WRE Triangulation

Triangulation Report

Prepared for **Water Resources East**
Prepared by **Impact**

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Project No: 1348

WRE
WATER RESOURCES EAST

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FROM INSIGHT TO INFLUENCE

Objectives and approach

FROM INSIGHT TO INFLUENCE

The need for this research

Water Resources East (WRE) is required under the National Framework for Water Resources to publish a water resourcing plan for its region.

The plan needs to demonstrate how WRE will meet future water supply needs for both public water supply and non-public water supply users, how it will protect/enhance the water environment, reduce incidences of drought restrictions being needed, and provide wider social and economic benefits.

Significant investment will be required to maintain resilient water supplies for the region.

Affinity Water

Essex & Suffolk Water living water

love every drop anglianwater

Cambridge Water

The regional plan must be informed by customer and stakeholder insight.

This triangulation project is needed to synthesise recent learnings from all relevant WRE sources, to feed into an evidence-based plan that will be effective for the whole region.

A lot has changed in recent years, so it is important that recent knowledge is accounted for in the regional plan. Recent engagement has taken place during an unusually challenging period, e.g., rising cost of living, COVID-19 pandemic.

Triangulation method

Insight triangulated in August 2022

47 pieces of research and engagement conducted between February 2021 and June 2022 across all WRE water companies, as well as some wider industry reports

Compared to insight triangulated in July 2021

29 pieces of research and engagement conducted between 2013 and March 2021

Our approach

- Collation of insight related to key themes (shown on next slide) from data sources and recorded associated metadata
- Completion of a RAG bias assessment and expertise rating for each data entry (e.g., validity, reliability, robustness of research, and expertise of sample)
- Extrapolation of key insights, including data trends, similarities / differences between subgroups
- Creation of this report summarising the main findings

Please see Appendix A for a full list of the source reports included in the 2022 analysis, and see Appendix B for the full detail of our triangulation method

Key topic areas

These topic areas have been analysed from different customer group and stakeholder perspectives (and by water company):

- **Preferences for demand and supply side options**
- **Water source preference**
- **Water efficiency**
- **Environmental destination and ambition**
- **Resilience / Levels of service preferences**
- **Preferences for Best Value Planning criteria**
- **Investment priorities**
- **Related impacts around water quality and supply**

Throughout the report:
HH → Household customers
NHH → Non-household customers

Who were the stakeholders?

Stakeholders were engaged in some of the research. Information on exact stakeholders is not available for all sources, but here is a general overview of the sectors engaged:

- Local politics (county councils, district councils and combined authorities)
- Environmental non-governmental organisations (eNGOs)
- Local environmental charities and groups
- Agricultural groups
- Abstractor groups
- Regional Water Resources groups
- Businesses with a commercial interest in water
- Energy companies
- Water retailer representatives

Context

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Context in 2021 and 2022

	Awareness	Environment	Resilience	Water Quality	Cost
2021	Awareness of water resources drivers but less aware of severity of situation. Support to protect for 1 in 200-year drought with some customers happy to go further.	Increasing in priority (for some companies' customers it is key). Clear view that plans should be sustainable. Importance of environment is consistent across all demographics.	It is sensible to plan for a range of futures. Consistent customer view that we should be planning for the long term. Willingness to support plans and investments to safeguard service for future generations.	Water quality is a key driver of customer satisfaction. Customers see as a key priority. Some concerns over changes in water source and what it means for customers (taste, etc.).	Degree of insensitivity over bill increases (up to £50 in AMP) BUT this needs more testing. Most acceptability is based on ensuring sufficient packages available for the vulnerable / low-income households.
2022	Continued general lack of awareness of the severity of the water scarcity issues. Most are supportive of 1 in 500 year drought risk reduction.	Environment and climate change is often at the forefront of customers' minds and is an important priority across all groups, **especially** for future bill payers.	Few are worried about supply of water. Consistent appetite for long term planning, **but** customers often expect and trust water companies to be doing this anyway.	Still a very high priority as it affects customers personally. Customers notice some differences in hardness and taste, but rarely consider the reasons for this.	Lots of concern about affordability, with cost-of-living crisis mentioned often. Still concerns for vulnerable and low-income households, with more customers projected to fall into these groups.

Summary of the research (1)

Preferences for demand and supply side options

- Almost all HH customers and some stakeholders displayed a preferences for demand-side options over supply side.
- NHH customers were more supportive of both supply and demand side options, reflecting their high levels of concern about future water supply.
- Those without a strong preferences tended to opt for a balance between both.

Water source preference

- Reservoirs were almost universally the top supply-side option, though a small minority of customers were in opposition.
- Amongst HH customers, sea tankering and desalination were usually the lowest preferences.
- For customers and stakeholders, the most common decision-making drivers were cost and the environment.

Water efficiency

- The top demand side option for customers was reducing leakage (company side).
- Education approaches related to behaviour change were mentioned often, and there was customer and stakeholder appetite for more education regarding how to save water, alongside incentives from water companies.

Environmental destination and ambition

- The environment was a top priority for most (especially Cambridge and Anglian customers).
- Most HH customers wanted restoration of natural water sources (Scenario 2). Cambridge and Essex & Suffolk customers typically want this done sooner than others.
- Environmental sector stakeholders wanted to go beyond improving water resources, to ensure maximum environmental protection.
- Views varied when customers answered questions as customers vs citizens. For example, when a question was framed at a collective, societal level, Anglian customers were more willing to restore natural water resources sooner (before 2040) compared to when responding on a personal level.

Summary of the research (2)

Resilience / Levels of service preferences

- There was generally low HH awareness of the sense of urgency regarding drought resilience.
- Most supported the use of TUBs/NEUBs, but often preferred investment in new infrastructure and demand reduction initiatives as a long-term water resilience strategy.
- Most customers were happy to accept the reduction of drought measures to 1 in 500 years (by 2039).

Preferences for Best Value Planning criteria

- In terms of long-term planning, customers saw water quality, reducing leakage, minimising environmental impact and reliable supply as important aspects to focus on.
- Many customers and stakeholders focused a lot on affordability of the plans. Those who did not included older customers, who were likely more affluent, and therefore willing to pay more.

Investment priorities

- Some of the top investment priorities were reducing leakage and investing in the environment.
- Making sure bills are affordable was important to a majority of customers.
- There was no clear consensus on whether investments should be made sooner or later. Some older customers were unwilling to pay more now as they wouldn't be around long enough to benefit, whilst others wanted to pay now to limit how much future generations would have to bear the cost later.

Related impacts around water quality and supply

- The idea of water scarcity in the UK was a new one for many customers (stakeholders are concerned about public ignorance regarding water shortage), but customers often noted the urgency after receiving education on the topic.
- Maintaining water quality was seen as essential to customer. In terms of quality, water 'hardness' was the most mentioned issue.

Customer and stakeholder insights from February 2021 - June 2022

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Demand and supply options

For context, these are the supply and demand options that are explored over the next few slides.

