PR24

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DELIVERABILITY

APPENDIX A6
NES07

Note - PR19 Reconciliation Data and Models are covered in the separate Table and Model Commentary - Past Delivery Tables

1. EXECUTIVE SUMMARY

In the face of external pressures this is our most ambitious business plan ever – we must ensure it is deliverable.

The UK water sector has never been more in the public spotlight and for all the wrong reasons. We are proud to enjoy some of the highest levels of customer trust of any company in the sector[1] and that these have actually risen most recently while trust in the sector more broadly has fallen to some of its lowest levels. But we know that customer trust and confidence in water companies is under pressure across the sector. In the face of this external pressure, we have set out our most ambitious business plan for the future. We plan to invest more than ever to deliver real improvements to customers and the environment while continuing to improve offering some of the best levels of service and the lowest bills to customers in line with our vision of being the 'national leader'[2]. We recognise that meeting our commitments to customers is key to retaining customer trust and we have been careful to establish plans that are stretching and ambitious for customers and the environment but with clear plans for delivery.

Our performance on costs and customer service are reviewed at every board meeting and monthly at an Executive Team 'Performance' meeting but many metrics are reviewed even more regularly than that by operational teams. Stretching service and efficiency targets are a constant feature of our business in line with our vision and 'results focused' culture.

While our comparative performance on service delivery and cost efficiency is amongst the best in the sector[3], we recognise that we have not always met all the commitments that we made in our last business plan – this plan seeks to learn from that experience and increase confidence in our delivery in the 2025-30 period.

Overall, we remain one of the most efficient water companies in the sector, ranking second among the Water and Sewerage Companies on Ofwat's cost assessment models and our comparative service performance on the common performance commitments that Ofwat is seeking to apply in the 2025-30 period would place us third over the last three years[4]. Over the first three years of the 2020-25 period we have:

- delivered 62% of the service performance commitments that we set out in our PR19 business plan, compared to 64% on average across other Water and Sewerage Companies (WaSCs); and
- overspent against our allowed costs by 3.9%, compared to 7.1% on average across the sector.

We are proud of the improvements we have made in areas like sewer flooding, where our performance now places us in the top quartile; of being ranked best in the sector for customer service and for continuing to operate among the best

[1] CC Water, 2022, Water Matters: https://www.ccw.org.uk/publication/water-matters-2022/.
[2] See: https://www.nwg.co.uk/about-us/nwl/what-we-do/our-vision-and-values/.
[3] This is based on true comparative analysis of performance, as opposed to Ofwat's performance assessment which counts whether PC targets (often differing across companies) have been met or not.
[4] See Figure 22.

performers on things like bathing water quality and pollutions. However, we also recognise that we have met fewer of the commitments we made than other companies and we need to improve in some important areas. Our drinking water quality performance last year was among the worst in the sector, and we need to do more to help customers to reduce their water use as our per capita consumption performance has remained stubbornly high. We were extremely disappointed to be placed by Ofwat in its 'lagging' service category in respect of 2021-22 performance[5] and while we don't recognise this characterisation of our performance, we took actions and published plans[6] to improve our performance with our 2022/23 performance placing us in an improved position against our commitments and the rest of the sector while meeting slightly more of the common PCs that Ofwat reviews as part of its assessment. We were pleased to be reassessed as 'average' by Ofwat in its most recent report.[7]

We overspent our cost allowances by 3.9% between 2020-23. While this was an overspend against the allowed costs which we would prefer to avoid only two companies in the sector performed better than us and across all WaSCs there was an average overspend of 7.1%. In our original business plan, we recognised that power costs were likely to rise above inflation but could never have predicted the level of inflation we experienced following the pandemic and the war in Ukraine. We expect to deliver £268m of efficiencies by 2025 but these savings will be more than offset by the additional input cost pressures we are seeing. However, we also recognise that we could have managed some of these cost pressures better and have, for example, adopted a new strategy for hedging power costs following the recent price inflation and updated our treasury policies for raising debt finance.

In developing our plan, we have been mindful of the need to maintain customer trust and confidence by meeting the commitments we make while also making sure that service performance improves particularly in the areas that customers care about the most. We have also sought to make sure that we do not overpromise to customers and agree to targets that are not deliverable. We have developed more careful and detailed delivery plans to meet our performance commitments than we did at PR19 including a full bottom-up build of our plans with external support[8] and leveraging our mature approach to innovation across the sector. Our plan also commits to around £413m of efficiencies which is greater but not out of step with what we have been able to deliver in the past given the increased scale of the plan and we will continue to develop proposals to make sure that we can drive the necessary efficiencies during the period. We have also within the plan proposed mechanisms that both continue to incentivise us to drive efficiency but also reflect reasonable changes in input cost pressures outside of management control given the volatility we continue to see in prices.

Our enhancement programme was delayed following the pandemic, but we have taken action to make sure it remains broadly on track.

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[5] See: https://www.ofwat.gov.uk/wp-content/uploads/2022/12/WCPR_2021-22.pdf.
[6] See: Our commitments to you (nwg.co.uk).
[7] See: https://www.ofwat.gov.uk/publication/water-company-performance-report-2022-23/.
[8] Our Outcomes Appendix provides detail on each of the Performance Commitments we are making in our plan including current and historical performance, the delivery plans for each PC and the opportunities to use innovation to drive improvement.

Like all infrastructure businesses we experienced delays to our investment programme during the pandemic and have been trying to catch-up with those programmes[9]. We are pleased to remain on track with the timelines we agreed with the Environment Agency in relation to our environmental programme for the AMP7 period but disappointed that we are expecting to complete less of our SMART metering programme than we originally planned by 2025. Our water resilience programme remains broadly on track to deliver by the April 2025 deadline. Our focus throughout the 2020-25 period will remain on doing the right things for customers and where we have altered our plans, we have always tried to take actions that would maximise the benefits of the investments we make for customers. Our learnings and experience from the delivery of the current programme have been reflected in our transformation plans which we discuss below. In particular, the changes we have made to the delivery of our Smart metering programme in the current period will enable us to increase investment and activity in the next period with greater confidence.

We are transforming our business to be able to deliver the challenge of the 2025-50 programme.

We established early on in 2023 a major transformation programme across our business recognising the scale and nature of the future investment requirements. With the capital programme set at £3.6bn for 2025-30 compared to the £1.6bn we are currently delivering in the 2020-25 period we knew that we needed to completely change how we operate. Over the last decade our investment programmes have shown a very steady and consistent profile of investment and our enhancement programmes have typically been lower than some other companies, reflecting variations in regional growth and other differences. Future plans now show a rapid and material step up in the level of investment we need to make particularly in our Northumbrian Water operating area and on our wastewater service reflecting the largest ever investment programme we have ever delivered for the environment. We commissioned an early independent review of the deliverability of the emerging AMP8 programme[10] and also supported wider work at a sector level[11]. Based on the emerging programme of work, the findings from these reviews and the lessons from the current period we sought to completely change the way we operate and how we deliver our investment programmes.

Within our transformation programme we have established five key workstreams:

- Building a high-quality plan- this seeks to ensure that we have high quality, rigorous delivery plans to give confidence that we can meet the timescales and deliver the investments and the corresponding benefits they create for customers and the environment on time. We summarise those plans which we will continue to refine.
- Exploring alternative delivery models - we have explored alternative delivery models with independent experts including the opportunity for ‘Direct Procurement for Customers’ (DPC). We originally considered the potential to use

[9] Our published action plans can be found at: Our commitments to you (nwg.co.uk).

[10] Jacobs, 2022, Deliverability of PR24 schemes.
[11] Stantec, 2023, Water UK – AMP8 Deliverability.

DPC in particular on our SMART metering and Continuous River Water Quality (CRWQ) monitoring programmes but following more recent guidance from Ofwat have been unable to identify any schemes in our core long-term pathways that would be suitable for DPC. We have identified some suitable opportunities in the adaptive pathways that we may have to follow in the future and will continue to explore the potential to use DPC in those instances should those investments be required.

- Developing the delivery ecosystem - we reviewed contracting arrangements across the water sector and in other infrastructure sectors and established a new 'Living Water' enterprise model to enable us to expand the supply chain capacity we had in place to deliver such a large programme, operate with greater speed and flexibility and nest align the incentives of ourselves and our supply chain partners to make sure that the programme can be delivered on time, with minimum cost to customers and maximum benefit. Through this workstream we have already completed significant early engagement with the supply chain on the programme and released early tender opportunities that will increase our capacity.

- Being a capable client - we are examining our own internal capability, capacity, and organisational structures to be able to adapt to deliver such a large programme of work. We have already launched a major recruitment programme to expand our resources and capabilities to be able to deliver such a large programme of work.

We have also carried out Northumbrian Water specific analysis of supply chain capacity based on actual capacity projections from potential suppliers and demonstrate that across the various delivery streams in our new AMP8 operating model we anticipate having capacity to deliver some £700m of investment pa, in line with AMP8 requirements.

We have already started delivering the 2025-30 programme.

We have recognised that we need to move quickly to deliver improvements in some areas, so we have already begun accelerating our investment programme for AMP8. We were pleased to be allowed £99m of 'accelerated investment' through the Ofwat and Defra led process[12], the third highest of any company in the sector, with £25m of that provided in the 2023-25 period, but we knew given the scale of public concern and the step up in investment requirements we agreed with our board that we need to go further and are accelerating a further £72m of transitional investment from the 2020-25 period subject to Ofwat's agreement. We are also committing to further investment this AMP to begin to address the asset health challenges that we see on our assets. Accelerating this investment will enable us to:

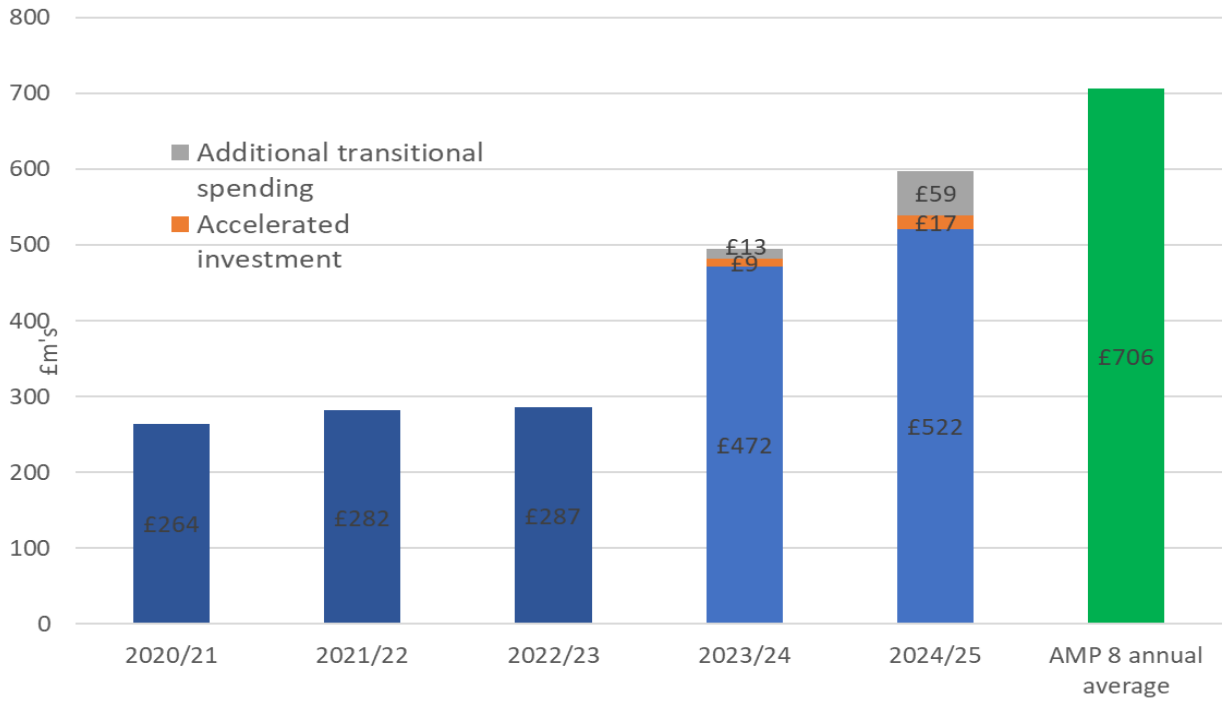
- Carry out early design, planning and enabling activity for big schemes sooner given greater certainty and confidence that the 2025-30 programme is deliverable.

[12] See: https://www.ofwat.gov.uk/wp-content/uploads/2023/04/A0-accelerated-process-final-decisions.pdf.

- Achieve a much flatter investment profile across the 2025-30 period which will aid delivery and reduce risk of cost overruns or missing delivery timelines.
- Begin to ramp-up our investment and test our new emerging delivery arrangements to better achieve the run-rate level of investment that we will need to hit to be able to deliver the programme.

This is a key lesson learned from the AMP7 period, where, in relation to the small number of areas of potential under-delivery described above, an early accelerated delivery start in AMP6 would have placed us in a stronger starting position to maximise delivery in AMP7. We note that Ofwat is currently making the allowance of its AMP8 accelerated delivery funding dependant on demonstrating full AMP7 delivery, however arguably evidence of AMP7 delivery challenges actually strengthens the case for accelerated delivery funding in the next period, while using this as a rationale for revoking such funding makes it harder to address these challenges in future.

FIGURE 1: OUR EXPECTED CAPITAL EXPENDITURE PROFILE TO 2020-30 FOLLOWING ACCELERATED AND TRANSITIONAL FUNDING



Source: NWL financial projections.

Independent assurance of our plans and progress gives the board confidence that the plans are deliverable.

Our plans have been subject to independent and expert assurance which has been shared with the board to give confidence that those plans are deliverable. The Water Forum has used an expert advisor (see NES48) to challenge our plans on cost efficiency and service delivery including that those plans are deliverable, in relation to those plans they note:

"*My involvement in the process of challenging the operational and tactical plans suggested that they constituted a deliverable set of interventions in pursuit of a challenging set of performance targets."*

Our AMP8 transformation programme has also been subject to external review and assurance (**Jacobs deliverability assurance**, NES71). We asked Jacobs to provide assurance on our progress and the work we have completed and give the board confidence that the programme could be delivered. In conclusion Jacobs noted:

"*We believe that the AMP8 Delivery Strategy is appropriate and proportionate to the challenges and delivery risks associated with the PR24 Plan*" and "*The AMP8 Transformation Plan is robust*".

2. INTRODUCTION

The UK water sector has never been more in the public spotlight and for all the wrong reasons. We are proud to enjoy some of the highest levels of customer trust of any company in the sector[13] and that these have actually risen most recently while trust in the sector more broadly has fallen to some of its lowest levels. But we know that customer trust and confidence in water companies is under pressure across the sector. This is our most ambitious business plan ever and we must make certain that it is deliverable otherwise we can further undermine the levels of trust and confidence that customers and stakeholders have in us.

We have looked carefully at whether we will be able to deliver this plan. This includes looking at what we have learnt from delivering investment, service levels and cost efficiency in 2020-25, the future challenges we face, and the capacity of the supply chain both locally and nationally as well as our own capacity to deliver. We have tested how realistic our plans are in the context of our current and past performance, and how we are addressing potential areas of weakness with our 2025-30 business plan and beyond. We have considered alternative delivery models for parts of our plan, and how this might take advantage of opportunities to access additional capacity from outside the sector.

The purpose of this document is to set out the approach we have taken to assessing the deliverability of our plan. We consider deliverability in two broad categories of activity in carrying out this assessment:

- Delivering service level outcomes and cost efficiency for customers.
- Delivering the future investment programme, in particular given the scale and nature of that programme.

The document is structured as follows:

- Section 3 describes our performance in the 2020-25 period, this includes setting out how we have performed, what we have learned from that experience and how that learning has informed our plan for 2025-30.
- Section 4 describes what we are doing to get ready for the 2025-30 programme and how we are transforming our business to be able to deliver such an ambitious plan.
- Section 5 describes our approach to assurance in this area and the evidence that the board has considered to give it confidence that the programme is deliverable.
- **Annex A** summarises our PR19 reconciliations based on the framework agreed at the last price review, with links to our evidence and models on this.

[13] CC Water, 2022, Water Matters: https://www.ccw.org.uk/publication/water-matters-2022/.

2.1. BUSINESS PLAN NAVIGATION

This appendix supports Ofwat in the assessment of the 'costs' and 'data, information and assurance' tests in the Quality and Ambition Assessment, as set out in **the PR24 methodology**:

TABLE 1: MINIMUM EXPECTATIONS FOR COSTS / DATA, INFORMATION AND ASSURANCE

Minimum expectations (from Ofwat methodology)	Where is this covered?
In relation to Costs: The company provides sufficient and convincing evidence that the investment proposals within its PR24 business plan are deliverable. This should consider delivery in the 2020-2025 period and any measures the company has put in place.	Sections 3 to 5 of this document set out what we are doing to make sure that the PR24 programme is deliverable including the lessons from the current period and the assurance that the board has considered in this context.
In relation to Data, Information and Assurance: The company provides sufficient and convincing evidence to demonstrate how its track record of performance, or lessons learned from poor performance, support the credible delivery of the proposals in its plan.	Section 3 summarises our performance in the current period, the lessons we have learnt from past performance and Section 4 sets out how our learning has informed the plan for 2025-30.
In relation to Costs: The company proposes to use direct procurement for customers (DPC) to deliver eligible schemes, in line with our 'DPC by default' approach.	Section 4 discusses our approach to delivering the 2025-30 plan including our consideration of the role of alternative delivery models including DPC.

Other appendices – **A2 Data, Information and Assurance** (NES03) and **A3 Costs** (NES04) – address the other minimum expectations in these areas. Assessing deliverability is a critical part of our business plan, and so we have included this together in this appendix rather than a subset of other areas. We suggested in our response to Ofwat's methodology consultation that deliverability would be a particular challenge at PR24 and were pleased to see this added into the QAA tests.

There are no QAA tests for reconciliation of PR19 incentives, but these are explained in Section **5.3**.

In addition to these QAA tests, we have provided a Board assurance statement (in the **Data, Information and Assurance** (NES03) Appendix) that our Board has challenged and satisfied itself that:

- PR24 plans and the expenditure proposals within them are deliverable and that the company has put in place measures to make sure that they can be delivered. This includes setting out the steps the Board has taken to satisfy itself that supply chain risk is manageable and delivery plans account for:
    - the ability of the company and its supply chain to expand its capacity and capability at the rate required to deliver the increased investment;
    - the impact of similar levels of growth across the sector and any overall sector and supply chain capacity constraints; and
    - key supply chain risks and capacity constraints, such as the availability of specialist resource or components, for example, river quality monitors, smart meters or SuDS designers.

