PR24 CUSTOMER RESEARCH – COMMON PCs INSIGHT SUMMARIES

Contents

INTRODUCTION

This document sets out our synthesis of all qualitative and quantitative customer evidence relating to each common PC. The summaries follow a standard format, which is described below:

A separate document covers other aspects of service and enhancements (A7-02 Enhancements and Other Service Area Summaries, NES43).

The top left-hand corner of each sheet sets some RAG guidance on interpreting the evidence.

Volume of evidence	Medium (14 sources)	Divergence of view	High
Quality of evidence	High	Regional differences	Not applicable

Volume of evidence
An assessment of the strength of the evidence base. This judgement is based on counting the number of sources which have contributed to each synthesis sheet and given the highest rating to PCs with the most sources and the lowest score to PCs with the least.

Quality of evidence
This is our assessment of the overall quality of the evidence base, considering best practice principles for research.

Divergence of view
The divergence of views across segments (e.g., household, non-household, stakeholder, vulnerable and future customers)

Regional differences
The differences of views across our NW and ESW regions.

In all instances a green box represents 'high/good', orange 'medium/mixed', and red 'poor/weak/low'.

The top right-hand corner of each sheet sets out if the common PC is a priority for customers relative to other common performance commitments.

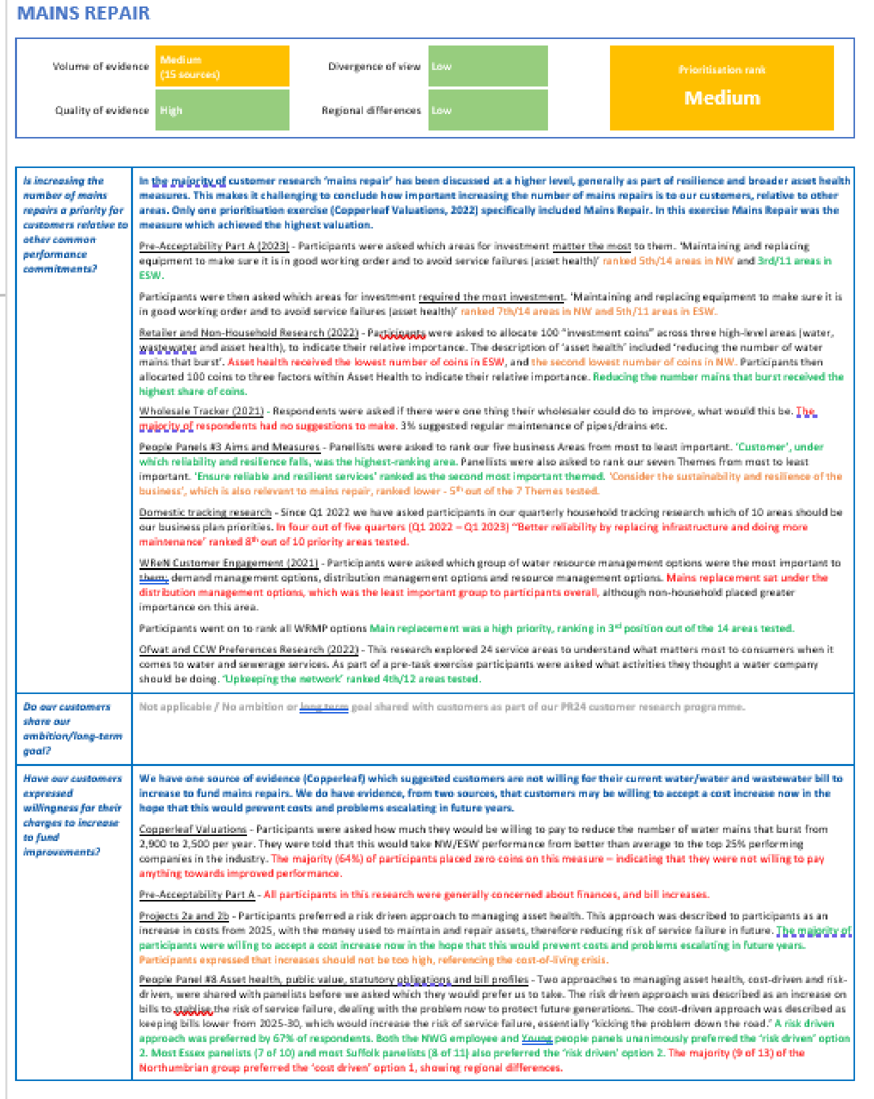
Prioritisation rank
Medium

The methodology behind these rankings is detailed in <link to prioritisation of common measures>

The right-hand side of the page sets out the questions we have asked ourselves in each area, to help us support our business planning.

These are:

- **Is increasing the number of mains repairs a priority for customers relative to other common performance commitments?**
- **Do our customers share our ambition/long-term goal?**
- **Have our customers expressed willingness for their charges to increase to fund improvements?**



CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:
MAINS REPAIR

The left-hand side of the page sets out our response to the question in **blue** and a high level summary of evidence we have drawn upon to form our response.

We have colour coded the evidence, where possible, to indicate its sentiment:

Wording in green tends to be evidence of customer support.

Wording in orange tends to be either mixed or inconclusive evidence or mid-level support.

Wording in red tends to be evidence that customers aren't supportive.

WATER

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

MAINS REPAIR

Volume of evidence	High (11 sources)	Divergence of view	Low	Asset health (including mains repair, sewer collapses and unplanned outage) **Medium**
Quality of evidence	High	Regional differences	Low	

Is reducing the number of mains that require repair a priority for customers relative to other common performance commitments?	**For the purposes of this exercise, we have bundled unplanned outage at a water treatment works in with other asset health measures (mains repair and sewer collapses) to understand where they collectively sit as a priority, relative to common PCs. The combined ranking for these three measures is 'medium'.** **We specifically tested mains repair against other asset health measures with NHHs in 2022. Reducing the number mains that burst received the highest share of coins.** Pre-Acceptability Part A (2023) - Participants were asked which areas for investment matter the most to them. 'Maintaining and replacing equipment to make sure it is in good working order and to avoid service failures (asset health)' ranked 5th/14 areas in NW and 3rd/11 areas in ESW. Participants were then asked which areas for investment required the most investment. 'Maintaining and replacing equipment to make sure it is in good working order and to avoid service failures (asset health)' ranked 7th/14 areas in NW and 5th/11 areas in ESW. Wholesale Tracker (2021) - Respondents were asked if there was one thing their wholesaler could do to improve, what would this be. The majority of respondents had no suggestions to make. 3% suggested regular maintenance of pipes/drains etc. People Panels #3 Aims and Measures - Panellists were asked to rank our five business Areas from most to least important. 'Customer', under which reliability and resilience falls, was the highest-ranking area. Panellists were also asked to rank our seven Themes from most to least important. 'Ensure reliable and resilient services' ranked as the second most important themed. 'Consider the sustainability and resilience of the business', which is also relevant to mains repair, ranked lower - 5th out of the 7 Themes tested. Domestic tracking research - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. In four out of five quarters (Q1 2022 – Q1 2023) ''Better reliability by replacing infrastructure and doing more maintenance' ranked 8th out of 10 priority areas tested. Brand values (2020-2022) - Participants were asked to rank four priority areas. Every year the four areas have maintained the same order with 'Top quality water' being voted as the area that matters and prepared for the future in last place. Retailer and Non-Household Research (2022) - Participants were asked to allocate 100 "investment coins" across three high-level areas (water, wastewater and asset health), to indicate their relative importance. The description of 'asset health' included 'reducing the number of water mains that burst'. Asset health received the lowest number of coins in ESW, and the second lowest number of coins in NW. Participants then allocated 100 coins to three factors within Asset Health to indicate their relative importance. Reducing the number mains that burst received the highest share of coins. WReN Customer Engagement (2021) - Participants were asked which group of water resource management options were the most important to them; demand management options, distribution management options and resource management options. Mains replacement sat under the distribution management options, which was the least important group to participants overall, although non-household placed greater importance on this area. Participants went on to rank all WRMP options Mains replacement was a high priority, ranking in 3rd position out of the 14 areas tested. Ofwat and CCW Preferences Research (2022) - This research explored 24 service areas to understand what matters most to consumers when it comes to water and sewerage services. As part of a pre-task exercise participants were asked what activities they thought a water company should be doing. 'Upkeeping the network' ranked 4th/12 areas tested.
Do our customers share our ambition/long-term goal?	**No evidence.**

Have our customers expressed willingness for their charges to increase to fund improvements?	**We have one source of evidence (Copperleaf) which suggested customers are not willing for their current water/water and wastewater bill to increase to fund mains repairs. We do have evidence, from two sources, that customers may be willing to accept a cost increase now in the hope that this would prevent costs and problems escalating in future years.** Copperleaf Valuations - Participants were asked how much they would be willing to pay to reduce the number of water mains that burst from 2,900 to 2,500 per year. They were told that this would take NW/ESW performance from better than average to the top 25% performing companies in the industry. The majority (64%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance. Pre-Acceptability Part A (2023) - All participants in this research were generally concerned about finances, and bill increases. Deliberative Research into Complex Bill Drivers for 2025-30 (2022) - Participants preferred a risk driven approach to managing asset health. This approach was described to participants as an increase in costs from 2025, with the money used to maintain and repair assets, therefore reducing risk of service failure in future. The majority of participants were willing to accept a cost increase now in the hope that this would prevent costs and problems escalating in future years. Participants expressed that increases should not be too high, referencing the cost-of-living crisis. People Panel #8 Asset health, public value, statutory obligations and bill profiles - Two approaches to managing asset health, cost-driven and risk-driven, were shared with panelists before they were asked which they would prefer us to take. The risk driven approach was described as an increase on bills to stablise the risk of service failure, dealing with the problem now to protect future generations. The cost-driven approach was described as keeping bills lower from 2025-30, which would increase the risk of service failure, essentially 'kicking the problem down the road.' A risk driven approach was preferred by 67% of respondents. Both the NWG employee and Young People Panels unanimously preferred the 'risk driven' option. Most Essex panelists (7 of 10) and most Suffolk panelists (8 of 11) also preferred the 'risk driven' option. The majority (9 of 13) of the Northumbrian panelists preferred the 'cost driven' option, showing regional differences.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

CUSTOMER CONTACTS ABOUT WATER QUALITY

Volume of evidence	High (16 sources)	Divergence of view	Low	Prioritisation rank **High**
Quality of evidence	High	Regional differences	Low	

Is improving water quality a priority for customers relative to other common performance commitments?	**Drinking water quality is consistently rated amongst our customers' highest priorities.** Acceptability and Affordability Testing (Qualitative) (2023) - NHH participants were asked to rank different aspects of service in terms of importance for the day-to-day operation of their business. Aspects were ranked from one to seven, with equal rankings being allowed. The reliability of water supply, in terms of quality and lack of supply interruptions, were the top priorities for both regions. Participants joined breakout groups to discuss which areas of the plan were most important to them. For a significant proportion of NW and ESW respondents ensuring a high quality of water supply was important. Six performance commitments (PCs) were discussed, and respondents asked to vote on how important it is that NW / ESW strives to be industry leading in each area on a scale of 1-5. 'Taste, odour and appearance of tap water' achieved a mean score of 4.6 from NW participants (second highest score) and 4.5 from ESW participants (joint first with reducing leakage). Pre-Acceptability Part A (2023) - Participants were asked which areas for investment matter the most to them and required the most investment. 'Investment to make sure that Northumbrian Water can supply the highest quality of water to their customer' had mid-level rankings for both questions in ESW and a higher ranking (3/14) for mattering the most and a mid-level ranking for investment for NW participants. Retailer and Non-Household Research (2022) - We asked NHH participants to allocate 100 "investment coins" across four high-level areas, to indicate their relative importance. The description of Water' received the highest allocation of coins. We then asked NW participants to look at different measures, within the theme of 'Water', and to allocate 100 "investment coins" across them, to indicate their relative importance. 'Improving the taste, smell and appearance of drinking water' received the highest share of coins of the eight measures tested. Ofwat Cost of Living: Wave 3 (2023) - Bill payers were asked what the two most important factors would be if they could pick which water and sewerage company they used. Approximately six in ten (58%) selected good quality drinking water', placing this attribute 1st out of the 7 factors presented. Domestic tracking (2022-23) - In all four rounds of 2022 research and Q1 2023 'Maintain high standards on clean, clear and good tasting water' achieved the highest average score of all areas tested. Brand Values (2019) - Participants were read nine broad business plan themes and asked which should be priority and which were less meaningful to focus on. 'Customers always have access to clean water' was the highest rated priority area. Brand Values (2020-22) - Customers were asked to rank four areas in terms of the priority that they would place on each one. In all three rounds 'top quality water' had the highest percentages of participants rating it as their top priority. Ofwat and CCW Preferences Research (2022) - As part of a pre-task exercise participants were asked what activities they thought a water company should be doing. 'Appearance, taste' ranked 1st out of the 12 areas tested. In the main research was 'Taste, smell, appearance' ranked as 'high importance/impact'. CCW and Ofwat Customer spotlight: People's views and experiences of water (2022) - Participants were asked to think about their water company and to rate the ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Provide clean, safe drinking water' ranked 1st of the 10 measures tested. CCW Public Views of the Water Environment (2021) – Participants were asked to prioritise a list of six responsibilities that water companies have to balance (alongside the environmental priorities that had been discussed). 'Providing clean and reliable drinking water to peoples' taps' ranked in 1st place.
Do our customers share our ambition/long-term goal?	**When it comes to ambition customers agree that providing clean, clear drinking water that tastes good is important, but we don't have strong (quantitative) evidence that further improvement is supported.** Affordability and Acceptability Research (qualitative) (2023) - Acceptability and Affordability Testing (Qualitative) (2023) - Respondents were asked to vote to indicate how they felt about NW / ESW's level of ambition for taste, odour and appearance of tap water. The following information was shared: **Current service level (2021/22 performance)**: 1.19 contacts per 1,000 customers; **Current performance compared to other companies**: Top 50% of companies; **Proposed improved service level**: 0.94 contacts per 1,000 customers; **Proposed performance compared to other companies**: Top 50% of companies The majority of respondents thought our ambition was 'just right' with agreement higher across the board for NW (82%) than ESW (67%). Defining the Future (2021) - Respondents were provided with an explanation of NWG's 'ambitious goals' and asked whether or not they agreed with them. Our goal 'Promote confidence in their drinking water so that nine out of ten of their customers choose tap water over bottled water' had high levels of agreement across all customer types in both operating areas. Highest levels of agreement were shown for ESW customers overall (91%) with the remaining customer groups all showing levels of agreement above 80%. People Panels #3 – Aims and Measures (2022) **-** Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW's long-term plan. Promote confidence in our drinking water by delivering high quality water received the second highest number of stars. CCW Water Voice Window 4 (2020) - Participants were asked to what extent they agreed or disagreed with the statement *'Water companies should do more to improve the taste of the tap water their customers receive.'* 49% 'strongly agreed' or 'agreed', 38% neither agreed nor disagreed' and 9% disagreed.