Supply

Reservoirs	A large natural or artificial lake used as a source of water supply
Storing water underground	Purposely refilling aquifers with surface water to more effectively manage water supply
Desalination	Taking water from the sea, and removing the salt
Water transfers	Transfer water from one area to another (around and beyond the region)
Sea tankering	Transporting water in tanker ships between areas
Water reuse	Recycling treated wastewater and returning it to the water supply

Demand

Leak reduction	Detection and reduction on company side (also looked at customer side)
Higher water efficiency	Using education/advice approaches to lead to behaviour change
Using grey/rain water	Collection and use of rain water or grey water (wastewater from domestic appliances sch as washing machines and baths)
Smart metering	Provides detailed information on consumption
Universal metering	Installing meters in all homes and businesses, where it is physically possible

Customer – Preferences for demand and supply side options

Some customers favoured a balance between supply and demand options, but most tended to favour demand-side options over supply-side options. When asked to rate priority between both options, demand-side options almost always came out on top.

Leakage reduction on the water company side (demand-side option) was always rated as the **top priority** by HH customers across all the options (between demand and supply-side), and often by a significant margin. This tended to be followed by other demand-side options with grey water/ rainwater collection and higher water efficiency using initiatives and awareness campaigns also featuring prominently.

Supply options came lower in the priority list. **Reservoir storage** tended to be rated the most popular supply-side options, followed by water reuse. Multiple customers noted that supply side options are not seen as a substitute for demand measures.

***2021 Insights:**

- ✓ Demand management was favoured overall
- ✓ Most customers favoured a mix of options, but timing is key

NHH customer differences:

- Had higher support levels on both supply and demand side, reflecting their high levels of concern about future water supply.
- Some NHH customers were seen to prioritise using grey water over leakage, which reflects the practical and cost-conscious nature of businesses (some already reuse water for non-drinking purposes to cut costs).
- One other study found that NHH customers were more likely to spread their preferences over a wide range of options, and were slightly more likely to pick water transfers and smart meters compared with HH customers.

Sources: 3, 7, 9, 10, 11, 13, 16, 17

Stakeholder – Preferences for supply and demand side options

Stakeholders had a more varied view regarding demand and supply-side options than customers, but they still tended to have a focus on the demand management side of things.

Preferences for supply and demand side options

Most stakeholders did not express a clear preference, but environmentally focused stakeholders prioritised demand management over supply-side options.

The key criteria for choosing between options was often based on affordability and environmental impact. Affordability tended to be mentioned by stakeholders who work with customers with financial problems.

Environment Agency views on supply and demand

The EA supports ambitious targets set out for demand and leakage reduction, but there seems to be a significant reliance on demand management to help address supply-demand deficits in the short-term. They saw a need for additional supply options to be developed and incorporated into the plan so that WRE can meet predicted demand from planned developments whilst also delivering reductions in abstraction needed to protect the environment.

Sources: 2, 27

Customer – Source preference (1)

Across the region, **reservoirs** were the **most popular** supply-side option. The least popular were sea tankering from other countries, desalination and transferring water around/between regions.

Most favoured → Least favoured*

Reservoirs	Underground storage	Water reuse	Water transfers	Desalination
✓ Sense of familiarity ✓ Environmentally friendly ✓ Attractive community asset × Expensive × Disruptive × Rely on rainfall	✓ Effective ✓ Limited environmental impact × Energy intensive and expensive treatment × Rainfall dependent	✓ Sensible ✓ Environmentally friendly ✓ Save more, waste less × Perception of 'dirty water'/ safety concerns	✓ Logical × Expensive × Energy intensive × Not long-term solution	✓ Almost unlimited resource × Expensive × Environmental impact

Multiple customers noted that supply side options are not seen as a substitute for demand measures.

***2021 Insights:**
- ✓ Reservoirs were most favoured, and desalination least favoured
- ✓ Customers saw role for transfers may be a necessity

Demographic differences:
- Future customers from Essex and Suffolk rated recycling plants top.
- NHH customers from Essex & Suffolk supported reservoirs the most, followed by desalination plants, BUT HH customers voted desalination the lowest (along with abstraction).
- Spontaneous mentions of water transfers came from ABC1.
- Some Cambridge customers mentioned that water transfers come at a lower cost than other options.

*the options towards the least favoured end of the spectrum were often agreed upon, but tended to differ slightly in order between sources

Sources: 3, 6, 7, 8, 9, 13, 15, 16, 17, 18, 19, 20, 21, 24, 25

Customer – Source preference decision making (2)

What customers think about when evaluating source options:

Cost and **environment** were the most common drivers of decision making.

Cost was a strong driver, with customers tending to support options that came at a low cost to them. The perceived most expensive options were the least liked.

Customers also often supported supply-side options that did not put a strain on the environment. One of the most mentioned drawbacks of certain options was negative environmental impact. Also, some customers mentioned concerns about solutions that rely on rainfall to replenish stocks, due to climate change and drought threats.

Stakeholders also mentioned affordability and environmental impact as the main drivers when evaluating different options.

Other factors considered:

Effectiveness and **reliability** were mentioned by some customers as benefits to some source options.

In Essex and Suffolk, there was a focus on **protecting future supply** of water resources, so these customers were often supportive of options that produce a high level of water and reduced wastage. However, some were torn between providing water for the future and concerns about **rising prices**.

Regarding water transfers, Cambridge customers thought water companies should aim for **self-sufficiency and longer-term options**, especially with concerns of a growing population and environmental impact.

A benefit only mentioned when evaluating reservoirs was recreational benefits – customers often viewed them as an attractive community asset, adding public value to the local area.

***2021 Insights:**

✓ Views driven by cost, environmental impact, sustainability and compliance

Potential Bias: Lack of detailed knowledge of source options was likely a barrier to engagement.

Sources: 3, 6, 7, 8, 9, 13, 15, 16, 17, 18, 19, 20, 21, 24, 25

Stakeholder – Source preference

Supply-side options

Feedback from the Cambridge Water roundtable highlighted there was little informed discussion about supply-side options between the attendants. Water storage and transfers were mentioned, but **grey water recycling** was the most popular due to it being seen as having a low environmental impact and being minimally disruptive for customers. These stakeholders also mentioned that customers are already familiar with, and generally positive about, recycling.

Thoughts from Ofwat and EA consultation responses to the regional plan

WRE should develop a wider range of supply options in order to meet predicted demand and deliver reductions in abstraction needed to protect the environment.

Consultation responses to the regional plan

Chalk stream advocacy groups wanted to see more transparency regarding the reasons for sustainability reduction, as well as details (including timings) of replacement sources. Community and advocacy groups also were concerned about the environmental and financial costs of such replacement sources.

Energy stakeholders would like to see further consideration of innovative **desalination** technologies. They were also concerned about **water transfers**, specifically about the impact of water transfers and regulatory licenses on river Trent water abstraction.

Environment stakeholders were glad to see lots of evidence on what is needed in terms of supply but said there was little progress on the delivery of solutions. They wanted more detail about the location, source and timings between ground and surface water so that environmental impact can be properly considered. They also thought that the proposed scale of **desalination** could be unrealistic, insufficient to appropriately address deficits, and potentially harmful to the environment.

Local Authorities were concerned that **desalination and sea tankering** might have significant environmental impacts. They thought WRE needed to consider smaller and medium solutions to water supply such as **transfers** and bring forward the implementation of local catchment-based options. They would also like to see further thought given to how the South Lincs and Fens reservoirs could be designed for inter-regional water needs and designed in a sustainable way which did not impact upon residential populations.

Sources: 2, 26, 28

Customer – Water efficiency (1)

There is appetite for water companies to engage and communicate more with customers in order to encourage water efficient behaviour.