We have discussed deliverability with our Board throughout the PR24 process, particularly as the scale of statutory investment in 2025-30 has become clear. This appendix shows the evidence that our Board has commissioned and discussed (Sections **3** and **4**) and the measures put in place (Section **5**) to satisfy itself that our business plan can be delivered.

3. OUR PAST PERFORMANCE AND LESSONS FOR THE FUTURE

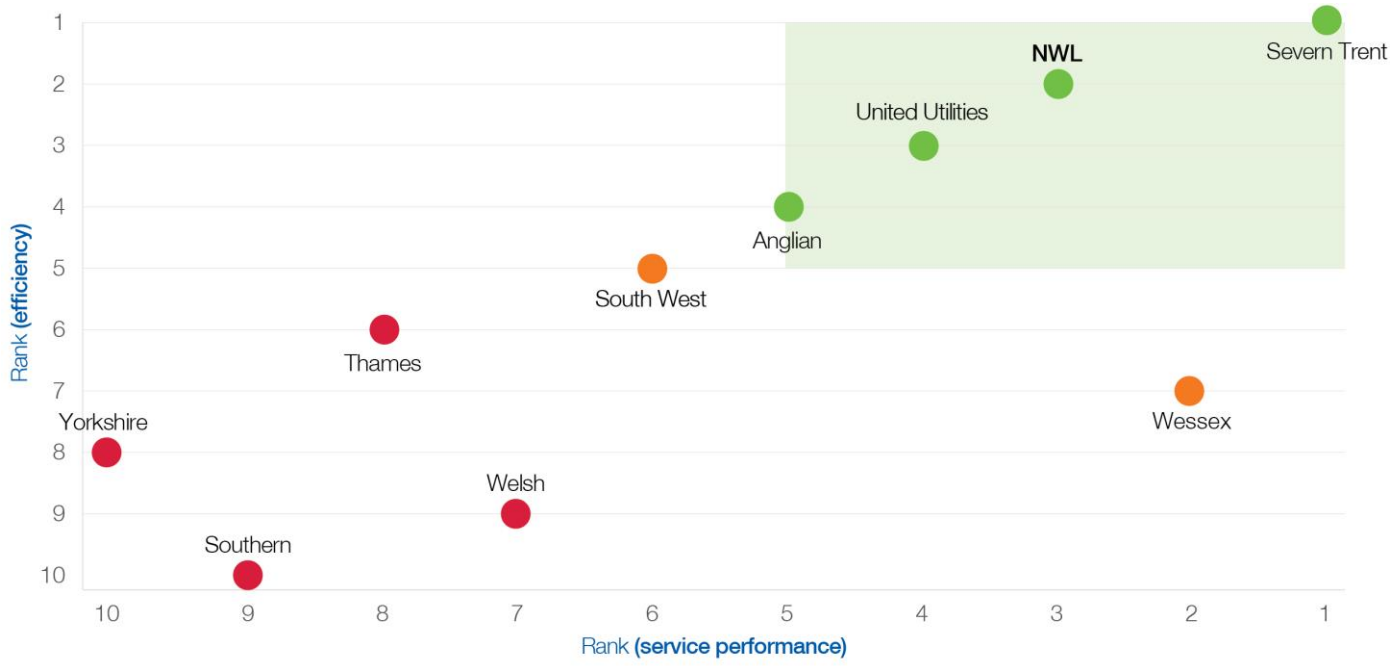
3.1. LEARNING FROM OUR PAST PERFORMANCE

We are proud to be results driven, and we take personal responsibility for achieving excellent results for customers. We publish our 'company score card' each month on our intranet site (The Source) and we discuss this across the company in Team Talks. Our Board and Executive Leadership Team discuss performance each month and take action where we are not meeting customer expectations. The company score card includes measures which are performance commitments, as defined by Ofwat's PR19 final determinations, and other measures too where these are important to customers, stakeholders, or employees (for example, health and safety metrics).

3.1.1. Our performance on base costs and service outcomes

On an overall comparative basis, when we consider cost efficiency versus service performance we rank well against other companies.

FIGURE 22: OUR COMPARATIVE COST EFFICIENCY AND SERVICE PERFORMANCE RANK



Source: NWL analysis using industry APR service performance data and historical industry cost data. Efficiency ranks based on Ofwat's PR24 cost models with weighted efficiency scores across all services/models with data up to 2022/23 using a five-year efficiency score. Service performance ranks use 2021-23 data giving an annual average for Ofwat's PR24 'common' PCLs and give each PC an equal weighting, but data excludes biodiversity, BRMex and river water quality where comparative information is not yet available.

OUR SERVICE PERFORMANCE

In considering our track record for service delivery we have looked across the commitments we made in our business plan. The table below tracks the percentage of performance commitments that we delivered in each of the first three years of the price control relative to other average and upper quartile across the sector.

TABLE 23: MEETING OUR PERFORMANCE COMMITMENTS TO CUSTOMERS COMPARED TO OTHER COMPANIES

Company	2020/21	2021/22	2022/23	Three-year average	2015-20
NWL	72%	57%	58%	62%	68%
WaSC average	66%	66%	61%	64%	70%

Source: NWL analysis of APR data.

Overall, this analysis highlights that while our comparative performance remains strong in relation to other companies' we have delivered a lower proportion of the commitments that we made to customers than Water and Sewerage Companies have over the three years and on average. We have also delivered less of the commitments that we made in comparison to the previous 2015-20 period.

We have also examined our performance across specific PCs. We have [32] PCs that we are seeking to deliver for customers in the 2020-25 period but many of these will not be continued into the 2025-30 period as Ofwat has set common PCs for the sector to meet. Our **Outcomes** (NES05) Appendix describes how we have developed and set out PC levels for the 2025-30 period. At the same time some PCs are more important to customers than others (see our **prioritisation of common PCs**, NES44). In Table 2 below we look at our performance in the 2020-23 period against those 'common' PCs that Ofwat is setting during the 2025-30 period and other PCs which are a 'high' or 'medium' priority for customers based on the triangulated customer research we have completed.

TABLE 34: OUR SERVICE PERFORMANCE ON KEY MEASURES IN 2020-23 (GREEN DENOTES HITTING PCL, RED IS MISSING THE TARGET)

Performance commitment	2020/21	2021/22	2022/23
Ofwat 'common' PCs for PR24			
CMex	3rd	2nd	1st
DMex	7th	5th	6th
CRI	7.11	6.36	7.62
Leakage (NW)	136.2	134.7	129.8
Leakage (E&S)	64.9	63.1	60.3
Supply interruptions	00:04:04	00:11:45[14]	00:08:17
PCC	156.3	157.7	159.1
Unplanned outage	5.69	4.57	3.51
Mains bursts	127.03	110.86	154.89
Pollution events	14.61	22.98	19.98
Serious pollutions	4	1	0
Internal flooding	1.89	1.84	1.21
External flooding	3,862	3,454	3,018
Bathing water quality[15]	n/a	97.06%	97.06%
Sewer collapses	9.82	8.71	9.29
Treatment works compliance	99.51%	98.03%	98.52%
Storm overflows	22.29	25.34	20.30
Greenhouse Gas Emissions[16]	15,235	46,492	45,182
Other 'high' or 'medium' priority PCs from AMP 7			
Water quality contacts[17]	9.97	10.31	9.60

Source: NWL APRs and Ofwat C-Mex and D-Mex results[18].

[14] 00:11:45 includes the impact of Storm Arwen, however given the definition of ITS3 hrs, we believe the performance should exclude the impact of the storm.
[15] Presented in PR19 performance format.
[16] Presented in PR19 format – tonnes reduction.
[17] Performance presented in PR19 format per 10,000 population and is our discolouration and taste and smell performance combined.
[18] https://www.ofwat.gov.uk/regulated-companies/company-obligations/customer-experience/c-mex-and-d-mex-2020-21-results/.

We are fully meeting our PCs in some areas, for example:

- we have steadily improved our customer experience, as measured by C-MeX, from fifth in the sector in 2019/20 to first in 2022/23 – and we are the only water company **to be recognised among the top companies in the UK** (and the top two utilities) as an exemplar for customer service and we hope to continue to improve in DMeX;
- we have met our targets for pollution events and remain among the very best wastewater companies for reducing these incidents; and
- we set ourselves ambitious targets on reducing greenhouse gas emissions and have exceeded these targets.

In some areas, we **set out to improve over the last few years – and although our journey is not complete yet, we have made significant progress** towards our vision to be the national leader.

- In 2019/20 we ranked 8th in the sector for internal sewer flooding and 11th in the sector for external sewer flooding – this was one of our poorest areas of performance and an area that was a high priority for customers. We set ambitious service improvement targets with clear delivery plans and additional investment and since then we have improved our performance by 67% and 37% respectively placing us 3rd in the sector for internal sewer flooding and 7th (out of nine) in the sector for external flooding. We are hugely proud of the improvement we have made in our internal flooding performance, but we recognise that we still need to improve further on external flooding, these are important priorities for customers.
- We have also consistently met our targets for bathing water quality. In our plan we set out our ambition to have the best rivers and beaches in the country[19] and, following the growth in external pressure on the sector we set out vision for coasts and rivers[20] which included further ambitious targets to improve the quality of our beaches and rivers and interim targets to reduce the number of spills to the environment to an average of 20 spills per CSO by 2025. We have made good progress with those targets and maintained our strong position in relation to bathing waters with 32 out of 34 of our bathing waters achieving good or excellent status and the two which are not achieving that status are not considered to be as a result of our assets. We have worked extensively with the EA and other local partners to improve our bathing waters and we are reaching the limits of what can be achieved. While our rivers are already among the best in the country[21] river water quality across the sector is still unacceptable (see **Ofwat research into this**).

[19] https://www.nwg.co.uk/globalassets/sharepoint-documents/nwg_pr19_interactive_v2.pdf page 149.
[20] https://www.nwg.co.uk/coastsandrivers#:~:text=We%20will%20work%20with%20partners,in%20our%20regions%20by%202030.
[21] See: https://www.data.gov.uk/dataset/41cb73a1-91b7-4a36-80f4-b4c6e102651a/wfd-classification-status-cycle-2 Our wastewater operating area covers the Northumbria and part of the Solway Tweed river basin districts.

Finally, we can also see that we achieved 62% of our PCs in total compared to 68% in the previous period up to 2020. So we are delivering fewer of the commitments to customers that we made. Within this **there are also some important areas where we have not met our PCs and where our performance needs to improve**.

In particular:

- our drinking water quality (Compliance Risk Index) score has been poor, and we were among the worst performers in the sector in 2021/22; and
- our per capita consumption performance is also among the worst in the sector, partly due to a strong water resources position which has historically reduced the need for improvement. We have missed our targets throughout the period this has largely been driven by the Covid-19 pandemic and the corresponding rise we saw in household consumption.

Case study: Addressing 'lagging' performance

We were enormously disappointed to find ourselves placed into the 'lagging' performance band by Ofwat in 2022. While we did not recognise the label for our performance in the round, we did recognise that we were not meeting our commitments to customers in a number of important areas, and we wanted to improve.

We published our **Performance Action Plan** in 2022 which identified issues, assessed lessons learnt and set out the actions planned in place to improve performance.[22] We were pleased to see our performance improve in 2022/23 where:

- we met slightly more of the PCs that we made than we had in the previous year 58% in 22/23 compared to 57% in 21/22;
- we achieved slightly more of the priority PCs that Ofwat reports in its 'Service and Delivery' reports than we had in the previous year, despite those targets becoming more stretching- overall we achieved 6/12 targets placing us 5th among the water and sewerage companies;
- we provided the best customer service of any company in the sector – 1st for CMex; and
- achieved the 4th best service performance overall across the sector (based on RoRE).

We were pleased that in its most recent water company performance report reflecting 2022/23 performance Ofwat upgraded its assessment of NWL from 'lagging' to 'average'.[23]

LEARNINGS FOR OUR PR24 BUSINESS PLAN

We have carefully considered the lessons from our current experience in formulating our business plan the key learning points are summarised in Table 4 below and how we have considered and reflected these points in the business plan.

[22] Performance-action-plan-for-publication_v2.pdf (nwg.co.uk).
[23] https://www.ofwat.gov.uk/publication/water-company-performance-report-2022-23/.

TABLE 45: KEY LESSONS FOR PR24

Learning from the current period…	How we have reflected this in our business plan…
Setting stretching but deliverable targets - Our vision is to be the national leader in the provision of water and wastewater services- so we always want to set stretching and ambitious targets for our performance. Our PR19 plan contained some very bold and ambitious commitments for customers' and we sought to meet the 'top quartile' benchmark that Ofwat was looking for. As the 2020-25 period has developed, we have seen that no company is currently meeting Ofwat's cost and service delivery targets collectively and this suggests to us that this benchmark is not credible.	In developing our PR24 business plan, we still wanted to set ambitious cost and service targets in line with our vision. However, we did not see how Ofwat's benchmarks were achievable, by 2023 only one water only company in the sector was operating within to cost allowances Ofwat had provided, and no company was meeting its performance commitments or even the common PC targets Ofwat had set out[24]. Instead, we focused on our national leader assessment for the plan which still seeks to benchmark our performance at the industry frontier and also considered customer preferences and statutory obligations. Our **Outcomes** (NES05) Appendix sets out how we have set the service level targets for the PR24 business plan.
Planning for delivery - Where we have struggled to meet the commitments in our PR19 business plan they are often due to factors that we could not reasonably have foreseen. For example, we could not have predicted a global pandemic and the impact this would have on household water use and we could not have predicted the inflationary pressures we have seen and the impact this would have on our ambitions to eradicate water poverty. However, in some instances we consider that the plans we made at PR19 were insufficiently detailed and this has affected our ability to deliver the benefits we previously committed to. Throughout the 2020-23 period our service delivery strategies and tactical delivery plans have also become more mature strengthening the quality of our planning activities.	Our PR24 business plan is built upon more robust and detailed plans for the delivery of all of our commitments to customers than ever before. We have thought harder and in greater detail than ever before about the actions we will take to meet these commitments the risks and issues that could stop us from achieving those activities, the costs of delivering those plans and the opportunities for innovation that we can leverage to deliver. Our **Outcomes** (NES05) Appendix sets out the actions we intend to take to deliver each of the PC targets that we have set out as well as the potential role for innovation and other elements.

[24] Ofwat **Water Company Performance Report**, 2023.

Targeting innovation - We are fortunate to have one of the most mature approaches to innovation across the sector. Our annual innovation festival is internationally recognised, we have a strong innovation pipeline and we have won more bids from Ofwat's innovation competition than any other company. We continue to drive innovation across the business, but we have not always targeted our innovation activity at those areas where we most need to improve and where sometimes it has been hard to drive the cultural change that is needed to implement those innovations.

With a more mature innovation pipeline and strong culture we will look to target innovation more actively across our plan and channel opportunities into those areas where we most need to get more improvement from the base cost allowances. Our Costs appendix describes our innovation approach [xx] and our Costs appendix sets out the key innovation opportunities we see in relation to each PCL.

Per Capita Consumption- We have failed to meet any of our PCC targets from 2020-23. Reducing consumption is particularly important for NWL in our Essex and Suffolk operating areas where we are already experiencing supply deficits. Our performance comparatively is at the worst end of the industry, and we need to do better. The main reason why we failed to hit our targets in this area during the AMP is because consumption rose during the pandemic with lockdowns and has never returned to previous levels.

We took a lead role in the industry in assessing this impact and in September 2021 – in response to Ofwat's consultation - we submitted a comprehensive evidence pack[25] comprising independent analyses from both Artesia and the Met Office – setting out the extent to which the impact of the pandemic on PCC was expected to be sustained indefinitely.

This submission also proposed an appropriate basis for adjusting AMP7 PCC targets to reflect this analysis[26] and we continue to encourage Ofwat to adopt this approach in its end of AMP7 reconciliations.

For the end of AMP7 we strive to achieve this 'Covid-19 adjusted' PCC target.

In recognition of the challenges in this area we have developed our most holistic plans ever for water efficiency in the 2025-30 period, we have:

- increased the level of investment we expect to make in this area compared to the current period;
- linked our water efficiency plans so that they align and work with our SMART metering proposals and the opportunities this will provide to reduce supply pipe leakage, which should also have an impact on consumption; and
- developed new proposals for non-households which were not previously reflected in plans.

[25] Main response and 2 appendices submitted to Ofwat on 6/09/2022 in response to its consultation on pandemic impacts on PCC.
[26] Section 2 and Figure 4 of main response described above.

Drinking Water Quality (Compliance Risk Index) - Our CRI performance has also been very poor. This is an important priority area for customers and one where we have not delivered the levels of service that we would like to. We were placed in a transformation programme by the Drinking Water Inspectorate (DWI) in 202[0] – a programme of improvement has been agreed and we remain on track with delivering that programme.	We are increasing our investment to improve the service we deliver in this area and have detailed investment plans in place for the 2025-30 period from the 'Hazard Review' risk assessments that we have carried out for the DWI. This gives us a clear plan of action and we expect our performance during AMP8 to be much more 'in the pack' and hitting the 1.5 deadband that we have proposed in our plan by 2030. It will take time for this performance to improve to the levels we want to see consistently but our performance is already showing a marked improvement this year (2023/24). Our **Outcomes** (NES05) Appendix sets out more detail on our CRI performance and plans.
Extreme weather events - Through our changing climate we see an increasing frequency and scale of extreme weather events disrupting the essential services we provide to customers. During 2021 we experienced Storm Arwen, one of the most significant storms that we have seen in our history. The storm knocked out power across the region for a significant period that affected our ability to provide drinking water to our customers. The storm was declared a civil emergency and led to an independent review into the event undertaken by Ofgem and the Government. Other companies have experienced several extreme weather events throughout the period. In its **PC definitions for PR24** Ofwat has removed the few remaining exclusions for extreme weather from the common PCs.	We have accepted Ofwat's PC definitions in relation to extreme weather but **explained why we do not think that this is in customers' interests** because it will promote inefficient investment. We included some investment for flooding protection in our PR19 business plan but when we carried out further site investigations, we concluded that this investment was not in customers' interests and intend to return that funding to customers as per the ODI. Within our business plan we have carried out more work than ever to consider the nature and frequency that will affect our operating areas, the key assets that will be affected and the different ways we could protect customers. We have included an investment case for some targeted investment for **power and flooding protection** (NES32) which was **supported by customers in our customer research** (NES45).

3.1.2. Our cost performance

We are efficient and rank second across the sector against Ofwat's cost models – see Figure 1 above. Our Appendix **A3 – Costs** (NES04) sets our approach to setting base costs and enhancements and how we have made sure that those costs are efficient. It also explains how we regularly review our efficiency as a business and how we seek to drive continuous improvement through various efficiency and innovation programmes (Sections 3.2 and 3.3 of our Appendix **A3 – Costs**. NES04).

