Draft Water Resources Management Plan 2024

Technical Appendix T - Our Customers' Priorities and Preferences

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Background and Introduction

The priorities and preferences of our customers has been an important part of developing our long term plan for water resources.

The regulatory framework sets out the requirement to ensure we engage with our customers, understand their priorities and preferences and use these to inform the development of the regional plan and our WRMP24 to ensure we deliver value over the long term. We have worked to comply with regulatory requirements.

The engagement we have undertaken has included regional, company and scheme specific work. We used independent agencies to conduct the customer engagement, ensuring expert input and challenge as well as helping to bring forward innovative approaches. In delivering our programme of engagement we have been mindful of the PR24 guidance set out by Ofwat and CCW (previously the Consumer Council for Water) on minimum standards for high-quality research and best practice for customer engagement.

We worked with the regional Customer Challenge Group (rCCG), which is made up of CCW alongside representatives of the South East water companies' own CCGs, on the regional studies and engaged with CCW and other regulators on other studies.

A summary of the research that we have undertaken including the scope, how the insight has been used to inform the development of the draft plan and ensure the successful implementation of the plan, is presented in this Appendix. The full research reports are available on request please contact info@thames-wrmp.co.uk.

T.1 Customer engagement has been an important part of developing our long term plan for water resources. We have reviewed previous research undertaken for WRMP19 and PR19, worked collectively with other water companies in the South East, and also across the strategic resource option projects, and have undertaken additional research to understand our customers' views, priorities and preferences. We have used this insight to inform the development of our draft WRMP24.

T.2 We have used best practice methods, worked with leading independent Market Research agencies, and used a wide range of techniques to elicit customer views on water resources. We engaged a wide range of customer segments including hard to reach, future and non-household customers. The approach we have taken is in line with the expectations set out in the WRPG[1] and regulatory framework[2] and CCW was engaged in the design of the research studies completed by WRSE and for the strategic resource options (SROs).

T.3 This appendix is structured as follows:

- An overview of customers' priorities and preferences in relation to long term water resource planning
- How these preferences have been considered in the development of the draft WRMP24
- An overview of the research studies undertaken

[1] EA, Ofwat, NRW Water Resources Planning Guideline, update July 2022
[2] Ofwat PR24 draft Methodology – Creating tomorrow together, 2022

Overview of our customers' priorities and preferences

T.4 Here is a summary of our customers' priorities and preferences in relation to the core aspects of long term water resource planning. These are drawn from the range of research studies undertaken.

	Customers' priorities and preferences - Headlines	Source
Planning principles	A constant supply of safe, high-quality water at good pressure is the top priority for our customers. Most customers are unaware of the challenges to ensuring future water supplies. When they are informed, customers want plans to ensure long-term security of supply for public supply purposes and other sectors. Customers are fully supportive of the collaborative approach to developing the plan in the South East. There is a strong expectation that the plan will deliver beyond the minimum requirements for ensuring long-term security of supply, by reducing the dependency of the system on the environment and building in additional capacity to ensure against wider uncertainty and disruption.	TW WCC&SW[3] WRSE Part 1[4] and 2[5]
Levels of service	There is a willingness to support plans and investments that will safeguard service levels. Whilst some limited aspects of extreme drought measures (rota-cuts/standpipes) may be felt to be tolerable, most restrictions on the use of water that would be in place are generally not acceptable to customers. Correspondingly, there is support for reducing the risk of these measures being needed. Restrictions on water supply in response to drought or extended dry periods are considered to be of lower importance to customers than other performance commitments. The restrictions which would be introduced in a more severe drought are of more importance than a hosepipe ban or non-essential use ban.	WRSE Part 1[4] Ofwat collaborative research to test the draft common performance commitments[3]
Solutions - overall	Customers recognise that a pragmatic mix of options are required. Leakage reduction, demand measures, and new supply sources are not seen as substitutes, it is the timing and ordering of options that matters most to customers. First, companies must get their "own house in order" by reducing leakage and helping customers to save water. After this, the right supply options for customers are ones that are reliable, avoid environmental harm, and provide wider benefits	WRSE Part 1[4]

[3] What Customers, Communities and Stakeholders Want, v 16, Thames Water, August 2022 - document which triangulates insights for PR24
[4] Customer Preferences to Inform Long-term Water Resource Planning, Synthesis of Findings – Summary Report for WRSE, Eftec & ICS, March 2021
[5] Best Value Criteria – Customer Research for WRSE, Eftec, May 2021

	Customers' priorities and preferences - Headlines	Source
	including enhanced local amenity and recreation opportunities.	
Leakage reduction	Customers expect us to improve the efficiency of the water supply system – tackling leakage and promoting the efficient use of water. Customers are shocked that 24% of treated water is lost through leakage. They feel that current levels of leakage are too high. They call for a reduction in the current leakage level to a level that is comparable to the rest of the industry and are prepared to accept some impacts on their bill and disruption from roadworks to achieve this. They expect future leakage levels to be around 14% or 15%. To manage the issue of leakage, customers believe that replacing old pipes is crucial, that the water pipe infrastructure is out of date and vulnerable to leakage. Customers believe a systematic programme of renewal/replacements rather than ad-hoc repair is required.	TW WCC&SW[3]
Metering	Customers broadly accept that extending metering is an essential part of reducing water use in our region. Customers support the on-going roll-out of our metering programme, although they would prefer to choose rather than it being compulsory.	TW WCC&SW[3]
Water efficiency	Customers acknowledge they have a role in reducing consumption – 76% of customers agree they would be willing to change their habits to reduce their water usage. 55% of customers said they would like their water company to tell them more about how they can reduce their water use and support education, information, advice, advertising and 'freebies' to help customers understand the need and reduce their water consumption.	Water Club: Change of Source', June 2022 Britain Thinks[6] and WRSE - Drought Communication Research – Accent, June 2021[3]
Investment in new sources of water	Customers are generally supportive of major infrastructure projects where they can be shown to deliver solid improvements and benefits for the future, for example they are supportive of the Thames Tideway Tunnel when the reasons for it are explained. Customers prefer new supply options that have a net positive environmental impact and deliver wider public value (e.g. recreation and amenity). There is a role for water sharing and transfers if they are an absolute necessity, but in general the inherent preference is for self-sufficiency within an area rather than dependency on a transfer-in. Indeed, customers can be uncomfortable with transfers because there is a perception that these schemes will simply shift water availability problems around the country rather than dealing with them directly.	TW WCC&SW[3] WRSE Part 1[4] Water Club: Change of Source', June 2022 Britain Thinks[6]
Protecting the environment	There is a high level of importance placed by customers on protecting the environment. Customers' view is that water	WRSE Part 1[4] & 2[5]

[6] Water Club: Changes of source, Britainthinks, June 2022

	Customers' priorities and preferences - Headlines	Source
	companies should not plan to harm the environment. They deem it unacceptable that long term plans to secure water supplies would be at the expense of the environment and that water companies should reduce their dependency on sensitive habitats and groundwater sources plus the use of drought orders and drought permits is seen as a last resort. Customers think our overall goal ('*Ensure there is enough water in the future, without taking too much from rivers and harming the environment*') is not only commendable but essential to the future of both customers' wellbeing and the environment. A sizeable minority believe that action should be taken more urgently or provide customers with assurance that we will not cause significant damage to waterways during this process of balancing water supply vs. environmental needs. Though customers feel that sustainable abstraction was important, when presented with a range of our priorities they prioritise core delivery issues such as replacing aging mains and pipes and upgrading the sewer network over sustainable abstraction. Sustainable abstraction was ranked second last by customers.	Thames Water's Vision 2050 and public value[7] TW Enhancement case research[8]
Providing wider value	A majority of customers are in support of public value and believe such activities are an important part of how the business should conduct itself and what it should deliver. However there is a clear prioritisation towards core services and environmental elements. On the environment customers believe that in addition to our core services, it should be looking to safeguard the environment where possible, and that historically, this has been neglected. Those elements that are de-prioritised tend to be the less tangible or less service related, such as 'connecting you with your local surroundings' and 'bringing communities together' These findings were reflected in the public value research undertaken for the strategic resource options which identified that for new water supply options, environmental project additions were valued highly.	SRO Collaborative project on public value[9] Thames Water's Vision 2050 and public value[8]

[7] TW Customer Voices, Public Value research, Verve, May 2022
[8] Thames Water's Enhancement deep dive on sustainable abstraction, Verve, March 2022
[9] Customer preferences on added value for large resource schemes, Accent & PJM economics August 2022

How our customers' priorities have been considered

T.5 In this section we explain how we have considered and taken account of the priorities and preferences of our customers in developing the draft WRMP24.