Have our customers expressed willingness for their charges to increase to fund improvements?

The majority of participants in our qualitative affordability and acceptability research suggested they would be willing for their charges to increase so that NW/ESW could improve taste, odour and appearance of tap water and tackle risks to water quality.

NW and ESW Participants discussed investment in asset health, which was described as 'Replacing and refurbishing equipment like pipes and treatment works so it continues to provide a reliable service to customers.' We explained the benefits of different phasing options, one of which was doing more to tackle risks to water quality, and asked which was preferred. A notable number of respondents were satisfied that the medium phasing option (shown below) would enable NW/ESW to meet statutory obligations. It was felt that anything above this was not necessary and would put a further burden on customers by increasing bills further.

	NW Medium investment in 2025-30	ESW Medium investment in 2025-30
Description	Do what is needed in order to maintain service levels until 2030	Do what is needed in order to maintain service levels until 2030
Cost in 2025-30	£6.24 on bills by 2030 (in must do and proposed plans)	£5.48 on bills by 2030 (in must do and proposed plans)
Impact on service delivery	Fewer pollution incidents and supply interruptions – with fewer failures and more resilience to unexpected events. NW can afford to tackle more risks to water quality.	Fewer supply interruptions – with fewer failures and more resilience to unexpected events. ESW can afford to tackle more risks to water quality.

<u>Copperleaf Valuations</u> - Participants were asked how much they would be willing to pay to improve water quality and in turn to reduce the number of customer contacts from 4,300 to 3,800. They were told that this would put NW/ESW performance in the top 25% of the industry. The majority (75%) of participants *placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance.*

<u>Pre-Acceptability Part A</u> - All participants in this research were generally concerned about finances, and bill increases.

<u>Pre-Acceptability Part B (2023)</u> - Nine potential investment areas were discussed with participants (9 in NW and 6 in ESW). One of these was 'water quality - to address risks to drinking water quality'. The costs shared were an average annual increase of £1.88 in NW and £2.92 in ESW. Across both regions, most respondents stated a preference to invest now in this area (76% NW respondents; 70% ESW respondents).

<u>CCW Water Voice Window 5 (2020)</u> - A hypothetical scenario was put to participants in which water companies could improve the quality of tap water, if all customers were charged a little more on their bill. Reactions were mixed in response to the hypothetical idea of increasing customer bills by a small amount to fund improvements to customers' drinking water quality. Participants felt this may be acceptable only if demonstrable improvements were achieved, and bill reductions offered to customers if not.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

COMPLIANCE RISK INDEX (CRI)

Volume of evidence	Medium (7 sources)	Divergence of view	Medium	Prioritisation rank **High**
Quality of evidence	High	Regional differences	Medium	

Is reducing CRI for customers relative to other common performance commitments?	**We have no direct evidence from customer research that specifically relates CRI. We can infer from other, related evidence that clean, clear drinking water is a high priority for customers.** Acceptability and Affordability Testing (Qualitative) (2023) –NHH participants were asked to rank different aspects of service in terms of importance for the day-to-day operation of their business. Aspects were ranked from one to seven, with equal rankings being allowed. The reliability of water supply, in terms of quality and lack of supply interruptions, were the top priorities for both regions. Participants joined breakout groups to discuss which areas of the plan were most important to them. For a significant proportion of NW and ESW respondents ensuring a high quality of water supply was important. Six performance commitments (PCs) were discussed, and respondents asked to vote on how important it is that NW / ESW strives to be industry leading in each area on a scale of 1-5. 'Taste, odour and appearance of tap water' achieved a mean score of 4.6 from NW participants (second highest score) and 4.5 from ESW participants (joint first with reducing leakage). Pre-Acceptability Part A (2023) - Participants were asked which areas for investment matter the most to them and required the most investment. 'Investment to make sure that Northumbrian Water can supply the highest quality of water to their customer' had mid-level rankings for both questions in ESW and a higher ranking (3/14) for mattering the most and a mid-level ranking for investment for NW participants. Domestic tracking (2022-23) - In all four rounds of 2022 research and Q1 2023 'Maintain high standards on clean, clear and good tasting water' achieved the highest average score of all areas tested. Brand Values (2019) - Participants were read nine broad business plan themes and asked which should be priority and which were less meaningful to focus on. 'Customers always have access to clean water' was the highest rated priority area. Brand Values (2020-22) - Customers were asked to rank four areas in terms of the priority that they would place on each one. In all three rounds 'top quality water' had the highest percentages of participants rating it as their top priority. CCW and Ofwat Customer spotlight: People's views and experiences of water (2022) - Participants were asked to think about their water company and to rate the ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Provide clean, safe drinking water' ranked 1st of the 10 measures tested.
Do our customers share our ambition/long-term goal?	**We have no evidence about how ambitious customers want us to be in this area.** Acceptability and Affordability Testing (Qualitative) (2023) - Respondents were asked to vote to indicate how they felt about NW / ESW's level of ambition for taste, odour and appearance of tap water. The following information was shared: **Current service level (2021/22 performance):** 1.19 contacts per 1,000 customers **Current performance compared to other companies:** Top 50% of companies **Proposed improved service level:** 0.94 contacts per 1,000 customers **Proposed performance compared to other companies:** Top 50% of companies The majority of respondents thought our ambition was 'just right' with agreement higher across the board for NW (82%) than ESW (67%). NHH participants were asked what their business expectations were for future services. They were also asked what they would most like to see improved. *'Reliable and consistent water supply quality'* received a mid-number of votes compared to the 6 areas tested with 19% of NW participants and 14% of ESW participants indicating this was important.
Have our customers expressed willingness for their charges to increase to fund improvements?	**The majority of participants in our qualitative affordability and acceptability research suggested they would be willing for their charges to increase so that NW/ESW could tackle risks to water quality.** Affordability and Acceptability Research (qualitative) (2023) - NW and ESW Participants discussed investment in asset health, which was described as 'Replacing and refurbishing equipment like pipes and treatment works so it continues to provide a reliable service to customers.' We explained the benefits of different phasing options, one of which was doing more to tackle risks to water quality, and asked which was preferred. A notable number of respondents were satisfied that the medium phasing option (shown below) would enable NW/ESW to meet statutory obligations. It was felt that anything above this was not necessary and would put a further burden on customers by increasing bills further. **Description** — NW Medium investment in 2025-30: Do what is needed in order to maintain service levels until 2030; ESW Medium investment in 2025-30: Do what is needed in order to maintain service levels until 2030 **Cost in 2025-30** — NW: £6.24 on bills by 2030 (in must do and proposed plans); ESW: £5.48 on bills by 2030 (in must do and proposed plans) **Impact on service delivery** — NW: Fewer pollution incidents and supply interruptions – with fewer failures and more resilience to unexpected events. NW can afford to tackle more risks to water quality.; ESW: Fewer supply interruptions – with fewer failures and more resilience to unexpected events. ESW can afford to tackle more risks to water quality. Pre-Acceptability Part B (2023) - Nine potential investment areas were discussed with participants (9 in NW and 6 in ESW). One of these was 'water quality - to address risks to drinking water quality'. The costs shared were an average annual increase of £1.88 in NW and £2.92 in ESW. Across both regions, most respondents stated a preference to invest now in this area (76% NW respondents; 70% ESW respondents).

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

LEAKAGE (NW)

Volume of evidence	High (15 sources)	Divergence of view	Medium	Prioritisation rank: High
Quality of evidence	High	Regional differences	Not applicable	

Is reducing leakage a priority for NW customers relative to other common performance commitments?	**Leakage reduction tends to come out as a high or mid priority when NW customers are asked what is important to them.** Acceptability and Affordability Testing (Qualitative) (2023) - Six performance commitments (PCs) were discussed, and respondents asked to vote on how important it is that NW / ESW strives to be industry leading in each area on a scale of 1-5. 'Reducing leakage' achieved a mean score of 4.5 from NW and ESW participants. The third highest scores of all PCs in NW. Pre-Acceptability Part A - NW participants were asked which areas for investment matter the most to them. 'Metering, encouraging water efficiency and tackling leakage to ensure we have enough water in the future' ranked 1st of the 14 areas presented. Participants were also asked which areas required the most investment. 'Metering, encouraging water efficiency and tackling leakage to ensure we have enough water in the future' ranked 2nd of the 14 areas presented. Retailer and Non-Household Research (2022) - Participants were asked to indicate how important various aspects of NWG's service were to them. Firstly, they were asked to allocate 100 "investment coins" across three high-level areas, to indicate their relative importance. 'Water' received the highest share of coins. We then asked participants to look at a list of factors within Water, and again to allocate 100 "investment coins" across them, to indicate their relative importance. 'Reducing leakage from the network' received the second highest share of coins. Domestic Tracking (2022-23) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. Rankings for 'Repair leaks (more quickly)' ranged from 3/10 to 7/10 across the period. NW scores tend to be lower compared to ESW scores with scores ranging from 53% - 74%. NW WRMP Options Research (2022) - Company-side leak reduction had the highest support at all stages of the research. Participants were presented with five actions Northumbrian Water could take to help customers and businesses reduce the amount of water they use. The highest rated option was 'company side leak reduction', supported by 84% of participants. This research included a MaxDiff exercise. Respondents were shown a set of supply & demand side options and were asked to choose the option they preferred the most and the one they preferred the least. The question was repeated a total of 8 times with different options being shown each time. Scores of the MaxDiff are shares of preference - if all solutions were selected equally, we would see a 12.5% share of preference for each. The top solution (company-side leak reduction) had a preference score of 28% - which is more than twice as high as its expected score if all things were equal, thus showing a strong respondent preference for this solution. WReN Customer Engagement (2021) - Leakage came out very strongly within customer priorities. 78% of participants agreed 'reducing leaks from the water network' should be an area of focus for water companies. When asked to rank 14 WRMP options 'Leakage' came in 1st place. Ofwat Cost of Living: Wave 3 (2023) - Bill payers were asked what the two most important factors would be if they could pick which water and sewerage company they used. Approximately two in ten (18%) selected 'Fix water pipe leaks in public areas (in roads, not in the home)', placing it 5th of the 7 factors presented. Ofwat and CCW Preferences Research (2022) – As part of a pre-task exercise participants were asked what activities they thought a water company should be doing. 'fixing leaks' ranked 5th out of the 12 areas tested. One of the service areas tested within the main research was 'reducing leaks.' Overall, this ranked as 'some importance/impact'. Customer spotlight: People's views and experiences of water (2022) – Participants were asked to think about their water company and to rate ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Fix Leaks' ranked 4th of the 10 measures tested. Ofwat and CCW Non-Household Customer Insight Survey (2020) - Participants were asked overall, and taking everything into account, what is important to you as a water customer? 'Leakage control' came in seventh position (out of 12) with 4% of 691 participants choosing it. WaterVoice Views of current customers on water resources (2021) – Participants asked what they would expect their water company to do if they lived in an area where water resources were limited under pressure, and there was a risk in the future of more hosepipe bans and restrictions on water use. Over half of customers expect water companies to fix leaks more quickly. CCW and Ofwat Non-household Customer Insight Survey (2022) - Non-Household customers were asked overall, and taking everything into account, what the most important issue to them, as a water customer, was. 'Leakage control' was a very low priority, with just 4% of participants selecting this option.

Do our customers share our ambition/long-term goal?

We have some evidence that customers want us to be more ambitious in this area.,

Acceptability and Affordability Testing (Qualitative) (2023) - Respondents were asked to vote to indicate how they felt about NW / ESW's level of ambition for reducing leakage. The following information was shared:

Current service level (2021/22 performance)	Current performance compared to other companies	Proposed improved service level	Proposed performance compared to other companies
104.9 litres per property per day	Mid-table	84.5 litres per property per day	Mid-table

The majority of respondents thought our ambition was 'just right' (61%), however a high minority (39%) felt that were not being ambitious enough.

Participants were asked to think about the goals in our Long-Term Delivery Strategy and to discuss their importance. For several NW respondents, a focus on leakage was thought to have a greater impact upon the system as a whole, for example by aiding in the achievement of other targets such as water resources and environmental impact. However, for a minority of NW respondents' leakage was less of an issue, especially with the presence of particular local infrastructure (e.g., Kielder), and perceptions of geographical variability of water-related shortages.

People Panels #3 – Aims and Measures (2022) - Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW's long-term plan. Reduce the wastage of water through a reduction in leakage received the fifth highest number of stars.

People Panels #4B Long term strategy metrics and ambition (2022) - Participants were asked to vote on how ambitious they want NW/ESW to be regards to the goal: 'reduce the wastage of water through a reduction in leakage. Most panelists wanted to see Northumbrian Water's target in line with the current commitment, though views amongst panelists were fairly balanced as almost half of panel members wanted to see a more ambitious target.

Panellists went onto complete a star poll exercise, where they were asked to allocate 25 stars across fifteen measures, placing more stars on measures where they wanted to see the greatest ambition. 'Reduce the 'wastage' of water through reducing leakage' ranked 3rd out of 11 measures presented.

Have our customers expressed willingness for their charges to increase to fund improvements?

We do not have strong evidence that customers are willing for their bills to increase to fund reductions in leakage.

Acceptability and Affordability Testing (Qualitative) (2023) - It was consistently felt amongst respondents that metering and reducing leakage (which were tested as a package) were an important area of investment. Many respondents opted for the medium phasing option, which was described as:

	NW Medium investment in 2025-30
Description	Do what is needed to stay on track for the 2050 target
Cost in 2025-30	£15.83 on bills by 2030 (this is what is in our plan)
Impact on service delivery	This includes giving people a choice about having smart meter, and providing advice and support on water efficiency (for example, NW offers free repairs for leaking toilets)/ NW has chosen this option because it does not think there is a good reason to ask customers to pay to go further.