During the current period from 2020-23 we have seen significant overspending against Ofwat's allowed costs at a sector level and our experience has been consistent with that. However, the variance between our total expenditure allowance and actual expenditure would place us 3rd across the WaSCs. In total we have overspent against our allowances by 3.9%

compared to 7.1% on average for other WaSCs. The available data does not provide forecasts of the expected costs for 2023-25 for other companies but we expect significant overspending in the remaining years.

The major source of this overspend is **input cost inflation**. Construction prices have increased substantially since the PR19 FD (an increase in COPI of 22.6% between March 2020 and March 2023, compared to a 16.8% increase in CPIH). Energy and chemical costs have increased substantially above inflation over this period too, with no ex-ante real price effect allowed for at PR19 for these items. We estimate that the cost shocks from energy, chemicals, construction and materials will have more than offset the savings we have made through efficiency gains in 2020-25 (see **A3 – Costs**). We were able to mitigate some of this by hedging against energy prices and through efficiency projects.

In addition to this, some of our programmes have been delayed by Covid-19 (with customers unwilling or unable to opt for meters, for example), shortages of labour during Covid-19, and global shortages of microchips.

We describe our ongoing efficiency programmes in more detail in our Appendix **A3 – Costs**, which compares our efficiency to other water companies and explains how we have improved through 2020-23.

3.1.3. Our performance on enhancement investments

Our enhancement programme in 2020-25 was much larger than the programme we had in the preceding period, representing a 61% increase in the enhancement programme from 2015-20.

Initially our progress on the investment programme was hampered by the Covid-19 pandemic and the frequent lockdowns that we experienced during 2020-22 which made it difficult to make progress on many of our investments. We had to follow various lockdown restrictions during this time which impeded progress, for example on our lead programme where we could not enter peoples' homes and on our Smart metering programme where customers could not opt for a meter installation during this time. Once the Covid-19 pandemic ended, the war in Ukraine emerged and this brought disruption to local supply chains for example in relation to the availability of chips for Smart meters. We have also seen some of the most significant cost inflation since privatisation including in power and construction and materials costs.

As part of the improvement plans that we needed to develop to address our 'lagging' status we also **developed action plans** to improve our progress on those enhancement schemes. We transparently report our progress on these enhancement projects every quarter, and the latest reporting is provided in Table 5 (this is ahead of the website version). This figure confirms that we are on track to deliver all but one of our investments:

1. Smart metering where delays due to the covid pandemic, an international chip shortage and recruitment challenges have delayed our progress and mean that we expect to deliver only 75% of our programme. Our approach focuses on maximising the benefits of the programme for customers in terms of leakage and PCC benefits and we expect to deliver 75% of the installations that we set out in our business plan. Again, customers will be compensated though the corresponding ODI.

TABLE 56: OUR PROGRESS WITH OUR ENHANCEMENT SCHEMES

Scheme	Target date	Action plan		Current forecast	
		Contract award (CP4)	Substantive completion (CP5)	Contract award (CP4)	Substantive completion (CP5)
Raw Water Quality - Mosswood UV	Dec 22 (for DWI elements)	Sep 20	**Aug 23 (for whole scheme)**	Sep 20	**Dec 23 (for whole scheme)**
Raw Water Quality – Layer Enhancement	Mar 25 (DWI output)	Aug 23	**Mar 25**	Sep 23	**Jan 25**
Resilience – Springwell Service Reservoir	Mar 25 (Ofwat ODI)	Mar 23	**Jun 25**	Mar 23	**Mar 25**
Resilience – Tees Pipeline	Mar 25 (Ofwat ODI)	Aug 22	**Mar 25**	Aug 22	**Mar 25**
Resilience – Abberton Pipeline*	Mar 25 (Ofwat ODI)	Feb 24	**Mar 25**	Sep 23	**Mar 25**
Resilience – Barsham Enhancement	Mar 25 (Ofwat ODI)	Sep 22	**Jan 25**	Sep 22	**Mar 25**
Lead programme	Mar 25 (Ofwat ODI)	N/A	**Mar 25**	N/A	**Mar 25**
SMART metering	Mar 2025 (Ofwat ODI)	N/A	**85-100%**	N/A	**75%**

Some of these enhancements will cost significantly more than allowed in final determinations at PR19 – in total, around £60m more on water enhancements. In particular:

- We will spend 43% more on lead replacement than expected at FD (£16.4m compared to £11.5m).
- We will spend 46% more on water resilience than expected at FD (£128m compared to £88m).

For PR24, we have improved our cost estimation to help make sure we have better estimates of costs in our business plan. This gives more confidence in our costings than at this stage in PR19 (see our Appendix **A3 – Costs**, NES04).

LEARNINGS FOR PR24

While we are disappointed that we will not deliver our programme in full we consider that the pandemic and the war in Ukraine could not have been reasonably foreseen. Nevertheless, there are a number of learning points that we have taken forward into our AMP8 transformation programme, these are described below.

TABLE 67: KEY LESSONS FOR PR24

Learning from the current period…	How we have reflected this in our business plan…
The importance of a medium to long-term high-quality plan with appropriate quality controls to ensure the plan is more certain, credible and deliverable.	• We have implemented our Service Planning Framework with a holistic value model making sure that the right programme choices are made providing greater certainty and confidence in the candidates progressed for investment. This is being supported through the mobilisation of a transformation programme to assure successful embedding of the approach. • We have placed a greater focus on developing notional solutions to a greater level of definition and utilising broader industry data sets to establish cost and time baselines. • We are applying significant resource to the development and maintenance of a high-quality plan recognising it as a significant value enabler that identifies opportunities in programme delivery optimisation, standard products and mitigation of manufacturing / supplier capacity threats, identifies opportunities for standard products and mitigation of manufacturing / supplier capacity threats. • We have focused on identifying opportunity afforded through early enabling activity such as planning, power supply and land acquisition. • Identification of opportunities to drive efficiency through economies of scale and commonality of products along with the identification of opportunities for advanced procurement of standard products reducing schedule and manufacturing capacity threat. • Early identification of new capabilities and drive additional capacity growth in the market through 'grass roots' recruitment pathways.

The importance of starting AMP8 work early to realise standard product opportunities and reduce the risk on challenging schedules of activity recognising that the delivery of a greater level of nature-based solutions while working with multiple partners can have a greater lead time.	• We are investing more beyond the PR19 FD allowances to enable early mobilisation and advancement of significant portions of the AMP8 programme. We have committed to investing up to £120m which relates to a significant proportion - more than £2.5 billion of the AMP8 plan. • The acceleration of spend will also enable the mobilisation of significant technical consultant and contractor resources which are required to support the significant scale up in output in AMP8. • In our plan on a page (**NES01, page 44/45**) we indicate how this accelerated delivery approach places us in a strong position, from a project life cycle profile perspective, for AMP8 delivery.
The importance of applying sufficient technical and commercial resources early in the lifecycle to identify optimal solutions and priorities from the outset which sets up the programme for success.	• We have appointed two Strategic Technical Partners (STPs) to work collaboratively to provide additional capability and capacity to NWG in identifying root causes and best practice solutions early in the lifecycle. Both STPs have been appointed on a joint best athlete basis to provide sufficient capacity and a breadth of capability to deliver the scale and quality required. • We have introduced and applied our totex hierarchy approach making sure we make the optimal blend of choices for investment. • We have appointed Strategic Commercial Partners to provide commercial assurance throughout the lifecycle. • We have increased focus and accountability of our Engineering team for technical governance and innovation particularly in the early lifecycle stages. • We have created a separate Commercial function within the Assets Directorate to provide expert assurance and support to the contracting and delivery of investment. • We have committed to the provision of long-term pipelines of work to supply chain providing transparency and certainty of work, enabling investment and growth.

The importance of robust and well assured governance and approvals processes and systems.	• We are carrying out a transformation of our Programme Management Office to provide robust support and assurance to our end-to-end delivery process. This will provide increased capability and confidence in our costing, scheduling, risk management and delivery of investment.
Crucial to have the right range of capability and capacity in place within the delivery organisation to deliver investment efficiently, effectively, and safely.	• We have carried out the reorganisation of our Assets Directorate to provide scalable and efficient delivery options. This includes the creation of our Integrated Delivery Services (short cycle) team which is focused on direct delivery of lower scale lower complexity activity at a lower overhead delivering better value for our customers. This also focuses our Capital Delivery (long cycle) team on high scale and complex work where they can drive effective safe delivery of investment and realisation of benefits to cost and schedule.
Supply partner selection and whole supply chain resilience importance to avoid / mitigate loss of critical suppliers. That framework and contractual arrangements are commercially aligned and designed to ensure a fair and appropriate allocation of risk to ensure appropriate pricing and best value for customers. That the whole supply chain requirements are designed, procured and managed to assure capability and capacity is available.	• We have designed and are establishing our Living Water Enterprise which provides an incentivised environment for multiple supply partners to work together to deliver best value outcomes for our customers in line with a sustainable common commercial model. • Underpinning the Living Water Enterprise and our Integrated Delivery Service team, we have designed of our delivery eco-system which will make sure we have the right capability and capacity available within our lower tier supply chain and our kit and plant suppliers. • We are placing a greater emphasis on behavioural and value alignment for supply partners recognising the value of long-term sustainable delivery partner relationships.
That NWG needs to have the right capability and capacity to support the successful and efficient delivery of our investment plan.	• We have established an AMP8 Transformation Programme which will deliver the high-quality plan, the required delivery eco-system and client capability and capacity required to support a scale up of investment. This will focus on the people, process and system change required to support efficient delivery in AMP8.

Case Study: smart metering

Our PR19 business plan set out an ambitious programme to roll-out smart meters across our operating areas particularly in Essex and Suffolk to 2025. Unfortunately, the programme was delayed by the Covid-19 pandemic where social distancing rules impacted upon our ability to enter customer properties and then disruption to global supply chains affected the availability of microchips and meters to install.

We have been able to significantly increase our run rate of installations over the period and we forecast an uplift in installation volumes of 32% in 23/24 and 38% in 24/25. However, we do not consider that we will be able to catch-up to the volumes we need to by 2025 to meet the original plan. We examined a range of options focusing on the benefits to customers in terms of leakage and PCC reductions that could occur from different models of installation and taking this benefits-led approach we expect to deliver 75% of programme by March 2025.

Customers will be recompensed for any under-delivery through the associated Outcome Delivery Incentive and while the cumulative number of meters installed in AMP7 to date is below that forecast in our WRMP19, we have still maintained a supply demand balance index of 100 for all of our water resource zones. We will also aim to deliver our programme in full in the water stressed Suffolk area and exceed our programme by achieving close to 100% meter penetration in the Hartismere Zone by end AMP7.

We have already tendered the meter and communications provision for Essex and Suffolk with a contract for the next 15 years providing greater certainty around the availability of meters and communications infrastructure to support the AMP8 programme. Specifically, we anticipate communication infrastructure rollout will commence in November 2023 and reach 90% coverage by March 2025 – meaning that every new smart meter installed will be able to connect to our network. We are currently out to tender for the contract for our Northern region – we expect this exercise to conclude in December 2023 with rollout beginning in March 2024.

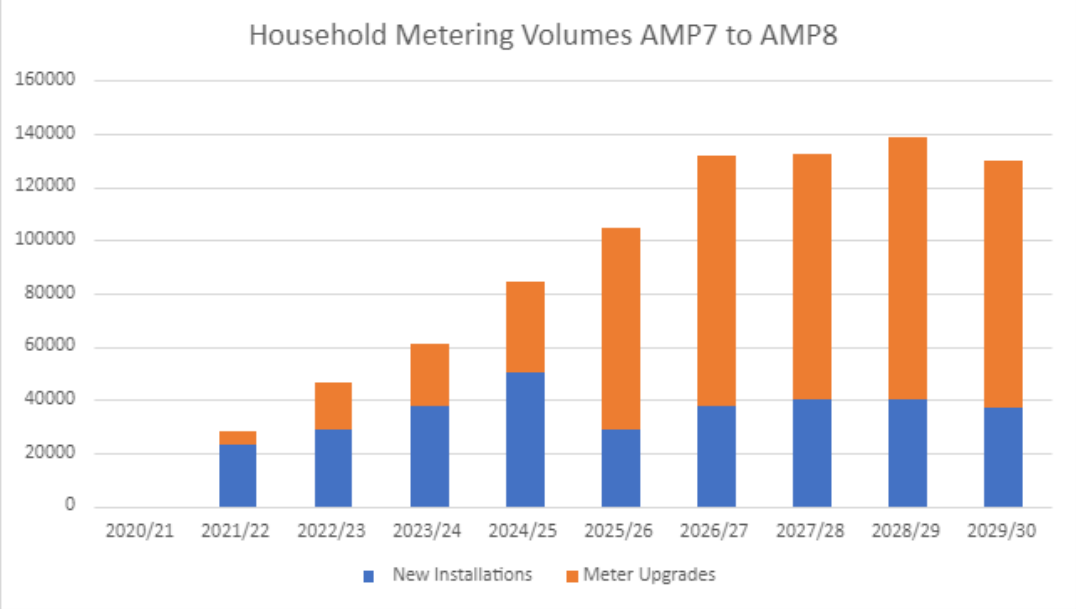
Our install volumes have grown steadily over the period and already place us in a strong position to be able to deliver the required run-rate volumes that we have put forward in our PR24 business plan – the projected delivery profile is shown in the figure below.

However, in parallel we have commenced early procurement activity to appoint additional partners to support with additional installs from March 2024 which we expect to have capacity to deliver an additional 90,000 meters each year. We are starting this process with a tactical trial with two install partners who will collectively deliver 12,000 smart meter installs during 2023 which will enable our approach to be fine-tuned by March 2024 to further support the step up in installations that we need to make in the 2025-30 period.

We are supplementing this with the implementation of a new Meter Data Management System to manage the significant increase in associated data which will include a facility for digital customer appointment booking – to ensure we can

support appointment booking at scale. We are also refreshing our associated community engagement strategy and marketing plan to ensure the best possible customer take up.

FIGURE 3: ACTUAL AND PROJECTED METER INSTALLATION VOLUMES AMP7 TO AMP8



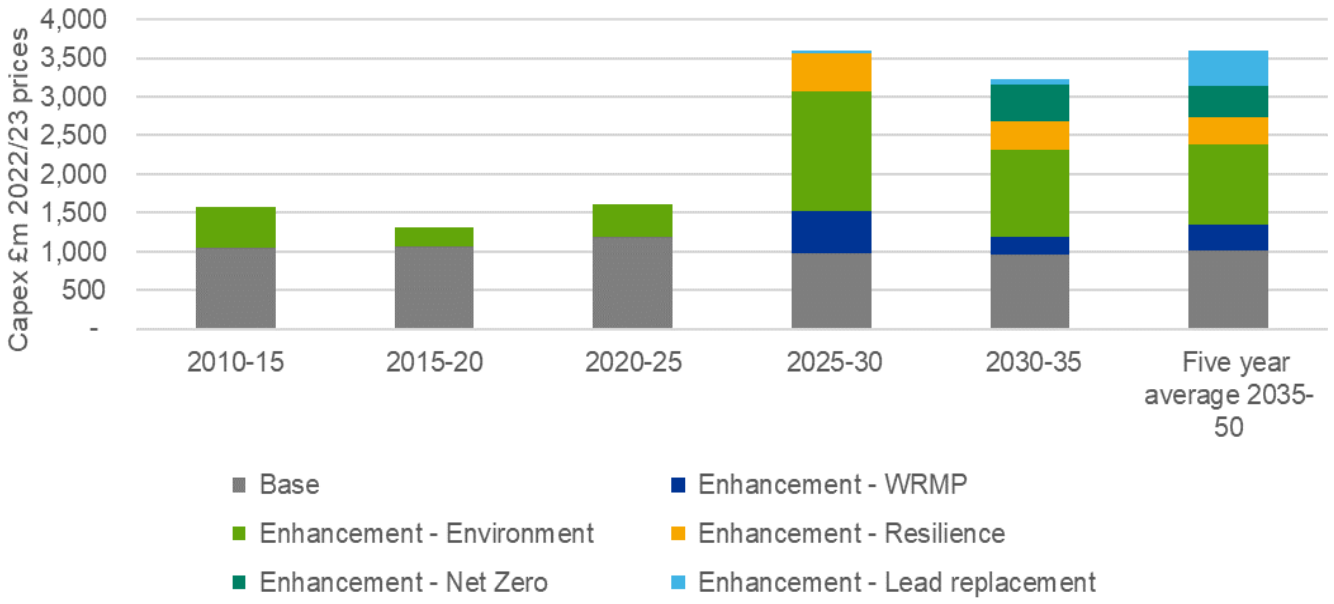
Source: NWL analysis of actual installs and projected future installs.

4. NEW CHALLENGES FOR 2025-30

As we developed our plans in the summer of 2022, we began to realise the emerging scale of this challenge. The Government had already set higher standards for drought resilience, more challenging targets for reducing abstraction, and long-term national targets for leakage and reducing water demand[27]. These were already reflected in the first draft of our Water Resource Management Plan[28] but on their own these investments did not necessarily imply a materially larger investment programme than we had experienced in the past. The Government's Storm Overflows Discharge Reduction Plan, published in August 2022, then showed the need for around £56bn of investment across the water sector[29]. The Levelling Up and Regeneration Bill, which reached report stage in November 2022[30], would require us to invest more than £650m into reducing nitrogen at many of our treatment works (for limited environmental benefits). It began to become clear that we would need to invest more than ever in our AMP8 programme and for the longer term.

Figure 48 below shows the final scale of the AMP8 programme and the investments that we expect to need to make in the future based on our final published long-term delivery strategy (LTDS).

FIGURE 48: OUR HISTORICAL AND ANTICIPATED FUTURE INVESTMENT PROGRAMMES (£M'S)



Source: NWL LTDS modelling.

[27] See: https://www.gov.uk/government/publications/25-year-environment-plan/25-year-environment-plan-our-targets-at-a-glance.
[28] See: https://www.nwl.co.uk/wrmp.
[29] See: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1102403/storm-overflows-impact-assessment.pdf para 156.
[30] See: https://bills.parliament.uk/bills/3155/stages.

This is a much larger programme than we have delivered in previous periods. While our current investment programme is already some 23% higher than the previous programme for the 2015-20 period, in our PR24 business plan, we propose £3.6bn of investment in 2025-30 compared to £1.6bn in 2020-25, more than doubling the level of capital investment.