Topic	How we have taken feedback into account
Planning principles	Working collaboratively we have developed a plan that will achieve long-term security of supply for the whole of the South East region. The plan is a best value plan that will deliver beyond the minimum requirements, will ensure we are ready for the changing climate with additional capacity to ensure against wider uncertainty and disruption and will protect and improve the environment.
Levels of service	We have ensured our plan will deliver enhanced levels of service, to cope with a 1:200 drought by the early 2030s and a 1:500 year drought by the 2040s in line with customers preferences around severe water restrictions. This improved level of service will also help to protect the environment as drought permits will need to be used less frequently.
Protecting the environment	Customers generally support investment to protect the environment and to work towards our long-term aspiration to cease all abstraction that adversely affects sensitive streams however, there are concerns over the cost. We have developed three scenarios – high, medium and low – to achieve sustainable abstraction. In our draft plan we have proposed that we follow the high scenario, this is in line with regulators' preference, but we will adapt our approach as we learn more. We will test this approach as part of the consultation on the draft plan, particularly in respect of affordability. .
Leakage reduction	We have prescribed the extent of leakage reduction we would achieve by 2050 in our draft WRMP24. This is in line with Government's expectation and is also in line with customers preference to tackle leakage as a priority. The pace of the programme reflects our experience of what is deliverable and efficient for customers.
Metering and efficient use of water	We developed a range of demand reduction programmes to consider in the development of the draft plan. These are presented in section 8. The approach includes ongoing roll out of smart meters and a wide programme of measures to support our customers to use water efficiently. Demand reduction makes up the substantial programme of activity in the early phase of the plan, this is in line with the preferences of our customers. To achieve the proposed plan will need concerted action from Thames Water as well as government, other parties and our customers. We will regularly review progress.
Preferences for options	Our customers ranked the different options to solve the water planning shortfall. The preferences customers placed on different options has been used to develop a customer preference metric, which is one of the best value metrics, directly used by the WRSE investment model and in programme appraisal to determine the best value regional plan. We have used a broad portfolio of options in the

Topic	How we have taken feedback into account
	long-term plan, this ensures balance and futureproofing for our water supply.
Ensuring promotability of new water supply options	Customers told us that they had concerns around water recycling over and above some of the other new source options. We engaged with customers to test the format and scope of communications they would want to ensure they would be informed and confident in the safety and quality of their water supply. This ensures we are confident we can explain, and successfully promote water recycling schemes to our customers.
Choosing the best value adaptive plan	A customer preference metric, developed to reflect the preferences of our customers to specific options, was one of the eight best value metrics used to optimise the best value plan. In addition the weights that customers attributed to the 'best value' criteria has informed the selection of a preferred regional plan.
Acceptance and affordability	During the consultation on the draft plan we will test with customers their overall acceptance of the regional plan in terms of affordability and ambition, and we will consult with a representative sample of our customers on our draft WRMP24. The output will be included in the revised draft WRMP24 and reported as part of the response to the public consultation.

Overview of the research studies

Thames Water led research

T.6 The draft WRMP24 is an important component of our business plan and research and engagement to inform the draft WRMP24 has been undertaken in coordination with the wider company research and engagement programme to ensure consistency and alignment. In 2021, at the start of this round of work on the long-term plans and the business plan, we conducted a review of the evidence collated for WRMP19[10] alongside evidence from PR19, an initial PR24 foundational customer survey and insight from our continuous service and brand surveys to create a foundation insight framework[11]. Since then we have devised and implemented an approach to 'triangulating' the views of customers and stakeholders from different sources, the approach[12] follows best practice guidance from CCW and incorporates additional elements used by other water companies at PR19 and energy networks during the RIIO-2 price control. Each insight source is scored using a system that assesses the robustness of the engagement activity and feedback gathered. To date almost 200 separate insight sources have been assessed and triangulated and the output, our 'What Customers, Communities and Stakeholders Want' document, which features the insight framework is a clear and comprehensive view of the outcomes customers and stakeholders expect us to deliver on their behalf. This is a core reference document in preparing our plans.

T.7 The insight framework consists of four key outcomes, broken down into 15 "customer wants", with the "wants" then further broken down into 31 "sub-wants" and more detailed insight messages for key topics within each area. This is shown in Figure T - 1.

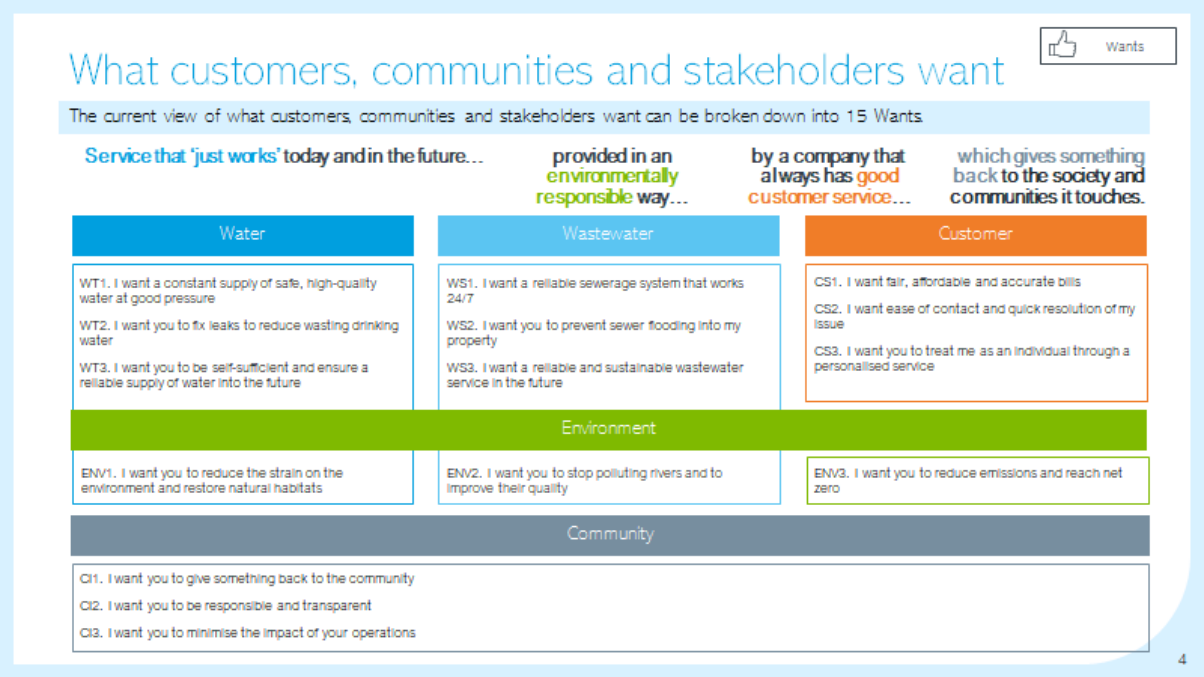


Figure T - 1 Insight framework from What Customers, Communities and Stakeholders Want[13]

[10] WRMP19 Appendix T
11 Foundation insight framework, October 2021
[12] PR24 Insight triangulation and line of sight methodology, Sia Partners, February 2022
[13] What Customers, Communities and Stakeholders Want, v 16, August 2022

T.8 The ranking of customers' wants is shown in Figure T - 2, with two of the highest priority "wants" and two of the medium ranking "wants" relevant to planning future water resources as follows:

High

- I want a constant supply of safe, high-quality water at good pressure
- I want you to fix leaks to reduce wasting drinking water

Medium

- I want you to be self-sufficient and ensure a reliable supply of water into the future
- I want you to reduce the strain on the environment and restore environmental habitats

Figure T - 2 Customers relative priorities of key wants

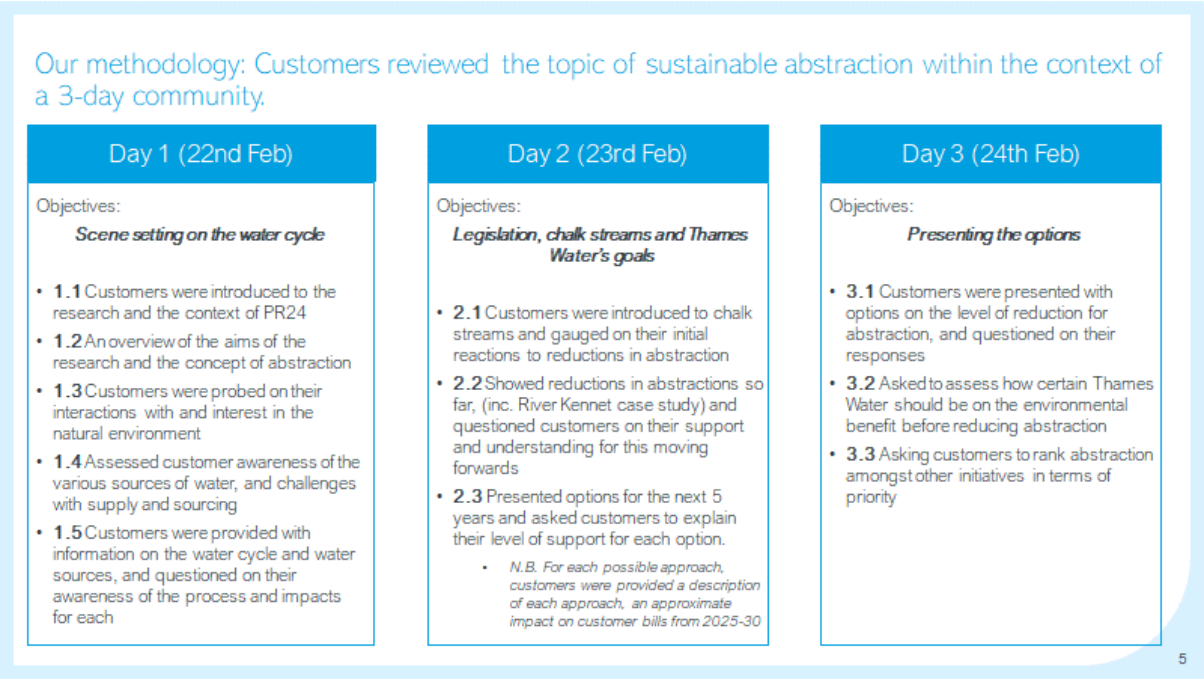
Enhancement topics – deep dives

T.9 In 2022 we undertook deep dive research on areas of potential additional investment for PR24 including net zero, trunk mains and replumb London and sustainable abstraction. These topics were explored with our Customer Voices panel through multi-day online community activities, each involving a broadly representative sample of around 40 Thames Water customers, five future customers (non-bill payers aged 18-24) and five business customers (a total of 232 customers)[14]. This deep dive research showed that customers were generally supportive of the potential enhancements to service in 2025-2030. Greater support was given to initiatives impacting core service delivery: water pipe replacement to improve reliability of supply and reduce bursts and leakage; and increased sewer capacity to reduce sewer flooding to properties as well as sewer spills to the environment.