Whilst this was an important area of investment, there were others that were more important. Further, several felt that the need for water efficiency was less important in the NW region than in other parts of the country, as this is not a water stressed area and thus did not opt for the higher phasing option on this basis. There was also a sense that the middle phasing option was satisfactory because it would ensure that NW was compliant with Government targets. When thinking about which phasing option they preferred, bill affordability was important with respondents aware that phasing would influence the final bill prices.

Copperleaf Valuations - Participants were asked how much they would be willing to pay to reduce leakage from the water network, specifically reducing leakage from 130 to 100 megalitres per day. They were told that this would take NW from industry average to the top 25% performing companies in the industry. The majority (70%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance.

Pre-Acceptability Part A - All participants in this research were generally concerned about finances, and bill increases.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

LEAKAGE (ESW)

Volume of evidence	High (15 sources)	Divergence of view	Medium	Prioritisation rank High
Quality of evidence	High	Regional differences	Not applicable	

Is reducing leakage a priority for ESW customers relative to other common performance commitments?	**Leakage reduction tends to come out as a high or mid priority when ESW customers are asked what is important to them.** Acceptability and Affordability Testing (Qualitative) (2023) – Six performance commitments (PCs) were discussed, and respondents asked to vote on how important it is that NW / ESW strives to be industry leading in each area on a scale of 1-5. 'Reducing leakage' achieved a mean score of 4.5 from ESW participants (joint first with 'Taste, odour and appearance of tap water). Pre-Acceptability Part A - ESW participants were asked which areas for investment matter the most to them and which required the most investment. 'Metering, encouraging water efficiency and tackling leakage to ensure we have enough water in the future)' ranked 2nd of the 11 areas presented for both questions. Retailer and Non-Household Research (2022) - Participants were asked to look at a list of factors and to allocate 100 "investment coins" across them, to indicate their relative importance. 'Reducing leakage from the network' received the second highest share of coins. ESW WRMP Options Research (2022) - Company-side leak reduction had high support at all stages of the research. Participants were presented with five actions Northumbrian Water could take to help customers and businesses reduce the amount of water they use. The highest rated option was 'company side leak reduction', supported by 86% of participants. This was lower for future customers (77%) and customers in vulnerable circumstances (80%). This research included a MaxDiff exercise. Respondents were shown a set of supply & demand side options and were asked to choose the option they preferred the most and the one they preferred the least. The question was repeated a total of 8 times with different options being shown each time. Scores of the MaxDiff are shares of preference - if all solutions were selected equally, we would see a 7% share of preference for each. The top solution (company-side leak reduction) had a preference score of 13% - which is nearly twice as high as its expected score if all things were equal, thus showing a strong respondent preference for this solution. Scores were significantly lower for non-households and future customers (both 8%). Domestic Tracking (2022-23) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. Rankings for 'Repair leaks (more quickly)' ranged from 3/10 to 7/10 across the period. ESW scores tend to be higher compared to NW scores with scores ranging from 54% - 76%. Water Resources East Customer Engagement (club project) (2021) - Participants were asked which of 10 supply and demand options they would most like to see in WRE's WRMP. Leakage detection and reduction was the highest-ranking option, with 62% of participants including it in their top three most liked solutions. Participants were also asked to choose their top 4 best objectives of the best value plan. 'The most from what we have (reducing leakage, encouraging customers to use less)' was supported by 68% of participants, the second highest rated objective. Ofwat Cost of Living: Wave 3 (2023) - Bill payers were asked what the two most important factors would be if they could pick which water and sewerage company they used. Approximately two in ten (18%) selected 'Fix water pipe leaks in public areas (in roads, not in the home)', placing it 5th of the 7 factors presented. Ofwat and CCW Preferences Research - As part of a pre-task exercise participants were asked what activities they thought a water company should be doing. 'fixing leaks' ranked 5th out of the 12 areas tested. One of the service areas tested within the main research was 'reducing leaks.' Overall, this ranked as 'some importance/impact'. Ofwat and CCW Non-Household Customer Insight Survey (2020) - Participants were asked overall, and taking everything into account, what is important to you as a water customer? 'Leakage control' came in seventh position (out of 12) with 4% of 691 participants choosing it. WaterVoice Views of current customers on water resources (2021) - Participants asked what they would expect their water company to do if they lived in an area where water resources were limited under pressure, and there was a risk in the future of more hosepipe bans and restrictions on water use. Over half of customers expect water companies to fix leaks more quickly. CCW and Ofwat Non-household Customer Insight Survey (2022) - Non-Household customers were asked overall, and taking everything into account, what the most important issue to them, as a water customer, was. 'Leakage control' was a very low priority, with just 4% of participants selecting this option.

<table>
<tr>
<td>Do our customers share our ambition/long-term goal?</td>
<td>
We have evidence that customers want us to be more ambitious in this area.
Acceptability and Affordability Testing (Qualitative) (2023) - Respondents were asked to vote to indicate how they felt about NW / ESW’s level of ambition for reducing leakage. The following information was shared:
<table>
<tr><th>Current service level (2021/22 performance)</th><th>Current performance compared to other companies</th><th>Proposed improved service level</th><th>Proposed performance compared to other companies</th></tr>
<tr><td>71.8 litres per property per day</td><td>Top 25% of companies</td><td>61.6 litres per property per day</td><td>Top 25% of companies</td></tr>
</table>
The majority of respondents thought our ambition was ‘just right’ (62%), however a high minority (33%) felt that were not being ambitious enough.
Defining the Future (2021) - Respondents were asked whether they agreed with fourteen goals ambitious goals under the six themes of our PR19 business plan. One of the goals (tested with NW and ESW participants) was ‘Have the lowest levels of leakage in the country in their water-stressed ESW operating area’ 94% of participants agreed with this goal (91% household / 100% stakeholder and business).
People Panels #3 – Aims and Measures (2022) - Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW’s long-term plan. Reduce the wastage of water through a reduction in leakage received the fifth highest number of stars.
People Panels #4B Long term strategy metrics and ambition (2022) - Participants were asked to vote on how ambitious they want NW/ESW to be regards to the goal: ‘reduce the wastage of water through a reduction in leakage. The majority of Essex and Suffolk panelists wanted to see a more ambitious target. Participants (NW and ESW) went onto participate in a star poll exercise, where they were asked to allocate 25 stars across fifteen measures, placing more stars on measures where they wanted to see the greatest ambition. ‘Reduce the ‘wastage’ of water through reducing leakage’ ranked 1st in Essex and Suffolk.
Water Resources East Customer Engagement (club project) (2021) - Current leakage levels are seen to be too high, but customers agree that a 50% reduction is acceptable. Many respondents spontaneously suggested that 10% leakage would be a pragmatic figure; a significant reduction while appreciating that 0% leakage is not realistic. However, the timeframe (2050) is too far out: 2030 would be better.
</td>
</tr>
<tr>
<td>Have our customers expressed willingness for their charges to increase to fund improvements?</td>
<td>
We do not have strong evidence that customers are willing for their bills to increase to fund reductions in leakage.
Acceptability and Affordability Testing (Qualitative) (2023) - It was consistently felt amongst respondents that metering and reducing leakage (which were tested as a package) were an important area of investment. Many respondents opted for the medium phasing option, which was described as:
<table>
<tr><th></th><th>ESW Medium investment in 2025-30</th></tr>
<tr><td>Description</td><td>Must do</td></tr>
<tr><td>Cost in 2025-30</td><td>£19.44 on bills by 2030 (this is what is in our plan)</td></tr>
<tr><td>Impact on service delivery</td><td>This includes compulsory smart meters, providing advice and support on water efficiency (for example, ESW offers free repairs for leaking toilets) and reducing leakage.

This also includes innovation to reduce water demand from businesses and agriculture.</td></tr>
</table>
Whilst this was an important area of investment, there were others that were more important. There was also a sense that the middle phasing option was satisfactory because it would ensure that ESW was compliant with Government targets. When thinking about which phasing option they preferred, bill affordability was important, with respondents aware that phasing would influence the final bill prices.
Copperleaf Valuations - Participants were asked how much they would be willing to pay to reduce leakage from the water network, specifically reducing leakage from 59 to 46 megalitres per day. They were told that this would take ESW from industry average to the top 25% performing companies in the industry. The majority (70%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance.
Pre-Acceptability Part A - All participants in this research were generally concerned about finances, and bill increases.
Water Resources East Customer Engagement (club project) (2021) - Many felt that all leaks should be fixed, whatever the cost. However, most would be happy for leaks to be addressed only when it would be cost beneficial.
Participants were asked that, assuming their top 4 objectives were implemented, how acceptable would they find it if water bills were increased to deliver these, and how much extra per year would be an acceptable amount to pay. There was widespread willingness to accept bill increases in order to deliver desired objectives: 76% find the prospect acceptable and most felt and increases of up to £1 per week would be acceptable.
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</table>

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

PER CAPITA CONSUMPTION (PCC)

Volume of evidence	Medium (9 sources)	Divergence of view	Low	Prioritisation rank **Low**
Quality of evidence	High	Regional differences	Low	

Is reducing PCC a priority for customers relative to other common performance commitments?	**Our customer research suggests that PCC is a mid-low priority relative to other measures.** Pre-Acceptability Part A (2023) - NW and ESW participants were asked which areas for investment matter the most to them. 'Metering, encouraging water efficiency and tackling leakage to ensure we have enough water in the future' ranked 1st of the 14 areas presented for NW participants and 2nd of the 11 areas presented for ESW participants. Participants were also asked which areas for investment required the most investment. 'Metering, encouraging water efficiency and tackling leakage to ensure we have enough water in the future' ranked 2nd of the 14 areas presented for NW participants and ranked 2nd of the 11 areas presented for ESW participants. NW and ESW WRMP Options Research (2022) - This research included a MaxDiff exercise. Respondents were shown random sets of supply & demand side options and were asked to choose most and least preferred. In NW 'Water saving devices/ behaviours' achieved the second highest score (15%) of the eight measures tested, over the equal share of preference threshold (12.5%). In ESW 'Water saving devices/ behaviours' ranked 7th of 14 measures tested with a score of 8%, just over the 7% equal share of preference threshold. We then asked participants to look at a list of factors within Water, and again to allocate 100 "investment coins" across them, to indicate their relative importance. 'Water efficiency' received the 4th highest share of coins out of 8 areas tested. Water Resources North Customer Engagement (2021) – Participants were asked to take part in two exercises which ranked PCC against 12 other WRMP metrics in terms of importance. PCC ranked 3rd in the workshop exercise and 4th in the points allocation exercise. Participants were asked to rank 14 WRMP options. 'Water Efficiency (providing water saving products)' ranked 2nd of the 14 options presented. WRE Customer Engagement (2022) – Participants were asked which three supply and demand options they would most like to see included in WRE plan. 'Higher water efficiency using incentives and awareness campaigns' was chosen by 35% of participants, ranking 4th out of the 10 options presented and 3rd in terms of demand options (4 presented). Participants were also asked to choose their top 4 best objectives of the best value plan. 'The most from what we have (reducing leakage, encouraging customers to use less)' was supported by 68% of participants, the second highest rated objective.
Do our customers share our ambition/long-term goal?	**The majority of customers do not share our ambitions in this area, compared to our other ambitions PCC receives lower levels of support.** People Panels #3 – Aims and Measures (2022) - Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW's long-term plan. 'Reduce the amount of water used by our customers to improve water resources across our regions' received the ninth highest number of stars - a mid-to-low ranking position. People Panels #4 (2022) - Participants were asked how ambitious they would like NW/ESW to be in several areas including 'Reduce the amount of water used by our customers to improve water resources across our regions'. The majority (26, 51%) wanted to see a target in line with current commitments (Customers use 110 litres per person per day by 2050). Over a third (19, 37%) wanted to see a more ambitious target (Customers use 105 litres per person per day by 2050) and 12% (6) wanted the reduced target (Customers use 118 litres per person per day by 2050). Of the 11 measures presented 'Reduce water usage in regions' ranked 8/14 in terms of numbers voting for the most ambitious target. Panellists went on to repeat the star poll exercise, they had first completed in People Panel #3. 'Reduce water usage in regions' ranked fairly low compared to other areas, 8/11. Defining the Future (2021) - Respondents were provided with an explanation of NWG's 14 'ambitious goals', including 'Have a per capita consumption (PCC) for water use of 118 litres per person per day by 2040' and asked whether they agreed with them. We used a benchmark of 70% to determine a level of overall acceptance, as this has been used previously in acceptability research. Agreement with our goal did not meet this threshold for all groups with the exception on NW households. The NW household score of 73%, although over the threshold, was the lowest of all scores for the 14 goals presented. Water Resources North Customer Engagement (2021) – In their Best Value Plan designs most customers brought PCC targets forward to make them more accountable, tangible and ultimately attainable. Targets mentioned were a reduction of PCC of 20% within 3-5 years or 25% reduction by 2050.
Have our customers expressed willingness for their charges to increase to fund improvements?	**The regional WRMP club projects we participated in suggest customers are wiling for their bills to increase to fund reductions in PCC. However, our own research does not support this suggesting that customers are concerned about finances and unwilling to fund water efficiency initiatives in homes or businesses.** Pre-Acceptability Part A (2023) - All participants in this research were generally concerned about finances, and bill increases. Copperleaf Valuations – NW and ESW participants were asked how much they would be willing to pay to support household customers to reduce consumption from 157.8 to 130 litres per person per day on the basis that if this was achieved NW/ESW would continue to be below industry average because all other companies would be expected to improve too. 77% of participants placed zero coins on the measure. Water Resources North Customer Engagement (2021) - The majority of participants were willing to pay a little more for a number of WRMP options, including for an education campaign to encourage customers to reduce their water use. There was a continuum of response from £3 a month to £10 a month on top of the entire water bill, or £50 a year, or 10-15% per annum. Note: Many customers incorrectly tallied their % increases with monetary values. Equally, given the research was water resource focused, there may have been a propensity to over value, therefore further testing will be required in line with wider business plan objectives later in the process. Water Resources East Customer Engagement (club project) (2021) - There was widespread willingness to accept bill to deliver desired objectives: 76% find the prospect acceptable (12% scoring them 'very acceptable'). In a free text question, most think increases of up to £1 per week would be acceptable: £1 - £25 (28%) or £26 - £54 (29%) pa. Older customers were more willing to pay to deliver objectives. Economically vulnerable customers were the least willing to pay: 35% consider bill increases unacceptable vs 14% of economically stable customers. Note: This level of acceptability reflects a highly informed and engaged sample (and not reflective of uninformed response).