4.1. EARLY ASSESSMENT OF DELIVERABILITY

In August 2022, recognising the risks of delivering a much larger programme of investment we commissioned Jacobs to examine those risks and identify early mitigating actions, drawing on Jacobs' expertise in delivering across water and other infrastructure sectors and their understanding of the national and regional supply chains. We asked them to look particularly at the areas of our plan with the largest emerging investment needs – water resources supply options in Essex and Suffolk; accelerated smart metering; improvements at treatment works (including phosphorus and nitrogen removal); and storm overflows. This work was carried out on the very first iteration of the business plan, which was around £300m higher than the final plan we have submitted. They provided their final report and recommendations in December 2022. We provide the report as an **attachment to this appendix** (NES40).

Jacobs concluded that without changes to the state in 2022, significant parts of PR24 would be undeliverable.

'Our analysis suggests that without changes to the current state significant parts of PR24 will be undeliverable', Jacobs, 2022, Deliverability of PR24 schemes.

The report also highlighted that the focus of the challenge would be on the wastewater service, raising particular concerns about the storm overflow investment programme, and the phosphorus and nitrogen removal activities. These areas of concern were also highlighted consistently in national work done for Water UK[31].

The report also identified that some of the companies with the largest investment requirements in these areas were our neighbours in United Utilities and Yorkshire which could exacerbate local supply chain challenges. They also identified some specific local challenges in other areas like the impact of the Sizewell C project on the availability of construction supply chain capacity in Suffolk.

Finally, Jacobs highlighted some gaps in our existing capacity and capability to deliver such large programmes of work internally and made seven core recommendations to ensure we were fit to deliver such a large programme and to minimise the delivery risk.

[31] Stantec, 2023, Water UK – AMP8 Deliverability, Phases 1-3 reporting.

FIGURE 9: JACOB'S RECOMMENDATIONS

'We have made seven core recommendations to maximise deliverability of the PR24 plan:

1. The creation of two Integrated Delivery Teams to focus on the delivery of the circa £1.9b of work across storm overflows and treatment works.
2. The creation of a Runway 3 delivery route and supplier frameworks dedicated to the Suffolk area to deliver circa £160m of Water Supply Resources schemes.
3. The procurement of a small number (2) of suppliers to deliver area-wide smart metering in Suffolk and Essex.
4. The procurement of a small number (probably one or two) suppliers to deliver river water quality monitoring.
5. The PR24 Plan should be reviewed and the spend rephased to the extent possible to achieve a smoother growth curve.
6. A review of project manager skills and competence to deliver this larger level of investment competently and reliably.
7. Careful consideration of the scale of NWL establishment headcount across all directorates to satisfy itself that the implications of the PR24 Plan are properly understood and adequate provision is made in the plan for growing all areas of the business in proportion to the planned increase in capital expenditure.

Jacobs also recommended that we seek to constrain the investment programme and reduce or remove non-statutory investments wherever we can. We have obviously sought to do this while recognising the future investment requirements we expect to arise in future periods. We discuss the actions we have taken in this area in **Appendix A2 – Data, Information and Assurance** (NES03).

Across the emerging AMP8 programme and on the basis of their work Jacobs provided a 'RAG' assessment of the deliverability risk in different areas of the programme and showed the risk before and after their recommended mitigations are applied. These results are shown in Figure 5 below and confirm that:

- Jacobs' reported very limited risks in the deliverability of the investment programme across the water service in the north and south regions at the outset with those risks largely falling away if the actions they set out were complete. They did consider that some residual risk would remain principally around the delivery of the major water supply schemes in Essex and Suffolk where they were concerned that there would be a large number of competing opportunities available to the supply chain and it may be challenging to make the Suffolk opportunities attractive.

- They considered that even after applying their mitigating actions there would remain some residual risk in relation to the wastewater treatment and network programmes. They highlighted that adopting an 'Integrated Delivery Team' approach would require new skills and competencies and changes in our processes and governance that are often difficult to secure full agreement on. Although the approach should be attractive to the market, they

considered that it may be challenging to secure the capability and capacity we require, due to competition with other industries and within the water sector and issues with the timing of decisions from Ofwat.

FIGURE 510: DELIVERABILITY HEATMAPS

DELIVERABILITY HEATMAP
(pre-mitigation)

Area of Investment / Risk Themes		NWL ORGANISATION				PROCUREMENT & SUPPLY CHAIN		
		Assets Capacity	Operating Directorate Capacity	Corporate Function Capacity	Delivery Frameworks	National Market Capacity	Regional Market Capacity	Attractiveness of opportunities
WATER	Water networks							
	Water resources and treatment (including Water Resource Supply Options enhancements)							
	Metering							
WASTEWATER	Wastewater Treatment (including improvement at Treatment Works enhancements)							
	Wastewater networks (including Storm Overflows enhancements)							

DELIVERABILITY HEATMAP
(post-mitigation)

Area of Investment / Risk Themes		NWL ORGANISATION				PROCUREMENT & SUPPLY CHAIN		
		Assets Capacity	Operating Directorate Capacity	Corporate Function Capacity	Delivery Frameworks	National Market Capacity	Regional Market Capacity	Attractiveness of opportunities
WATER	Water networks							
	Water resources and treatment (including Water Resource Supply Options enhancements)							
	Metering							
WASTEWATER	Wastewater Treatment (including improvement at Treatment Works enhancements)							
	Wastewater networks (including Storm Overflows enhancements)							

Source: Jacobs, 2022, Deliverability of PR24 schemes.

We retained Jacobs in August 2023 to review our progress against their recommendations and more broadly our readiness for the delivery of the AMP8 programme (we discuss this more in Section 5).

That review confirmed that:

"*We believe that the AMP8 Delivery Strategy is appropriate and proportionate to the challenges and delivery risks associated with the PR24 Plan*"; and

"*The AMP8 Transformation Plan is robust*".

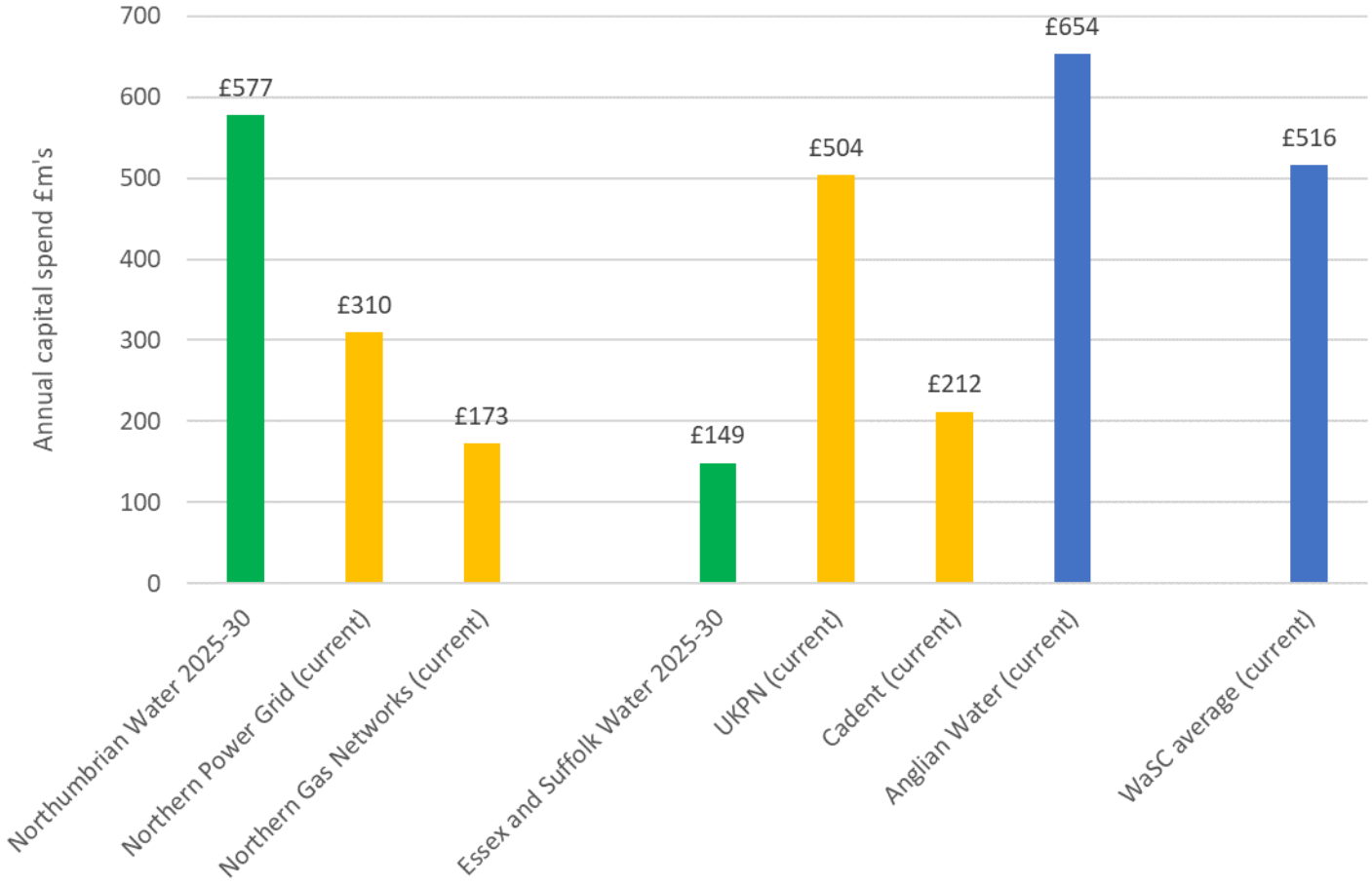
4.2. OUR 2030 PROGRAMME IN CONTEXT

4.2.1. Our programme in comparison to current investment activity

We operate in three non-contiguous areas of the country, providing water and wastewater services in the North East and water services in Essex and Suffolk. The £3.6bn capital investment programme for the 2025-30 period is split across a range of different activities and across those regions. Below we compare:

- the projected AMP8 programme capital spend per annum against the current annual spend of other infrastructure companies in our operating regions and the WaSC average (annual capital spend taken from the PR19 Final Determinations); and
- the proposed total 2025-30 investment programme from the business plan with the current 2020-25 investment programme by region, service and price control or activity.

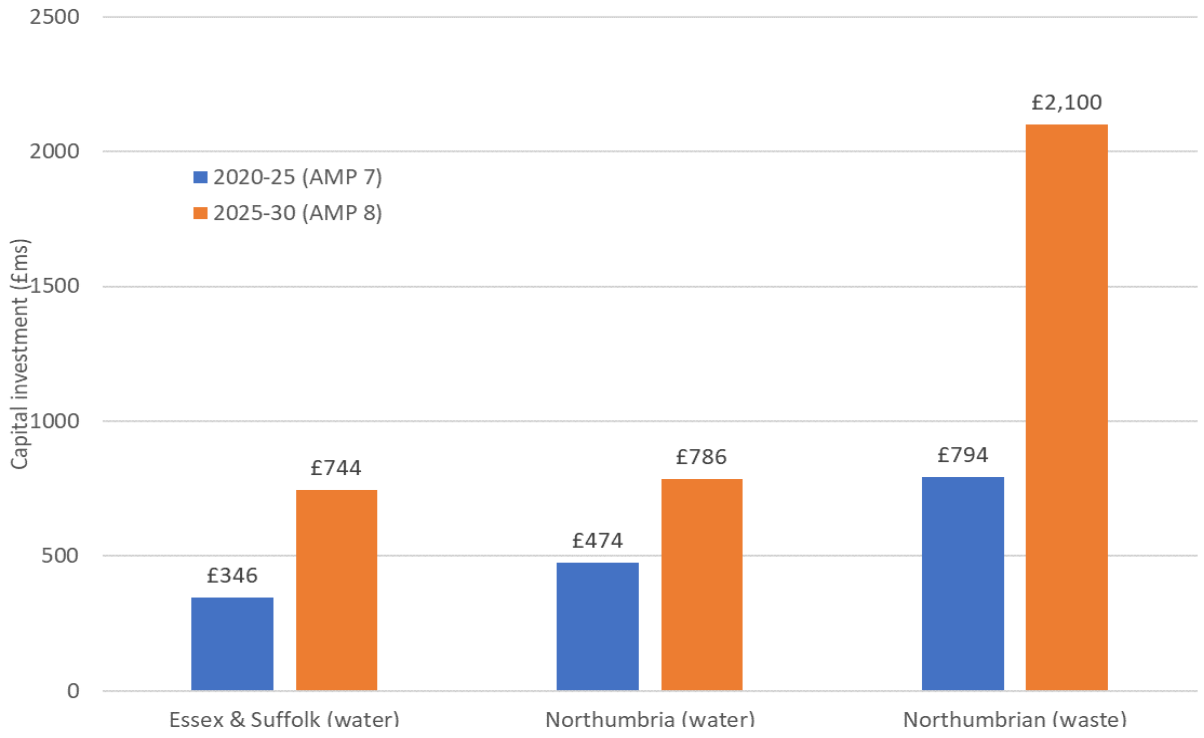
FIGURE 611: INVESTMENT COMPARISON VERSUS OTHER WATER COMPANIES AND REGIONAL REGULATED COMPANIES (ANNUAL CAPEX SPEND £M'S, 2022/23 PRICES)



Source: NWL analysis of our PR24 plans, Ofwat's PR19 Final Determinations and Ofgem determinations for GD2 and ED2.

Notes: Annual figures for Northumbrian Water and Essex & Suffolk Water are simple five-year averages and will overstate annual investment because some of this investment will be accelerated into the 2023-25 period. They also do not reflect our profiled investment needs.

FIGURE 712: INVESTMENT COMPARISON ACROSS REGIONS AND SERVICES 2020-25 VERSUS 2025-30 (£M'S)



Source: NWL analysis of PR19 FD (adjusted by CMA) and PR24 Business Plan.

FIGURE 813: INVESTMENT COMPARISON ACROSS PRICE CONTROL/ACTIVITY 2020-25 VERSUS 2025-30 (£M'S)

Source: NWL analysis of PR19 FD (adjusted by CMA) and PR24 Business Plan.

This analysis highlights that, while we are proposing larger investment programmes other water companies and regulated network businesses are able to deliver similar sized programmes currently and in some similar operating regions, so the scale of the programme is not unrealistic.

It also suggests that in the water service both in our Northumbrian Water operating area and in our Essex and Suffolk operating areas, the step up in investment is more modest with around a 21% increase from current levels in the Northumbrian Water service area. This is actually slightly smaller than the step up in the current investment programme overall which is 23% larger than the programme we did in the 2015-20 (AMP6) period.

Instead, the deliverability challenge predominantly relates to:

- Our Northumbrian Water region, where the investment requirements are growing more significantly, and the scale of our investment programme is much larger than the other local comparators and the current WaSC average. The current AMP7 investment programmes of our neighbouring companies United Utilities and Yorkshire are both around £2.6bn capex across the period. So, our programme represents a significant percentage step up even in comparison to these companies.

- The wastewater network plus controls, including wastewater network and treatment activities, which represent a 193% increase in activity from AMP7. This is predominantly driven by the WINEP investments which include some new and novel investment schemes including more nature-based solutions than we have previously adopted. These programmes of work also create opportunities because they will also contain a lot of smaller and repeatable activities such as monitoring investments, phosphorous activities, and traditional storage solutions.

- New water resources supply-side investments in Essex and Suffolk which represent an 880% increase in investment from the current period. These represent a much smaller number of very large and more complex 'runway 3' schemes that will require early investment to de-risk the delivery by taking these schemes through planning, land purchase and early design activity as soon as possible to give greater confidence of AMP8 delivery.

- Metering, where we are envisaging a ramp-up in current activity levels and investment increasing by 164% from the levels we envisaged in the current period. While our current metering programme is behind where we had hoped to be due to the pandemic and delays to the availability of microchips, we are ramping up our in-house capacity to be able to deliver the programme of work we envisage in AMP8 (see our case study in 3.1.3)

- Bioresources, where we envisage a significant step-up in investment (155% increase) to maintain and improve the assets we have including building more capacity to allow more regular maintenance of those assets.

4.2.2. Historical and future regional and national construction activity

Figure 914 shows total new construction output on infrastructure in the UK North East and east regions which reflect our operating areas in comparison to the national average. Data is shown quarterly over the last five years sourced from the Office of National Statistics (ONS)[32]. The data shows that:

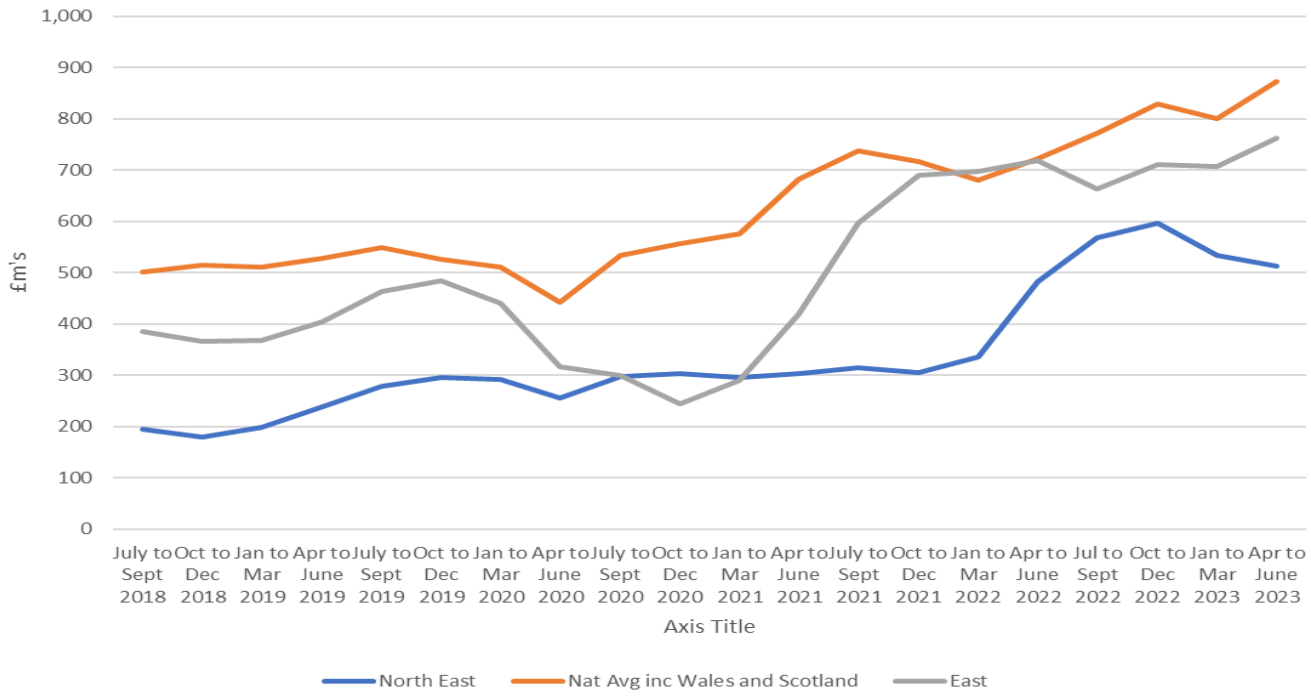
- Both of our operating regions experienced lower levels of infrastructure investment than other UK regions on average in terms of construction expenditure over the last five years. Both have also experienced some volatility due to the Covid-19 pandemic, particularly the east region but volumes have increased since the pandemic.