T.10 The methodology and research sample for the deep dive on sustainable abstraction is shown in Figure T - 3 and aimed to seek feedback from customers on the objective to improve the

[14] Appendix 3: PR24 Enhancement Area Deep Dives, Verve, March 2022

environment (related to abstracting water) beyond current statutory requirements, and if so, how quickly.



Our methodology: Customers reviewed the topic of sustainable abstraction within the context of a 3-day community.

Day 1 (22nd Feb)

Objectives:

Scene setting on the water cycle

- **1.1** Customers were introduced to the research and the context of PR24
- **1.2** An overview of the aims of the research and the concept of abstraction
- **1.3** Customers were probed on their interactions with and interest in the natural environment
- **1.4** Assessed customer awareness of the various sources of water, and challenges with supply and sourcing
- **1.5** Customers were provided with information on the water cycle and water sources, and questioned on their awareness of the process and impacts for each

Day 2 (23rd Feb)

Objectives:

Legislation, chalk streams and Thames Water's goals

- **2.1** Customers were introduced to chalk streams and gauged on their initial reactions to reductions in abstraction
- **2.2** Showed reductions in abstractions so far, (inc. River Kennet case study) and questioned customers on their support and understanding for this moving forwards
- **2.3** Presented options for the next 5 years and asked customers to explain their level of support for each option.
  - *N.B. For each possible approach, customers were provided a description of each approach, an approximate impact on customer bills from 2025-30*

Day 3 (24th Feb)

Objectives:

Presenting the options

- **3.1** Customers were presented with options on the level of reduction for abstraction, and questioned on their responses
- **3.2** Asked to assess how certain Thames Water should be on the environmental benefit before reducing abstraction
- **3.3** Asking customers to rank abstraction amongst other initiatives in terms of priority

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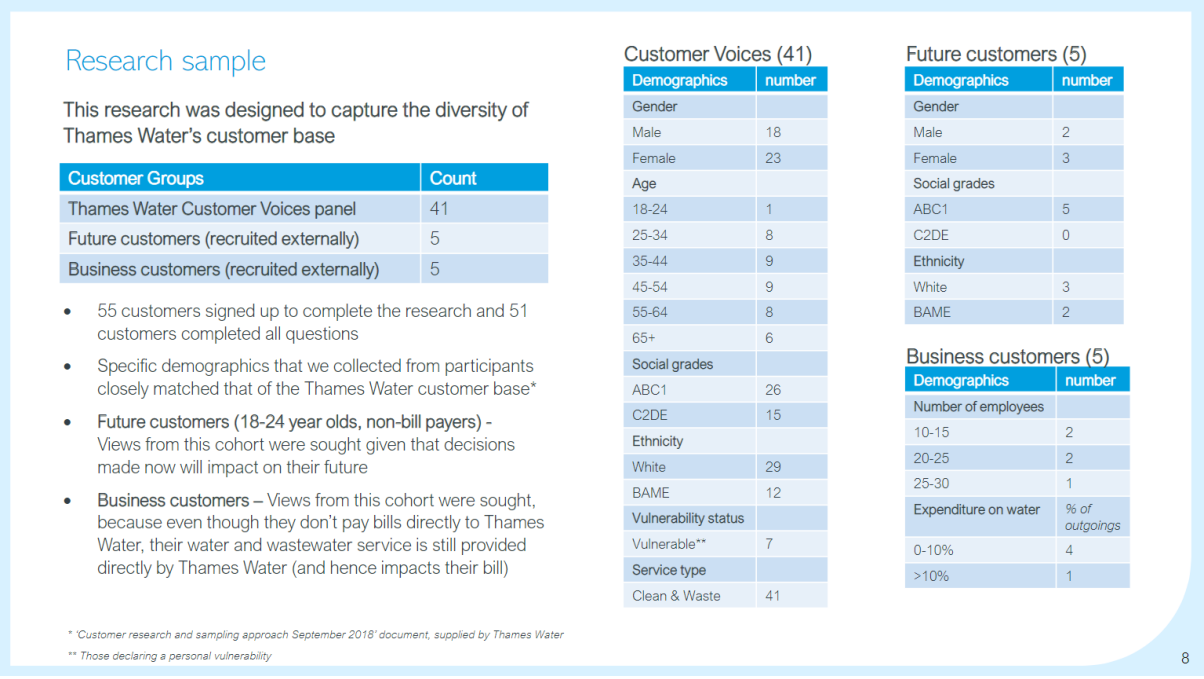

Research sample

This research was designed to capture the diversity of Thames Water's customer base

Customer Groups	Count
Thames Water Customer Voices panel	41
Future customers (recruited externally)	5
Business customers (recruited externally)	5

- 55 customers signed up to complete the research and 51 customers completed all questions
- Specific demographics that we collected from participants closely matched that of the Thames Water customer base*
- Future customers (18-24 year olds, non-bill payers) - Views from this cohort were sought given that decisions made now will impact on their future
- Business customers – Views from this cohort were sought, because even though they don't pay bills directly to Thames Water, their water and wastewater service is still provided directly by Thames Water (and hence impacts their bill)

Customer Voices (41)

Demographics	number
Gender	
Male	18
Female	23
Age	
18-24	1
25-34	8
35-44	9
45-54	9
55-64	8
65+	6
Social grades	
ABC1	26
C2DE	15
Ethnicity	
White	29
BAME	12
Vulnerability status	
Vulnerable**	7
Service type	
Clean & Waste	41

Future customers (5)

Demographics	number
Gender	
Male	2
Female	3
Social grades	
ABC1	5
C2DE	0
Ethnicity	
White	3
BAME	2

Business customers (5)

Demographics	number
Number of employees	
10-15	2
20-25	2
25-30	1
Expenditure on water	*% of outgoings*
0-10%	4
>10%	1

** 'Customer research and sampling approach September 2018' document, supplied by Thames Water*

*** Those declaring a personal vulnerability*

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Figure T - 3 Sustainable abstraction deep dive – methodology and sample structure

T.11 The findings are presented in Figure T - 4 and Figure T - 5.