Customer behaviours regarding water efficiency

- Customers admitted varying levels of water-saving behaviour. Despite trying not to 'waste' water and with almost half of customers thinking they are doing all they can to save water, this often didn't translate into actively taking steps to reduce consumption.
- This could be attributed to the majority of customers throughout the region assuming water is abundant in the UK.
- Often, the biggest incentive for saving water was saving money.

Call for information / education

- Few customers recalled receiving information or equipment from water companies to improve water efficiency at home. Many customers had not given much consideration to water scarcity until informed about it in research but once made aware it did not seem too surprising.
- Customers require more positive education around saving water. They generally want to be educated to understand water scarcity and impacts on resources, whilst also wanting water companies to provide simple and practical advice, and tangible incentives, to motivate behaviour change.

***2021 Insights:**

- ✓ Saving money was the main motivation
- ✓ The environment was the only truly motivating for those already environmentally engaged

Demographic differences:

- Older customers and those on a water meter were more likely to be conscious about actively saving water.
- In Cambridge, most of those who were careful about water usage did this to not waste water, rather than to save money.
- Customers living in urban areas were most likely to take water for granted (and not try to save it).
- Many NHH customers were not engaged with water efficiency - often due to associated high costs of implementation. Their main water efficiency motivation would be cost savings/financial incentives.

Sources: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 17, 18, 19, 20, 22, 24, 25, 40, 43, 44

Customer – Water efficiency (2)

The most favoured demand-side option was reducing leakage. This was followed by other options such as customer water efficiency (from education/advice and water saving devices), universal metering (also referred to a compulsory metering*) and using grey or rainwater (shown on following slides).

Leakage

Reasons for support	Negatives
✓ Natural first step to take before other options ✓ Making most of what we have ✓ Simple way to reduce wastage – making network more efficient ✓ Does not affect wildlife	× Customers think this should already be happening on the company side × Perception that only low amount of water saved × Who will foot the bill? Some customers did not want to pay for leaks outside of their homes.

***2021 Insights:**
- ✓ Was a key priority for all
- ✓ Seen as a moral issue - companies should prioritise it
- ✓ Current leakage levels meant some customers disengaged from water efficiency

Demographic differences:
- Anglian customers felt that Anglian Water must sort issues out on their side (leakage), before asking customers to be more water efficient.
- Vast majority of Cambridge customers supported the national leakage reduction target.
- Anglian, Essex and Suffolk customers accept responsibility for customer side leaks, but want more support from their water company in order to fully support this solution, mainly due to financial worries.

*some customers were asked about compulsory metering while others were asked about universal metering

Sources: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 16, 17, 18, 19, 20, 22, 24, 25, 40, 43, 44

Customer – Water efficiency (3)

*Universal/ compulsory metering was presented slightly differently between water companies. In Cambridge Water and Anglian Water customer engagement, the term 'universal' was used in research materials (this means compulsory metering, i.e. all customers on metered charges). In Essex and Suffolk, customers were asked about compulsory metering (defined as 'all homes would be made to have a water meter').

Universal and smart metering as a demand-side option elicited mixed opinions. Customers tended to be in support of universal metering (also referred to as compulsory metering in some engagement) but had some reservations.

Metering options

Universal metering	Smart meters
✓ Greater equitability	✓ More control over usage (can help environment)
✓ Can save money	✓ Leakage detection
✓ Control/ awareness of usage	✓ Automatically submits readings
× Resistance to being forced to have a meter	✓ Some mentioned lower bills (greater accuracy)
× Not acceptable to transfer cost to customers	× Concerns over rising bills. Lack of trust
× Negatively impacts poorer or larger families (could increase bills)	× Might not always result in water usage behaviour change. Considered risky to rely on customers to monitor their own usage proactively

"Smart metering is not long term reliable. Too open to errors"
HH customer

Recommendation: Some studies showed support increased after being educated, so customers should receive education/ information about smart and universal metering, in order to reduce the barrier of lack of awareness, and in turn, increase support.

***2021 Insights:**
- ✓ Most thought metering is the fairest way to charge
- ✓ Strong support for compulsory metering among those already metered – mixed among unmetered

Demographic differences:
- Environmental benefits of smart meters were more persuasive to metered customers than unmetered. Unmetered customers were more concerned with rising water bills, but could be motivated to support smart meters by the prospect of saving money.
- NHHs saw smart meters as simplest way to become more water efficient (but investment support wanted).
- Future customers significantly less likely to support compulsory metering than the rest of the sample (Essex & Suffolk), BUT showed more support for smart metering and opt-in metering than other groups.

Sources: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 16, 17, 18, 19, 20, 22, 24, 25, 40, 43, 44

Customer – Water efficiency (4)

Rain/grey water harvesting, and education/advice approaches related to behaviour change are generally supported by customers as demand management techniques.

Rain/greywater harvesting

- ✓ Logical – makes most out of current supply and manage demand
- ✓ Low environmental impact
- ✓ Perceived low cost (stronger than perceived high cost)
- × Contamination concerns
- × Limited usage impact
- × Perceived high cost (by a few)

Education/advice approaches related to behaviour change

- ✓ Cost effective and can help control customer bills
- ✓ Long-term impact
- ✓ Makes the most out of existing supply
- × Only effective if everyone continually engages
- × Incentivisation would be costly

Demographic differences:

- Rain/grey water harvesting was highly relevant for NHH customers.
- In Essex and Suffolk, water saving devices/behaviours was the top supported option (as well as leakage reduction).
- Anglian customers expect systems put in place to utilise grey/rain water – provided by water companies/pre-built into new builds. Essex and Suffolk customers were also in support of new builds being fitted with water-saving devices (alongside education).

Recommendation: Many customers believe that education is key – so if communicated well by water companies and supplemented with devices such as free/cheap water butts, lots of water could be saved, which could help customers save money and reduce environmental impact.

Sources: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 16, 18, 19, 20, 22, 24, 25, 27 40, 43, 44

Stakeholder – Water efficiency

Demand preferences

Feedback from the Cambridge Water roundtable highlighted that initially there was little informed discussion about demand management apart from **universal metering**. **Universal metering** would be valuable for demand management but there were concerns over bill increases. These stakeholders offered to provide help with developing **water efficiency/behaviour change** solutions.

In the emerging regional plan consultation responses, multiple stakeholders agreed there was a lack of public understanding, so water companies needed to do more in terms of **communication and education** about water use and bills, as well as offer subsidized water saving products.

The consultation responses highlighted that stakeholders wanted the regional plan to be clearer on how demand drivers from population and housing growth could be offset through demand management measures such as **leakage detection**, and a focus on **water efficiency** enabled by an increase in measures such as **smart metering**. Some stakeholders thought the demand scenarios indicated unrealistic levels of population and housing growth, which could lead to unnecessary levels of additional water infrastructure being identified. It was noted that business customers can play a critical role in supporting **water efficiency** savings.

Emerging regional plan responses from Ofwat and EA

Ofwat wanted more detail on how WRE will support households and businesses to become more **water efficient**. They mentioned the idea of a sensitivity analysis with **personal consumption** and **leakage** to understand if big savings could be achieved by shifting dates earlier or later in the planning period.

Ofwat also wanted to see WRE detail its demand savings approach to provide confidence this can be delivered.

The Environment Agency was concerned whether demand actions will deliver sufficient savings to meet HH and NHH demand in areas of high growth.