- In the North East region the total output expenditure on new infrastructure investment in the last five years was £6.8bn, our PR24 plan implies an increase in total spending in the region of around £1.6bn. After accounting for non-construction costs[33] this is likely to be £965m or around 16% of the current output capacity of infrastructure construction in the North East region over the period. However there has been a marked increase in infrastructure construction output in the region over the last five years with 2018-19 output at c.£800m compared to c.£2.2bn for 2022/23 similar growth rates would comfortably accommodate the additional investment requirements.

[32] See: Construction output in Great Britain - Office for National Statistics.
[33] We take a 60% estimate of the total cost as a proxy (see 4.2.3).

- In the east region total expenditure on infrastructure in the last five years was higher at £10bn, our PR24 plan implies an increase in total spending of around £374m. After accounting for non-construction costs this is likely to be £224m or around 2% of the current output capacity of infrastructure construction in the east region.

FIGURE 914: TOTAL INFRASTRUCTURE CONSTRUCTION OUTPUT (£M'S) BY QUARTER UK AVERAGE AND NORTH EAST AND EAST REGIONS



Source: Office of National Statistics.

4.2.3. Understanding supply chain capacity

NATIONAL-LEVEL ANALYSIS

At a national level Water UK also commissioned work from Stantec (NES51) to examine the deliverability risks for the 2025-30 period and beyond[34]. Phase 3 of that work took information from companies which identified 60 key suppliers across the water sector to examine their total capacity and compare that to the national view of the investment. The study considered the contract limits that could be achieved by the existing supply chain based on national guidance on contract limits set according to turnover[35]. It used a 30% threshold to assess capacity which the report highlights were also used to

[34] Stantec, 2023, Water UK – AMP8 Deliverability, Phases 1, 2 and 3.
[35] See: PPN_Supplier_financial_risk_Feb-18.pdf (publishing.service.gov.uk).

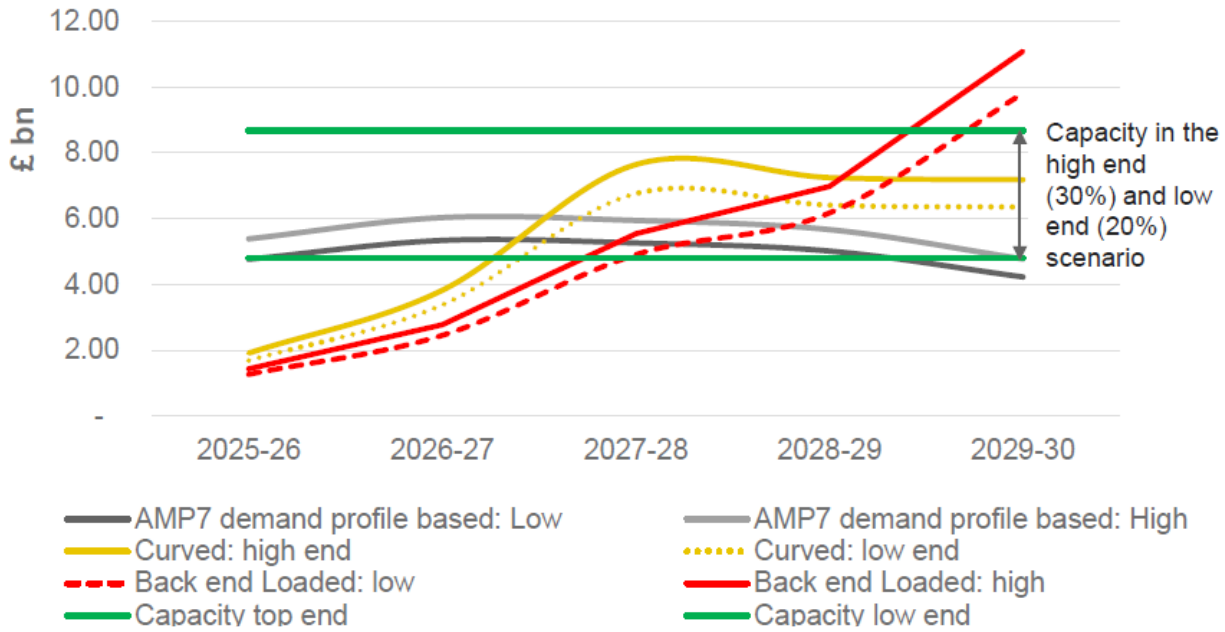
assess the supply chain capacity for major infrastructure projects including the 2012 London Olympics, Crossrail, Thames Tideway and HS2.

This analysis suggested that the combined turnover of the current AMP7 supply chain ranges between £23.1bn pa and £28.9bn p.a. The AMP7 supply chain theoretical capacity is estimated to range between £4.6bn and £8.7bn pa.

Stantec further estimated that 55-60% of the £44.8-£46.5bn AMP8 planned capex would require supply chain capacity recognising that some investments will not take place and that a significant proportion of total capex is not construction demand and will instead relate to central overheads, company costs, third party costs, design costs or other non-construction elements. This leaves a total construction demand of c.£24.6-27.9bn across the 2025-30 period. Across the period they estimated that construction demand would average £4.9bn-£5.6bn per annum[36].

Finally, comparing the required construction demand against the capacity of those supply chain partners they profiled the investment assuming a similar profile to the PR19 Final Determinations but they also looked at the impact of a back-end loaded profile with more investment happening in 2028-30.

FIGURE 1015: POTENTIAL AMP8 CONSTRUCTION DEMAND PROFILES VERSUS EXISTING SUPPLY CHAIN CAPACITY



Source: Stantec, 2023, Water UK – AMP8 Deliverability, phase 3 report, pp.12.

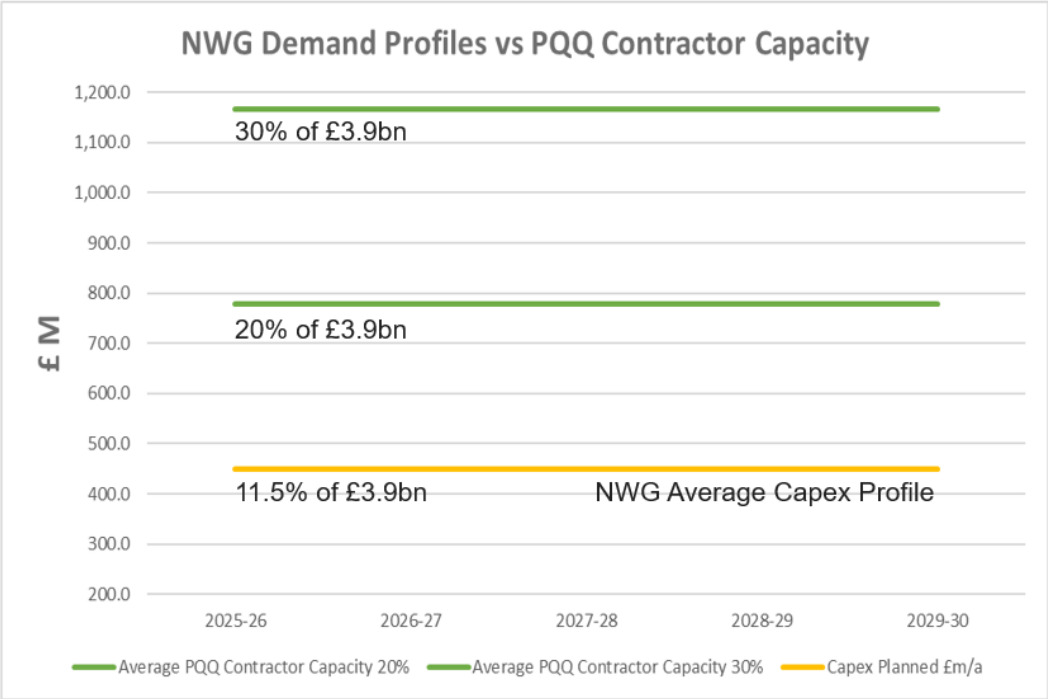
[36] Stantec, Phase 3 report, 2023, p.10-12.

This analysis suggested that it should be feasible to meet the construction demand from the collective AMP8 programme if the spend profile for the investment can be maintained in a flatter profile across the period.

NWG SPECIFIC ANALYSIS

As part of our AMP8 transformation programme (see below) we have engaged with our supply chain to understand capacity at a more granular level. We have run a pre-qualification questionnaire exercise with potential long-cycle contractors in our regions, used the exercise to gather information on turnover and applied a similar analysis to that used above applying 20% and 30% thresholds to company turnover provide an indication of potential capacity – with support from Stantec. We intend to appoint seven of these contractors with an average turnover of £555m pa (x7 = £3.9bn pa) which gives the capacity analysis below.

FIGURE 1116: NWG SPECIFIC AMP8 DEMAND PROFILE VERSUS SUPPLY CHAIN CAPACITY



Source: NWG / Stantec Analysis based on PQQ exercise. Amber line relates to approximate portion of programme we would aim to deliver through the long cycle delivery route.

This analysis indicates sufficient supply chain capacity to deliver the AMP8 programme. Especially as we have potential to augment these seven contractors with up to a further three on a reserve list. We refine this analysis further based on actual capacity projections from specific suppliers in Section 4.3.4.

4.3. OUR AMP8 TRANSFORMATION PROGRAMME

We presented the first version of our PR24 business plan to members of the NWL Board in December 2022. This followed the conclusion of the Jacobs' review which we were also able to share with members of the board. Following that meeting, we began a business wide major transformation programme to change the business to enable to set ourselves up for success to deliver the AMP8 investment plan. This programme was established in January 2023 and provides regular updates to the NWL Board. It is managed through a Steering Committee comprised by most of the NWL executives and chaired by the CEO.

The transformation programme was structured around five distinct workstreams, each strategically focused on achieving a key enabler for AMP8 success, these include:

1. **Building a high-quality plan** - developing a robust delivery plan for AMP8 that has been rigorously challenged, developed with risk and affordability in mind and optimised for efficient delivery.

2. **Exploring alternative delivery models** - examining opportunities for DPC and other delivery arrangements that could reduce deliverability risks or deliver benefits to customers through competition.

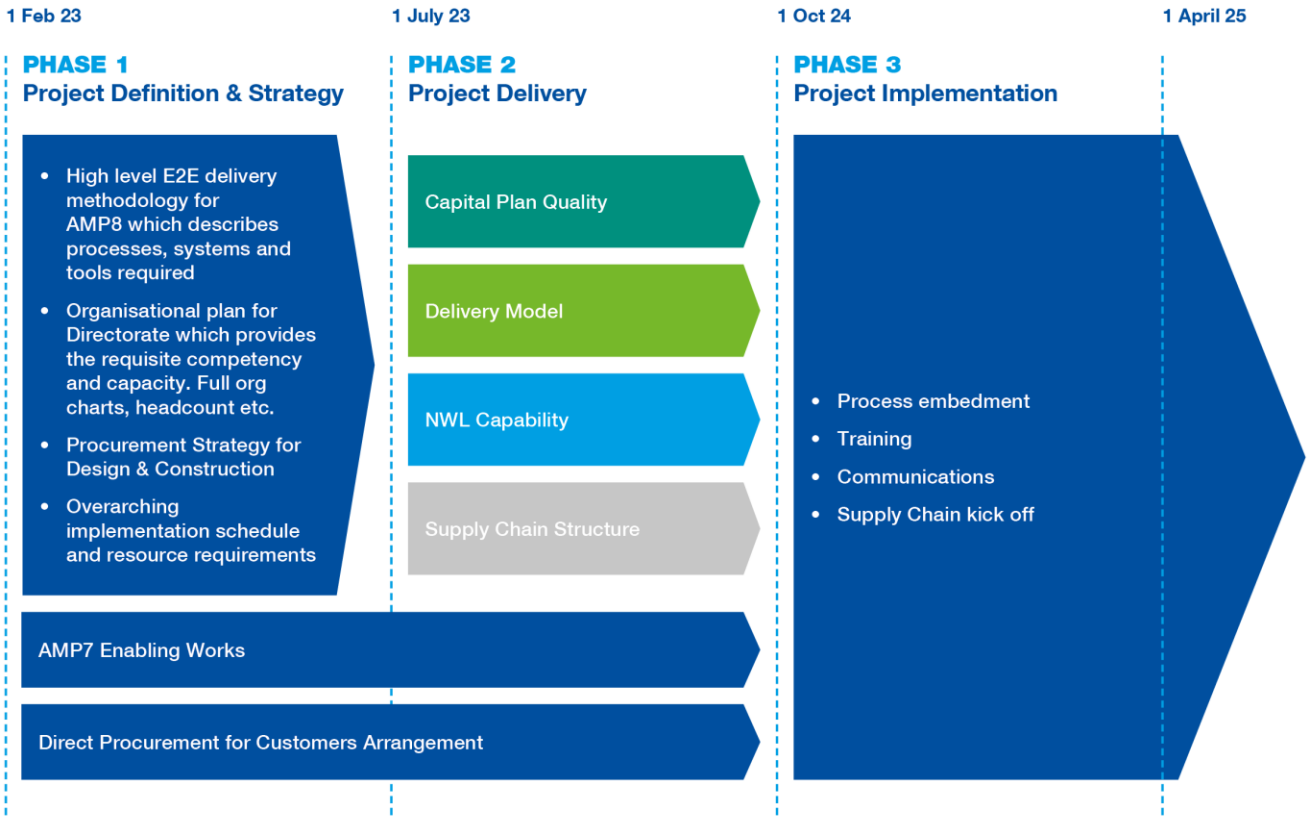
3. **Accelerating investment** - bringing investment forward to get ahead of the programme of work, managing the step up in investment while carrying out early enabling work to flatten the delivery profile in the 2025-30 period.

4. **Building the delivery ecosystem** - transforming our delivery model to be able to move schemes through the project lifecycle efficiently, affordably and in line with our plan and making sure that sufficient supply chain capacity and capability is in place. Working closely with our supply chain to stimulate market capacity growth, encouraging more diversity and 'grass roots' recruitment.

5. **Building our internal business capacity and capability to support the capital plan** - transforming our business to ensure we possess the client capacity and capability (covering people, systems and processes) to effectively execute the AMP8 plan and deliver value for money for our customers.

A summary timeline for the programme is presented below - the programme remains on track with those timelines.

FIGURE 1217: TRANSFORMATION PROGRAMME DELIVERY PHASES



4.3.1. Developing a high-quality plan

We have carried out substantial early work to better define the plan for the programme in greater detail to give confidence of its deliverability. This involved:

- Taking the 'long-list' of investment projects that we intend to undertake throughout the 2025-30 period from our business plan, which sits within our Copperleaf optimisation and planning system. This includes both major 'enhancement' investments as well as 'base' maintenance activities and for PR24 constitutes over 1,000 individual investments.

- Our Copperleaf system already provides costs, benefits, and other detail about each investment to ensure that we have selected the best investments based on the information we have available. It will also assign a delivery timeline to that investment based on our historical experience of delivering previous work. That data is reviewed and challenged by the capital delivery, engineering, and planning teams to make sure that it is accurate and appropriate for planning purposes, for example should the delivery profile be amended, are the assets and investments proposed correct, and so on.

- Each investment is then grouped or 'batched' into appropriate programmes of work based on considerations of how to optimise the programme to maximise benefits or reduce costs or risk. For example, a large complex investment may be best delivered as a standalone activity, but a programme of smaller investments might be better batched together either on a regional/geographic basis or according to an asset type or some other factors. The plan we have developed sets out those groupings and this also interacts with the procurement routes that we have identified and the new delivery models we are putting in place through our 'Living Water' (long cycle) enterprise model. These plans also drive other activity such as recruitment strategies, the procurement of materials or spares and other elements to ensure that we can obtain the resources we need to deliver the programmes on time.

- All of the investments are scheduled into a clear plan which considers delivery of the overall programme across the period, including the last two years of the current period and the investments that we need to accelerate to be able to deliver such a large programme of work.

- We carefully engage with operational colleagues to plan 'outages' as we often need to take certain assets out of service to complete work on the same sites or parts of the water or wastewater systems we operate.

- The final plans are a shared view across all the delivery teams across the business and are also designed to consider the need for flexibility and change which is likely to be required as all plans evolve over time.

Figures 13 and 14 summarises the key milestones and elements of the plan as it stands. We consider that this plan places us in a much more confident position to be deliver the 2025-30 investment programme, but it will continue to evolve and be optimised in the future.