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

UNPLANNED OUTAGE AT A WATER TREATMENT WORKS

Volume of evidence	Medium (6 sources)	Divergence of view	Medium	Asset health (including mains repair, sewer collapses and unplanned outage) **Medium**
Quality of evidence	High	Regional differences	Medium	

Is reducing the risk of an unplanned outage at a water treatment works a priority for customers relative to other common performance commitments?	**For the purposes of this exercise , we have bundled unplanned outage at a water treatment works in with other asset health measures (mains repair and sewer collapses) to understand where they collectively sit as a priority, relative to common PCs. The combined ranking for these three measures is 'medium'.** **We specifically tested unplanned outage against other asset health measures with NHHs in 2022. Reducing unplanned outage received the second lowest share of coins.** Pre-Acceptability Part A (2023) - NW and ESW Participants were asked which areas for investment matter the most to them. ''Maintaining and replacing equipment to make sure it is in good working order and to avoid service failures (asset health)' ranked 5th/14 areas in NW and 3rd/11 areas in ESW. Domestic tracking (Quarters 1-4 2022) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. In the most recent round of research (Q1, 2023) 'Better reliability by replacing infrastructure and doing more maintenance" achieved an average score of 64% ranking second last of 10 priority areas tested in NW and 67% (3rd last) in ESW. People Panels #3 Aims and Measures (2022) - Panellists were asked to rank our five business Areas from most to least important. 'Customer', under which reliability and resilience falls, was the highest-ranking area. Panellists were also asked to rank our seven Themes from most to least important. 'Ensure reliable and resilient services' ranked as the second most important themed. 'Consider the sustainability and resilience of the business', which is also relevant to asset health, ranked lower - 5th out of the 7 Themes tested. Brand values (2020-2022) - Participants were asked to rank four priority areas. Every year the four areas have maintained the same order with 'Top quality water' being voted as the area that matters and prepared for the future in last place. Retailer and Non-Household Research (2022) – Participants were asked to look at a list of factors within 'Water', and to allocate 100 "investment coins" across them, to indicate their relative importance. 'Reducing the chance of a fault at a water treatment works' received the second lowest share of coins.
Do our customers share our ambition/long-term goal?	**No evidence.**
Have our customers expressed willingness for their charges to increase to fund improvements?	**One source suggests customers are not willing for their charges to increase to fund improvements.** Copperleaf Valuations (2023) - Participants were asked how much they would be willing to pay to reduce the chance of a fault at a water treatment works. They were told that across a year, 2.34% of production time is lost and that with investment this would be reduced to 1%. They were told our current performance is lower than industry average and that this investment would put NW/ESW in line with industry average. The majority (79%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

INTERRUPTIONS TO SUPPLY OVER THREE HOURS

Volume of evidence	Medium (10 sources)	Divergence of view	Medium	Prioritisation rank **Medium**
Quality of evidence	High	Regional differences	Not applicable	

Is reducing interruptions to supply over three hours a priority for customers relative to other common performance commitments?	**In our own research we have only asked NHHs were reducing interruptions to supply over three hours sits as a priority relative to other common performance commitments. In this project ‘reducing water supply interruptions that last over three hours’ ranked 5th out of 8 water service areas presented. Other research conducted by Ofwat and CCW shows that a constant water supply is important for customers.** Acceptability and Affordability Testing (Qualitative) (2023) – NHH participants were asked to rank different aspects of service in terms of importance for the day-to-day operation of their business. Aspects were ranked from one to seven, with equal rankings being allowed. The reliability of water supply, in terms of quality and lack of supply interruptions, were the top priorities for both regions. Participants joined breakout groups to discuss which areas of the plan were most important to them. For a significant proportion of NW and ESW respondents, maintaining a reliable supply of water was key due to the frequency of use and the impact an interruption to supply could have. This was also highlighted as important for businesses who relied on a consistent water supply. Six performance commitments (PCs) were discussed, and respondents were asked to vote on how important it is that NW / ESW strives to be industry leading in each area on a scale of 1-5. ‘Unplanned interruptions’ achieved the lowest mean scores for NW (4.2) and ESW (4.3) participants. Retailer and Non-Household Research (2022) - Participants were asked to indicate how important various aspects of NWG’s service were to them. Firstly, they were asked to allocate 100 “investment coins” across three high-level areas, to indicate their relative importance. ‘Water’ received the highest share of coins. We then asked participants to look at a list of factors within Water, and again to allocate 100 “investment coins” across them, to indicate their relative importance ‘*reducing water supply interruptions that last over three hours*’ ranked 5th out of the 8 service areas presented. Ofwat Cost of Living: Wave 3 (2023) - Bill payers were asked what the two most important factors would be if they could pick which water and sewerage company they used. Approximately four in ten (38%) selected ‘Provide a reliable service', placing this attribute 2nd out of the 7 factors presented. Ofwat and CCW Preferences Research (2022) - As part of a pre-task exercise participants were asked what activities they thought a water company should be doing. ‘constant water supply’ ranked 2nd out of the 12 areas tested. One of the service areas tested within the main research was ‘Water supply interruption (3-6 hours).’ Overall reducing this risk of this ranked as ‘high importance/impact’. CCW and Ofwat Non-household Customer Insight Survey (2022) - When asked about what is most important to them as a customer, around half (51%) mentioned a reliable water supply and/or no supply interruptions. This was the highest ranking of all service areas mentioned. Ofwat and CCW Non-Household Customer Insight Survey (2020) - Participants were asked overall, and taking everything into account, what is important to you as a water customer? ‘Reliable water supply/no interruptions in supply’ came in first position with 57% of 991 participants choosing it.
Do our customers share our ambition/long-term goal?	**Our customers support our current commitment, there is potentially an appetite for increased ambition, particularly from NHH customers.** Acceptability and Affordability Testing (Qualitative) (2023) - NHH participants were asked what their business expectations were for future water (and wastewater services for Northumbrian Water respondents) services. They were also asked what they would most like to see improved. In both regions, a reliable water supply service not prone to interruptions was most important. Respondents were then asked to vote to indicate how they felt about NW / ESW’s level of ambition for Water supply interruptions, without warning, for longer than 3 hours. The following information was shared: **Current service level (2021/22 performance)**: 11 minutes 45 seconds per customer; **Current performance compared to other companies**: Mid-table; **Proposed improved service level**: 4 minutes per customer; **Proposed performance compared to other companies**: Top 25% of companies The majority of respondents thought our ambition was ‘just right’ with agreement higher across the board for NW (78%) than ESW (67%). People Panels #4B Long term strategy metrics and ambition (2022) - Participants were asked to vote on how ambitious they want NW/ESW to be in regard to ‘reducing water interruptions that last longer than three hours’. The majority of panelists (69%) wanted to see a target in line with our current commitment; ‘Average number of minutes lost per property - 2 minutes by 2050’. Panellists went on to complete a star poll exercise, where they were asked to allocate 25 stars across fifteen measures, placing more stars on measures where they wanted to see the greatest ambition. ‘Reduce water interruptions for continuous supply’ ranked 7th out of 11 measures presented. People Panels #3 Aims and Measures (2022) - Panellists completed a star poll exercise, where they were asked to allocate 25 stars across five measures, placing more stars on measures where they wanted to see the greatest ambition. ‘Ensure a continuous supply of water to promote customer confidence and trust’ ranked 3rd out of 11 measures presented.

Have our customers expressed willingness for their charges to increase to fund improvements?

We do not have strong evidence that customers are willing for their bills to increase to fund improvements.

Affordability and Acceptability Research (qualitative) (2023) - NW and ESW Participants discussed investment in asset health, which was described as 'Replacing and refurbishing equipment like pipes and treatment works so it continues to provide a reliable service to customers.' We explained the benefits of different phasing options, one of which was fewer supply interruptions, and asked which was preferred. A notable number of respondents were satisfied that the medium phasing option (shown below) would enable NW/ESW to meet statutory obligations. It was felt that anything above this was not necessary and would put a further burden on customers by increasing bills further.

	NW Medium investment in 2025-30	ESW Medium investment in 2025-30
Description	Do what is needed in order to maintain service levels until 2030	Do what is needed in order to maintain service levels until 2030
Cost in 2025-30	£6.24 on bills by 2030 (in must do and proposed plans)	£5.48 on bills by 2030 (in must do and proposed plans)
Impact on service delivery	Fewer pollution incidents and supply interruptions – with fewer failures and more resilience to unexpected events. NW can afford to tackle more risks to water quality.	Fewer supply interruptions – with fewer failures and more resilience to unexpected events. ESW can afford to tackle more risks to water quality.

Participants in ESW were also shown three investment phasing options for reducing the risk of water supply interruptions. this was felt to be an important priority as there was an acknowledgement that Essex & Suffolk Water is in a water stressed area. Related to the high importance of this investment, a notable number of respondents felt that a higher phasing option was necessary, which was:

	ESW Medium investment in 2025-30
Description	Do more now and get ahead of the target
Cost in 2025-30	No specific cost higher, but this would be higher than the medium investment option shared (£22.26)
Impact on service delivery	ESW are currently designing a new reservoir to reduce the risk of interruption to supply. This work could start earlier than planned to help to protect the environment. ESW will need to make decisions in 2023 about future needs of customers. Delaying investment could make this more difficult.

Copperleaf Valuations - Participants were asked how much they would be willing to pay to reduce water supply interruptions that last over three hours, specifically to reduce the average time per property off supply over three hours from 4 minutes and 25 seconds to 2 minutes 30 seconds. They were told that this would take NW to an industry leading position. The majority (83%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance.

Pre-Acceptability Part A - All participants in this research were generally concerned about finances, and bill increases.

LINE OF SIGHT – CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

BUSINESS DEMAND

Volume of evidence	Medium (4 sources)	Divergence of view	No evidence	Prioritisation rank **Low**
Quality of evidence	Low (HH customers only)	Regional differences	No evidence	

Is reducing business demand a priority for customers relative to other common performance commitments?	**Two external sources suggest water efficiency is not a priority to business customers** WReN Customer Engagement (2021) – Participants were asked to rank 14 WRMP options. 'Commercial Water Efficiency' ranked 7th of the 14 options presented. Ofwat and CCW Non-Household Customer Insight Survey (2020) - Participants were asked overall, and taking everything into account, what is important to you as a water customer? 'Water efficiency' came in fifth position (out of 12) with 11% of 691 participants choosing it. Ofwat and CCW Non-Household Customer Insight Survey (2020) - Participants were asked overall, and taking everything into account, what is important to you as a water customer? 'Water efficiency' came in third position (out of 6) with 25% of 991 participants choosing it.
Do our customers share our ambition/long-term goal?	No evidence.
Have our customers expressed willingness for their charges to increase to fund improvements?	**One source suggests customers are not willing for their charges to increase to fund improvements.** Copperleaf Valuations – NW and ESW household participants were asked how much they would be willing to pay to support business customers to reduce demand for water by 9% 82% placed zero coins on this measure.

WASTEWATER

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

INTERNAL SEWER FLOODING

Volume of evidence	High (13 sources)	Divergence of view	Low	Prioritisation rank **High**
Quality of evidence	High	Regional differences	NA	

Is reducing internal sewer flooding a priority for customers relative to other common performance commitments?	**Our evidence on the priority customers place on reducing internal sewer flooding suggests this is a high priority. Our regional WRMP research, and external research conducted by CCW and Ofwat suggest this is a high priority.** Acceptability and Affordability Testing (Qualitative) (2023) – Six performance commitments (PCs) were discussed, and respondents asked to vote on how important it is that NW / ESW strives to be industry leading in each area on a scale of 1-5. 'Internal sewer flooding' achieved a mean score of 4.7. The highest of all PCs (joint with 'pollution of waters'). People Panels #3 Aims and Measures - Participants worked through several ranking exercises. They began by ranking our Themes and Areas from most to least important. 'Customer', under which reliability and resilience falls, was the highest-ranking Area. 'Ensure reliable and resilient services' ranked as the second most important theme. Panellists went on to rank seven Customer measures from most important to least important. Eradicate sewer flooding in the home ranked 5th/7 behind four of the water measures tested. Finally, panellists took part in two star ranking exercises, where they were asked to allocate 25 stars across 15 measures, allocating the most stars to the measures they felt to be the most important. In the first exercise participants could give a maximum of three stars to each measure and choose to place more stars on the measures they considered most important. 'Eradicate sewer flooding in the home…' ranked 10th out of 15 measures tested. In the second star poll vote, panellists were asked to place their 25 'stars' across the five measures they considered to be most important; they could add up to 14 stars to each measure. 'Eradicate sewer flooding in the home...' ranked 7th out of 15 measures tested. Domestic tracking (Quarters 1-4 2022) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of ten areas should be our business plan priorities. In all four rounds of 2022 research 'Improve service (sewer flooding, customer service etc.)" achieved the lowest average score of all areas tested. Retailer and Non-Household Research (2022) - We asked NHH participants to allocate 100 "investment coins" across four high-level areas, to indicate their relative importance. The description of 'wastewater' included external, internal, and repeat flooding and received the lowest allocation of coins. We then asked NW participants to look at different flooding measures, within the theme of 'Wastewater', and to allocate 100 "investment coins" across them, to indicate their relative importance. 'Reducing sewer flooding inside customer properties' received the second highest share of coins. WReN Customer Engagement (2021) - Participants were asked to indicate which of the DWMP options they believed water companies should work hardest to prevent. Indoor flooding was selected by 45% of NW participants, ranking in a mid- to high- position. Participants then went on to rank the options in terms of what the DWMP should focus on 'indoor flooding' was the second highest ranking option, behind 'Flooding of Infrastructure (like major roads, hospitals)'. Ofwat and CCW Preferences Research (2022) – Participants in this research were asked to rank 24 service areas as either high, medium or low priority in terms of what mattered most to them. 'Internal flooding' ranked as high overall importance. The reasons participants gave were; an internal sewer flood would be highly inconvenient, significant health concerns around the risk of sewage in homes, concern about repeat events and the high visibility of failure. CCW and Ofwat Customer spotlight: People's views and experiences of water (2022) - Participants were asked to think about their water company and to rate the ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Prevent sewage entering people's homes' ranked 2nd of the 10 measures tested.
Do our customers share our ambition/long-term goal?	**Customers support our ambitious target to eradicate internal sewer flooding.** Acceptability and Affordability Testing (Qualitative) (2023) - Respondents were asked to vote to indicate how they felt about our level of ambition for reducing internal sewer flooding. The following information was shared: **Current service level (2021/22 performance):** 1.84 sewer flooding instances per 10,000 properties **Current performance compared to other companies:** Mid-table **Proposed improved service level:** 1.16 sewer flooding instances per 10,000 properties **Proposed performance compared to other companies:** Top 25% of companies The majority of respondents thought our ambition was 'just right' (78%). Defining the conversation - 92% of participants agreed with our long-term ambitious goal to eradicate sewer flooding in the home as a result of our assets and operations. Support was 100% from household participants and 79% from stakeholders and businesses. This was the highest level of agreement for the ambitious goals tested. People Panels #3 – Aims and Measures (2022) - Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW's long-term plan. Eradicate sewer flooding in the home as a result of our assets and operations received the sixth lowest number of stars. People Panels #4A and #4B Long term strategy metrics and ambition - Participants were asked how ambitious they would like NW/ESW to be in regard to our goal to 'eradicate sewer flooding in the home as a result of our assets and operations.' Three options (reduced target, current target and more ambitious target) were presented. The majority (31, 61%) supported the more ambitious target - Zero flooding incidents in homes by 2035 and maintained to 2050. Panelists went on to repeat the star poll exercise, they had first completed in People Panel #3, this time considering where they wanted to see the greatest ambition. 'Eradicate internal sewer flooding 'was amongst the highest ranked measures.

