[263] as to the suitability of Ofwat's, or latterly, the CMA's chosen forecast for growth. However, the CMA's reliance on a specific growth forecast illustrates the importance of appropriate true-up and risk sharing mechanisms to ensure companies are able to recover appropriate funding for accommodating growth.

9.1 More consistent forecasting

(506) At PR24, it is likely that the Oxford-Cambridge Arc will increase growth pressures on Anglian. As it stands, this factor, not reflected in historical growth trends, would be entirely unfunded. It is vital that companies like Anglian can sustainably accommodate growth in their regions in the long-term.

(507) This need for a more robust approach reflects the more strategic approaches that are being adopted to planning wastewater networks (described below) and additional growth pressures such as the Oxford-Cambridge Arc. Anglian suggests the CMA could recommend that Government guidance be more consistent on this topic. For example:

(i) The Ministry for Housing, Communities and Local Government advises Local Authorities that the ONS 2016 household growth data set (with a 2014 base year) is used as a minimum starting point to assess housing need.[264]

(ii) The Environment Agency's guidance to water companies for WRMPs is to use Local Authority plans to assess demand growth.[265]

(iii) Ofwat (and now the CMA) have used a third approach which is to use the latest data from the ONS on household growth.[266]

(iv) The Planning White Paper is proposing a new means by which Local Authorities should assess housing need.[267]

(508) Greater consistency in the guidance and approaches from Government and how growth forecasts should then be treated by infrastructure providers and their regulators will improve coherence of infrastructure delivery. The comments of Dame Kate Barker in her third party submission[268] to the CMA

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[262] *See* PC21 Draft Determination for NI Water available at https://www.uregni.gov.uk/sites/uregni/files/media-files/UR%20PC21%20Main%20report%2001.00%20Published.pdf

[263] PFs, paras. 4.485-4.489.

[264] Government's Growth Needs Assessment, paragraph 5 (SOC372).

[265] EA Planning Guideline Interim Update, Section 5.3, page 26 (SOC371).

[266] See e.g. PFs, para. 4.481-4.492.

[267] Planning for the Future White paper August 2020, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907647/MHCLG-Planning-Consultation.pdf

[268] Dame Kate Barker, Submission to the CMA about the appeal from Anglian Water regarding the Ofwat price determination (8 June 2020).

are relevant here, and Anglian would welcome the CMA's views on these points for PR24 and beyond in its Redetermination.

9.2   More consistent treatment of growth-related costs

(509)   **The proposed approach to funding growth in the PFs does not reflect the region-specific challenges faced by Anglian.** This includes intense growth in parts of Anglian's region, and the types of development sites and their remoteness from existing infrastructure. Relying on historic data (for unit costs and rates of growth), to inform integrated cost models does not capture wider growth pressures, such as the Oxford-Cambridge Arc and expedition of the planning process proposed by the Government.

(510)   The risk created by the FD, and which remains in the PFs, is that **the incentive structure encourages excessive sweating of strategic assets rather than long-term planning, thus eroding resilience and increasing pressure on existing networks and risk to customers.** This is not in line with Government expectations for home building or long-term least cost asset planning.

(511)   As a number of appellants and third parties have highlighted,[2] Ofwat's approach to growth in the FD was not as robust as it could be (even third parties such as Severn Trent that support botex plus modelling note it as being a pragmatic solution to the issue of growth modelling so late in the price review process). Anglian therefore considers this to be an issue which must be improved upon in future price reviews by improving data quality to allow for better modelling of growth, capable of appropriately reflecting important regional factors.

(512)   As the sector considers the next round of Water Resource Management Plans, and Drainage and Wastewater Management Plans, both with a 25-year outlook, it is crucial that the framework for PR24 is set up to be consistent with achieving the ambitions within those long-term plans. Anglian is pleased to see that Ofwat's long-term strategy also recognises the importance of setting a long-term direction for the sector and is encouraged by recent discussions with Ofwat on these issues.

(513)   To facilitate this, Anglian encourages the CMA to suggest that the perceived data reporting inconsistencies which prevented separate growth-based cost assessment to be undertaken are remedied for PR24.

Annexes

Ref. No	Short title	Full name
Botex		
PF001	2019-20 Oxera base modelling update	On the use of 2019/20 APR data in econometric modelling
PF002	Comments on econometric issues, Subal Kumbhakar	Comments on econometric issues with the CMA's provisional findings', Professor Subal Kumbhakar October 2020
PF003	APH cost adjustment claim	Average pumping head, topography cost adjustment claim, Oxera October 2020
PF004	Large works cost adjustment claim	Large WRCs cost adjustment claim
PF005	Oxera assurance treatment works	Oxera assurance of Anglian's approach to quantifying a treatment works economies of scale cost adjustment claim
PF006	Oxera assessment of efficiency benchmark	An assessment of the CMA's provisional findings : efficiency benchmark, Oxera
PF007	Oxera double counting frontier shift	Double counting frontier shift within the enhancement framework at the provisional findings, Oxera October 2020
PF008	WICS Strategic Review	WICS Draft Determination of prices controls for Scottish Water 2021-27
Growth		
PF009	FD G&Cs model update for ONS2018	ANH FD Gs&Cs model update for ONS2018
Enhancement		
PF010	DPC Letter and note October 2020	Letter dated 21 October 2020 to Ofwat and Note of meeting held on 16 October 2020 and further explanation
PF010A	DPC presentation to support meeting held on 28 September 2020	DPC Follow up discussion, Presentation to support meeting held on 28 September 2020
Leakage		
PF011	WRMP 2019 Demand management options	WRMP 2019 Demand management options, 5 September 2018 Mott Macdonald
PF012	Leakage third party report cover	Third party reports on leakage to support CMA in reaching its Redetermination

Ref. No	Short title	Full name
PF013	Prof Hall Urgent challenge to water supply	The urgent challenges to water supply in the South and East of England, Professor Jim Hall October 2020
PF014	Dr Farewell: Impact of Environmental Factors on leakage in the Anglian region	The impact of Environmental Factors on leakage in the Anglian Water region. Dr Tim Farewell October 2020
PF015	Oxera report on leakage cost adjustment claim	Quantifying a company-specific leakage base cost adjustment for Anglian Water Oxera 2020
PF016	Anglian post hearing follow-up	Letter to CMA following main oral hearing, 12 August 2020
Outcomes - Performance commitments and incentives		
PF017	Online community interconnector investment	ANH Online community customer engagement on risk sharing for interconnector investment
WACC and Financeability		
PF018	Gregory et al, Response to CMA's PFs on water and the estimation of Beta	A Response to The CMA's Provisional Findings on Water and the Estimation of Beta by Alan Gregory, Richard Harris and Rajesh Tharyan, October 2020
PF019	Anglian Natural PAYG Rate Submission	ANH Natural PAYG rate PFs submission