FIGURE 1318: AMP8 PLAN ON A PAGE – WATER

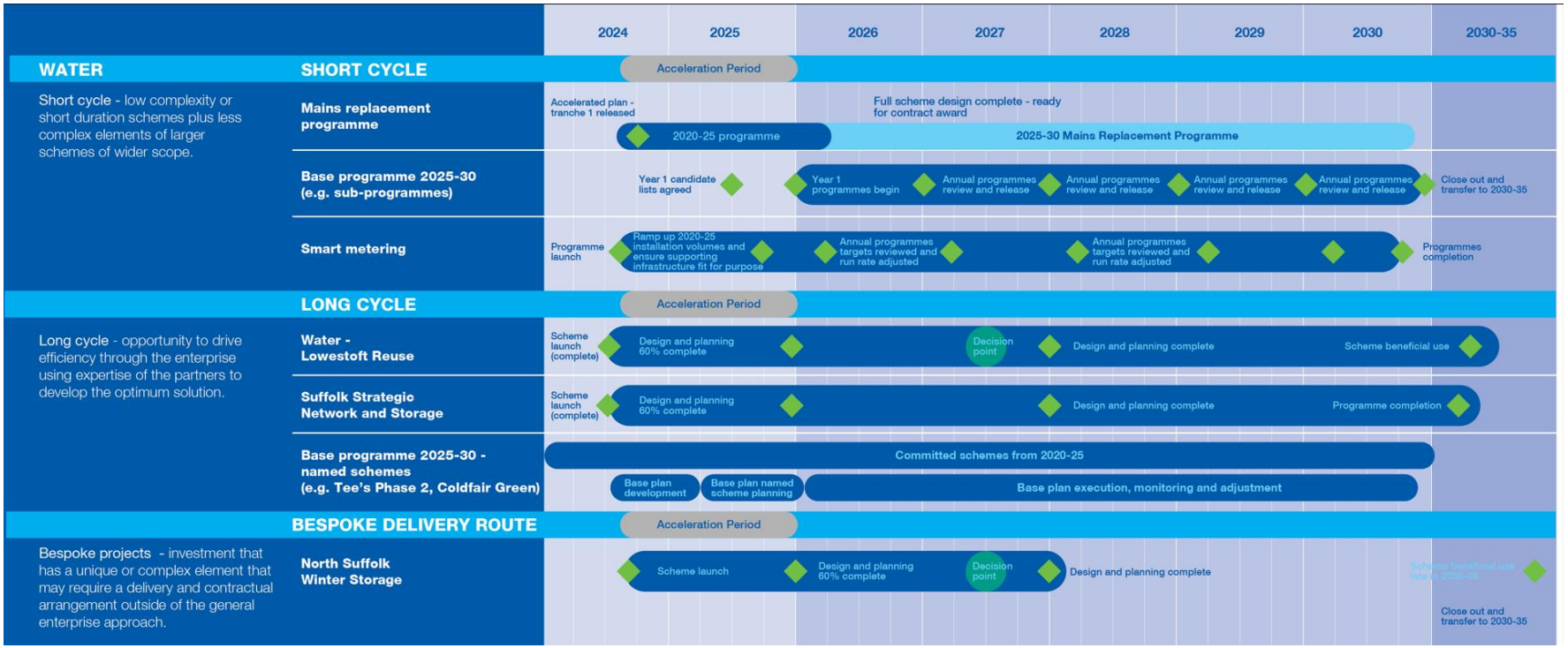
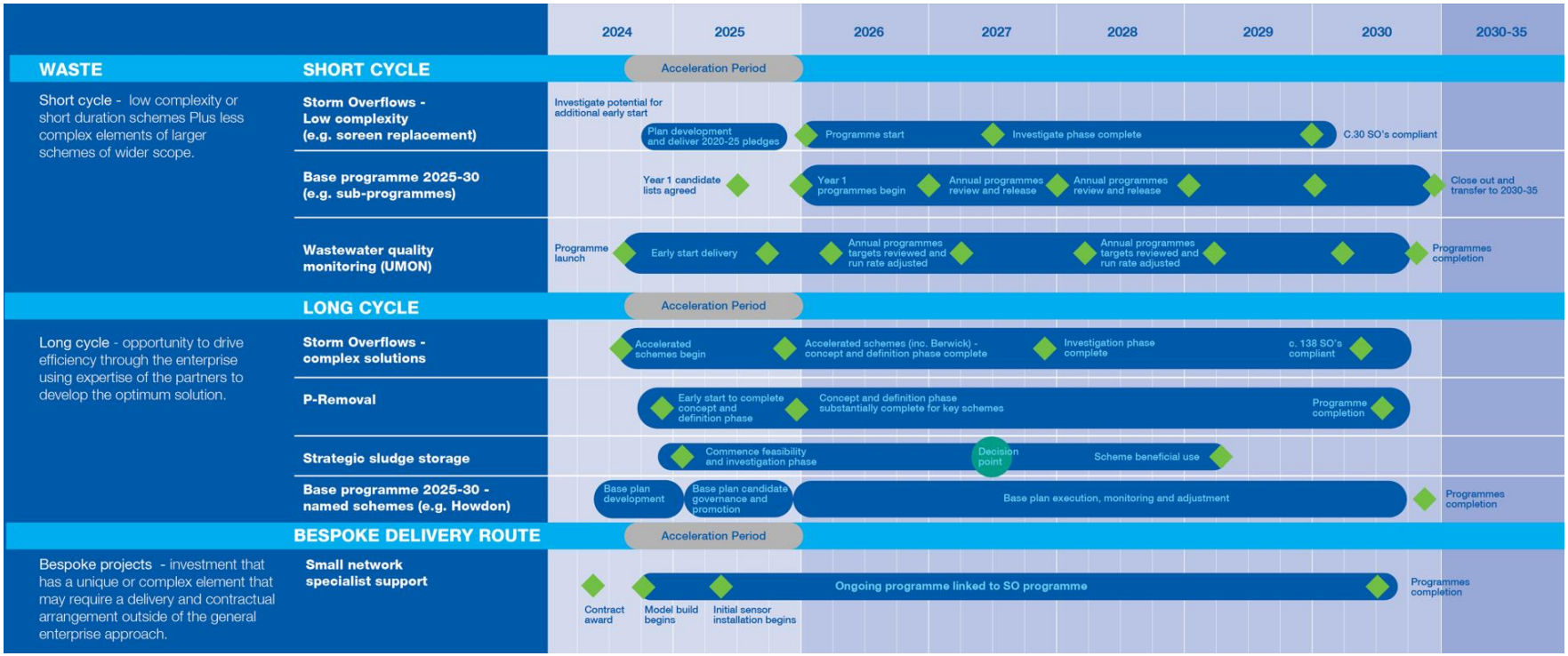


FIGURE 1419: AMP8 PLAN ON A PAGE – WASTEWATER



4.3.2. Exploring alternative delivery models

We look to make full use of markets and competition to deliver benefits for customers. Our bio-resources activities are the most efficient in the sector according to Ofwat's cost efficiency modelling and we have offered trading proposals to both UU ad Yorkshire, both of whom are significantly higher cost than we are, through their bid-assessment framework arrangements. Our bioresources activities remain within the regulated business so any additional revenues that can be generated through sludge trading with those companies will be deducted from customer bills. We therefore recognise the important role that competition can play in delivering benefits for customers.

Ofwat's Direct Procurement for Customers (DPC) model seeks to ensure that large and discrete new infrastructure projects are competitively tendered so that an alternative Competitively Appointed Provider (CAP) is potentially able to design, build, finance, operate and maintain the asset in question. Models like this have delivered benefits for example through the Offshore Transmission Operator (OFTO) regime in the energy sector or through the Thames Tideway model. Appointing an alternative CAP could also potentially help with the affordability, financing, or delivery of the 2025-30 programme. If the CAP is able to deliver the asset or outcome at lower cost, then bills would be lower for customers. While the asset would still be treated as part of NWL under the approaches of some rating agencies it would reduce the capital requirement on us over the period and in some circumstances, it may also be possible for the CAP to reduce the delivery risks associated with the programme.

We engaged KPMG to independently review our PR24 enhancement programme for DPC candidates based on our business plan applying Ofwat's various 'size' and 'discreteness' tests to the emerging programme to identify potential candidates (NES38)[37]. This was done in two phases, initially in January 2023 KPMG reviewed an early draft of our intended capital programme to identify potential candidates. At this time the water plan and WRMP were relatively well developed but our DWMP and wastewater plans were still being updated to reflect the UK Government's Storm Overflow Discharge Reduction Plan (SODRP) and other policy changes. Looking across our long-term plans there were a number of potential schemes that could be eligible for DPC, including from the core AMP8 plan at that time:

- The Lowestoft re-use scheme which forms part of our WRMP core pathway and preferred plan.
- Our Smart metering programme which also forms part of our core WRMP.
- The Continuous water quality monitoring programme that is subject to amendments in the most recent guidance from the EA in August 2023.

There were also several schemes that were not part of our core plans in January 2023, but which KPMG considered could be eligible for DPC should they be required in the future.

[37] KPMG, 9 August 2023, Assessment of projects for DPC eligibility at PR24.

Jacobs also commented on the suitability of DPC in its report which suggested that:

'Feedback from investors suggests that schemes with a value of less than £200m and/or without a very clear degree of separation are unlikely to be attractive to them. On this basis it seems unlikely that any part of the AMP8 investment programme would be deliverable through DPC. Two areas that might meet the value hurdle, namely the smart metering programme or packaging of all the CSO works do not appear to have the degree of separation that the market is looking for.' Jacobs, 2022, **Deliverability of PR24 schemes**, pp.46 (NES40).

Within this first phase of work KPMG also noted that the DWMP programme was expected to be very large and so would likely meet the size test in aggregate but we were unable to provide them with more detailed information about the precise nature of the investments that we were intending to put forward as the DWMP was changing materially in light of the UK Government's Storm Overflow Discharge Reduction Plan (SODRP) and other policy changes from the EA.

Following a letter in February[38], which highlighted that Ofwat would remove the requirement for cost-benefit analysis to be carried out of potential DPC schemes, we met with Ofwat on 27 March where we presented the work KPMG had completed on the initial plans and discussed the value of carrying out a further cost benefit analysis of the opportunities identified. Ofwat also told us that while CBA was not a requirement it would be up to companies to submit the evidence that they thought was appropriate. During the meeting we also discussed the findings of the work, which suggested that two of the most likely candidates for DPC in our emerging plans would be the river water quality monitoring programme and our SMART metering programme. We debated the suitability of schemes like this which would consist of a large number of very small investments that could be 'bundled' together rather than a single large investment like a new reservoir which might be considered more appropriate for DPC[39].

Following the discussion with Ofwat we asked KPMG to complete a cost benefit analysis of the three candidate AMP8 schemes under DPC versus in-house delivery. The results of that analysis are summarised below.

TABLE 720: SUMMARY OF KPMG VFM ANALYSIS OF THREE CANDIDATE SCHEMES

Scheme	NPV 'in-house' delivery (£m)	NPV DPC delivery (£m)	Difference (£m)	Difference (%)
Lowestoft reuse	109	102	-6.5	6.07%
SMART metering	251	233	-18.2	7.83%
Continuous Water Quality Monitoring (CWQM)	254	239	-15.4	6.44%

Source: KPMG, 2023, Assessment of projects for DPC eligibility at PR24.

[38] Ofwat, Keith Mason, 27 February 2023, PR24 - Assessing the suitability of projects for direct procurement for customers.
[39] Ofwat, meeting note from 27 March 2023.

KPMG's analysis confirmed relatively small benefits could potentially be achieved through DPC for each of these potential candidate schemes with the largest benefits potential identified for the SMART metering programme. The same analysis highlighted that:

- For the Lowestoft re-use scheme, the scheme is below the £200m 'size' trigger threshold that Ofwat specified in its **PR24 methodology**[40] and virtually all of the customer benefits of DPC would need to come from operating and capital cost efficiencies as financing efficiencies were relatively small since the project has a relatively small capex (£71.6m). We already competitively tender construction of these assets and were concerned that these benefits might not materialise. The smaller benefits identified through the CBA could easily be reversed if, for example, procurement or bidder costs increased.
- SMART metering offered the most positive CBA with both financing and cost efficiencies driving the benefits to customers. CWQM provided similar CBA and drivers of the benefits are similar.

On the basis of this initial work, we progressed the development of the PR24 business plan assuming that we would take our SMART meter programme and CWQM programmes through a DPC delivery model. We also began to examine the scope for using DPC in our emerging DWMP programme which we published in May 2023.

KPMG examined the discreteness aspects of the schemes and noted some concerns, particularly around water reuse schemes which have novel risk allocation issues that have not been addressed by DPC arrangements to date. They also flagged the potential risk of delay to DPC arrangements (as we understand have been experienced elsewhere) in particular given the already challenging water resource position in our Essex and Suffolk operating area. If the DPC model took longer to deliver than an in-house arrangement, then that could potentially extend the moratorium that is already in place for new non-domestic demand in Suffolk.

On 3 July 2023 Ofwat sent a further letter to industry regulatory directors[41] which stated:
'Since the publication of the guidance we have further reflected on some of the issues raised in the company meetings – in particular, the requirement for bundling under the programme scalability test and how it should be applied to large programmes of low value assets. Through the company meetings it became clear that companies were considering whether low value assets such as smart meters, river quality monitors, and SuDs should be bundled together to meet the DPC size threshold of £200m wholelife totex. It had not been our intention for DPC to be used to deliver these sorts of programmes, for example, we had expected bundling to be applied to larger assets such as multiple smaller treatment works that alone might not meet the size threshold individually but combined would exceed it. Additionally, we had not expected companies to consider a programme of assets with much shorter asset lives than the expected contract length

[40] **Ofwat methodology.**
[41] Ofwat, Keith Mason, 3 July 2023, Technical Discreteness Guidance.

for a 'standard' DPC contract'… we have identified further criteria that companies should consider when applying the programme scalability test to projects:

- *Bundled project – individual asset value: where a company is proposing to bundle a large number of the same (or similar) type of assets for a DPC project, we would expect the cost of each discrete asset to be at least £5m-£10m. As explained above this is to capture that we expect bundling of multiple projects such as multiple treatment works, large pipelines etc. but are not expecting bundling of much smaller assets such as meters.*
- *Asset life versus contract life: where the average asset life of the project as a whole is materially less than the average expected life of a CAP agreement (that is, 25 years plus construction) then we do not expect the project to be proposed as a DPC project. This includes smart meters, which have a materially shorter life than the average CAP agreement is expected to have'. Ofwat, Keith Mason, 3 July 2023, Technical Discreteness Guidance.*

The application of this guidance to our SMART metering and CWQM programmes (both of which were explicitly mentioned in the letter as examples) led KPMG to exclude those projects from a DPC model[42]. At the same time when they applied the guidance to the remaining DWMP CSO schemes, including explicit consideration of the Berwick and Marske activities (which also involve SUDS and surface water separation schemes) on a 'bundled' basis this also led them to exclude these schemes from a DPC delivery model and on that basis, we did not carry out any further cost benefit analysis of the DWMP schemes. **KPMG concluded that** (NES38):

'Following a detailed assessment, none of the shortlisted projects considered from the core plan have been assessed as suitable for progression through the Direct Procurement for Customers (DPC) model. However, there are projects within the adaptive plan which may be suitable for DPC, should they be selected at the relevant decision points.' KPMG, 2023, Assessment of projects for DPC eligibility at PR24.

We support this assessment and will continue to explore the opportunities to use the DPC model for the Caister re-use and Canvey Island desalination schemes should those be required under our future adaptive pathways.

4.3.3. Accelerating investment

Both the Jacobs and Stantec reviews highlighted that a good way to reduce the delivery risk associated with the scale and nature of the AMP8 programme would be to accelerate some of that investment into the current period. This would have a number of advantages:

[42] Having originally considered that these programmes were likely to be suitable for DPC delivery we have recently issued a PQQ for the delivery of a trial project across 22 sites. We were intending to go to ITT in August for this work and then follow on from this for the larger scale programme, but we need to reflect new recent guidance from the Environment Agency.

1. It reduces the amount of investment that would need to be delivered in the 2025-30 period and therefore the delivery risk, but it also would help to ensure a flatter investment profile could be delivered across the period further reducing that risk (see Figure 15).

2. It would accelerate the benefits of our investment programme for customers and the environment and allow us to tackle these issues and challenges we face faster for customers and stakeholders while not impacting on customers' bills in the near term when the cost-of-living challenges are so pronounced.

3. It would allow us to carry out early enabling work including more detailed design, planning and land purchase of the larger and more complex schemes, in particular the water supply schemes in Essex and Suffolk to make sure that we are ready for construction as early as possible in the 2025-30 period and further reduce delivery risk.

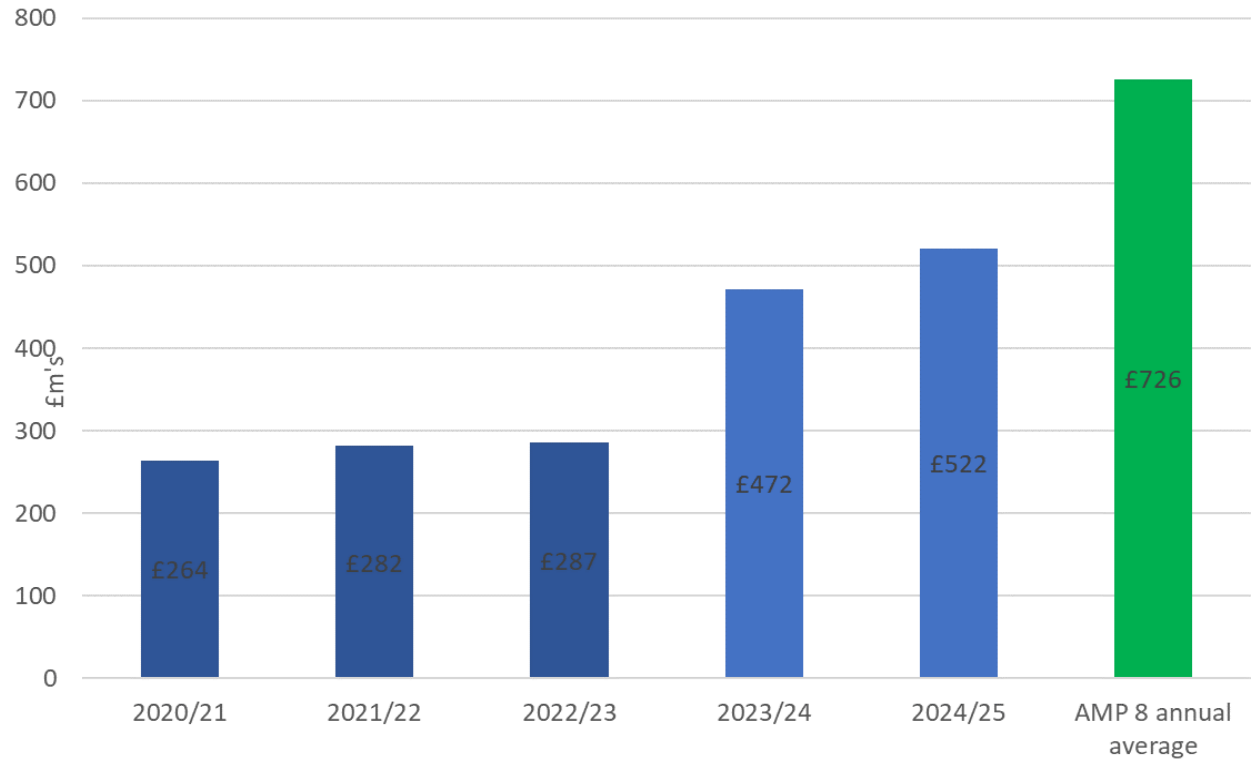
4. It enables a more gradual step up in the level of capital investment we are making to achieve the new enduring 'run rate' that we will need to deliver beyond 2025 and in doing so gradually increase our supply chain capacity, provide greater visibility and certainty to those supply chain partners, and stimulate regional market growth.