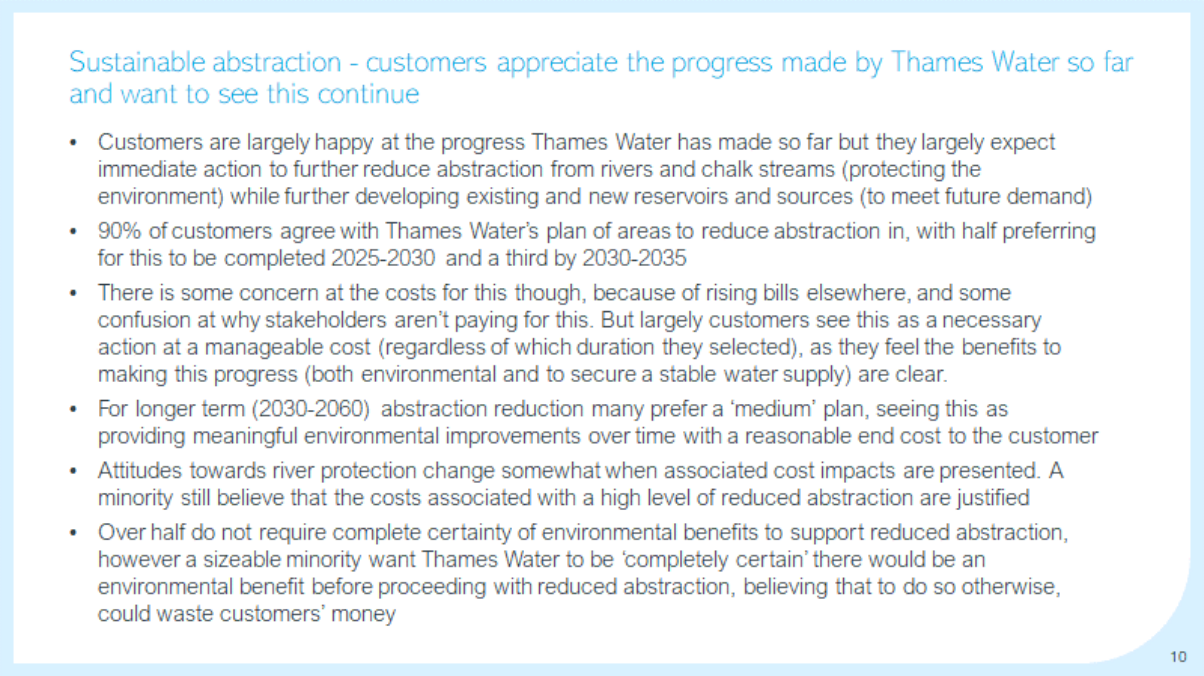


Figure T - 4 Sustainable abstraction deep dive – the findings

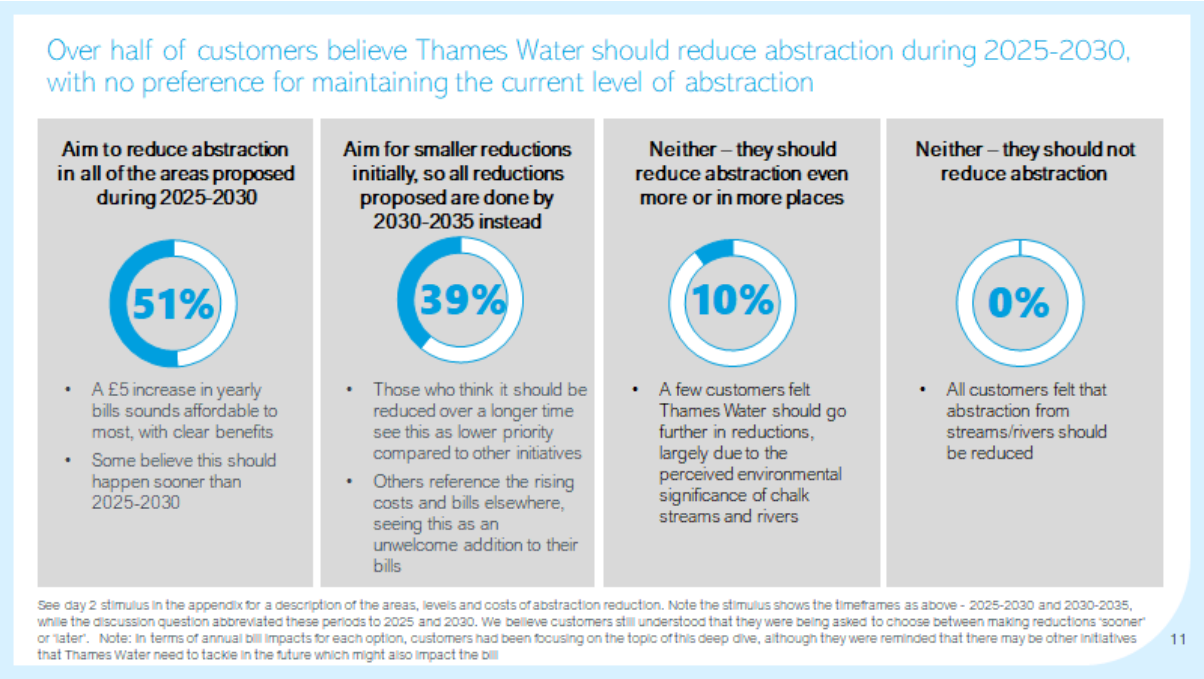


Figure T - 5 Sustainable abstraction deep dive – the findings (2)

T.12 In terms of ranking against the other enhancement investment cases, sustainable abstraction was ranked 7 out of 8 as shown in Figure T - 6.

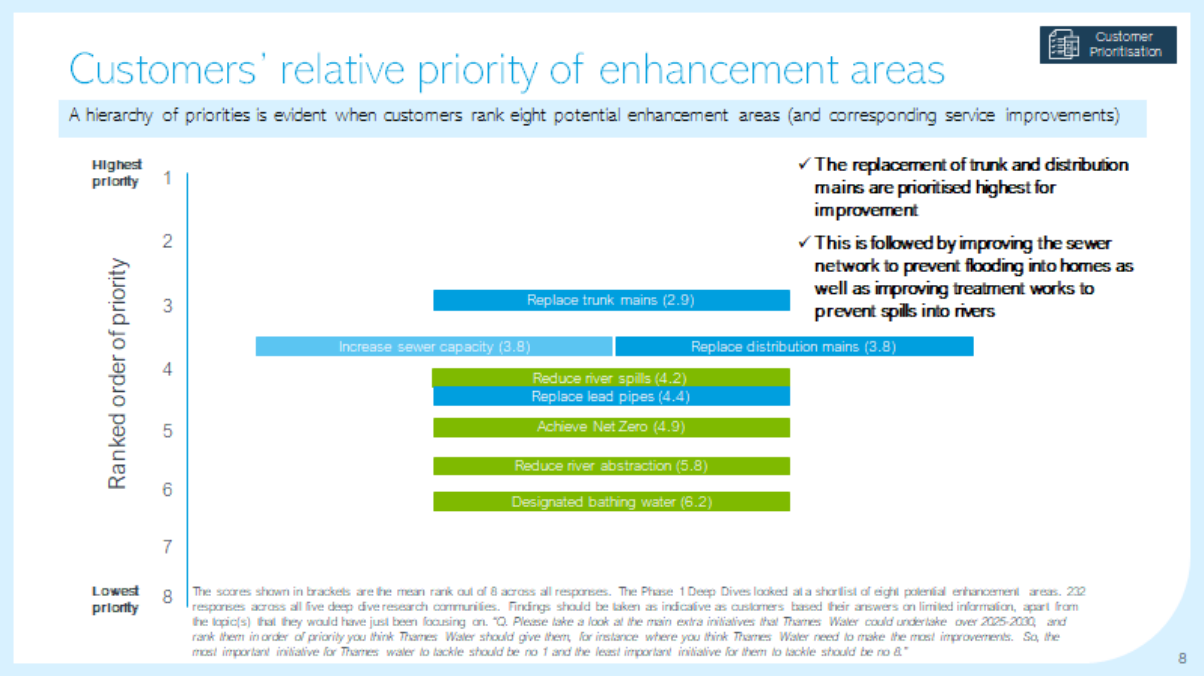


Figure T - 6 Relative priority of enhancement cases

Thames Water's Vision 2050 and public value

T.13 In 2022 we also undertook research on Thames Water's Vision 2050 and public value helped to gain insight into customers views on public value, the priority areas and role of Thames Water. The methodology is shown in Figure T - 7 and headlines messages are shown in Figure T - 8

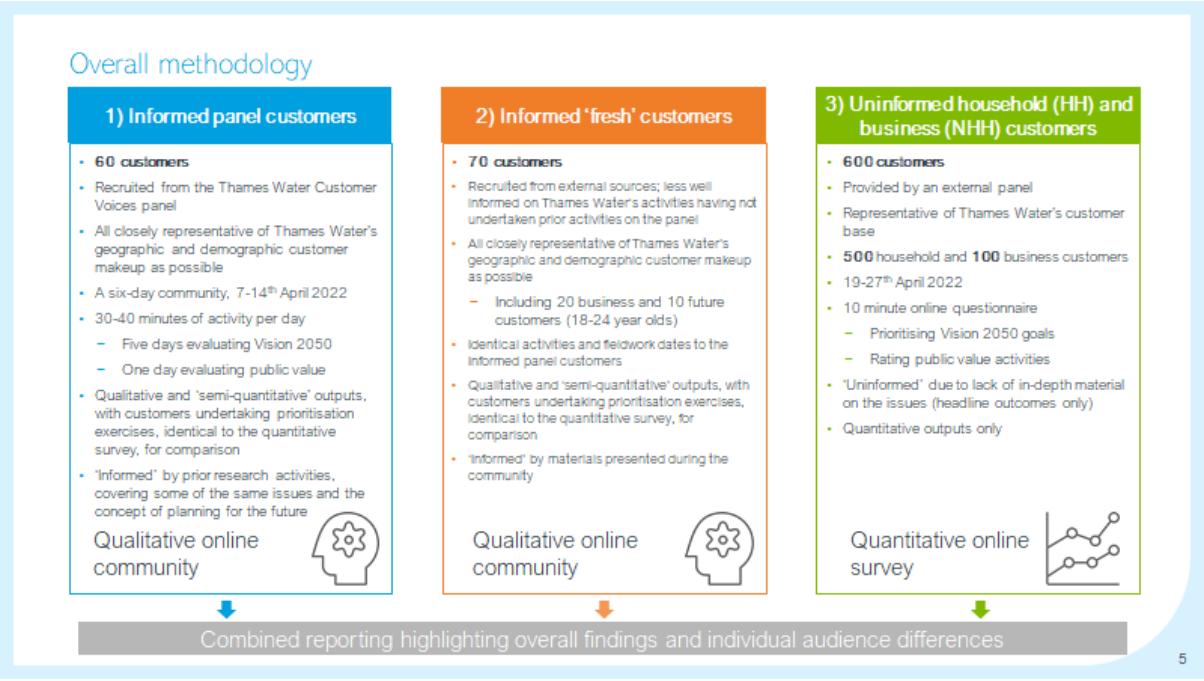
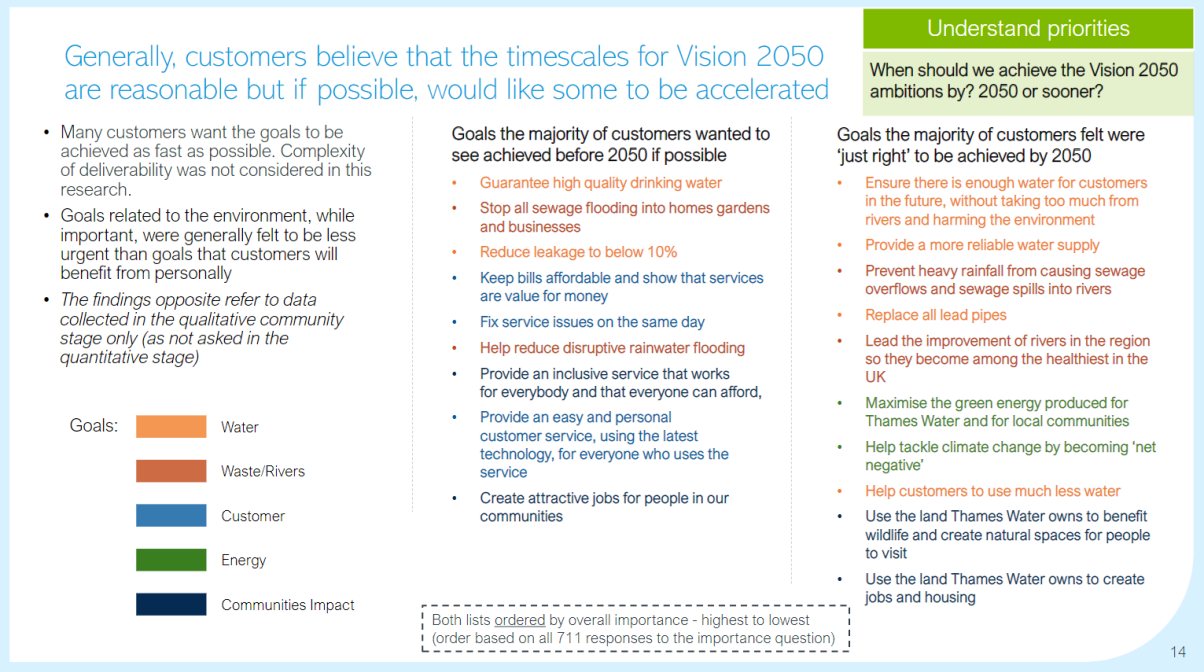