Have our customers expressed willingness for their charges to increase to fund improvements?	**Customers have not indicated they are willing to fund improvements through increased bills.** Copperleaf Valuations - Participants were asked how much they would be willing to pay to reduce incidents of internal sewer flooding from 260 to 160 per year. They were told that this would take NW from better than industry average to the top 25% performing companies in the industry. The majority (65%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance. Pre-Acceptability Part A - All participants in this research were generally concerned about finances, and bill increases. DWMP Consultation Responses - The consultation focused on four options for ending the use of storm overflows and reducing the risk of internal sewer flooding. Option 4, a nature-based solution which included a 90% reduced risk of internal sewer flooding for at risk properties, was the most preferred option. However, when asked specifically about affordability participants felt option 1 (the cheapest approach) which included no reduced risk of internal sewer flooding for at risk properties, was the most affordable option, given the current cost of living crisis. Option 1 was presented as a total increase to average bills of £9 by 2030, whilst Option 4 was presented as a £34 increase. Draft Drainage and Wastewater Management Plan - Options Research (second approach) (2022) - The same four options as presented in the consultation were shown to a sample of household customers. Option 4, which has the highest reduction in internal sewer flooding, was the preferred option overall. A small number of participants stated an inability to afford current bills and questioned what support would be made available to them if any bill increases should occur. Despite having concerns about costs. Participants also spoke of a moral and ethical obligation to care for the environment by making sustainable choices to care for future generations.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

EXTERNAL SEWER FLOODING

Volume of evidence	Medium (9 sources)	Divergence of view	High	Prioritisation rank **High**
Quality of evidence	High	Regional differences	NA	

Is reducing external sewer flooding a priority for customers relative to other common performance commitments?	**Our evidence on customer support for reducing the risk of external sewer flooding is mixed and inconclusive.** Acceptability and Affordability Testing (Qualitative) (2023) – Six performance commitments (PCs) were discussed, and respondents asked to vote on how important it is that NW / ESW strives to be industry leading in each area on a scale of 1-5. 'External sewer flooding' achieved a mean score of 4.4 from NW participants. The second lowest scores of all PCs. People Panels #3 Aims and Measures - Participants worked through several ranking exercises. They began by ranking our Themes and Areas from most to least important. 'Customer', under which reliability and resilience falls, was the highest-ranking Area. 'Ensure reliable and resilient services' ranked as the second most important theme. Domestic tracking (Quarters 1-4 2022) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. In all four rounds of 2022 research 'Improve service (sewer flooding, customer service etc.)" achieved the lowest average score of all areas tested. Ofwat and CCW Preferences Research (2022) – Participants in this research were asked to rank 24 service areas as either high, medium or low priority in terms of what mattered most to them. 'External flooding' ranked as high overall importance. The reasons participants gave were inconvenience, health concerns, the likelihood of it happening and visibility of an event. Retailer and Non-Household Research (2022) - We asked NHH participants to allocate 100 "investment coins" across four high-level areas, to indicate their relative importance. The description of 'wastewater' included external, internal and repeat flooding and received the lowest allocation of coins. We then asked NW participants to look at different flooding measures, within the theme of 'Wastewater', and to allocate 100 "investment coins" across them, to indicate their relative importance. 'Reducing sewer flooding on the outside of customer properties' received the highest share of coins. WReN Customer Engagement (2021) - Participants were asked to indicate which of the DWMP options they believed water companies should work hardest to prevent. Outdoor flooding was selected by 39% of NW participants, ranking in a mid- to bottom- position. Participants then went on to rank the options in terms of what the DWMP should focus on 'outdoor flooding' ranked 5th out of the 11 options presented.
Do our customers share our ambition/long-term goal?	**Customers support a reduction in external sewer flooding.** Acceptability and Affordability Testing (Qualitative) (2023) - Respondents were asked to vote to indicate how they felt about our level of ambition for reducing external sewer flooding. The following information was shared: **Current service level (2021/22 performance):** 26.64 sewer flooding instances per 10,000 properties **Current performance compared to other companies:** Bottom 50% of companies **Proposed improved service level:** 16.03 sewer flooding instances per 10,000 properties **Proposed performance compared to other companies:** Top 50% of companies The majority of respondents thought our ambition was 'just right' (67%).
Have our customers expressed willingness for their charges to increase to fund improvements?	**Customers have not indicated they are not willing to fund improvements through increased bills.** Copperleaf Valuations - Participants were asked how much they would be willing to pay to reduce incidents of external sewer flooding from 3,000 to 2,400 per year. They were told that this would take NW from worse than industry average to moving towards average. The majority (64%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance. Pre-Acceptability Part A - All participants in this research were generally concerned about finances, and bill increases. Pre-Acceptability Part B - Participants were told that we could accelerate our rate of progress and bring external sewer flooding incidents down, if customers were willing for their bill to increase by £1.88. It was made clear that without additional investment external sewer flooding incidents will decline at a slower rate. Most participants felt that we should continue at our current rate of work rather than investing more. This was mostly due to cost implications. This differed for the Young People Panel (non-bill payers) who thought the work should be accelerated.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

DISCHARGE PERMIT COMPLIANCE

Volume of evidence	Medium (5 sources)	Divergence of view	Insufficient evidence	Prioritisation rank **Medium**
Quality of evidence	Low	Regional differences	NA	

Is discharge permit compliance a priority for customers relative to other common performance commitments?	**We have not directly asked our customers how important discharge compliance is, relative to other measures. One source of evidence from CCW and Ofwat is available (2022), which suggests that discharge compliance was taken on trust – i.e. the mandate of water companies to manage and not seen as a high priority.** Ofwat and CCW Preferences Research (2022) - This research explored what matters most to consumers when it comes to water and sewerage services. Discharge compliance was taken on trust – i.e. the mandate of water companies to manage and not seen as a high priority. Ofwat Cost of Living: Wave 3 (2023) - Bill payers were asked what the two most important factors would be if they could pick which water and sewerage company they used. Approximately three in ten (27%) selected 'Take away wastewater and sewage and deal with it responsibly', placing 4th of the 7 factors presented. CCW Public Views of the Water Environment (2021) - Participants were asked to rank the priorities that water companies have to balance. On average, future customers placed 'Managing the environmental impact of what they do' as the second priority for companies, whilst current customers placed it fourth, on average.
Do our customers share our ambition/long-term goal?	**Our defining the future research (2021) suggests that customers support our ambitious goal to have zero pollutions as a result of our assets and operations.** Defining the Future (2021) - Respondents were provided with an explanation of NWG's 'ambitious goals' and asked whether or not they agreed with them. Fourteen goals were presented under the six themes of our PR19 business plan. Agreement with our long-term ambitious goal 'Have zero pollutions as a result of their assets and operations' was high for NW and ESW participants.
Have our customers expressed willingness for their charges to increase to fund improvements?	**We have no evidence that customers would support a bill increase to improve discharge compliance.** Copperleaf Valuations - The majority (75%) of participants placed zero coins on measure which could relate to discharge permit compliance

Measure	% of 0s
Reducing the chance of a fault at a water treatment works	79%
Managing river water quality	70%
Reduce the number of pollution incidents caused by NW	66%
Ensuring the treated wastewater that is returned to rivers and seas is sufficiently clean	65%
Reducing the number of major and significant pollution incidents caused by NW	65%

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

SEWER COLLAPSES

Volume of evidence	Low (2 sources)	Divergence of view	Insufficient evidence	Asset health (including mains repair, sewer collapses and unplanned outage) **Medium**
Quality of evidence	High	Regional differences	NA	

Is reducing sewer collapses a priority for customers relative to other common performance commitments?	**For the purposes of this exercise , we have bundled sewer collapses in with other asset health measures (mains repair and unplanned outage) to understand where they collectively sit as a priority, relative to common PCs. The combined ranking for these three measures is 'medium'.** **We specifically tested 'sewer collapses' against other asset health measures with NHHs in 2022. Reducing the number of sewer collapses ranked 2nd out of the three measures tested.** Pre-Acceptability Part A (2023) - NW and ESW Participants were asked which areas for investment matter the most to them. ''Maintaining and replacing equipment to make sure it is in good working order and to avoid service failures (asset health)' ranked 5th/14 areas in NW and 3rd/11 areas in ESW. Domestic tracking (Quarters 1-4 2022) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. In the most recent round of research (Q1, 2023) 'Better reliability by replacing infrastructure and doing more maintenance" achieved an average score of 64% ranking second last of 10 priority areas tested in NW and 67% (3rd last) in ESW. Retailer and Non-Household Research (2022) - Participants were asked to allocate 100 "investment coins" across three high-level areas (water, wastewater and asset health), to indicate their relative importance. The description of 'asset health' included 'reducing the number of sewer collapses'. Asset health received the lowest number of coins in ESW, and the second lowest number of coins in NW. Participants then allocated 100 coins to three factors within Asset Health to indicate their relative importance. Reducing the number of sewer collapses ranked 2nd out of the three measures tested. People Panels #3 Aims and Measures (2022) - Panellists were asked to rank our five business Areas from most to least important. 'Customer', under which reliability and resilience falls, was the highest-ranking area. Panellists were also asked to rank our seven Themes from most to least important. 'Ensure reliable and resilient services' ranked as the second most important themed. 'Consider the sustainability and resilience of the business', which is also relevant to asset health, ranked lower - 5th out of the 7 Themes tested. Brand values (2020-2022) - Participants were asked to rank four priority areas. Every year the four areas have maintained the same order with 'Top quality water' being voted as the area that matters and prepared for the future in last place.
Do our customers share our ambition/long-term goal?	**No evidence.**
Have our customers expressed willingness for their charges to increase to fund improvements?	**We do not have evidence that customers support a bill increase to reduce sewer collapses** Copperleaf Valuations - Participants were asked how much they would be willing to pay to reduce the numbers of sewers that collapse from 260 to 200 per year. They were told that this would take NW from better than industry average to the top 25% of companies. The majority (65%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

POLLUTIONS (SERIOUS AND ALL)

Volume of evidence	Medium (14 sources)	Divergence of view	Low	Prioritisation rank **High**
Quality of evidence	High	Regional differences	NA	

Is reducing pollutions a priority for customers relative to other common performance commitments?	**Reducing pollution consistently ranks as a high priority to customers compared to other measures.** Acceptability and Affordability Testing (Qualitative) (2023) – Six performance commitments (PCs) were discussed, and respondents asked to vote on how important it is that NW / ESW strives to be industry leading in each area on a scale of 1-5. 'Pollution of waters' achieved a mean score of 4.7. The highest of all PCs (joint with internal sewer flooding). People Panels #3 Aims and Measures May (2022) - Panellists were asked to rank four environmental measures from most to least important. 'Reduce instances of pollution to protect and preserve our environment', was the highest-ranking area. Panellists went on to share 25 stars over 15 measures, placing more stars on the measures which they viewed as most important for inclusion in our long-term plan. 'Reduce instances of pollution to protect and preserve our environment' ranked as the most important. Retailer and Non-Household Research (2022) - We asked participants to look at a list of environmental factors and to allocate 100 "investment coins" across them, to indicate their relative importance. Reducing the number of pollution incidents caused by NW/ESW received the highest share of coins of the 10 factors presented. WReN Customer Engagement (2021) - Participants were asked to indicate which of the DWMP options they believed water companies should work hardest to prevent. Three issues relating to pollution were tested; Pollution leading to dead fish in rivers (2/11 61%), Potential to make people and animals who go in river and sea water poorly (4/11 51%) and water company fines for pollution or poor river and bathing water quality (10/11 38%). Participants then went on to rank the 11 options in terms of what the DWMP should focus on; Pollution leading to dead fish in rivers ranked in 2nd place, potential to make people and animals who go in river and sea water poorly ranked in 4th place and water company fines for pollution or poor river and bathing water quality ranked in 8th place. Value of Water (2021) - Participants were asked to rate the importance of four environmental issues using a scale of 0 to 10, where 0 is not at all important and 10 is very important. 70% gave tackling problems with sewage pollution a score between 8-10. DWMP: Phase 1 customer research (2020) - Two ranking exercises suggest that reducing pollution is important to customers. In the first exercise 'pollution leading to dead fish in rivers' was ranked amongst the most concerning issues we may face in the future. In the second participants were given a list of issues to rank by which were most important for NW to address. 'Pollution from combined sewer overflows' ranked in the top tier. CCW Perceptions and Trust in Water Companies (2023) - When asked what water companies could do to improve trust 'stop/reduce pollution of rivers/seas' was the most cited action (16%). Ofwat and CCW Preferences Research (2022) - Pollution incidents ranked as 'some importance/impact' overall. CCW Awareness and Perceptions of River Water Quality (2022) - Participants were shown a list of 10 environmental issues affecting the UK and were asked to pick the three which concerned them the most. Concern about river pollution from sewage ranked 4th. Defra Ocean Literacy in England and Wales (2021) - Participants were asked to select the three most important issues affecting the marine environment in England/Wales to them. Controls on pollution from industry and/or agriculture ranked as the second most important issue (42%). CCW WaterVoice Window 4 (2020) - Participants were asked what the most important environmental issues facing Britain were. Water pollution ranked lower than other issues with 9% stating was amongst their two or three most important issues.