Sources: 2, 26, 27, 28

Customer – Environmental destination ambition (1)

After providing clean water and treating wastewater, managing the environmental impact of what water companies do was customers top priority. Most customers wanted water companies to go as far as practically possible to protect animal and plant life and play their part in addressing climate change.

Customer views on environmental issues

Customers thought water companies have a central role in caring for the environment but that everyone else also had a role to play.

The majority of customers were willing to change their behaviour to help reduce climate change. The most commonly exhibited behaviour was recycling as much as possible. Saving water at home was not identified as a priority activity for preventing climate change.

Levels of concern for different environmental issues

Customers were often concerned about environmental issues, but there was no clear order of priorities. Some of the issues mentioned were extreme weather events such as heat waves and storms; flooding; micro-plastics in rivers; droughts; loss of animal and plant species; and river pollution. A CCW survey showed that customers thought the greatest cause of river pollution was untreated sewage from water companies.

***2021 Insights:**

- ✓ importance of environment was consistent across all demographics
- ✓ Priority was increasing (for some companies customers it is a top priority)

Potential bias: Some environmental issues were either mentioned spontaneously, or picked out (in order) from a pre-determined list.

Demographic differences:

- Over half of Cambridge customers were concerned about the impact of climate change on the natural environment in their area.
- Future customers suggested that climate change and reducing animal and plant life extinction should be water companies' strongest focus (and would be willing to pay for action on all environmental issues).
- Larger NHH organisations had a greater understanding of the link between water usage and carbon emissions than small NHH.
- Anglian HH customers saw improving the environment as a top and crucial priority, but thought work in this area should already be well underway.

Sources: 1, 4, 7, 9,11, 12, 13, 39, 40, 42, 44, 45, 47

Different scenarios for environmental ambition

Scenario 1
Partially restores

Continue aiming to protect sensitive sites and take out no additional water that may cause deterioration – i.e., protect what we have, understanding that some rivers may not fully recover.

Will need more:
- Reservoirs
- Transfers

Scenario 2
Restores

Achieving good ecological conditions across all rivers, improving biodiversity in and around rivers and streams. Healthier habitats would make rivers more attractive for communities to use.

Will need some new water sources:
- Reservoirs
- Transfers
- Reuse
- Desalination

Scenario 3
Improves

Ecological conditions across all rivers within the region. Unique habitats such as chalk streams and salmon rivers would be specifically protected. Improved habitats would make rivers even more attractive for communities to use.

Will need substantially more new sources:
- Reservoirs
- Transfers
- Reuse
- Desalination

Investment required (the more water we leave in the environment to improve it, the more infrastructure needs to be built to maintain the supply)

Positive environmental impact

Scenarios are based on the Environment Agency's Environmental Destination scenarios, but the wording has been changed slightly to make it easier for customers to understand.

Customer preferences for environmental ambition (2)

Should water companies aim to partially restore, restore, or improve natural water sources?

1 Across the board, **partially restoring** natural water sources (Scenario 1) was the lowest rated preference.

2 **Restoring natural water sources** (Scenario 2) was widely rated the **top preference** – a good compromise and considered feasible that would come at a lower price to customers.

3 **Improving** (Scenario 3) was the ideal option for the environment, BUT customers were less willing to pay extra for this. When asked at a collective societal level, the environment held more importance, and more people were in favour of Scenario 3 (its focus on security of supply for future generations made customers less sensitive to the higher costs that would be needed to deliver this).

Should natural water sources be restored sooner or later?

Overall, there was **no clear preference** between achieving ambitions before 2040 or by 2050, but the majority thought that by 2050 is an acceptable target.

Some thought we should act sooner to reduce further cost and environmental impacts down the line. This view was most pronounced when framed at a collective, societal level (Anglian customers were more willing to restore natural water before 2040 compared to when responding at an personal level).

Some chose the 2050 option to keep bills down, as costs would be spread over a longer period. This option was also seen as being less damaging to the environment compared to the 2040 target.

***2021 Insights:**

- ✓ Customers favoured minimising damage to the environment if it can be avoided – including protecting water sources such as rivers/streams

Potential bias: It can be difficult for customers to give accurate answers when thinking about future scenarios – a 10 year difference might be difficult to put into perspective

Demographic differences:

- Some younger customers thought that better technology with less of an environmental impact might exist in the future (and were therefore more in favour of the later target).
- In Cambridge, the majority wanted to see these changes sooner rather than later (mainly before 2034). Majority of Anglian customers opted for 'before 2040'. Half of Essex and Suffolk sample felt 2050 is too late.

Sources: 1, 9, 10, 12, 16, 17

Stakeholder awareness and preferences for environmental ambition

Stakeholder awareness of environment/ environmental destination

Cambridge Water Roundtable attendees mentioned climate change as an urgent threat, but not all made the connection with drought/water supply.

Across the four WRE catchment workshops, an average of 40% of stakeholders said they knew enough about 'environmental destination' but still wanted more information. Only 6% of stakeholders overall thought they knew 'a lot' about environmental destination, apart from in the Louth workshop, where this rose to 20%.

Stakeholder preferences of environmental destination

Stakeholders in the environment sector believe the environmental scenario must include 'enhance', and even go beyond this, to ensure maximum environmental protection. Local authority stakeholders also agreed the plan should focus on the more ambitious possibilities (including 'adopt' and 'enhance').

The EA asked WRE to do further work to prioritise delivery of its environmental destination (location and pace of delivery).

Have WRE gained a clear initial view of the problem of future water deficits across all sectors and the environment?

Majority of stakeholders thought 'almost BUT more work/ information is needed to fully understand'. Stakeholders usually wanted to see more information specifically relating to their sector.
Very few stakeholders said 'no'.

Problem areas that are missing from the plan

- Throughout the initial consultation reports, multiple stakeholders were concerned for the environment and wanted WRE to focus on the environmental impacts of various solutions.
- WRE should prioritise sustainability reductions (and providing details of these) in the next stage of planning.
- Some stakeholders felt the plan lacked information about what environmental destination looks like in terms of nature recovery.
- The final plan will need to develop a high-screening approach to ensure water returned to the environment gives the most beneficial environmental outcomes to meet policy requirements related to environmental protection, improvement and restoration.
- WRE should also demonstrate a deeper commitment to the ethics of sustainability and nature conservation.

Sources: 2, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38

Customer – Drought resilience (1)

There was generally low awareness of the sense of urgency surrounding drought resilience. Many customers were unaware of drought permits, aside from mentions of hosepipe bans. When presented with drought management plans, most customers were supportive as it seemed sensible. The largest concern was bill impact.

Acceptability of TUBs and NEUBs

Most customers across the region support the use of TUBs/NEUBs in periods of dry weather, to protect the environment and water supply in the face of a changing climate.

Anglian customers generally supported NEUBs , believing water can be saved as part of a collective effort, and that restrictions should be implemented equally at the individual and business level.

***2021 Insights:**

- ✓ Customers were mainly satisfied with the current levels of service for TUBs/NEUBs with little appetite to pay more to improve them
- ✓ Customers supported 1 in 200 measures but it is less clear for 1 in 500

Drought permits vs. new methods

Customers found it difficult to decide between drought methods and investment in new infrastructure, but broadly favoured investment as a long-term strategy for water resilience. Drought permits were viewed more as a short-term fix.

Bill increases were a widespread concern, but many customers noted the need to invest now for future-proofing.