We recognised these challenges and encouraged Ofwat in **our response to their draft methodology consultation** to extend the period for transitional funding to two years, allowing greater acceleration of investment into the current period. We were pleased to see Ofwat make this change in its final methodology.

Our current level of capital investment in 2022/23 was £287m, to deliver the business plan on average we would need to be delivering around £726m of capital investment across the 2025-30 period. As a result of inflationary pressures and delays to our investment programme, for example, as a result of the Covid-19 pandemic we already expect to see a substantial step up in our level of capital spend to around £472-522m in the last two years of the current period (2023-25). This expenditure will also include additional essential investment in maintaining the health of our assets including a substantial programme of mains renewal.

However, even with this additional expenditure we would still leave a substantial step up in our investment needs to meet the new level of annual investment we will need to deliver in AMP8, leaving a gap of around £204m.

FIGURE 1521: OUR CURRENT PROJECTED AMP7 CAPITAL INVESTMENT AND THE UNADJUSTED AMP8 PROGRAMME



Source: NWL financial projections

OFWAT AND DEFRA'S ACCELERATED DELIVERY PROCESS

In September 2022 Defra and Ofwat requested proposals to accelerate investment within the current period ahead of 2025 to support economic growth[43]. Companies were asked to submit cases to Ofwat for approval of accelerated investment funding against a short timetable of two weeks. The process sought investment in particular that would be focused upon addressing water supply challenges given the experience of the drought in 2022 and also investment that would be required to address storm overflow discharges or nutrient neutrality challenges.

We prepared a request for an additional £19m of investment that was focused upon our major supply-side WRMP investments and some limited expenditure to better develop our proposals in Berwick to reduce storm overflow spills. Our plans recognised in particular:

[43] Finalised requirements for company accelerated delivery submissions confirmed by Defra on 7/10/2022.

1. The status of the investment cases for the PR24 programme at that time. The DWMP was undergoing significant change given the recent publication of the Government's SODRP and other policy changes from the EA. This limited the confidence we had in those plans which were likely to change but the WRMP draft plan had already been published and many of the investments in that plan were unlikely to change. At the same time the investment cases that we have developed for the PR24 business plan were at a relatively early stage at that point, some 12 months ahead of our formal submission to Ofwat. We recognise that Ofwat sets a high bar for evidence and quality in those submissions, and we were concerned that bar had not been met.

2. We also needed to recognise where we were in our current investment programme, where we were significantly behind where we wanted to be on that enhancement programme given the pandemic and other (see Section **3.1**). It was for this reason, for example, that we did not seek accelerated funding for more metering activity because we were and remain behind on those programmes.

3. Finally, we needed to reflect the scope of those requests, which were targeted at specific areas rather than more broadly reflecting the wider potential scope that transitional funding in the PR24 process. So, we focused our requests on those areas, and, for example, excluded other WINEP drivers etc.

Our submissions therefore sought to take the opportunity presented by the 'accelerated delivery' programme as much as possible given the narrower scope of the request, the progress we had made with our current investment programme and the level of confidence we had in the PR24 investments at that time. We had always intended to seek a much larger level of transitional funding as part of the PR24 process to be to accelerate more investments[44] ahead of AMP8.

Ofwat issued its Draft Determinations in April 2023, and we contacted them at that point to see if it was worthwhile seeking materially more transitional funding given that greater progress had been made on the plan at that point and the DWMP in particular. Ofwat encouraged us to seek that funding through the normal transitional funding route for PR24 and we recognised that was a pragmatic approach.

We were pleased in the Final Determinations to receive the third highest additional funding allowance in the sector with an extra £25m of investment in the 2023-25 period. This was higher than the investment we had originally requested reflecting further refinements to our future plans between October 2022 and April 2023.

[44] As set out in NWL's response to Ofwat's Accelerated Delivery Funding Draft Determination, April 2023.

TABLE 822: COMPANIES ACCELERATED INVESTMENT ALLOWANCES (£M'S)

Company	2023-25 potential expenditure	Total potential expenditure
UU	195.3	1,511.1
SWB	49.17	128.15
NWL	24.57	99.1
SVT	66.47	93.94
YKY	57.02	80.92
SSC	19.89	69.62
ANH	20.92	69.43
PRT	11.55	64.36
SRN	35	35
AFW	11.99	21.39
BRL	2.7	2.7
HDD	0	0
SES	0	0
SEW	0	0
THS	0	0
WSH	0	0
WSX	0	0

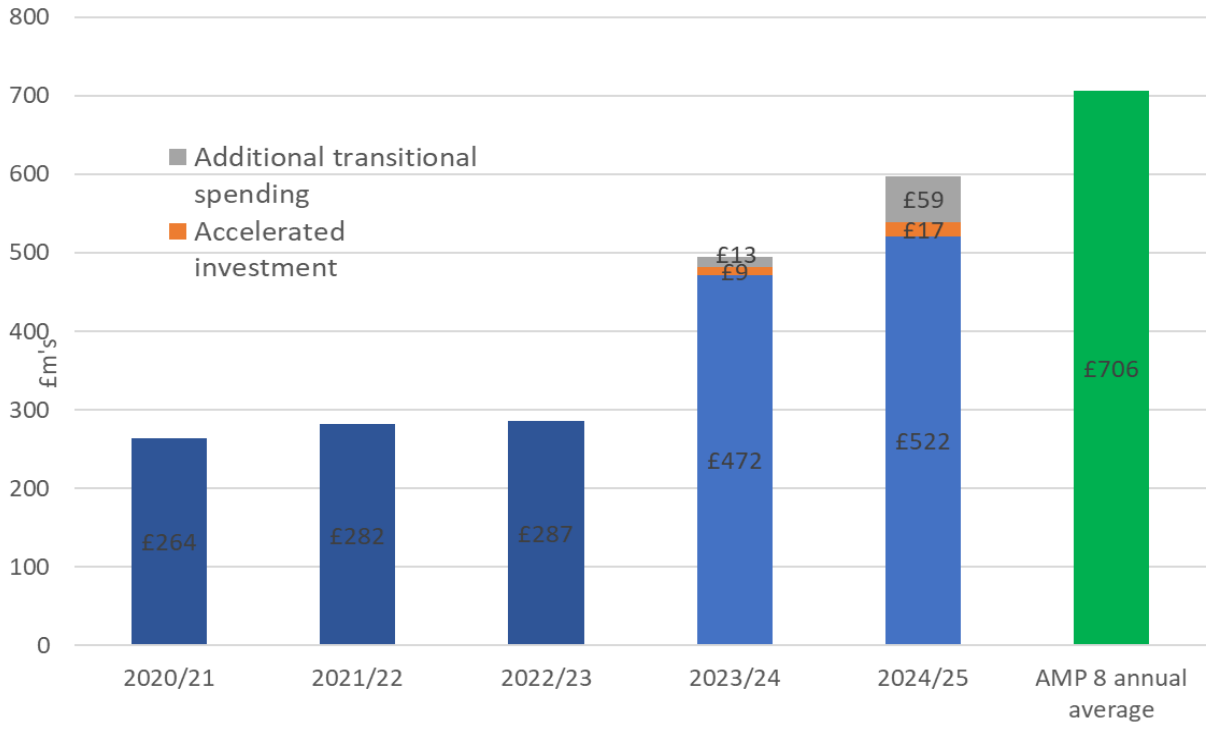
Source: Ofwat Accelerated delivery project: final decisions, table 4.2 A0-accelerated-process-final-decisions.pdf (ofwat.gov.uk).

TRANSITIONAL FUNDING FOR PR24

Our plan also seeks substantial transitional investment beyond the accelerated investment allowances that Ofwat has already accepted. Following the initiation of our transformation programme in January of 2023 we immediately began work identifying potential candidate schemes for acceleration through transitional expenditure. 91% of our enhancement programme is driven by statutory legal requirements so there are many areas where we know we will need to make investments and we set these out in our proposals for transitional expenditure (see our enhancement cases) but they include, for example, acceleration of our WINEP, DWMP, Nutrient Neutrality and P-removal schemes.

We discussed and agreed these proposals with the Board in July 2023. By bringing forward a further £99m of investment into the 2023-25 period we further increase our run-rate spend in the final two years of the current period while also reducing the investment requirements in the 2025-30 period creating a smoother transition this is illustrated in Figure 16.

FIGURE 1623: OUR EXPECTED CAPITAL EXPENDITURE PROFILE TO 2025/26 FOLLOWING ACCELERATED AND TRANSITIONAL FUNDING



Source: NWL financial projections.

4.3.4. Building our supply chain capacity and delivery ecosystem

In response to the challenges on deliverability, we recognised that we would need to transform our delivery model, this was also reflected in the Jacobs review[45]. We needed to make sure that we built significant new supply chain capacity particularly in the North East and the Jacobs review had recommended particular structures[46], we wanted incentives to be fully aligned with all parties having 'skin in the game' and wanting to ensure the successful delivery of the investment programme and the benefits it delivers for customers but also driving innovation and efficiency as well as maximising the wider benefits of the programme. We also wanted to make sure we built a collaborative approach across all partners where the 'best athlete' could be selected from potential suppliers but also a nimble and efficient delivery model with streamlined but effective governance and decision making.

[45] Jacobs, 2023, Deliverability of PR24 schemes (NES40).
[46] See recommendations 1-4 of the Jacobs review in particular.

In response to the challenges on deliverability, we recognised the need to transform our delivery model, which was also reflected in the Jacobs review[44]. The guiding principles in the development of the model were to make sure that we:

- Establish significant new supply chain capacity particularly in the North East, building on Jacobs' review that recommended particular structures.[45]
- Create an attractive incentivised model where all parties would be fully aligned and have 'skin in the game' to successfully deliver the investment programme and benefits to customers.
- Create a collaborative approach across all partners where the 'best athlete' could be selected from potential suppliers.
- Drive innovation, sustainability, efficiency and maximise the wider benefits of the programme.
- Implement a nimble and efficient delivery model with streamlined but effective governance and decision making.

We carried out significant engagement with our supply chain partners and potential future partners where we debated the challenges of the forthcoming investment programme and the various risks, issues, and opportunities that this presents as well as how best we could create the delivery model we needed.

TABLE 924: SUMMARY OF SUPPLY CHAIN ENGAGEMENT ACTIVITIES

Engagement type	Date (all 2023)	Number of suppliers	Comments
CECA / British Water South	27 April	31	Joint event between NWL/CECA and British Water to share benefits of working in water industry, NWL plans for AMP8 and highlight opportunity for supply chain.
Questionnaire	24 April	55 (responded)	Questionnaire to open market with key questions around challenges, opportunities and how best to deliver the AMP8 programme.
1 to 1s	1 April – 30 June 2023	15 - 20	Opportunity to talk about the proposals, challenges, and supply chain requirements, hopes and needs etc on an individual basis.
British Water	5 July 2023	c.15	Attendance at a British Water Ambassador meeting to share our plans.
Workshop for new suppliers	18 May 2023	13	Workshop focusing on three key areas: procurement process, Incentivisation and Enterprise model and structure.
Workshop for exiting suppliers	6 June 2023	8	Workshop focusing on three key areas: procurement process, Incentivisation and Enterprise model and structure.

Source: NWL supplier engagement activities.

Based on the feedback we received and having examined best practise approaches in capital delivery[47] we developed an entirely new enterprise alliancing delivery model which builds on the experience of the Anglian Water @One alliance model[48].

We formally launched the 'Living water' enterprise on 26 June 2023 at an event that was well attended by around 110 suppliers along with representatives from our Board. At this event we presented our plans for the future, the details of the enterprise delivery model and our timelines for formal market engagement. This was followed up with a webinar in July which was also well attended and focused upon those suppliers who were particularly interested in the enterprise delivery route.

Selected supplier feedback[49]:

"We have found the information and engagement from NWG very good (much better than some other clients) and it's clear that they are a 'mature client'."

"Throughout the engagement NWG have listened and it is obvious in the framework that they have proposed, that they have listened to the Contractors and developed a framework that is a significant change to previous and is more attractive than previous frameworks"

"We have warmly welcomed NWG's mature approach to broadening its supply chain."

Through the market engagement/feedback carried out to date, we believe we have capacity and resource within our proposed structure to deliver our programme, subject to offering an attractive proposition to the market. Our feedback has been very strong and indicates we are a key client/target for suppliers moving forward and our Pre-Qualification expressions of interest to date also suggest this (circa 170 responses). We understand our key suppliers' capacity within region and have asked a detailed question to substantiate this at Pre-Qualification stage to provide further confidence as part of our scoring criteria.

[47] See for example: https://www.project13.info/.
[48] See: https://www.futureofconstruction.org/case/anglian-water-one-alliance/.
[49] Trade press examples: £8bn race starts for Northumbrian Water AMP8 deal | Construction Enquirer News, Northumbrian Water opens procurement on £8bn capital delivery frameworks for AMP8 https://www.newcivilengineer.com/latest/northumbrian-water-opens-procurement-on-8bn-capital-delivery-frameworks-for-amp8-10-07-2023.

FIGURE 1725: OUR 'LIVING WATER' ENTERPRISE MODEL

The Living Water Enterprise exists to support NWG achieve business outcomes through optimising delivery and value.

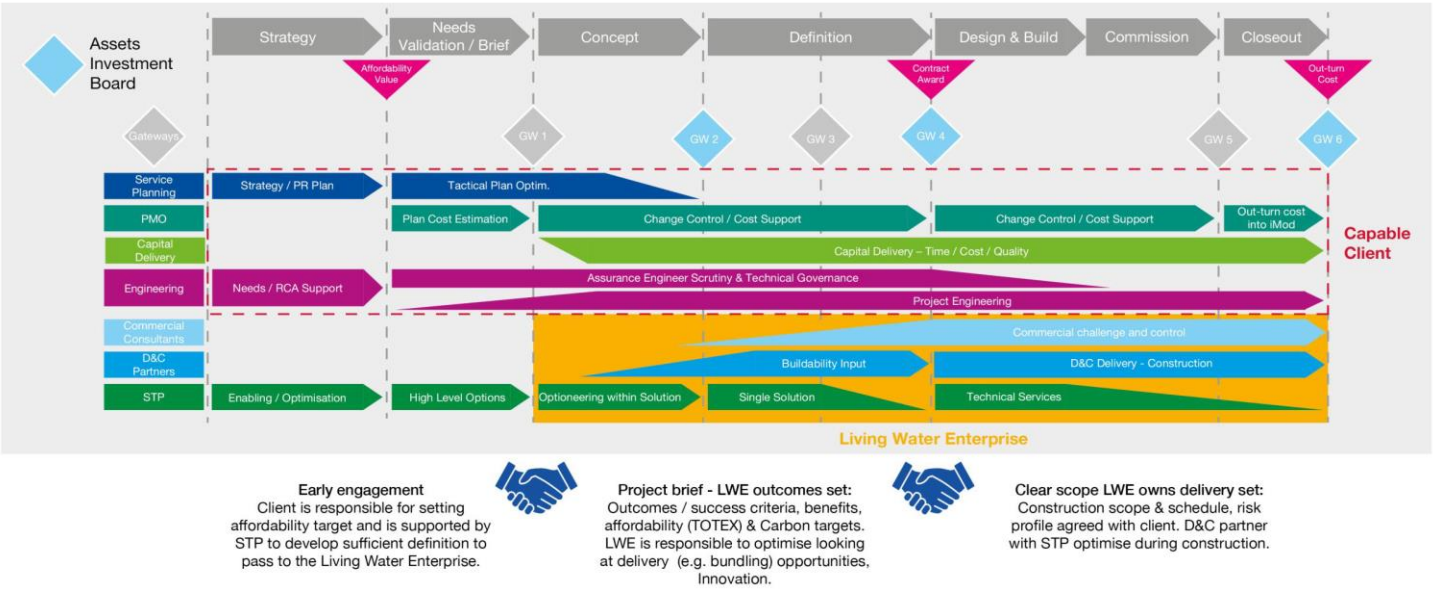
To achieve this the Living Water Enterprise will:

- Build high performing, best value teams resourced with the best athletes;
- Create holistic, integrated and innovative solutions;
- Be ambitious - delivering more for less and with certainty;
- Be a learning organisation;
- Provide known workload between the members which facilitates capability development;
- Be a great place to work which promotes a safe, healthy and happy workplace culture; and
- Foster the talent of the future.

When the Living Water Enterprise succeeds, we will:

- Be seen as the industry leader;
- Leave a positive legacy in our communities;
- Deliver returns to our members and customers;
- Be a world class example of infrastructure best practice and collaborative change which creates brand value for all members;
- Achieve sustainable business growth for our members;
- Develop service capabilities and offerings which can be adopted across the industry;
- Build long lasting, long term relationships; and
- Be a client and partner of choice, attracting top talent.

FIGURE 1826: OUR END-TO-END DELIVERY MODEL



In parallel with the launching of our new delivery model we started by making sure that our supply chain would be fully established before 2025, so that we could take advantage of existing momentum – and avoid the risk of work pausing between price control cycles. In April 2023, we appointed two engineering consultants to support in our design requirements. These consultants, Jacobs and Stantec, have committed to mobilising 200 headcount by April 2024 and a further 200 in the following year. To date we have seen 50 headcount from Jacobs and Stantec deployed and we expect

that this will increase rapidly as we progress further with our transition and accelerated spend of c.£120m. We have also appointed three Commercial Consultants, with Turner and Townsend being appointed as lead and supported by Aqua.