<table>
<tr>
<td>Do our customers share our ambition/long-term goal?</td>
<td>
Customers agree with our long-term ambitious goal to have zero pollutions as a result of our assets and operations. We have some evidence that customers want us to achieve this by 2035, maintained to 2050.
<u>Acceptability and Affordability Testing (Qualitative) (2023)</u> - Respondents were asked to vote to indicate how they felt about our level of ambition for reducing pollution of waters. The following information was shared:
<table>
<tr><th>Current service level (2021/22 performance)</th><th>Current performance compared to other companies</th><th>Proposed improved service level</th><th>Proposed performance compared to other companies</th></tr>
<tr><td>22.98 pollution incidents per 10,000km of sewers</td><td>Top 25% of companies</td><td>13.65 pollution incidents per 10,000km of sewers</td><td>Top 25% of companies</td></tr>
</table>
This was the only performance commitment where the majority of respondents didn’t think the level of ambition was ‘just right’, with 63% of NW household respondents and 54% of NW respondents overall believing it to be ‘not ambitious enough’.
<u>People Panels #3 – Aims and Measures (2022) -</u> Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW’s long-term plan. Reduce instances of pollution to protect and preserve our environment received the most stars.
<u>People Panels #4 (2022)</u> - The majority of participants (26, 50%) wanted us to pursue a more ambitious target of zero pollution incidents by 2035 and maintain to 2050. A high minority (23, 44%) wanted to see a target in line with our current commitment (zero pollution incidents by 2040 and maintain to 2050).
Panelists repeated the star poll exercise, they had first completed in People Panel #3, this time considering where they wanted to see the greatest ambition. ‘Reduce pollution incidents’ was the highest ranked measure.
<u>Defining the Future (2021)</u> - 90% of participants in NW and 88% in ESW agreed with our long-term ambitious goal to have zero pollutions as a result of our assets and operations.
<u>CCW Public views on the water environment (2021)</u> - Participants were asked to state the level of action they would like water companies to take. ‘Pollution of rivers, lakes and the sea’ achieved the third highest number of votes for the highest level ‘going further, which entailed extensive investment, modernising the sewer system so that pollution incidents are very rare even when there is heavy rain. Work with polluters and potential future polluters to prevent pollution, even where this does not directly affect the water company’s operations.
</td>
</tr>
<tr>
<td>Have our customers expressed willingness for their charges to increase to fund improvements?</td>
<td>
We have no evidence that customers would support a bill increase to reduce pollutions.
<u>Affordability and Acceptability Research (qualitative) (2023)</u> - NW and ESW Participants discussed investment in asset health, which was described as ‘Replacing and refurbishing equipment like pipes and treatment works so it continues to provide a reliable service to customers.’ We explained the benefits of different phasing options and asked which was preferred. In NW one of the benefits was fewer pollution incidents. A notable number of respondents were satisfied with the medium phasing option (shown below). It was felt that anything above this was not necessary and would put a further burden on customers by increasing bills further.
<table>
<tr><th></th><th>NW Medium investment in 2025-30</th></tr>
<tr><td>Description</td><td>Do what is needed in order to maintain service levels until 2030</td></tr>
<tr><td>Cost in 2025-30</td><td>£6.24 on bills by 2030 (in must do and proposed plans)</td></tr>
<tr><td>Impact on service delivery</td><td>Fewer pollution incidents and supply interruptions – with fewer failures and more resilience to unexpected events.
NW can afford to tackle more risks to water quality.</td></tr>
</table>
<u>Copperleaf Valuations</u> - Participants were asked how much they would be willing to pay to reduce pollution incidents from 56 to 25 per year. They were told that this would take NW from the top 25% performing companies in the industry to industry leading. The majority (69%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance.
</td>
</tr>
</table>

ENVIRONMENT

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

STORM OVERFLOWS

Volume of evidence	Medium (8 sources)	Divergence of view	Medium	Prioritisation rank **Medium**
Quality of evidence	High	Regional differences	NA	

Is reducing the use of storm overflows a priority for customers relative to other common performance commitments?	**In 2023 we asked NW household customers to rank how much investing in storm overflows matter to them, relative to 14 other investment areas. Tackling storm overflows ranked 6th out of the 14 areas presented, placing it as a mid-level priority compared to other service areas. In 2022 we asked non-household participants to indicate the relative importance of nine environmental factors. 'Reducing the number of times NW spill heavily diluted wastewater into rivers and seas during heavy rainfall' ranked as 5th out of the 9 factors tested.** **CCW and Ofwat research paints a mixed picture with reducing the impact of storm overflows ranking as a low priority in Ofwat and CCW Preferences Research (2022) and a higher priority in CCW and Ofwat Customer spotlight: People's views and experiences of water (2022).** Pre-Acceptability Part A (2023) – NW Participants were asked which three of 14 areas for investment matter the most to them. 'Tackling storm overflows which release heavily diluted wastewater into rivers and seas' ranked 6th out of 14 areas presented with 15 of 56 participants selecting it. Retailer and Non-Household Research (2022) - In the online community, participants were asked to look at a list of nine environmental factors and to allocate 100 "investment coins" across them, to indicate their relative importance. 'Reducing the number of times NW spill heavily diluted wastewater into rivers and seas during heavy rainfall' received an average number of 16 coins from the 31 non-household participants who took part. This ranks as 5th out of the 9 factors tested. Ofwat and CCW Preferences Research (2022) – Participants in this research were asked to rank 24 service areas as either high, medium or low priority in terms of what mattered most to them. Storm overflows ranked as 'lower importance/impact.' Participants did not feel directly affected by storm overflows, although some recognised this could have a knock-on impact on health through the environment and contamination of water supply. Using a storm overflow was felt to be a response to severe weather events but not a constant. Generally, the use of storm overflows was seen as being outside of water company control since they are perceived to be weather, not network, related. It was difficult for participants to conceive how storm overflows had an immediate, direct impact on people's lives although people felt they were important as a means of controlling flooding and maintaining the environment. CCW and Ofwat Customer spotlight: People's views and experiences of water (2022) - Participants were asked to think about their water company and to rate the ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Prevent sewage entering rivers, streams, and the sea' ranked 3rd of the 10 measures tested.
Do our customers share our ambition/long-term goal?	**In our Pre-Acceptability Part B research we explained that our preferred option would be to phase the reduced use of storm overflows; half in the 2025-30 business planning period and half in the 2030-35 period. Participants' responses were mixed, with similar numbers of respondents preferring to push back on investment to 2030 (48%) or to invest now (42%).** Affordability and Acceptability Research (Qualitative) (2023) - Generally, when discussing the enhancements and phasing, the majority of respondents opted for an increase in bills starting sooner, spreading increases across different generations of bill-payers (73% NW, 70% ESW). The lack of appetite to push investment down the line related to the importance of not to saving problems up for the future. There was an appetite for a greater level of ambition (paying more sooner) for: - Performance in leakage and pollution - Higher phasing options for storm overflows and asset health. Pre-Acceptability Phase B (2023): Participants were informed that the government has told water companies that must reduce the average number of spills per storm overflow in environmentally sensitive areas. The choice presented to respondents concerned the timing of the plan. It was explained that NWG's preferred option would be to undertake the work in phased approach, half in the 2025-30 business planning period and half in the 2030-35- time frame. The risk that was explained to respondents was that, whilst delaying the work would lower bill increases for 2025-30, it would increase the possibility that statutory obligations may not be met. The results were mixed, with a similar number of respondents preferring to push back on investment to 2030 (48%) for storm overflows, or to invest now (42%).

Have our customers expressed willingness for their charges to increase to fund improvements?	**In 2022 CCW found support for bill increases to reduce the use on storm overflows, however this research did not specify costs or other details to participants. Our DWMP research found a preference for the cheapest option presented (mainly concrete tanks) on affordability grounds but a nature-based approach for the benefit of communities and the environment.**

Acceptability and Affordability Testing (Qualitative) (2023) - This area of investment was felt to be of paramount importance by household respondents. Underpinning this was a sense of the environmental importance of minimising storm overflow spills. The higher phasing option (as below) was the often the most preferred

	NW High investment in 2025-30
Description	Going further
Cost in 2025-30	£50.76 on bills by 2030 (this is what is in our plan)
Impact on service delivery	Tackles 310 storm overflows – i.e. everything Northumbrian Water must do by 2035, and all bathing waters. Converts 50 projects to green solutions like ponds to store the excess water.

Several noted the potential benefit to future generations of addressing the reduction in storm overflow use as quickly as possible. For this reason, they were willing to accept the bill impact associated with the higher investment option. For several others, there was concern that the higher phasing option was not realistic and if targets were not met in the PR24 period, customers would be required to pay the required bill increases plus a further higher value for work not yet carried out.

Pre-Acceptability Part A (2023) – NW Participants were asked which areas require the most investment. 'Tackling storm overflows which release heavily diluted wastewater into rivers and seas' ranked 3rd out of 14 areas presented.

Pre-Acceptability Part B (2023) - Nine potential investment areas were discussed with NW participants. One of these was storm overflows. The costs shared were an average annual increase of £31.48. Overall, the results were mixed, with a similar number of respondents preferring to push back on investment to 2030 (48%) for storm overflows, or to invest now (42%).

Deliberative Research into Complex Bill Drivers for 2025-30 (2022) - Two options were proposed to participants to reduce the use of storm overflows:

	Total average increase to bills by 2030	Total average increase to bills by 2045
Engineering solutions: This option is the cheapest way to end the use of storm overflows. It will involve building concrete tanks underground to temporarily store rainwater.	£9	£49
Nature-based solutions: This option requires more investment and takes longer but would be better for the environment. It will involve using natural solutions, where possible, such as ponds, wetlands, swales, and planters, to store rainwater.	£18	£123

A hybrid approach was preferred by many participants, taking elements of each of the approaches and ultimately creating a lower-cost, nature-based solution.

Draft DWMP Options Research (2022) - Participants in the in-house customer and employee surveys were asked to rate how affordable they would find four storm overflow reduction options, if it were added to their bill from 2025. Option 1 (the cheapest option, mainly concrete tanks) ranked as the most affordable option and option 4 (the most expensive option, natural solutions) the least for both parties. Participants noted that they preferred nature-based options and wished these were more affordable.

CCW Awareness and Perceptions of River Water Quality (2022) – Participants were asked 'in principle, would you be prepared to pay more on your water bill to help reduce the need to use storm overflows which put sewage into rivers, the sea etc.?' In principle, 58% would pay more on their water bill to support investment to reduce the need to use storm overflows, subject to the detail and cost. 31% would not be prepared to pay more, stating that the cost/detail would make no difference to their response. Support for this proposition rose amongst those aware of storm overflows (64%) and those who have visited a river either locally (64%) or on holiday (66%). Amongst those unaware of storm overflows, half (50%) would still support this in principle.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

GREENHOUSE GASES

Volume of evidence	High (16 sources)	Divergence of view	Low	Prioritisation rank **Low**
Quality of evidence	High	Regional differences	High	