Figure T - 7 Thames Water's Vision 2050 and public value – methodology



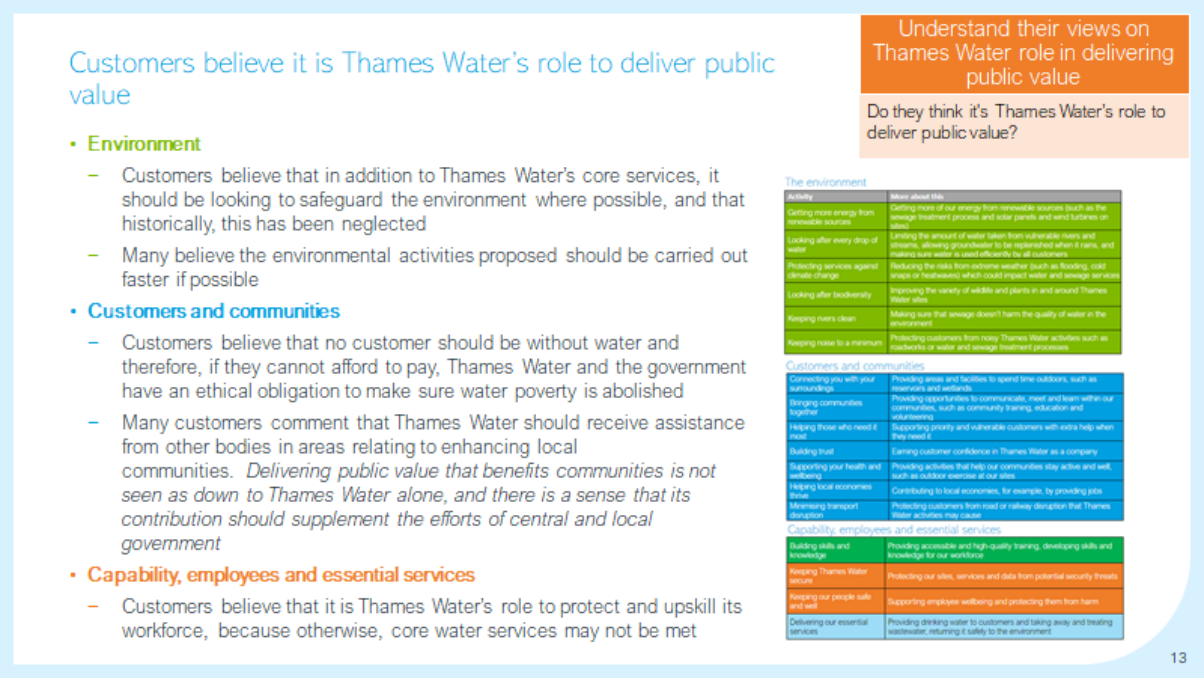


Figure T - 8 Thames Water's Vision 2050 and public value – headline messages

Levels of Service

T.14 We tested customers' views on levels of service as part of the research to inform WRMP19 in terms of water use restrictions and whether the frequency of restrictions that we currently plan for is about right, not often enough, or too often. Customers told us[15] that water use restrictions at their current expected frequency of implementation are not perceived to have significant impacts on customers' day-to-day activities. As such customers did not want deterioration in the levels of service and were broadly happy with current service levels with the exception of more

[15] WRMP19 Appendix T, T.25 onwards

severe restrictions with support for improved levels of service from the current service levels of 1:100 year drought to a 1:200 year drought subject to the bill increase. Beyond this, household customers place very little weight on further improvements to 1 in 300 and 1 in 500 levels of service, although there is a greater level of support from non-household customers.

T.15 In 2022 Ofwat undertook collaborative research across all water companies to test the 17 draft common performance commitments. An initial view of customer priorities on the relative importance (High, Mid, Low) of specific PR24 performance commitments is shown in Figure T - 9. The results in respect of water use restrictions concur, with restrictions on water supply in response to drought or extended dry periods considered to be of lower importance to customers than other aspects. Also more stringent restrictions in a severe drought are of more importance than a hosepipe ban and non-essential use ban. With the dry period experienced in 2021-22 and water use restrictions introduced in summer 2022 we will test this question with customers as part of the consultation on the draft WRMP24.

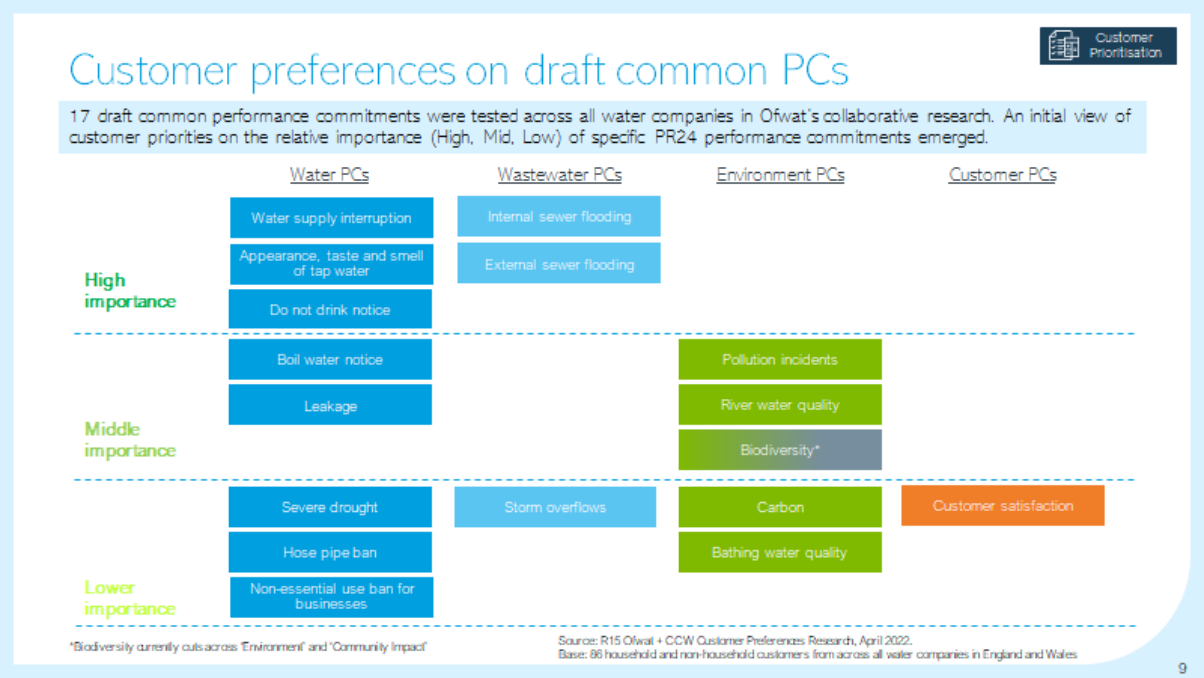


Figure T - 9 Customer preferences on draft performance commitments

T.16 The output of the research cited above is reported in our "What Customers, Communities and Stakeholders Want (WCC&SW)" document, currently on Version 16 (August 2022)[16].

Collaborative research – South East region

T.17 WRSE engaged with customers from across the South East region to inform the development of the South East regional plan. Thames Water has been able to utilise this regional engagement in the preparation of our draft plan because we operate in shared geographical areas.

T.18 The research was managed through the WRSE Engagement and Communications Board which has representatives from all the six South East water companies as well as a representative from the Environment Agency. Members of the water company customer research teams were also

[16] Appendix 5: What Customers, Communities and Stakeholders Want v16, August 2022

engaged to help design and develop the engagement activities, ensuring best practice and alignment to wider insight activities across the companies.

T.19 WRSE established and worked with a rCCG, bringing representatives from the CCW and the company independent challenge groups, to share and input to the design and approach of the research studies.

WRSE Phase 1 - Customer preferences to inform long term planning[17]

T.20 WRSE commissioned ICS/Eftec to seek customers' priorities for the principles, policies and solutions that will shape future plans including building resilience, how far the plan goes beyond statutory requirement for the protection of the environment, the level of ambition for reducing water use and the potential supply options, sharing resources and the strategic resource options.

T.21 The research aimed to draw together wide-ranging customer evidence through a collaborative programme of work coordinated by WRSE. The research comprised three parts as shown in Figure T - 10.

Part A: Evidence Review	Part B: Deliberative Research	Part C: Customer Survey
• Insights compiled from PR19, WRMP19 and recent customer research. • 120 documents submitted by the ten companies. • Consolidated view of the customer evidence structured around: (i) resilience outcomes; (ii) demand measures; (iii) supply side solutions; and (iv) the wider policy context.	• Conducted with household customers from all ten participating companies. • Implemented online between August 2020 and January 2021 with approximately 80 customers. • Range of discussion topics and exercises to understand views on: (i) water resources and the risk of emergency drought restrictions; (ii) resilience planning; (iii) supply and demand options; and (iv) sharing resources and strategic options.	• Representative online survey of customers in the WRSE region carried out in Autumn 2020 to measure preferences for: (i) demand and supply options; and (ii) alternative regional plan profiles. • Approximately 2,300 household customers and 350 non-household customers. • Results are a direct input to the WRSE regional plan investment model.