There was no consensus on whether investment in new methods should take place now, or later. Advocates of investment now cited protecting the future, whilst those who wanted to wait were motivated by lower costs.

Demographic differences:

- Amongst NHH customers, farmers were most aware of drought risks.
- With regards to TUBs, some Anglian customers raised concerns for those who grow crops as it could be environmentally unproductive to put people who are trying to live sustainably at risk of losing their crop.
- Some younger customers were in favour of implementing new methods later (rather than sooner), as they thought better technology might exist in the future which would increase supply with fewer environmental impacts.

Sources: 1, 3, 7, 9, 10, 11, 17, 44

Customer – Drought resilience and level of service preferences (2)

Acceptability of reduction of drought measures from 1 in 200 years to 1 in 500 years target by 2039

Most customers accepted the reduction in risk from 1 in 200 to 1 in 500 years, but most were generally accepting of the current 1 in 200-year risk.

Generally, most customers were happy with the reduction being achieved by 2039.

Customers had mixed views on the spend associated with reducing the risk (related to bill impact). Those who were not accepting were mainly worried about cost and not seeing the benefit in their lifetime. Those who preferred the improvement to 1 in 500 years cited worry for future generations.

Other reasons for customers not accepting the reduced risk included the odds of a drought are low so money should be spent on more pressing issues, such as fixing leaks, education, reservoirs and infrastructure.

"I'm not convinced by the need to reduce the risk that much because there's probably an awful lot of infrastructure required and cost involved and I don't think the risk, at 1 in 200, is unreasonable"
Cambridge HH customer

Demographic differences:

- Some Cambridge HH customers expected more frequent restrictions than the current service levels.
- Compared to other groups, vulnerable customers were more likely to want 1 in 500 year drought resilience achieved by 2030, (and earlier than the proposed target).

***2021 Insights:**

✓ customers were less accepting of the 1 in 500 measure when balanced with bill impact

Potential bias: It can be difficult for customers to imagine infrequent events. The difference between 1 in 200 and 1 in 500 years is more of a technical measure, and is not that comprehendible for customers.

Sources: 1, 3, 7, 9, 10, 11, 17, 44

Stakeholder – Resilience/ levels of service preferences

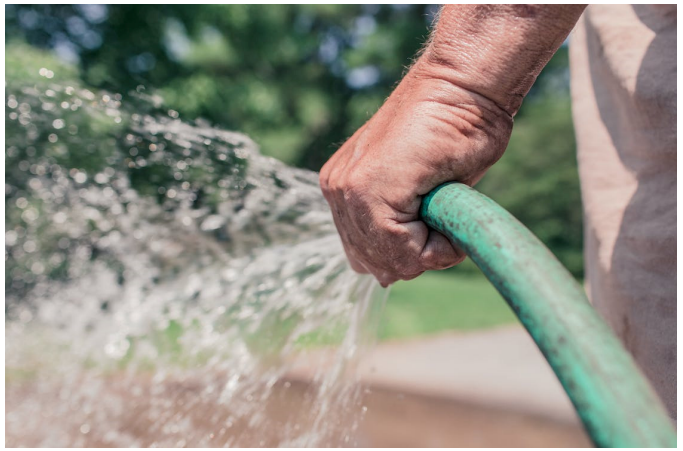
Awareness and knowledge of drought resilience

Among stakeholders, there was widespread awareness of water company water resource management plans and use of drought permits - but knowledge of the detail varied considerably.

Ofwat response to resilience

WRE should address concerns about its approach to estimating water availability in a 1 in 500-year drought and explain how this will change given the new Anglian water tool developed in collaboration with the Met Office.

WRE should set out how it is profiling changes in drought resilience (and other areas) across the planning period to optimize outcomes.



Sources: 17, 26

Customer – Preferences for Best Value Planning criteria (1)

Planning

Plans should be adaptable in case of new or emerging conditions.

Across the region, customers expressed an understanding of why the plan was being made and believed appropriate steps had been taken to ensure long-term supply to 2050 and beyond.

Water quality, reducing leakage, minimising environmental impact, and reliable supply were all considered important areas in long term planning..

Demographic differences:

- Customers who are under 34 and SEG DE were significantly less likely to support national leakage targets.

***2021 Insights:**
Acceptability of cost was linked to ensuring support for vulnerable/low income households

Affordability

There was a mixed response from customers about the affordability of plans.

Some were accepting of the best plan rather than the cheapest and thus saw affordability as a lower priority overall.

For others, affordability was a top 3 priority and should be an area or priority when planning. Water companies need to provide universal access to an essential product.

Demographic differences:

- ABC1s were more likely to see that the 'best' plan will affect bills.
- Older customers (over 50s) were more willing to pay to deliver objectives and would also pay higher amounts.
- Essex & Suffolk customers were more willing to pay higher amounts that Cambridge and Anglian customers.

Potential bias:

- Terminology can be confusing as 'best value' in other consumer contexts means 'the cheapest' (but this was mitigated as far as possible through careful use of stimulus materials).
- Customers don't feel they have enough knowledge to provide a valuable contribution.

Sources: 1, 3, 7, 9, 10, 14, 16, 17

Customer – Preferences for Best Value Planning criteria (2)

Water Quality

Water quality is viewed as an essential part of service, a necessity and a right.

Minimising Environmental Impact

Environmental protection is crucial for the future of the planet.

A healthy environment results in wildlife thriving and an increase in natural areas for the public to visit.

"Our local environment as well as the wider world environment is starting to fall apart and we need to change how we do things"
Anglian Water HH Customer

***2021 Insights:**
- ✓ Customers wanted companies to ensure clean water always comes through the tap
- ✓ Reducing leakage was a key priority, reducing wastage
- ✓ Most acceptability was based off ensuring sufficient packages for the vulnerable/ low income households

Reducing Leakage

Resources should be in place to prevent leaks (considered a huge waste by customers).

Customers feel that water companies would set a good example by fixing leaks and reducing the amount of water wasted.

Seeing fewer vans on the road or less works would be a sign of fewer leaks.

Reliable Supply

Interruptions felt like an inconvenience to customers as they expect a constant supply. A loss of supply can be a major problem if it lasts a long time.

"Stopping leakages didn't seem that important to me when I didn't understand how much water was being lost. Now I do think it is important to work at fixing as many as possible"
Cambridge Water HH Customer

Sources: 1, 3, 7, 9, 10, 14, 16, 17

Stakeholder – Preferences for Best Value Planning criteria

Areas missing which WRE should reflect in the plan

- More strategic infrastructure.
- Environmental benefits/requirements.
- The role of the planning process - need to look at role of national major infrastructure projects planning system.
- The need to include the views of people living in areas (not just working in them), particularly 'unheard' voices.

Why might the regional planning process fail to achieve it's full potential

- Funding.
- Barriers to investments.
- Public buy in.
- Getting consensus across a wide group of stakeholders.
- Listening and responding to all sectors of impacted communities.
- Legislation/government not placing policies to support demand options.

"We talk a lot about 'sectors' but how are the views of people living in areas (not necessarily working in them) particularly those 'unheard voices' who are impacted by changes in land use and types of job that might be available?"
Stakeholder

"Lack of action / buy-in from those who will be expected to change their ways?"
Stakeholder

Sources: 33, 34, 35, 36, 37

Customer – Investment priorities (1)

Top investment priorities

Reducing leakage was a top investment priority area for most customers.