Is reducing greenhouse gases a priority for customers relative to other common performance commitments?	**Our evidence suggests reducing greenhouse gases is a medium to low priority for household customers.** Acceptability and Affordability Testing (Qualitative) (2023) - At the beginning of the workshops, respondents were asked to take part in a series of polls, designed to provide a contextual understanding of the discussions that followed. The first question was 'on a scale of one to five, how concerned do you feel about the impact of climate change in the UK'. Overall, this received a mean score of 3.8 for NW and 4.0 for ESW. Concern was lowest amongst NW non-household respondents (3.5) and highest amongst ESW household and non-household respondents (4.1). In the fourth poll participants were asked how concerned they were about their own / their business' carbon footprint. This question received the lowest scores of all the polls, the overall mean score in each region was 3.0. Notably, concern was the lowest amongst future customers (2.8 NW and 2.6 ESW). Participants joined breakout groups to discuss which areas of the plan were most important to them. Several NW respondents questioned the legitimacy of predictions concerning the impact of climate change, upon which some of the proposed actions within the plans are based. Pre-Acceptability Part A - Participants ranked *14* investment areas by which 'mattered most to them'. 'Investment to reduce carbon emissions and meet net zero' ranked 10th out of 14 investment areas tested in NW and last out of 11 investment areas tested in ESW. People Panels #3 Aims and Measures *(2022)* - Panellists were asked to rank four environment measures from most important to least important. 'Be leading in the sustainable use of natural resources and become carbon neutral' ranked in second place. Panellists were *then* asked to *participate in two exercises to allocate* 25 'stars' across 15 measures; giving a *more* stars to the measures they considered most important. 'Be leading in the sustainable use of natural resources and become carbon neutral' ranked 6/15 *in the first exercise and* 5/15 *in the second.* Domestic tracking (Quarters 1-4 2022) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. In the most recent round of research (Q4, 2022) ''Reduce emissions and adapt to climate change" achieved an average score of 69% ranking 6th out of 10 priority areas tested. In all 2022 rounds 'Reduce emissions and adapt to climate change' achieves a higher percentage score from ESW participants compared to NW participants, with importance increasing quarter-on-quarter in ESW. Brand values (2020-2022) - Participants were asked to rank four priority areas. Every year the four areas have maintained the same order with 'Top quality water' being voted as the area that matters and prepared for the future in last place. Water Resources North Customer Engagement *(2021)* - Customers and citizens were asked to take part in two exercises rank*ing* WRMP metrics *from most to lest important*. 'Carbon' ranked 7th out of the 12 metrics tested. Ofwat and CCW Preferences Research (2022) - This research explored 24 service areas to understand what matters most to consumers when it comes to water and sewerage services. 'Carbon' ranked as 'some importance/impact'. Whist participants understood that reducing carbon emissions is key to managing climate change this was not an objective that felt specific to water companies, making it difficult to rank highly. It was felt that carbon reduction would have little impact on water consumers in the short-term, there no immediate health benefits to carbon reduction. CCW and Ofwat Customer spotlight: People's views and experiences of water (2022) **-** Participants were asked to think about their water company and to rate the ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Reduce their carbon footprint' ranked last of the 10 measures tested. CCW Awareness and Perceptions of River Water Quality (2022) - *Across two waves of research participants were shown a list of environmental issues affecting the UK and were asked to pick the three which concerned them the most 'Air pollution from household smoke and road vehicles' ranked 2nd of the 10 issues tested.* CCW WaterVoice Window 4 (2020) - Participants were asked, in their view, what the two or three most important environmental issues facing Britain today were. Global warming/climate change was the highest ranking issue, with 48% stating it amongst their two or three most important issues. Air pollution (29%) and emissions (18%) also appeared as high ranking concerns. CCW Public Views of the Water Environment (2021) – Participants were asked to prioritise a list of six responsibilities that water companies have to balance (alongside the environmental priorities that had been discussed). 'Managing the environmental impact of what they do' ranked in 3rd place.
Do our customers share our ambition/long-term goal?	**Customers are supportive of ambitious goals for the future.** People Panels #1 (2022) - Panelists discussed opportunities for NWG in the next 5, 20 and 50 years. Discussions centered around the urgency for addressing climate change. People Panels #3 – Aims and Measures (2022) **-** Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW's long-term plan. Be leading in the sustainable use of natural resources and become carbon neutral received the sixth highest number of stars. People Panel #4B (2022) - *Panelists* repeated the star poll exercise, they had first completed in People Panel #3, this time considering where they wanted to see the greatest ambition. 'Becoming carbon neutral' was amongst the highest ranked measures. Defining the Future (2021) - 90% of participants agreed with our long-term ambitious goal to 'Be leading in the sustainable use of natural resources, through achieving zero avoidable waste by 2025 and being carbon neutral by 2027'. Levels of support were high across all participant types - 94% (NW) and 87% (ESW) from household participants and 88% (NW) and 89% (ESW) from stakeholders and businesses. CCW Public views on the water environment (2021) – *Participants were presented with three possible levels of action that water companies could take in relation to carbon emissions. The desire expressed by the majority of participants was for water companies to go 'beyond the basics' and invest more now to reduce carbon emissions, sooner than the legal requirement.* CCW WaterVoice Window 4 (2020) - Participants were informed that UK water companies have set a target to become net zero by 2030 and asked to chose a statement which best described how they felt about this. The majority felt that 'water companies should bring emissions to net zero earlier than 2030'.

Have our customers expressed willingness for their charges to increase to fund improvements?	**Qualitative evidence suggests there may be some willingness to accept a bill increase to invest in reducing greenhouse gas emissions, particularly from ESW customers.** Pre-Acceptability Part A - Participants voted on which of 14 areas they considered would require the most investment. 'Investment to reduce carbon emissions and meet net zero' ranked 9th/14 in NW and 10th/11 in ESW. Participants discussed how investment to reach Net Zero should be funded. Across both regions, there was a general agreement that the customers should not be solely responsible for paying for the investments in the form of increased bills. Participants living in Essex and Suffolk regions suggested that ESW should invest in efficiencies. All participants in this research were generally concerned about finances, and bill increases. Pre-Acceptability Part B - Participants were asked if they would support increases to their 2025-30 charges (40p NW / 27p ESW) to replace 900 diesel vans with electric. NW participants' preference was to not invest in this area at all (45%). A slight majority of ESW respondents preferred to invest now (52%). In the final exercise participants were asked to design their ideal plan for 2025-30 (i.e., the improvements they most wanted to invest in now). Net zero was an area that participants are least likely to want to invest in now.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

BATHING WATER QUALITY

Volume of evidence	High (11 sources)	Divergence of view	Low	Prioritisation rank Low
Quality of evidence	High	Regional differences	NA	

Is improving bathing water quality a priority for customers relative to other common performance commitments?	**Our customers tell us that the environment is important to them. However, when we explore individual environmental outcomes and measures those relating to bathing water quality are considered to matter less, and require less investment, compared to other environmental measures.** Pre-Acceptability Part A - Northumbrian Water stakeholders generally considered improvements to water quality and bathing waters be important, particularly due to its coastal position, and felt that there were opportunities for nature-based solutions to increase biodiversity. People Panels #3 Aims and Measures - Participants worked through several ranking exercises. They began by ranking our Themes and Areas from most to least important. 'Environment', under which bathing water quality falls, was the second highest-ranking Area. 'Caring for the long-term essential needs of the environment' ranked as the most important theme. Participants went on to rank four environment measures from most important to least important. 'Have the best rivers and beaches in the country' ranked as the 'least important' environmental measure. Finally, participants completed two star polls. In the first they were asked to share 25 'stars' across 15 measures; giving a maximum of three stars to each measure and choosing to place more stars on the measures they considered most important. 'Have the best rivers beaches in the country' ranked 14th out of 15 measures tested. In the second star poll panellists were asked to place their 25 'stars' across the five measures they considered to be most important; they could add up to 14 stars to each measure. 'Have the best rivers beaches in the country' ranked 12th out of 15 measures tested. Retailer and Non-Household Research (2022) - In the online community, participants were asked to indicate how important various aspects of NWG's service were to them. Firstly, we asked them to allocate 100 "investment coins" across three/four high-level areas, to indicate their relative importance. 'Environment' ranked in second place in both areas. We then asked participants to look at a list of factors within Environment, and again to allocate 100 "investment coins" across them, to indicate their relative importance. Improving the quality of sea water at beaches received the third highest share of coins. Domestic tracking (Quarters 1-4 2022) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. In the two most recent quarters we have seen the rank of 'cleaner beaches' improve compared to other business plan areas. Ofwat and CCW Preferences Research (2022) – Participants in this research were asked to rank 24 service areas as either high, medium or low priority in terms of what mattered most to them. *Bathing water quality ranked as 'some importance/impact'* CCW and Ofwat Customer spotlight: People's views and experiences of water (2022) - Participants were asked to think about their water company and to rate the ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Prevent sewage entering rivers, streams, and the sea' ranked 3rd of the 10 measures tested. WReN Customer Engagement (2021) - Participants were asked to indicate which of the DWMP options they believed water companies should work hardest to prevent. Three issues relating to pollution were tested; Potential to make people and animals who go in river and sea water poorly (4/11 51%) and water company fines for pollution or poor river and bathing water quality (10/11 38%) and Temporary loss of use of rivers and the sea for activities like swimming, surfing and paddling (11/11 20%). Participants then went on to rank the 11 options in terms of what the DWMP should focus on; Potential to make people and animals who go in river and sea water poorly ranked in 4th place, water company fines for pollution or poor river and bathing water quality ranked in 8th place and Temporary loss of use of rivers and the sea for activities like swimming, surfing and paddling ranked in 11th place.
Do our customers share our ambition/long-term goal?	**In principle customers support our ambition but are less ambitious in this area compared to most other aspects of service.** Defining the Future (2021) - Participants gave high levels of support for our long-term ambitious goal 'to have the best rivers and beaches in the country'. People Panels #3 – Aims and Measures (2022) - Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW's long-term plan. Have the best rivers and beaches in the country received the lowest number of stars. People Panels #4b - Three levels of ambition, specifically around bathing waters, were presented to participants. The majority supported our current level of ambition – '100% bathing waters meeting Excellent by 2040 and maintained to 2050.' Employees and Northumbrian Water customers were more likely to support a more ambitious target (100% bathing waters meeting 'Excellent' by 2035 and maintained to 2050), Essex and Suffolk panellists were more likely to want a target in line with current commitments and young panellists were more likely to support a reduced target (100% bathing waters meeting Good or Excellent by 2050). Panelists went on to repeat the star poll exercise, they had first completed in People Panel #3, this time considering where they wanted to see the greatest ambition. 'Improving quality of coastal bathing waters for best beaches' received the lowest number of stars. People Panels #3 Aims and Measures (2022) - Panellists completed a star poll exercise, where they were asked to allocate 25 stars across five measures, placing more stars on measures where they wanted to see the greatest ambition. 'Have the best rivers and beaches in the country' ranked 11th out of 15 measures presented.
Have our customers expressed willingness for their charges to increase to fund improvements?	**We do not have evidence that customers would support an increase to bills to fund either bathing water quality improvements or increased monitoring.** Copperleaf Valuations - Participants were asked how much they would be willing to pay to improve NW's compliance with standards for ensuring treated wastewater that is returned to rivers and seas is sufficiently clean from 98.8% to 100%. They were told that this would take NW from industry average to industry leading. The majority (69%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance. Pre-Acceptability Part A - All participants in this research were generally concerned about finances, and bill increases. Stakeholders who took part questioned costs, but thought that the long-term benefit and public value of improvements would enhance the region by attracting other businesses. Pre-Acceptability Part B - We did not achieve majority support to invest now in increased bathing water quality monitoring. A slight majority of respondents across both regions preferred not to invest at all. The preference to not invest at all was stronger amongst respondents in Northumbrian Water regions.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

RIVER WATER QUALITY

Volume of evidence	High (11 sources)	Divergence of view	Low	Prioritisation rank: **Low**
Quality of evidence	High	Regional differences	NA	

Is improving river water quality a priority for customers relative to other common performance commitments?	**Our customers tell us that the environment is important to them. However, when we explore individual environmental outcomes and measures those relating to river water quality are considered to matter less, and require less investment, compared to other environmental measures.** Pre-Acceptability Part A - Participants were asked which areas for investment matter the most to them. In NW exercises 'Ensuring that we can continue to treat water in rivers and reservoirs to make this into drinking water' ranked 4th out of 14 areas presented. In ESW it ranked 6th out of 11 areas presented. People Panels #3 Aims and Measures - Participants worked through several ranking exercises. They began by ranking our Themes and Areas from most to least important. 'Environment', under which bathing water quality falls, was the second highest-ranking Area. 'Caring for the long-term essential needs of the environment' ranked as the most important theme. Participants went on to rank four environment measures from most important to least important. 'Have the best rivers and beaches in the country' ranked as the 'least important' environmental measure. Retailer and Non-Household Research (2022) - In the online community, participants were asked to indicate how important various aspects of NWG's service were to them. Firstly we asked them to allocate 100 "investment coins" across three/four high-level areas, to indicate their relative importance. 'Environment' ranked in second place in both areas. We then asked participants to look at a list of factors within Environment, and again to allocate 100 "investment coins" across them, to indicate their relative importance. 'Managing river water quality' ranked 6th out of the 9 areas presented. Domestic tracking (Quarters 1-4 2022) - Since Q1 2022 we have asked participants in our quarterly household tracking research which of 10 areas should be our business plan priorities. In the most quarter (Q4, 2022) 'cleaner rivers' ranked 3rd of the ten areas presented. WReN Customer Engagement (2021) - Participants were asked to indicate which of the DWMP options they believed water companies should work hardest to prevent. Three issues relating to pollution were tested; Potential to make people and animals who go in river and sea water poorly (4/11 51%) and water company fines for pollution or poor river and bathing water quality (10/11 38%) and Temporary loss of use of rivers and the sea for activities like swimming, surfing and paddling (11/11 20%). Ofwat and CCW Preferences Research (2022) – Participants in this research were asked to rank 24 service areas as either high, medium or low priority in terms of what mattered most to them. River water quality ranked as 'some importance/impact' CCW and Ofwat Customer spotlight: People's views and experiences of water (2022) - Participants were asked to think about their water company and to rate the ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Prevent sewage entering rivers, streams, and the sea' ranked 3rd of the 10 measures tested. CCW Public Views of the Water Environment (2021) - Participants were asked to prioritise a list of six responsibilities that water companies have to balance (alongside the environmental priorities that had been discussed). 'Removing & treating water that has been used before sending it back to rivers' ranked in 2nd place. 'Managing the environmental impact of what they do' ranked in 3rd place. CCW Awareness and Perceptions of River Water Quality (2022) - The majority (65%) want planned improvements to ensure that the river is a healthy habitat for wildlife.
Do our customers share our ambition/long-term goal?	**In principle customers support our ambition but are less ambitious in this area compared to most other aspects of service.** Defining the Future (2021) - Participants gave high levels of support for our long-term ambitious goal 'to have the best rivers and beaches in the country'. People Panels #3 – Aims and Measures (2022) - Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW's long-term plan. Have the best rivers and beaches in the country received the lowest number of stars.
Have our customers expressed willingness for their charges to increase to fund improvements?	**We do not have evidence that customers would support an increase to bills to fund either bathing water quality improvements or increased monitoring.** Copperleaf Valuations - Participants were asked how much they would be willing to pay to improve NW's compliance with standards for ensuring treated wastewater that is returned to rivers and seas is sufficiently clean from 98.8% to 100%. They were told that this would take NW from industry average to industry leading. The majority (69%) of participants placed zero coins on this measure – indicating that they were not willing to pay anything towards improved performance. Pre-Acceptability Part A - All participants in this research were generally concerned about finances, and bill increases. Stakeholders who took part questioned costs, but thought that the long-term benefit and public value of improvements would enhance the region by attracting other businesses.