Figure T - 10 WRSE Phase 1 Research: Overview of the research

T.22 The key findings were:

- Customers are fully supportive of the collaborative approach to developing the plan in the South East
- There is a strong expectation that the plan will deliver beyond the minimum requirements for ensuring long-term security of supply, by reducing the dependency of the system on the environment and building in additional capacity to ensure against wider uncertainty and disruption

[17] WRSE, Phase 1 Research, ICS/Eftec Customer preferences to inform long term water resource planning, March 2021

- Underlying customers' views is a willingness to support plans and investments that will safeguard service levels and the environment for future generations
- Whilst some limited aspects of extreme drought measures (rota-cuts/standpipes) may be felt tolerable, most restrictions on the use of water that would be in place are generally not acceptable to customers. Correspondingly, there is support for further reducing the risk of these measures being needed from the current level of a 40% chance during a customer lifetime (corresponding to a 1 in 200 level of service)
- Customers recognise that a pragmatic mix of options are required to achieve this. Leakage reduction, demand measures, and new supply sources are not seen as substitutes. Rather it is the timing and ordering of options that matters most to customers. First, companies must get their "own house in order" by reducing leakage and helping customers to save water. After this, the right supply options for customers are ones that are reliable, avoid environmental harm, and provide wider benefits including enhanced local amenity and recreation opportunities
- There is a role for water sharing and transfers if they are an absolute necessity, but in general the inherent preference is for self-sufficiency within an area rather than dependency on a transfer-in. Indeed, customers can be uncomfortable with transfers because there is a perception that these schemes will simply shift water availability problems around the country rather than dealing with them directly

T.23 There is a high level of importance placed by customers on protecting the environment. There is little support for abstracting more water from the rivers and groundwater in normal circumstances – for both sensitive habitats and wider catchments – and use of drought orders and drought permits is seen as a last resort. Only in very extreme drought situations where rota cuts and standpipes are being considered could the environment be seen as a lower priority than people.

T.24 The summary of the best value plan for customers is shown in Figure T - 11.

Box ES1: The shape of the best value plan for customers

The findings from the research provide a forming view on the key characteristics of the best value plan for customers. In effect, these represent customers' expectations or criteria for what an acceptable plan will feature and the aspects of candidate plan(s) that will likely be the focus of customers' attention.

Protect the environment

For customers, the environment is as equally – if not more - important as the other key outcomes that the plan can deliver. The plan is as much an opportunity to bring about an improved water environment through reducing the dependency of the water system on rivers and groundwater, as it is to safeguard water supplies over the long-term.

The key expectation for customers is that:

- The long-term plan to secure water supplies and improve resilience of the water system to drought and unexpected events are not at the expense of the environment; and
- Supply options that have a net positive environmental impact and deliver wider public value (e.g. recreation and amenity) will be preferred. Use of chemicals, high energy use, and other unmitigated impacts are key reasons why some options are less favoured.

Minimise risk in the system

For customers, a resilient plan is one that reduces future uncertainty by building capacity into the water system to deal with future disruption. Insurance associated with overbuilding infrastructure is not a key concern, with a typical view that it is "better to be safe than sorry".

The key expectation for customers is that:

- The long-term plan will place more weight on options that safeguard supplies and reduce risk of disruption with a high degree of certainty.

Acceptable balance of demand and supply options

For customers there is a very clear view on the balance of demand and supply options for the plan, and the order and timing in which they should be implemented.

The key expectation for customers is that:

- Ensuring the current system is efficient is the starting point. Practically this means reducing leaks and removing constraints in the water supply network;
- In the short-term efforts will be focused on being more efficient with the water that is currently supplied and helping customers use less water, along with actions that deliver wider benefits and public value, such as catchment management initiatives; and
- Over the longer-term new resource schemes will be the cornerstone of the plan because gains from leakage reduction can only go so far and significant reductions in demand cannot be relied upon. For supply options the driving preferences are certainty and avoiding significant environmental impacts (see above).

Affordable for all

For customers, there is typically a degree of insensitivity to fairly modest changes in bills for investments that will improve service levels and reduce the risk of future disruption. There is also a willingness to pay for investments now to safeguard water resources and the environment for future generations. At present, the main constraint in terms of customer support and the cost of the plan appears to be that bills are affordable for vulnerable or low-income households.

The key expectation for customers is that:

- The scale of any bill increase accounts for the needs of vulnerable and low-income households, helping to ensure their bills are affordable.

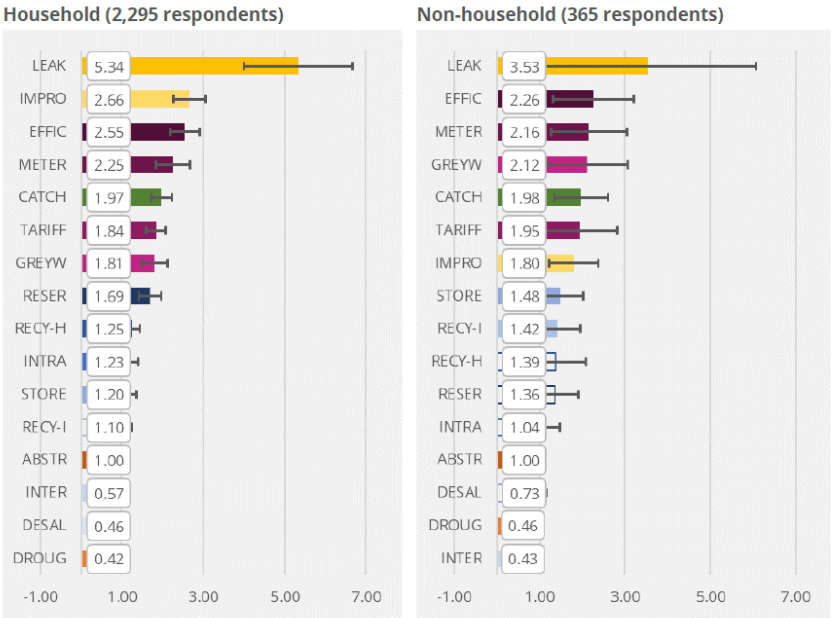
Figure T - 11 Summary of the best value plan for customers

T.25 These findings[18] informed the development of policy statements on demand management strategies and confirmed the need to develop a resilience framework.

T.26 The findings specifically in relation to customers' preferences for demand and supply options were:

- Firstly the current system should be efficient, this means reducing leaks and removing constraints in the water supply network
- Secondly, efforts should be focused on being more efficient with the water that is currently supplied and helping customers use less water, along with actions that deliver wider benefits and public value, such as catchment management initiatives
- Customers then see the role for new resource schemes After this, the right supply options were ones that were reliable, avoid environmental harm, and provide wider benefits including enhanced local amenity and recreation opportunities such as reservoirs. The engagement provided a hierarchy of preferences for options
- Beyond this are the least preferred options that have potentially significant negative environmental impacts, including increased abstraction and greater reliance on drought orders and drought permits as short-term measures

T.27 Figure T - 12 shows the option preference weight for household and non-household customers across the South East. The findings informed the development of a customer preference metric to use in the best value plan programme appraisal.



Notes: Preference weights are odds ratios calculated from MXL dummy coded model, see Appendix G.1.1 (household) and G.1.2 (non-household). Base case – "Taking water from rivers and groundwater" (ABSTR: OR = 1). Colours refer to the broad themes: efficiency [yellow]; demand [purple]; environment (positive) [green]; resources and transfers [blue]; and environment (negative) [orange]. Outlines indicates that the option is not considered statistically different to ABSTR (i.e. the base).

Figure T - 12 Option preference weights from customers in the South East

[18] Customer Preferences to Inform Long-term Water Resource Planning, Synthesis of Findings – Summary Report for WRSE, Eftec & ICS, March 2021

T.28 The results for the Thames Water customers broadly reflected those of the wider South East as shown in Figure T - 13.

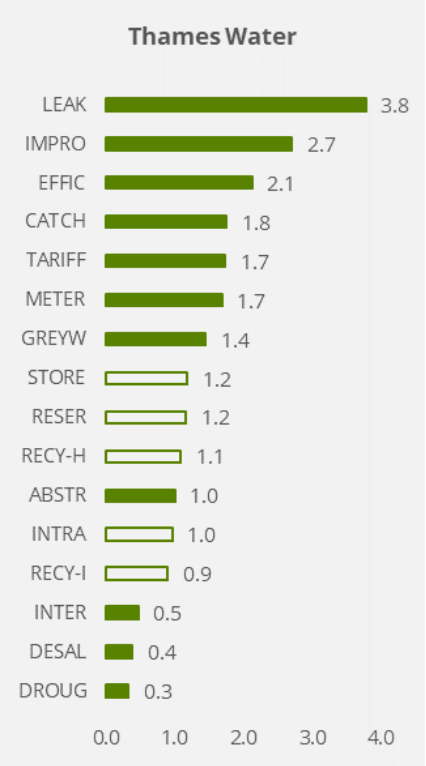


Figure T - 13 Option preference weight for Thames Water

T.29 The findings specifically in relation to the potential plans for the region and customers preferences for plans showed that they supported an enhanced plan over a least cost plan, and that the most important aspects are:

- Buffer to cope with potential disruption: a plan that provides a buffer is more likely to be preferred by a larger proportion of customers
- Flexibility to deal with future changes: a plan that provides a degree of flexibility in the future is more likely to be preferred by a larger proportion of customers
- Protection of the environment: a plan should protect the environment, ensuring that a plan has a positive impact (or less likely to have a negative impact) on the environment. Overall, it appears that customers see the plan as an opportunity to safeguard the environment, as much as it is to ensure water supplies over the long-term
- Balance of the supply and demand measures: a plan should have a good balance of both increasing the supply and reducing the demand of water in line with the hierarchy of preferences concerning the timing of different types of option
- Value for money: whilst the alternative plans tested in the survey were not strongly differentiated in terms of impact on customer bills, some respondents did base the choices on value money considerations. This was particularly important for respondents in lower socio-economic groups and those dependant on water

- Impact on lifestyle: for some customers it is likely that minimising the impact on the use of water by households will be an important consideration

T.30 The research also provided useful information to guide future engagement in terms of the type of information customers wanted to see and the importance of framing the discussions, as well as explaining the full scheme composition and how the scheme fits within a wider plan.