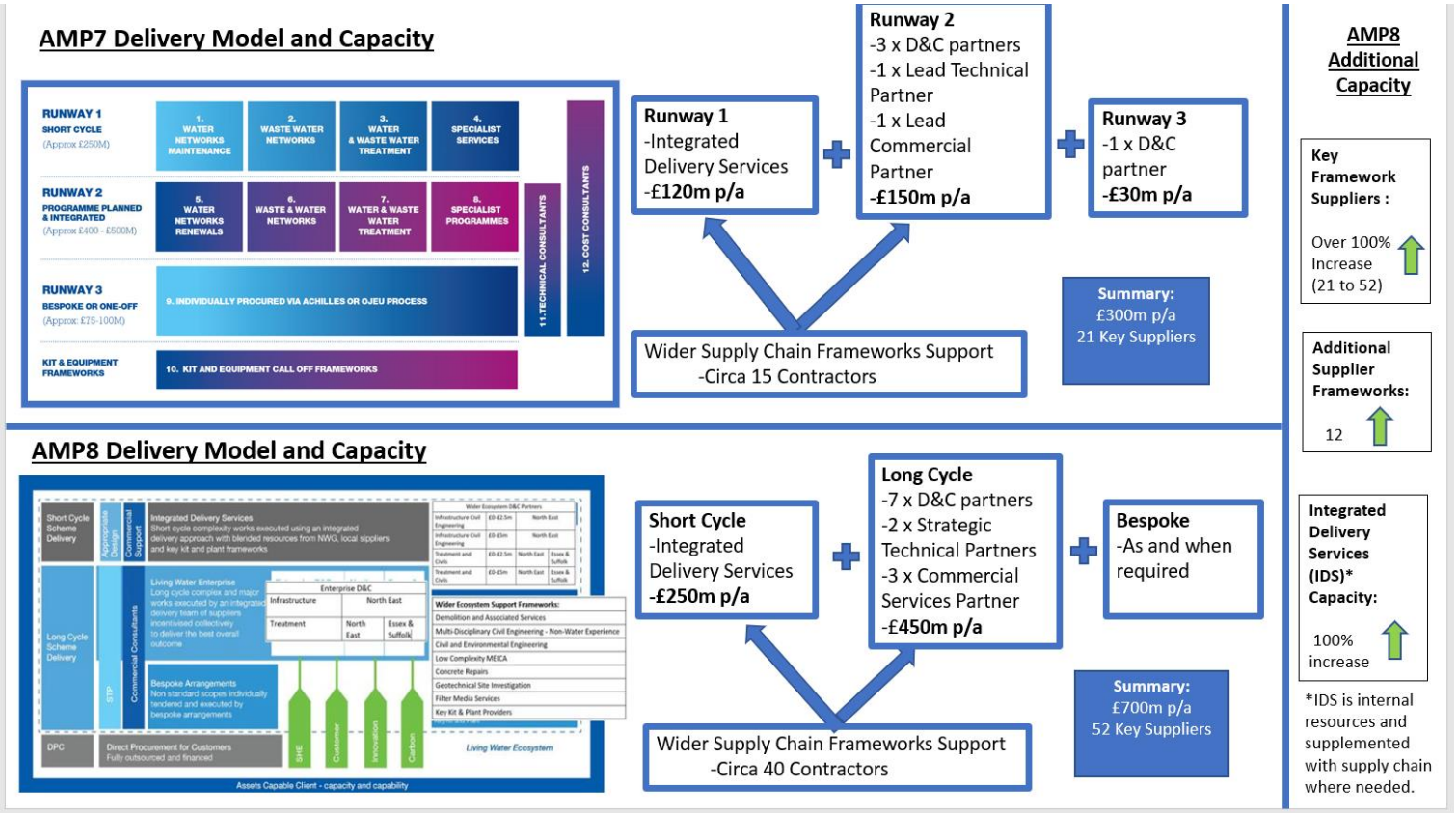
We are now well progressed in our plans to secure new and additional contractors to support the delivery of AMP8. We have had excellent feedback from the market and have received significant expressions of interest to join our supply chain. We have received some 58 applications to be our primary delivery contractors and a further 135 applications for our supporting supply chain.

On the basis of pre-qualification information, we have now started to further refine the NWG specific supply chain capacity analysis by asking interested contractors for information on actual future capacity as opposed to estimating potential capacity analysis based on a percentage of company turnover – an approach which gives us greater confidence. On the basis of this information, we have concluded that:

- The seven long cycle contractors (for major schemes) we intend to appoint should have capacity (based on actual individual supplier projections of capacity) to deliver c£450m pa of investment.
- We intend to supplement this with three additional long cycle suppliers on a reserve list to give additional flexibility and an element of reserve capacity.
- For smaller/repetitive 'short cycle' investment activity we will supplement the above with an 'Integrated Delivery Services' model which combines internal resources with supply chain contractors. Following a very similar approach to capacity assessment our short cycle delivery stream is estimated to be capable of delivering c£250m pa of investment.
- The final element of our approach will be to employ bespoke contractors as required to deliver specific requirements.

The diagram below summarises how our delivery model and associated capacity is evolving between AMP7 and AMP8:

FIGURE 1927: DELIVERY MODEL EVOLUTION AMP7 TO AMP8



In summary this approach is anticipated to deliver an uplift in delivery capacity from c£300m of investment pa in AMP7 to c £700m pa in AMP8.

4.3.5. Building our internal capability and capacity

Delivering such a large step up in our investment programme will require additional resources and capability within NWL. The original review by Jacobs recommended an increase of 68 Project Managers would be required to deliver the programme with additional resources also required in other areas including the Programme Management Office, Asset Intelligence, operational roles in the Water and Wastewater Directorates and also some additional resources in corporate functions such as procurement and estates[50]. The report also recognised in-house delivery can be more efficient and our general philosophy is to adopt in-sourced models as reflected in our integrated delivery services (IDS) delivery stream.

Through our AMP8 Transformation Programme we are leveraging the opportunity to fully assess the internal resource requirement as would be dictated by the resource loaded and optimised high quality delivery plan to the end of AMP8

[50] Jacobs, 2023, Deliverability of PR24 schemes, pp.28-32 (NES40).

which is in development. We are also establishing our new PMO with improved capability, processes, and systems. We are recruiting in the areas of PMO, Project and Programme Management and to support this tranche and future scale up for AMP we launched our ‘Building futures’ recruitment campaign in the summer of 2023.

In addition to increasing our internal capacity we also need to improve our capability in a number of new important areas to be able to deliver the programme. To this end, we are in the early scoping phase of creating a regional 'Academy' to partner with our supply chain to create further diversity and 'grass roots' capacity.

We have carefully identified the changes required to our organisational structure and the additional resources that will be needed to deliver such a large investment programme. To support the recruitment of additional roles we launched our ‘Building futures’ recruitment campaign[51] in the summer of 2023. We are on track to complete the recruitment that we need and to have these resources in place in line with our delivery plans.

[51] See: https://www.nwg.co.uk/careers/building-futures/.

5. ASSURANCE OF DELIVERABILITY

Our Board wanted to be confident that our business plan was deliverable. In response to Ofwat's PR24 methodology consultation, we suggested that Ofwat should:

"Make sure the deliverability of investment plans and past performance is an explicit part of the business planning process. This could be incorporated into a revised business plan incentive to make sure companies, their Boards and Ofwat more actively consider the deliverability of investment plans (including how they will make sure supply chains have the necessary capability and capacity to deliver these programmes)."

Ofwat included a new requirement in their final methodology for Boards to test that their PR24 plans and the expenditure proposals within them are deliverable and included this in the Quality and Ambition Assessment.

We are as confident as we can be at this stage that our 2025-30 business plan is deliverable, and throughout this appendix we describe the measures we have put in place to make sure that this is the case. We use the evidence in this appendix to provide Board assurance on deliverability in **A2 – Data, Information, and Assurance** (Section 6.8).

We discussed these issues with our Board and Water Forum, and engaged at a senior level with Ofwat, Defra, and others. We worked with Water UK to contribute to a sector wide approach (having already carried out our own assessment and identified key risks). And, we identified investment areas that could be reduced, delayed, or changed to give similar outcomes without putting as much pressure on the supply chain. We already have strong links with our supply chain and local communities, with feedback suggesting that our approach considered one of the best in the sector, and we will strengthen this further by providing further opportunities to build new skills areas and provide certainty for supply chain investment for the future.

We are pleased that Ofwat responded to our recommendation in the methodology consultation to look at deliverability in more detail at PR24, and that they understood the same risks we had seen. Ofwat could support deliverability by providing some certainty about future investments beyond 2030 too, to support supply chains in their expansion and skills development strategies and **reduce cyclicality**.

5.1. AN ASSURANCE CHECKLIST FOR DELIVERABILITY

For Water UK's work on deliverability across all water companies (with Stantec), we suggested a deliverability checklist that could be used to support Board confidence that water companies could deliver their investment programmes. This checklist is set out in Table 10 below.

TABLE 1028: DELIVERABILITY BOARD CHECKLIST

Questions for Boards to consider	Evidence
Is the scale and scope of the proposed AMP8 programme appropriate?	• Evidence that the proposed AMP8 programme delivers statutory and legal requirements at a minimum and the executive is able to identify those. • Evidence that any non-statutory requirements have been challenged for inclusion in the programme. • Evidence of customer support for the programme, especially non-statutory elements.
Is there a clear and credible delivery plan in place?	• A credible and detailed plan is available covering all enhancement expenditure with key milestones and critical path. • Enhancement project scoping is sufficient to provide clear scope and timescales to the supply chain.
Has the plan fully considered the case for accelerated investment?	• Evidence that the executive has fully considered the case for accelerated investment in AMP7 to reduce the step up in investment delivery into AMP8 and reduce delivery risk.
Has the company identified any new internal capacity or capability requirements and are those in place?	• Evidence that the executive has considered any internal restructuring or change to be in the best position to deliver the AMP8 programme and has a plan in place. • Evidence that any capability or capacity gaps emerging from that plan have been filled or addressed.
Has the company considered the most effective way to work with the supply chain?	• Evidence that the executive has considered different delivery models for the effective and efficient implementation of the AMP8 programme. • Evidence that the executive has implemented those models where a change has been identified.
Is there independent assurance of the executive's progress?	• Independent assurance or gateway review of the progress towards AMP8 delivery.

Is there a clear and credible approach to deliverability risk management?	• Deliverability risks (both within the company and the supply chain) have been identified, assessed, and understood. • The measures described elsewhere in this checklist have been mapped back in terms of their ability to mitigate the risks identified. • Residual risk has been assessed and made visible. Where feasible mitigation actions have been identified and prioritised.
Has the executive considered the capacity and capability of the local supply chain to deliver?	• Evidence of assessment of supply chain capacity and capability against the AMP8 programme plan.
Has the executive taken steps to enhance supply chain capacity of capability to deliver where necessary?	• Evidence of understanding around the gaps in supply chain capacity or capability. • Evidence of actions taken to address supply chain gaps in capacity or capability.
Has the executive engaged effectively with the supply chain?	• Evidence that procurement notices have been issued. • Evidence of engagement with the supply chain.

We have used this checklist to support Board assurance on the deliverability of our programme.

5.2. OUR ASSESSMENT AGAINST THE ASSURANCE CHECKLIST

Is the scale and scope of the proposed AMP8 programme appropriate?

We used two plans for our qualitative customer engagement – the 'must do' plan, which included only statutory and legal requirements; and the 'preferred' plan which tackled issues such as climate change adaptation, lead reduction, and some non-statutory WINEP investments (in Bluespaces and NIDP – our flooding partnership in the North East). We discussed these investments with our Board and with customers throughout the process of developing the plan.

We challenged both our statutory and non-statutory investments. **Appendix A2 – data, information and assurance** (NES03) describes some of our challenge on statutory investments to reduce the scale of the programme, including finding alternative approaches (including catchment management and nature-based solutions where possible). We discussed phasing of storm overflows, asset health and climate change adaptation with customers, and we describe this in our **line-of-sight document** (NES45) and our enhancement cases.

Our customers support the 'preferred plan', with a high degree of acceptability (see our Appendix **A7 – Customer and Stakeholder Engagement** (NES08) and our **business plan**, NES01). Throughout the process, we asked them about the

non-statutory elements of our programme and removed these where customers did not support them – and we have strong support for our remaining non-statutory elements (see our line-of-sight document, NES45).

Is there a clear and credible delivery plan in place?

Our Appendix A3 – Costs (NES04) explains how we assessed costs and options for enhancement schemes, with clear scopes and plans covering all enhancement expenditure. The PR24 business plan is not, in itself, a sufficiently detailed plan with key milestones and a critical path but it provides a good initial assessment. We are in the process of developing a more detailed plan to provide still clearer scope, timescales and phasing to the supply chain – and we are doing this earlier in the planning process than in previous price reviews.

Our WRMP and DWMP show our expectations for projects in AMP9, too. We published our mapping tool for DWMP, showing all projects with expected options, costs, and timings to support the supply chain and potential partners in understanding when work might be done. Where possible, we have indicated where work will be needed in future price control periods.

Has the plan fully considered the case for accelerated investment?

We proposed accelerated delivery as part of Ofwat's determinations (in the accelerated process), for all of our water supply schemes and some initial storm overflow projects (at Berwick Upon Tweed). Ofwat accepted these in full in its final determinations.

In addition to this, we have looked at other investments to start early as transition expenditure (that is, enhancements that will start earlier than 1 April 2025, but were not eligible for accelerated delivery). We assessed all our schemes using a set of weighted scores looking at deliverability, reputational risks, funding risks, regulatory risks, and opportunities for increased performance. This showed that it would be appropriate to begin design, contract appointment and in some cases delivery before 2025. For example, bringing forward catchment and nature-based solutions can help to provide more evidence of their effectiveness before 2030; and further design work can help to improve decision making before more costs are incurred.

Finally, we have brought forward investments from base expenditure such as for smart networks and water quality risks. These are not described in detail in our business plan as these are not described as transition expenditure or funded separately – but these investments are important and there are benefits to customers in bringing these forward.

Has the company identified any new internal capacity or capability requirements and are those in place?

Our transformation programme has identified internal capacity and capability requirements, and we have already recruited the first roles for 2025 (see 4.3.5). We are out to market for some broader roles and are continuing to define the final resourcing requirements and ramp up our recruitment ahead of 2025.

Has the company considered the most effective way to work with the supply chain?

Our transformation programme has considered different delivery models for the effective and efficient implementation of the AMP8 programme (and beyond), and we have begun to implement a different model (see Section 5).

We considered DPC in detail, discussed several potential schemes with Ofwat and assessed these – but Ofwat's guidance means that none of our schemes are now eligible for DPC (see 4.3.2). We are improving our capability to use DPC in the future, as we have identified that some schemes in our DWMP alternative pathway would be eligible.

Is there independent assurance of the executive's progress?

We asked Jacobs to provide independent assurance of our progress towards the transformation programme in August 2023 and considered this report at our Board in September 2023.

Is there a clear and credible approach to deliverability risk management?

Recognising the challenge around deliverability of our AMP8 Plan, we have introduced an industry best practice-based risk management approach, resulting in our planned AMP8 Deliverability Risk Management Framework. The framework is applied across all levels of the organisation and the varying nature of our plan. For example, we are scrutinising the level or opportunity and threat (risk) related to our Accelerated Plan investment while simultaneously making sure we are identifying, analysing, and mitigating the risks to our transformational activities, which we recognise as being vital to the success of our overall AMP8 plan. Our Framework is grounded in best practice risk management approaches, and we have engaged recognised industry experts to provide independent review and assurance in this regard.

Specifically, we have:

- Conducted initial Deliverability Risk Assessments to review our Opportunities and Threats related to our plan deliverability.
- Agreed and planned strategic mitigations, resourcing these accordingly to support effective delivery.
- Engaged independent expertise, recognised across the water and adjacent infrastructure industries and organisations, to assure our risk processes and response.
- Engaged our Executive and Board to confirm support for risk mitigations and ensure alignment with regulatory direction and commitments.
- Engaged our supply chain to support our goals related to security of delivery.
- Integrated the findings from our independent review of the UK Water Deliverability Assessment, into our Programme for AMP8 Transformation.

Has the executive considered the capacity and capability of the local supply chain to deliver? Has the executive taken steps to enhance supply chain capacity or capability to deliver where necessary?

Section 4 describes our approach to an early assessment of deliverability, including for the supply chain. Section 5.6 describes our further engagement with regional supply chain partners. And Section 5.8 describes our early establishment of the supply chain for 2025. We engaged Stantec to review the capacity of the supply chain partners capacity for our operating region using a similar methodology to the one deployed in their work for Water UK (NES 70).

Has the executive engaged effectively with the supply chain?

Section 4.3.3 summarises our engagement with the supply chain to date.

5.3. OUR BOARD ASSURANCE STATEMENT

Our Board assurance statement in A2 – Data, Information and Assurance uses the evidence and checklist presented here to allow our Board to make the statements on deliverability.

Our Board was fully engaged with the discussions around deliverability, including initiating our transformation programme and being closely involved with discussions with Government and regulators about reducing or modifying statutory requirements (for example, to allow catchment management and nature-based solutions). Our Board was closely involved with customer research on phasing and acceptability, including observing customer research sessions and discussing the detailed research reports.

ANNEX A: PR19 RECONCILIATIONS

This section sets out a summary of the past performance PR19 reconciliation models we have submitted and their projected outputs for the full period 2020-25. For all **end of period models**, we used actual performance data for 2020-23 and central forecast projections for 2023-25. The models will thus need updating for actual data from 2023/24 in the FD and a blind year adjustment for actual 2024/25 data.

Given the scale of the revenue adjustment, we have applied the smoothing mechanism in the revenue feeder model to spread the impact on customer bills evenly over 2025-30. The RCV adjustment is an automatic midnight adjustment as at 31/3/25.

End of period models (2020-25 forecast)		Feeder model forecast for 31/3/2025		
£m, 2022/23 FYA prices	Rev/RCV adjustment	Revenue	RCV	Total
Blind year adjustments	Both Rev/RCV		6.911	6.911
Cost reconciliation model	Both Rev/RCV	25.625	17.973	43.597
Developer services	Revenue	71.535		71.535
Cost of new debt	Revenue	25.961		25.961
Tax	Revenue	16.488		16.488
RPI-CPIH true up	Both Rev/RCV	16.898	70.352	87.250
Residential retail	Revenue	0.412	0.000	0.412
WINEP	RCV		-0.716	-0.716
Land sales	RCV		-1.140	-1.140
Innovation competition	Revenue	-0.333		-0.333
Adjustment for end of period models		**156.586**	**93.380**	**249.966**

We have not submitted a water trading model, strategic regional resource model or green economic recovery model as these were not applicable or were zero return for ourselves in 2020-25. The CMA disallowed the GOSM mechanism for NWL[50].

For **in period revenue models**, we assume that 2022/23 performance is reflected in 2024/25 revenue allowances. For these models, we have thus included an estimate of 2023/24 and 2024/25 performance for inclusion in 2025/26 and 2026/27 revenue allowances respectively. We anticipate the actual 2023/24 performance adjustments to be used for the Final Determination and for 2024/25 performance variances from forecast to be adjusted for in the 2026/27 Final Determination.

In period models 2023-25 £m, 2022/23 FYA prices	Forecast for 31/3/2025 Revenue
Bioresources	1.0
RFI	4.6
CMEX	6.8
DMEX	1.7
ODIs	-
Total for in period	**5.611**

We have not submitted a bilateral entry adjustment model as this was not applicable for ourselves in 2020-25.

We have submitted the revenue adjustments and RCV adjustments feeder models that take the outputs from these models. We have then fed into the Financial Model the outputs from these feeder models.

Our only area of material dispute with the Ofwat PR19 reconciliation model's assumptions is the tax model guidance on switching off reprofiling. We do not believe that is compatible with the approach the CMA took in FD19 and the reprofiling should be retained. We explain our reasoning in our **table commentary for past delivery** (NES_COM12).