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

BIODIVERSITY NET GAIN

Volume of evidence	High (12 sources)	Divergence of view	Low	Prioritisation rank **Medium**
Quality of evidence	High	Regional differences	Low	

Is biodiversity net gain a priority for customers relative to other common performance commitments?	**We have mixed, inconclusive evidence on the level of priority customers place on biodiversity.** Pre-Acceptability Part A - Participants were asked which areas for investment matter the most to them and required the most investment. In both exercises 'Improvements to rivers, reservoirs and coastlines that the public can access (e.g. footpaths, wildlife, water quality)' ranked 12th/14 areas in NW and 9th/11 areas in ESW. Value of Water (2021) - Participants were asked to rate the importance of four environmental issues using a scale of 0 to 10, where 0 is not at all important and 10 is very important. 75% gave 'tackling problems with biodiversity and wildlife' a score between 8-10. Participants aged 55 and older on unmeasured tariffs were the most likely to rate 'tackling problems with biodiversity and wildlife' as important. Retailer and Non-Household Research (2022) - In the online community, participants were asked to indicate how important various aspects of NWG's service were to them. Firstly, we asked them to allocate 100 "investment coins" across three/four high-level areas, to indicate their relative importance. 'Environment' ranked in second place in both areas. We then asked participants to look at a list of factors within Environment, and again to allocate 100 "investment coins" across them, to indicate their relative importance. Using NW/ESW sites to improve biodiversity received the second lowest share of coins. Water Resources North (club project) - NW Customers and citizens were asked to take part in two exercises which ranked biodiversity net gain against 12 other WRMP metrics. In both exercises participants were asked to think about which metrics were the most and least important to them. Biodiversity Net Gain ranked 5th/12 in both exercises. Water Resources East (club project) - Participants were presented with 10 WRMP objectives and asked which should be included in Water Resources East's plan. 'Better natural habitats: supporting wildlife & biodiversity' was included in the top 4 by 44% of participants, about mid-way in the table compared to other objectives. Ofwat and CCW Preferences Research - This research explored 24 service areas to understand what matters most to consumers when it comes to water and sewerage services. 'Biodiversity' was one of the areas tested overall it ranked as 'some importance/impact' overall. Reasons given were: Biodiversity was not felt to affect most people's day to day lives, people struggled to think of what a water company could or should be doing, and lack of awareness about what biodiversity is and what this means for water companies CCW Awareness and Perceptions of River Water Quality - Across two waves of research participants were shown a list of environmental issues affecting the UK and were asked to pick the three which concerned them the most and then to rank them in order, with 1 being the most concerning and three being the least concerning. Whilst concern about biodiversity increased from Wave 1 (2021) to Wave (2022) it remained at the lower end of the scale compared to other environmental factors. The research found evidence that younger people (18-34) were the demographic most concerned about biodiversity.
Do our customers share our ambition/long-term goal?	**Customers are mostly supportive of ambitious approaches to delivering net gain for biodiversity.** Defining the Future (2021) - Respondents were provided with an explanation of NWG's 'ambitious goals' and asked whether or not they agreed with them. 91% of participants overall agreed with our long-term ambitious goal 'Demonstrate leadership in catchment management to enhance natural capital and deliver net gain for biodiversity'. Levels of support were highest for NW participants *Water Environment Improvements customer research* - Participants were presented with a map of their local area and were asked to suggest ways that NW/ESW could improve water environments under the key themes of access and facilities, water quality, and wildlife and biodiversity. One of the themes identified across focus groups was that water environments should be safe for wildlife to thrive. It was important for participants to physically see evidence of wildlife, particularly animals. CCW Public views on the water environment – Participants were presented with three levels of action that water companies could take in regards to reversing the 'decline or extinction of plant and animal life.' Participants were asked to state the level of action they would like water companies to take over half of participants (37/62, 60%) supported Level 3, the highest possible level.
Have our customers expressed willingness for their charges to increase to fund improvements?	**Qualitative evidence suggests there may be some willingness to accept a bill increase to invest in biodiversity. However, our only quantitative source (Copperleaf) contradicts this with the majority of participants indicating no willingness to support a bill increase for biodiversity.** Copperleaf Valuations - The majority (75%) of participants placed zero coins on the measure 'Using NW/ESW sites to improve biodiversity'. Pre-Acceptability Part B - NW participants were given some information about the impact of excess nitrogen in water and the risks to biodiversity. Nature-based and engineering-based solutions were presented, and participants were informed that the engineering based solution would add a total of £650m to customers' bills by 2030 and a nature-based approach £41m. Participants were asked to choose their preferred approach. There was substantial support across the groups for the natural solutions. NW and ESW participants were informed that NWG would like to do more than what is required by government in terms of environmental investment. Participants were asked if they would support annual average bill increases of £2.78 (NW) / 16p (ESW) to fund the investments. Views were mixed, with a slight majority of respondents across both regions preferring to not invest at all (NW respondents 42%; ESW respondents 39%). The preference to not invest at all was stronger amongst respondents in NW regions. Water Resources North (club project) - Customers and citizens wanted WReN companies to improve the environment through Biodiversity Net Gain. Customers and citizens suggested they were prepared to pay a small amount more to achieve this.

CUSTOMER

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

C-MeX

Volume of evidence	Medium (8 sources)	Divergence of view	Low	Prioritisation rank Low
Quality of evidence	High	Regional differences	Low	

Is improving C-MeX a priority for customers relative to other common performance commitments?	**When compared to other service areas delivering 'unrivalled' or 'world class' customer service is a low priority for customers compared to other, more technical, service areas.** People Panels #3 Aims and Measures - Panellists ranked our business plan Areas from most to least important. 'Customer' ranked in first place. Panellists then ranked our seven themes; 'Delivering unrivalled customer experience' ranked as the second-to-least important theme. Panellists also ranked seven customer measures from most important to least important. 'Deliver world class customer service' was the least important measure. Finally, panellists were asked to share 25 'stars' across 15 measures; giving a maximum of three stars to each measure and choosing to place more stars on the measures they considered most important. 'Deliver world class customer service' was the measure to receive the third-least amount of stars. Panellists believed that fulfilling the other customer measures would naturally improve customer service, therefore this measure was ranked as less import. Brand Values 2019 - Participants were read a list of nine themes and asked which should be business plan priority areas. 'Unrivalled customer experience' ranked in second last place. Brand Values 2020 – 2022 – Each year participants are asked to rank four priority areas. Every year the four areas have maintained the same order with 'Top quality water' being voted as the area that matters most followed by value for money, great customer service and prepared for the future in last place. Domestic tracking (Quarters 1-4 2022) - Participants are asked which of 10 areas should be our business plan priorities. In all four rounds of 2022 research 'Improve service (sewer flooding, customer service etc.)' achieved the lowest average scores of all areas presented. CCW and Ofwat Customer spotlight: People's views and experiences of water (2022) - Participants were asked to think about their water company and to rate the ten measures on a scale from 1 to 10 according to how important they are for their water company to focus on over the next 10-20 years. All areas achieved a majority scores of 8-10. 'Provide good customer service' ranked 7th of the 10 measures tested.
Do our customers share our ambition/long-term goal?	**We have one source of evidence that customers support our ambitious goal 'deliver world class customer service', this is conflicted by a different source suggesting that customers are content with our current NPS commitment.** Defining the Future - Participants were asked whether they agree with our ambitious goal to 'deliver world class customer service'. 81% of NW household customers and 88% of ESW household customers agreed. People Panels #3 – Aims and Measures (2022) - Participants were asked to allocate 25 stars over 15 measures, placing more on the measures they felt were most important to consider in NW/ESW's long-term plan. 'Deliver world class customer service' received the third lowest number of stars. People Panels #4A (2022): Panellists were asked to help us decide how ambitious we should be with our future target for our net promoter score. A reduced target, our current target and a more ambitious target were presented. The majority of panellists (66%) wanted to see a target in line with current commitments. People Panels #4B (2022): Panellists (NW and ESW) went on to repeat the star poll exercise, they had first completed in People Panel #3. 'Deliver world class customer service – NPS' ranked 6/11 – a mid-level position.
Have our customers expressed willingness for their charges to increase to fund improvements?	**We have no evidence that customers would support a bill increase to fund improvements to customer service.**

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

D-MeX

Volume of evidence	No evidence	Divergence of view	No evidence	Prioritisation rank **Insufficient evidence**
Quality of evidence	NA	Regional differences	No evidence	

Is improving D-MeX a priority for customers relative to other common performance commitments?	**No evidence.**
Do our customers share our ambition/long-term goal?	**No evidence.**
Have our customers expressed willingness for their charges to increase to fund improvements?	**No evidence.**

CUSTOMER RESEARCH EVIDENCE 2019-23 FOR:

BR-MeX

Volume of evidence	Low (3 sources)	Divergence of view	No evidence	Prioritisation rank **Insufficient evidence**
Quality of evidence	NA	Regional differences	No evidence	

Is improving BR-MeX a priority for customers relative to other common performance commitments?	**One external source from 2020 suggests customer service is not a priority to business customers, relative to other areas of service** Acceptability and Affordability Testing (Qualitative) (2023) - NHH participants were asked to rank different aspects of service in terms of importance for the day-to-day operation of their business. Aspects were ranked from one to seven, with equal rankings being allowed. *'Responsive customer service when there is a problem'* ranked 5th of the 7 different aspects of service presented. Ofwat and CCW Non-Household Customer Insight Survey (2020) - Participants were asked overall, and taking everything into account, what is important to you as a water customer? 'Quality of customer service' came in third position (out of 12) with 26% of 691 participants choosing it. 'Quality of billing services' came in fourth position with 11% of participants choosing it. Ofwat and CCW Non-Household Customer Insight Survey (2020) - Participants were asked overall, and taking everything into account, what is important to you as a water customer? 'Quality of customer service' came in fourth position (out of 6) with 21% of 991 participants choosing it. 'Quality of billing services' came in fifth position with 8% of participants choosing it.
Do our customers share our ambition/long-term goal?	**We have evidence from one source that improving customer service is not a top priority, or expected area of improvement, for NHH customers.** Acceptability and Affordability Testing (Qualitative) (2023) –NHH participants were asked what their business expectations were for future water (and wastewater services for Northumbrian Water respondents) services. They were also asked what they would most like to see improved. In both regions, *'Responsive customer service'* received no votes from NW participants and only 5% of ESW participants indicated this was important.
Have our customers expressed willingness for their charges to increase to fund improvements?	**No evidence.**

SOURCE LIST

Source	Year	Code(s)	Method	Sample	No. of participants
Affordability and Acceptability (Qualitative)	2023	TBC	Qualitative - online and face-to-face workshops	Household customers Non-Household customers People Panels Future customers	224
Social Tariffs Research	2023	TBC			
Pre-Acceptability Part A	2023	TBC	Qualitative - online and face-to-face workshops	Household customers People Panels Stakeholders	120
Pre-Acceptability Part B	2023	TBC	Qualitative - online and face-to-face workshops (participants re-convened from Part A)	Household customers People Panel members	83
Deliberative Research into Complex Bill Drivers for 2025-30	2022	TBC	Qualitative - online and face-to-face workshops	Household customers People Panel members	116
Domestic tracking research	2022-23	Q1 2023	Quantitative - telephone interviews	Household customers	2,000
People Panels #1 Introduction	2022	E020	Qualitative – Online focus group	People Panel members	57
People Panels #3 Aims and Measures	2022	E022	Qualitative – Online focus group	People Panel members	62
People Panels #4A Long term strategy metrics and ambition	2022	E023	Qualitative – Online focus group	People Panel members	54

Source	Year	Code(s)	Method	Sample	No. of participants
People Panels #4B Long term strategy metrics and ambition June 2022	2022	E024	Qualitative – Online focus group	People Panel members	47
Customer Valuations for Service Improvements (Copperleaf)	2022	NA	Quantitative – Hall Tests	Household customers	
Defining the Future	2021	E003	Qualitative – Online workshops and telephone interviews	Household customers Non-household customers Future customers Stakeholders	100
WRMP Options Research (NW and ESW)	2021	E072 and E073	Quantitative – online and face-to-face surveys	Household customers Non-household customers Future customers Customers in vulnerable circumstances	3,271
Brand Values	2019	E077	Quantitative - Telephone interviews	Household customers	750
Brand Values	2020	E002	Quantitative - Telephone interviews	Household customers	700
Brand Values	2021	E001	Quantitative - Telephone interviews	Household customers	700
Brand Values	2022	E076	Quantitative - Telephone interviews	Household customers	500
Retailer and Non-Household Research	2022	E070	Site visits and Microsoft Teams calls with retailers Online community and online focus groups for non-household customers	Retailers Non-Households	34

Source	Year	Code(s)	Method	Sample	No. of participants
Water Environment Improvements	2021	E053	Quantitative - Online surveys and telephone surveys Qualitative – co-creation sessions and online focus groups	Household customers, future customers, digitally excluded customers and users of water environments.	851
Value of Water	2021		Qualitative and quantitative - telephone surveys	Household customers	400
Water Resources North Customer Engagement (club project)	2021	E056	Qualitative – Reconvened online workshops with pre- and post- surveys (7 with NW customers, 2 with Hartlepool Water customers and 7 with Yorkshire Water customers)	Household customers, future customers, citizens, non-household customers (water and non-water dependent)	160 (approx.)
Water Resources East Customer Engagement (club project)	2021	E055	Qualitative – Reconvened online workshops with pre- and post- surveys (4 with ESW customers, 4 with Cambridge Water customers and 8 with Anglian Water customers). In-depth interviews with non-household customers and stakeholders.	Household customers, non-bill payers, future customers, economically vulnerable customers, non-household customers and stakeholders	89
Wholesale Tracker Results	2021		Quantitative – telephone survey	Non-Households (wholesale customers)	200

External sources referenced:	Year	Method	Sample	No. of participants
Ofwat Cost of living: wave three	2023	Online survey	Water bill payers in England and Wales Ethnic minority respondents	3,132
Ofwat and CCW Preferences Research	2022	Qualitative – online focus groups and online in-depth interviews	Household customers, non-household customers, future customers, customers in vulnerable circumstances, customers who speak English as a second language	136 (est.)

External sources referenced:	Year	Method	Sample	No. of participants
Customer spotlight: People's views and experiences of water	2022	Quantitative – Online survey, telephone survey	Adults in England and Wales, participants from ethnic minority communities, digitally disenfranchised' respondents	2,951
CCW Awareness and Perceptions of River Water Quality	2022	Qualitative and quantitative - Online survey	Adults (aged 18+) in England and Wales	2,187
CCW Public views on the water environment	2021	Online forum Online focus group	Household customers Future customers	62 (4 NW)
CCW WaterVoice Views of current customers on water resources	2021	Online interviews	Adults (aged 18+) in England and Wales	1,870
Defra Ocean Literacy in England and Wales	2021	Online survey	People over the age of 16 in England and Wales	8,440
CCW and Ofwat Non-household Customer Insight Survey	2022	Telephone interviews	Non-household customers of all types and sizes of businesses, charities and public-sector organisations	691
CCW WaterVoice Window 4	2020	Online community	Water bill payers aged 18+ across England and Wales	600+
Ofwat and CCW Non-Household Customer Insight Survey	2020	Telephone survey	Non-household customers	991