WRSE Phase 2 - Determining 'best value' [19]

T.31 WRSE commissioned Eftec to seek customers' views on the prioritisation of the strategic objectives and criteria which are used to reflect a range of outcomes and benefits associated with an enhanced plan including resilience, environmental impacts, biodiversity, and wider socio-economic and customer benefits. An output of the study was to provide customer preference weights for the WRSE best value criteria.

T.32 The research was implemented through a representative online survey of household customers in the South East, with 309 respondents representing all six WRSE companies completing the survey. A choice modelling approach was used to estimate the preference weights for the best value criteria. Customers were segmented by age, socio-economic group and gender.

T.33 The main results are presented in Figure T - 14 and show that customers place more weight on the delivery of a secure supply of water, followed by cost or environmental improvements, and then resilience and these criteria were given more weight than the customers preferences for the options. Here is the "tiering" of customers' priorities for the regional plan outcomes:

- Top priorities: foremost to ensure the long-term security of supply in the region, both for public supply purposes and other sectors. Ranking just below this are the key considerations for improving the efficiency of the water supply system in terms of reducing leakage and reducing its dependency on sensitive habitats and groundwater sources, along with the cost and customer affordability constraints for the plan.
- Mid-tier priorities: feature several dimensions of the performance of the plan relating to wider environmental impacts, reducing demand for water, and improving resilience to extreme events.
- Lower priorities: include wider aspects of the resilience of the water supply system, including minimising the risk of emergency drought restrictions, along with balancing the carbon impact and the mix of options used.

[19] Best Value Criteria – Customer Research for WRSE, Eftec, May 2021

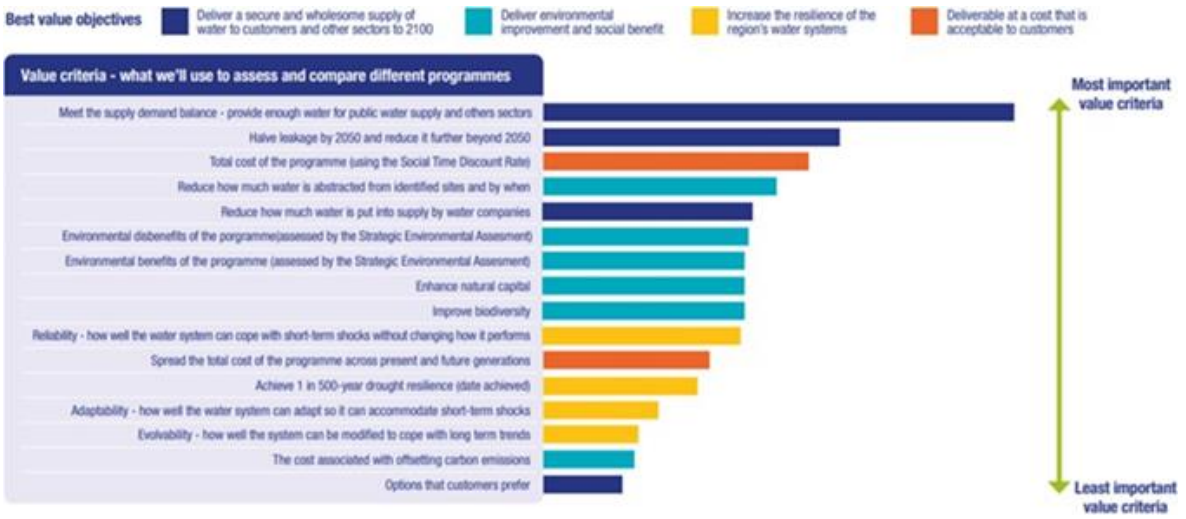


Figure T - 14 Customers' preferences for best value criteria

T.34 WRSE used the criteria and the weights customers set out and have judged each of the modelled regional plans against them. This provided an indication of which of the modelled regional plans are meeting the customer expectations and which ones aren't. Our dWRMP24 inherently takes account of these preferences by reflecting the regional plan.

Collaborative research - Strategic resource options

T.35 Engagement and research has been undertaken to inform the development and future design and promotion of the strategic resource options (SROs) being investigated by Thames Water and other water companies who will share the infrastructure. The research studies were undertaken as a collaboration across a wider grouping of strategic resource options (11). Two research studies were commissioned as follows:

- How a scheme of such significant scale could deliver wider public value, not only for the community in which the scheme was delivered but at a national level. We wanted to understand customers' support and willingness to pay for such benefits and whether this was dependent on scheme type and distance from the customers impacted
- The impact a change in water source would have on those customers who received it, identify the concerns they would have and how we, as water companies, could communicate the changes

Providing wider benefits[20]

T.36 The study was designed to explore customers' preferences on the wider benefits that could be included as part of new water infrastructure development and how much customers would be willing to pay for the added benefits.

T.37 The objectives of the research were to understand:

- What added value customers perceive is important as part of infrastructure development, to understand preferences for the added value (and if those preferences change depending on the geographical location/type of scheme)
- How much are customers prepared to pay

[20] Customer preferences on added value for large resource schemes, Accent & PJM economics August 2022

- What language should be used to explain the added value

T.38 The research was a multi-stage programme of research and involved a literature review, qualitative and quantitative analysis. It was conducted jointly by research agencies, Accent and PJM Economics, both MRS registered and specialists and recognised in the water industry for this type of economic-led engagement.

T.39 The literature review identified that despite a large set of guidance documents and frameworks the concept of public value is not fully and universally embedded in the water companies' culture and there is little empirical evidence on perceptions and preferences regarding public value in the UK water sector.

T.40 The qualitative phase of the research involved a reconvened method to introduce and explore generic 'Public Value' and then test what is important for large infrastructure projects within the water industry. There were 24 online Zoom groups with household, non-household and future customers across six water companies as shown in Figure T - 15.

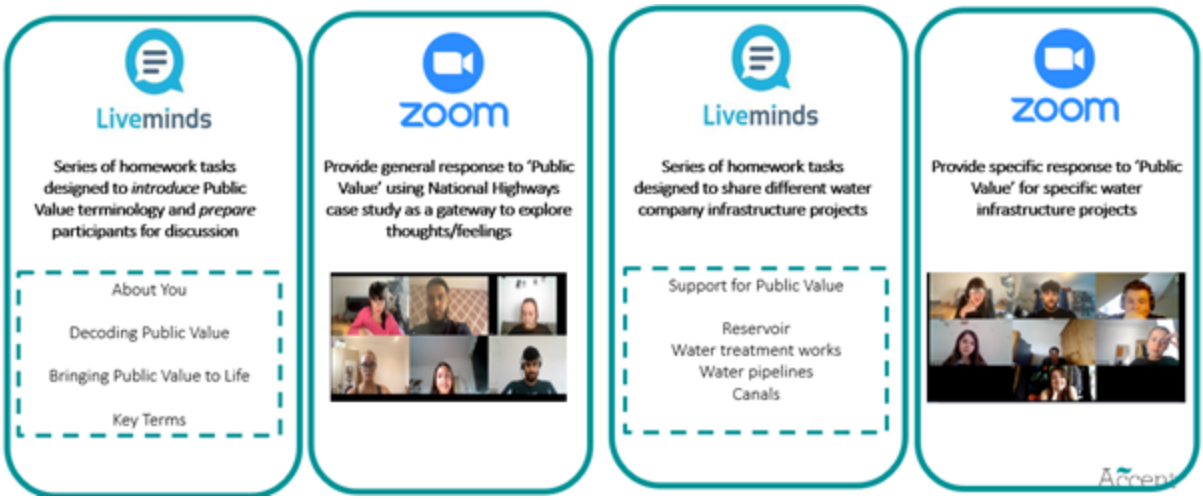


Figure T - 15 Public Value research: Overview of the qualitative phase

T.41 The quantitative phase engaged 5,902 household customers and 553 non-household customers through online and face to face interviews and the data were weighted to UK census data (households) and UK business population estimates (non-households) to be reflective of the population. The quantitative research focused on estimating customer willingness-to-pay (WTP) valuations of 26 possible project additions at potential new water supply sites via a stated preference survey. The survey included a pairwise choice exercise[21]. to obtain willingness-to-pay values for each of 26 project additions (economic, social, or environment). It also included a contingent valuation exercise providing a measure of maximum WTP for project additions in total. The following types of site were covered: reservoir; canal to transfer water; pipeline to transfer water and a treatment works. The distance from the participants' location to the sites was a part of the scenarios shown and was specified as either local (five miles) or far away (50 miles).