Investment in the environment was a priority for many. There was a strong desire for water companies to go 'beyond the basics', especially in relation to extinction of plant and animal life and climate change. Customers (bill payers) and consumers (non bill payers) tend to think the same on this priority.

Demographic differences:

- Non-households are more likely to prioritise grey water above leakage.
- Customers under 34 years old and SEG DE were significantly less likely to support national leakage targets.
- Rural farming areas felt strongly about environmental additions, e.g. Cambridge / Across regions.
- Future customers had strong engagement with the environment.

Other important investment priorities

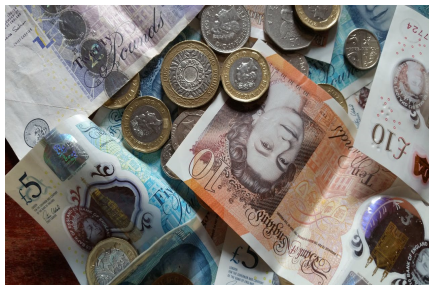
A reliable supply and safe to drink water.

Reduce sewer flooding – keeping sewage out of homes and rivers.

Investment in new infrastructure – to provide effective long term strategy for water resilience.

Demographic differences:

- Parents and grandparents had a focus on education of young people.



Sources: 1, 4, 9, 10, 11, 12, 13, 14, 17, 21, 42, 46, 47

Customer – Investment priorities (2)

WTP and Affordability

Top WTP value per area:
Context: To understand preference for public value as part of the strategic resource option scheme.

- Environmental: 'Specialist habitats created for wildlife' £3.87
- Social: 'Walking paths, boardwalk, bridleway and cycle trail' £2.52
- Economic: 'Space provided for sustainable agriculture' £2.61

Environmental elements, on average, had the highest valuations. There is appetite from customers to pay for environmental improvement (see Environmental Ambition).

Making sure bills are kept affordable was important to most customers.

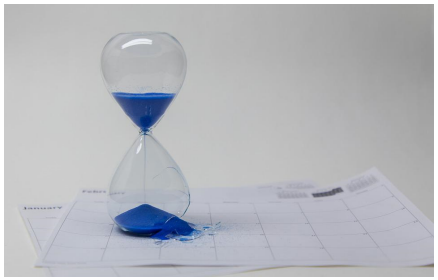
When to invest

When it comes to investing sooner rather than later, opinions between customers were divided. However, customers found more disadvantages with investing before 2040 and investing for 2050 was seen as less damaging to the environment.

Demographic differences:

- Anglian customers more likely to want action as soon as possible.
- Some older customers would rather pay sooner (even if they may not see the benefits themselves), rather than future generations having to pay further down the line. Other older customers wanted to delay payments as they might not see the benefits in their lifetime.
- Some younger customers thought they would more financially stable in the future, and hence able to pay later on in life.

"You could be messing with a lot of wildlife so it's important to balance that out" *Cambridge Water Future Customer*



Sources: 1, 4, 9, 10, 11, 12, 13, 14, 17, 21, 42, 46, 47

Stakeholder – Investment priorities

Question asked in a WRE Strategic Advisory and Consultation Group Poll:

Have we identified sufficient potential solutions to mitigate the challenge of future water deficits - does our initial plan look like it will solve the problem we face?

- Of the 25 stakeholders who took part in the poll:
- 9 said yes
- 7 were positive but with reservations:
  - Agriculture needs more immediate help.
  - Scale is immense and requires long term collaboration.
  - Where will the money come from?
- 9 did not agree
  - Short term solutions don't appear to be as robust or reliable as they are portrayed.
  - Not convinced we understand the needs of agriculture set against the significant climate impact.
  - Good progress is being made but still more to do.

"Yes, although the scale is clearly immense and requires a real long term collaboration to achieve"
Stakeholder

"It might help solve the problem 'in time' however agriculture does not have time"
Stakeholder

Sources: 38

Customer – Related impacts around water quality and supply (1)

Water scarcity awareness

- Water was seen as a cheap, reliable resource that very few people actively reflect on or control their consumption. Compared to other countries, water in the UK was felt to be easy to access.
- The idea of water scarcity was a new one for customers.
- When told the amount of additional water needed to maintain supply (overall and individually) customers were shocked.
- Customers struggled to recognise the urgency to resource additional water to overcome scarcity. This was related to a perceived lack of information on the subject being provided by water companies.

Water scarcity and behaviour change

- When educated on water scarcity, few customers actively reflected or reduced their own usage, nor was there evidence of a fundamental shift in their perception of water scarcity.
- Companies must avoid 'scaring' customers and provide an appropriate level of information. Customers wanted praise for good behaviour, support and education to help them make changes to the way they use water.
- Water retailers, national government, local government and regulators were most trusted to communicate the urgency of the water resource situation. A majority of customers thought the national government should do more to raise awareness of the threat of water shortages.

Demographic differences:

- After engaging with information about water scarcity, business customers had little overall change in their perceptions of water scarcity (a worrying topic, but unlikely to change behaviours). This may be because of high usage needs when operating their business.
- Customers aged 18-34, those from urban areas and those from ethnic minorities are most likely to say they take water for granted.

"I need to be able to get the job done, I can't compromise on that in order to save water"
Business Customer, London

Sources: 20, 40, 44

Customer – Related impacts around water quality and supply (2)

Perceptions of Water Quality

- Hardness was the most commonly cited 'water issue', but few thought this would affect how they use water. Differences in the characteristics of water were described as differences in 'quality'. There was some awareness of local variation in water, with hardness, pressure and then taste, the most common. These differences were also often described as differences in quality.
- There is trust that all UK water is clean and safe.
- Differences most often mentioned were those between water in the North vs. South of the country, as well as compared to other countries.

"The quality of water (for drinking, cleaning, etc.) is essential for consumers"
Anglian Water HH Customer

***2021 Insights:**
✓ Customers wanted companies to ensure clean water always comes through the tap

Importance of Water Quality

- Maintaining quality and supply is essential and seen as the most important service water companies can provide. It was seen as a baseline necessity and customers believe they have the right to clean, potable water directly through the tap.
- A lack of clean water would make customers concerned.
- Many customers thought good quality, softer water is also key, particularly for those who buy bottled water as their tap water doesn't taste adequate.
- Customers were currently satisfied with areas regarding water quality, including: colour, appearance, taste and smell. However, they are sometimes not satisfied with hardness/softness of the water.

Demographic differences:
- The satisfaction level with the hardness/softness of the water in the Cambridge Water area is statistically significant (48% South Staffs Water vs. 29% Cambridge Water).

Sources: 4, 13, 14, 20, 39, 44

Customer – Related impacts around water quality and supply (3)

Key Learnings from the Water Club: Changes of Source report

Water quality taste testing:

- Blind taste tests involved participants tasting various samples from different source options, followed by a reveal and discussion of the importance of different product characteristics.
- Taste tests indicated that most people were unable to detect differences at the level that might be expected in a source change.
- Participants said they were unlikely to engage with communications on source change. However, the potential risk of *not* communicating was greater, so there is still a need to communicate the rationale for any change, to alleviate taste concerns, and to provide clear guidance on impact.

Communications framework and how customers want to receive change of water source communications:

- A deep dive (explored qualitatively and quantitatively) was conducted on how source changes should be communicated for each water source option – covering content, tone of voice, timing and format.
- Overall, the best way to frame communications was with a '**human frame**', emphasising information about new sources and the practical consequences of the source change, followed by environmental framing, and lastly, practical framing.
- Most HH customers wanted to be first notified **3-6 months in advance** of a source change, whilst NHH customers were more likely to want a closer notification of change. Most customers then wanted another reminder of the change closer to the time, but generally only once.
- The preferred form of communication about source changes was an **email** and/or a **letter** separate from the water bill. Most customers said they would click through to view additional information, although in reality this number might be lower, but it shows the importance of providing comprehensive information to those who may want it.
- This research identified a need to communicate to customers about any source change, but water recycling and desalination in particular need more engagement due to a higher level of spontaneous concerns. For water recycling, these concerns were centred around taste, hygiene and safety. Desalination also generated concerns, which tended to be around taste and price.

Sources: 18, 19, 20

Stakeholder – Related impacts around water quality and supply

Water Scarcity

- Incorrect assumptions made in regard to water resources and scarcity include:
  - Agriculture: Farmers wasting water and using it unnecessarily
  - Water availability: Water is a free and finite source; there is no shortage
  - Growth/Demand: Demand is reducing over time and there is plenty of water available already

- The biggest challenges for current and future resource include:
  - Public ignorance regarding water shortage
  - Lack of water now and in the future – especially with an expanding population, the number of new developments and climate change impact
  - The uncertainty of saving water, future availability and security

Sources: 35, 36, 37

Research gaps

IMPACT

FROM INSIGHT TO INFLUENCE

Research gaps

Overall, the insight was comprehensive across the region. There are a small number of gaps we have identified to consider when planning/conducting future research:

1. Vulnerable customers: Research focused on topics such as universal metering. E.g., finding out how to support customers move onto metered supply who might be adversely impacted from a financial/medical reason by a universal metering campaign. This is especially relevant due to the cost-of-living crisis and rising financial vulnerability.

2. Specific willingness to pay (WTP) values. Further research in this area could help further evaluate customer appetite for each aspect in the regional plan – e.g., leakage reduction, universal metering, reservoir storage, or environmental destination. This can help to test if the order of priorities will change when faced with specific bill impacts.

3. Communication preferences. Research to investigate customers' communication preferences regarding education/advice approaches to water efficiency. For example, what type of advice or information do they want? Who from? Through what channels?

Appendix A: Research sources

FROM INSIGHT TO INFLUENCE

Sources used in August 2022 (1)

FW = Fieldwork date
P = Publication or upload date
SH = Stakeholders, HH = Household customers (includes future customers), NHH = non household customers

CW = Cambridge Water
AWS = Anglian Water
WRE = Water Resources East
CCW = Consumer Council for Water

WRAP = Water Resources Advisory Panel
MCDA = Multicriteria Decision Analysis
SRO = Strategic Resource Option

Ref.	Co.	Data source	Sample size	Date (FW or P)*
1	CW	Accent SSC WRMP Themes 1 and 3, Managing droughts, leakage ambition, universal metering, environmental ambition – Quantitative Insights	427	FW Feb/Mar--21
2	CW	Stakeholder Roundtable Feedback	8 SH*	FW Oct-21
3	CW	Accent WRMP: MCDA Quantitative Insights	445	FW Dec-21 to Mar-22
4	CW	Accent Priorities Research – Qualitative and Quantitative Insights Year 3	Qual: 3 Zoom groups with HH and NHH, and extra interviews. Quant: 353	Qual FW: May-22 Quant FW: 2021 - 2022
5	CW	Turquoise Customer Tracking Research Report 2021/22	245 HH and 95 NHH	P Apr-22
6	CW	Findings from the WRAP DEEP DIVES on universal metering and water transfers	16 HH and 4 NHH	P Nov-21
7	CW	H2Online – Summary of activities relevant to WRMP engagement	Varying between posts, 8-30	FW Apr-21 to Mar-22
8	CW	Findings from the WRAP Focus Groups on options relating to metering, tariffs and water transfers	4 HH and 1 NHH	P Feb-22
9	CW	Findings from the WRAP's. Theme: Strategic Decisions. Online forum.	20 HH and 5 NHH	P Aug-21
10	AWS	Emotional Logic Customer Engagement Quantitative Research	1,489 HH, 107 NHH customers, and 250 F2F	P Mar-22
11	AWS	WRMP24 Love Every Drop online community feedback report covering tasks 1-3, Intro to WRMP24 and Drought Resilience topics	<180 each week	P Apr-22
12	AWS	WRMP24 Love Every Drop online community feedback report covering task weeks 4-5, Environmental Ambition	<221 each week	P Apr-22
13	AWS	Online Community PR24 and WRMP Customer Engagement Report	<220	P Nov-21
14	AWS	Love Every Drop online community WRMP 2021 Feedback	<120	P Mar-21
15	AWS	WRMP24 Love Every Drop online community feedback report covering task weeks 6-7, water desalination and water reuse	<183 each week	P May-22

Sources used in August 2022 (2)

Ref.	Co.	Data source	Sample size	Date (FW or P)*
16	ESW	Water Resources Management Plan Survey Report	1,212 HH and 102 NHH	P Jul-22
17	WRE	Blue Marble WRE: Club Customer Engagement Final Report	89 HH (reconvened) and 14 NHH and 24 SH	FW Aug to Oct-21
18	WRE	SRO Change of Use WRSE and BT: Workshop 2 – Interim qualitative findings and next steps	108 HH and 24 NHH	FW Feb to Mar-22
19	WRE	SRO Change of Use WRSE and BT: Workshop 3 – Interim qualitative findings and next steps	108 HH and 24 NHH	FW Mar-22
20	WRE	SRO Water Club: Changes of Source full report	Qual: 108 HH and 24 NHH. Quant: 1,762 HH and 198 NHH	FW May to Jun-22
21	WRE	SRO Public Value Schemes Research: Combined Insights	Qual: 24 groups (~144). Quant: 5,902 HH and 553 NHH	P Jul-22
22	WRE	Blue Marble WRE NHH engagement: Interim report: Water retailers	9 NHH (retailers)	FW Dec-21 to Jan-22
23	WRE	Blue Marble WRE Promoting Water Efficiency in the NHH Sector: Collaborative RoundTable Meetings Debrief	4 NHH (retailers)	FW Mar to Apr-22
24	WRE	Strategic Solution Gate One Submissions: Preliminary Feasibility Assessment: South Lincolnshire Reservoir	Qual: Details unknown. Quant: 360 HH and 80 NHH	P Jul-21
25	WRE	Strategic Solution Gate One Submissions: Preliminary Feasibility Assessment: Fens Reservoir	Qual: Details unknown	P Jul-21
26	WRE	WRE Emerging Regional Plan Consultation Response from Senior Director at Ofwat	~1 SH	P Feb-22
27	WRE	WRE Emerging Regional Plan Consultation Response from the Environment Agency	~1 SH	P Feb-22
28	WRE	WRE Emerging Regional Plan Consultation Responses Summary By Sector	~33 SH	P Feb to Mar-22
29	WRE	Catchment Stakeholder Workshop and Poll: What our members say: Cam and Ely Ouse, Welland and Nene, Old Bedford, Upper and Bedford Ouse	~37 SH	FW Oct-21
30	WRE	Catchment Stakeholder Workshop and Poll: What our members say: Combined Essex, Roding, Beam and Ingrebourn	~16 SH	FW Nov-21

Sources used in August 2022 (3)

Ref.	Co.	Data source	Sample size	Date (FW or P)*
31	WRE	Catchment Stakeholder Workshop and Poll: What our members say: Louth, Grimsby and River Ancholme, Witham, Steeping, Great Eau, and Long Eau	~10 SH	FW Nov-21
32	WRE	Catchment Stakeholder Workshop and Poll: What our members say: East Suffolk, Broadland, North West Norfolk and North Norfolk	~31 SH	FW Nov-21
33	WRE	WRE Webinar on our Emerging Regional Plan and Consultation	~63 SH	FW Feb-22
34	WRE	WRE Regional Planning Conference	~4 SH	FW Oct-21
35	WRE	WRE Regional Planning Conference	~30 SH	FW Oct-21
36	WRE	WRE Regional Planning Conference	~5 SH	FW Oct-21
37	WRE	WRE What our members say: Regional Planning	~39 SH	FW Oct-21
38	WRE	WRE Strategic Advisory and Consultation Group Meeting	~25 SH	FW Nov-21
39	Other	Blue Marble Communicating with the Public about Climate Change: Cold Facts and Hot Air	Qual: ~25. Quant: 2,090 HH	FW 21
40	Other	Blue Marble Water Usage in the Garden	15 HH	FW Nov-21
41	Other	CCW Water Awareness Summary Report	1,310 HH	FW Feb-22
42	Other	CCW Public Views on the Water Environment	62 HH	P Jul-21
43	Other	Waterwise and Arqiva Report: Public Attitudes towards Smart Water Meters	Quant: 1026 HH. Qual: 11 HH	FW Jul-21
44	Other	RWG Non-Household Customer Water Efficiency Survey Results	744 retailer customers and 9 self-suppliers	FW Jul to Aug-21
45	Other	CCW Awareness and Perceptions of River Quality Summary Report	2,187 HH	FW Dec-21
46	Other	Ofwat and CCW Preferences Research	12 groups with ~6 HH in each, and 16 interviews with HH and NHH	P Apr-22
47	Other	Ofwat and CCW Customer Spotlight: People's views and experiences of water	3,379	FW Oct to Dec-21

Appendix B: Triangulation method

FROM INSIGHT TO INFLUENCE

Triangulation method (1)

- 47 pieces of qualitative and quantitative customer and stakeholder research were synthesised in this triangulation report.
- The research included was provided by the WRE water companies, but also included a few studies from outside the water sector.
- This report builds on a piece of synthesis conducted in 2021 which triangulated 29 pieces of research from WRE water companies between 2013-2021 (focused on demand and supply).
- This reports focus on data shared since summer 2021. Research prior to this will have been included in the initial 2021 review.
- The current report examines trends, variability in the data (between the water companies, between customers and stakeholders, and potential drivers of differences), and any identifiable research gaps.
- The following thematic framework was used:

Context	Demand and supply side options	Source preference (supply)	Water efficiency (demand)	Environmental destination ambition	Resilience/ levels of service preferences	Preferences for Best Value Planning criteria	Investment priorities	Related impacts around water quality and supply
Awareness Environment Resilience Water quality Cost	Preferences Balance of options as a regional level and by water company region	Reservoir storage Desalination Water reuse/recycling Water transfers Storing water underground Sea tankering	Leakage Universal metering Smart metering Education/ advice approaches related to behavioural change Rain/grey water harvesting	Levels of environmental destination Timescales	1:500 2039 target TUBs NEUBs	Best Value Plan areas	Matched against Best Value Planning criteria	Consider wider resilience benefits as per the National Framework 'must, could should' guidance

Triangulation method (2)

- We have followed the CCW/SIA report* on best practice triangulation to ensure the triangulation process used is a systematic, interrogable and replicable review of evidence. We used the following recommendations:

Engagement should be an ongoing process	Wide range of inputs	Balanced decisions should be at the core of triangulation	Wide range of datasets	Transparent and consistent weighting framework	Companies should seek independent assurance of their process and outcomes
Conducted the review one year after the previous review, to demonstrate that insight is being actively used regularly, and triangulated with other emerging research.	The insight triangulated included WRE's own research, as well as wider industry research and some relevant resources from outside the water sector.	Used a systematic approach to record where insights differed between WRE regions, customers and stakeholders, and between different customer types (such as future customers or NHH).	Validated findings were made via comparisons between a range of quantitative and qualitative sources (the collation process involved recording the qualitative or quantitative nature of sources, if questions were open or closed, prompted or unprompted, if respondents were pre-educated or not, etc.).	Gave RAG ratings, and respondent expertise scorings, for each research piece (agreed upon by multiple raters).	Triangulation process was carried out independently by Impact MR, a market research company with no conflict of interest with any WRE affiliates.

- Each data source was analysed using the same approach – summarising the key insight points relevant to the main objectives, recording the methodology, respondent type and dates of the research, and finally triangulating the insights to display articulated narratives surrounding the key themes.

*SIA Partners and CCW: Triangulation – A review of its use at PR19 and good practice Final Report (April 2021)

Triangulation method (3)

Our approach to the key stages of the research is outlined below:

Initial data collection	An audit of the customer and stakeholder research provided by the WRE water companies. Excel was used to record each piece of research and within that, the pertinent questions or themes relevant to answering the project objectives. Each row in Excel contained a question or topic from a report, the main research theme it fell under, the relevant findings (regional or demographic differences were brought out in a separate column) and any factors that could influence the weight or credibility of responses received to ensure this was considered in the analysis stage later. The following points were included in each Excel entry: whether the research was qualitative or quantitative in nature, whether the question was open or closed, whether a response list was provided or if there was any opportunity for open responses, sample size, sample profile (HH, NHH, future customers), fieldwork or publication dates, expertise of sample in answering the specific question, RAG bias rating, any critical context, and any other notes relevant to the interpretation of the data.
Synthesis of research	Microsoft Word was used to create new insight tables that listed the sources and key findings out via key theme areas (listed in method slide 1), so that we could start to draw out conclusions about overall sentiment towards particular areas, but also distinctions that applied between different subgroups. This approach was taken question area/topic at a time, collating responses where questions were either similar enough to be comparable, or where topics were similar enough to show a broad finding. We also ensured that this collation considered methodological and contextual factors, in order to not discount or over-credit a particular subgroup or research source. At this stage, data was also looked at holistically to bring out any broad demographic patterns in attitudes, and to see if these nuances appeared in multiple sources. This allowed for broad summary findings to be highlighted, as well as retaining details of critical differences, where needed.
Integration of wider reports	At this stage we looked at the wider industry research that supported the objectives and noted if they drew similar conclusions to the previous synthesis phase or not, and why this might be. This stage also fed into the context building around the project. This phase was critical to add reassurance and credibility to the previously collated findings.
Reporting	Sticking to the best practice triangulation techniques, we checked the Excel report again to ensure we had highlighted all relevant findings to the key topics. We then set to work on populating the draft PowerPoint report section by section, splitting customer and stakeholder insights into separate slides, and including demographic or regional differences, as well as potential bias or shortfalls of the data included on each slide. This stage involved summarising customer and stakeholder preferences succinctly and clearly for all audiences. Comparisons to the 2021 research were brought in during this phase, to tie to whole report together.

THANK YOU

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All projects are carried out in compliance with the ISO 20252 international standard for market, opinion and social research and GDPR.

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