T.42 In both the qualitative and quantitative work, environmental project additions were valued highly and there was a high emotional resonance with these additions and the narrative of supporting wildlife/new wetlands/habitats is consistent across all the customers who participated.

[21] Pairwise choice exercises and contingent valuation exercises are recognised statistical methods for understanding customer preferences through a survey.

T.43 The top three most highly valued project additions by households were:

- 'Specialist habitats created for wildlife' (£3.87 annually, on average)
- 'New wetland area' (£3.24 annually, on average)
- 'Space provided for sustainable agriculture' (£2.61 annually, on average)

Base: 5,902 participants. Annual WTP in terms of a higher water bill for project additions at sites five miles from home (weighted estimates). The error bars show 95% confidence intervals calculated using the delta method.

Figure T - 16 Public Value research: A summary of Willingness to Pay values across all types of schemes for household customers

T.44 The biggest variation in the qualitative work was by project type. This is consistent with the quantitative work where valuations of project additions differ considerably across different types of sites and by distance, while the extent of variation across companies is small.

T.45 In the quantitative work, overall, project additions at treatment works were valued most highly, followed by reservoirs, canals, and pipelines. This could be due to reservoirs/canals being naturally more positive/pleasant.

T.46 Qualitatively, people felt that the social project additions at water treatment works would be less valuable because they would be unlikely to want to visit, but environmental and economic benefits were supported.

T.47 The Willingness To Pay (WTP) for a 'package' of project additions was lower than the sum over individual project additions, indicating that capping may be needed for individual project additions to ensure that total WTP is not exceeded.

T.48 These findings will help inform the further development of the design stages for the SROs to reflect the preferences of our customers.

T.49 The research has provided important insight to inform the design of the new water resource schemes ensuring the opportunities to provide public value are considered in the early design stages of the schemes and the nature and extent of the added value is in accordance with their preferences.

T.50 The full research report shows the details of the materials shared with customers and detailed findings.

Potential changes to the source water for customers water supply[22]

T.51 Changing the source of the water customers receive through their taps, whether through geographical redistribution, development of new sources, or recycling, will be an outcome of balancing supply and demand across the South East. We need to be confident that we understand how customers interpret and respond to the different water source changes that may form part of our water network in future.

T.52 This was a collaborative project across 11 strategic resource options designed to explore customers' views on potential changes to the source of their drinking water supply and the information and communications that they would want to receive in relation to such a change.

T.53 This research was undertaken by Britain Thinks, a leading UK, MRS registered, market research agency.

T.54 The research comprised three stages: a review of the evidence base on source changes, both nationally and internationally; and a qualitative review of customer views, including product testing and the co-design testing of a communications framework; and a quantitative research phase.

T.55 The study involved 96 customers in the qualitative phase, spending a full day learning about and exploring the various options for water supply and transfer and discussing their views. They were then re-engaged online to help co-design a communications framework. This was tested with 1,762 customers and 198 non-households, during a quantitative phase, of which 436 customers were Thames Water customers. The methodology is shown in Figure T - 17.

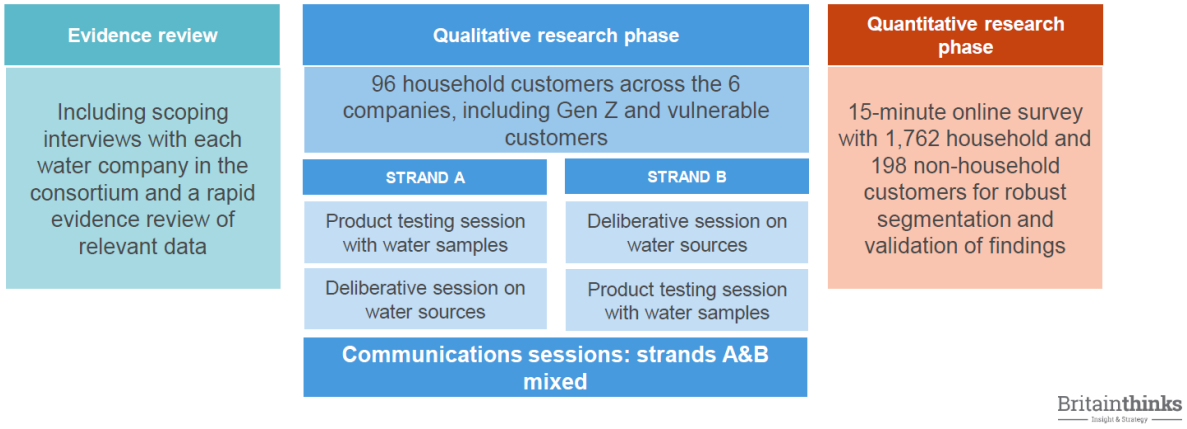


Figure T - 17 Water sources research: Methodology overview

[22] Water Club: Changes of source, Britainthinks, June 2022.

T.56 The key findings were:

- Water is a low salience topic, with customers indicating a low level of awareness and understanding of issues relating to it. This, in part, is driven by general satisfaction with the customer experience of water, in terms of taste, smell and hardness
- Customers also have low awareness of water scarcity, and, whilst all take steps not to 'waste' water, most are not actively trying to reduce their water consumption. Information on the topic is easily understood, however, this is not always enough to unseat long-standing perceptions that water is abundant in the UK
- Customers believe that water companies should be taking steps to respond to the issue of water scarcity now and recognise that a mix of demand and supply-side solutions are required. However, there is a general desire to see water companies implement demand-side options first, including fixing leaks and educating customers
- When prompted, customers assess water source options by balancing efficacy (including reliability) and the cost and time commitments associated with the change. There is also an expectation of water companies to evaluate options through this lens
- Customers say they are unlikely to engage with communications on source change, and taste tests indicate that most are not able to detect differences at the level that might be expected in a source change. However, there is still a need to communicate to explain the rationale for the change, alleviate taste concerns and provide clear guidance on the impact
- In terms of communication, overall, the 'human' frame (explaining the impacts of the change in terms of how it impacts the customers' daily use, e.g. taste, limescale etc) combines the qualitative and quantitative findings together the most effectively. Quantitatively, environmental and human framings are slightly preferred to practical framings to communicate a water source change, however, in qualitative sessions, environmental framing is felt to lack impact, indicating that, overall, human framing works best
- Most household customers want initial notification three to six months in advance of the change, although non-household customers are more likely to want an earlier notification of a change. Most respondents then want to be reminded again of the change, at a point closer to the time, but generally only once
- An email message and a letter, separate from the water bill, are the preferred forms of communication about source changes, consistent across sources. Most customers claim they would click through to look at additional information. Whilst this number may be lower, providing comprehensive information to those who may want it is key
- Of those who are more inclined to visit a website for further detail on the change, there is an expectation that this would include a wealth of comprehensive information. This includes detail on bills, taste, the process, the reason behind the change, safety, environmental impact, and information from an independent source
- Whilst there is a need to communicate on any source change, water recycling and desalination need more engagement due to a higher level of spontaneous concerns. For

water recycling, these concerns are centred around taste, hygiene and safety. Figure T - 18 shows source-specific findings

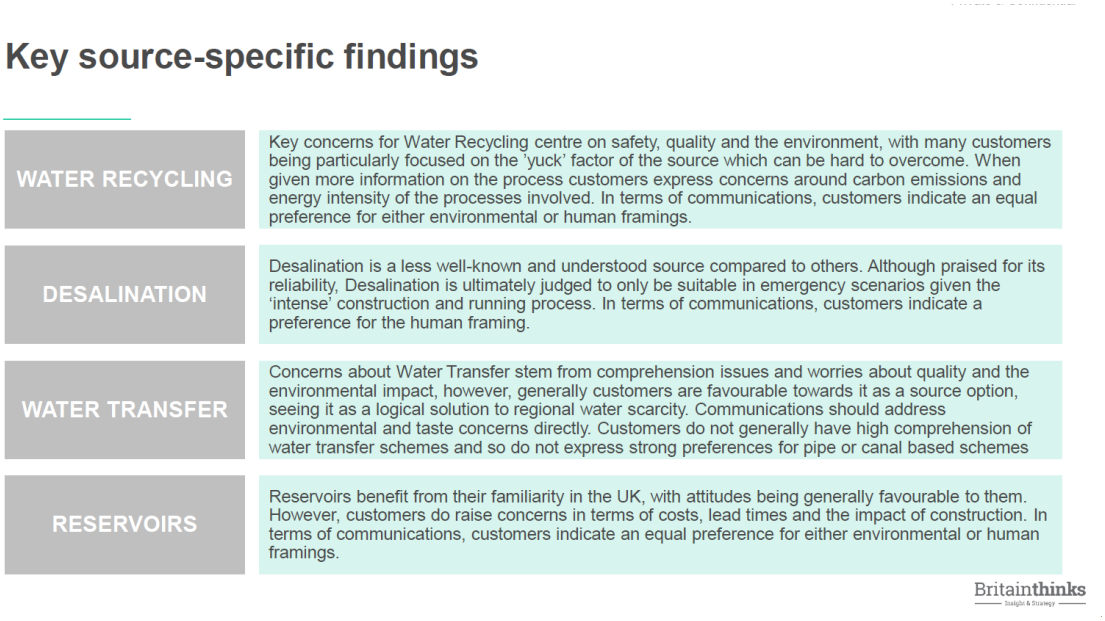


Figure T - 18 Water sources research: Source specific findings

T.57 One of the key outputs from this research was a communications framework which took all the learning to produce a practical tool to use when we do decide to change a water source, and the language, framing and timing of communications we should employ. Figure T - 19 shows the key implications for communications for water recycling, with similar information provided for desalination, water transfers and reservoirs.

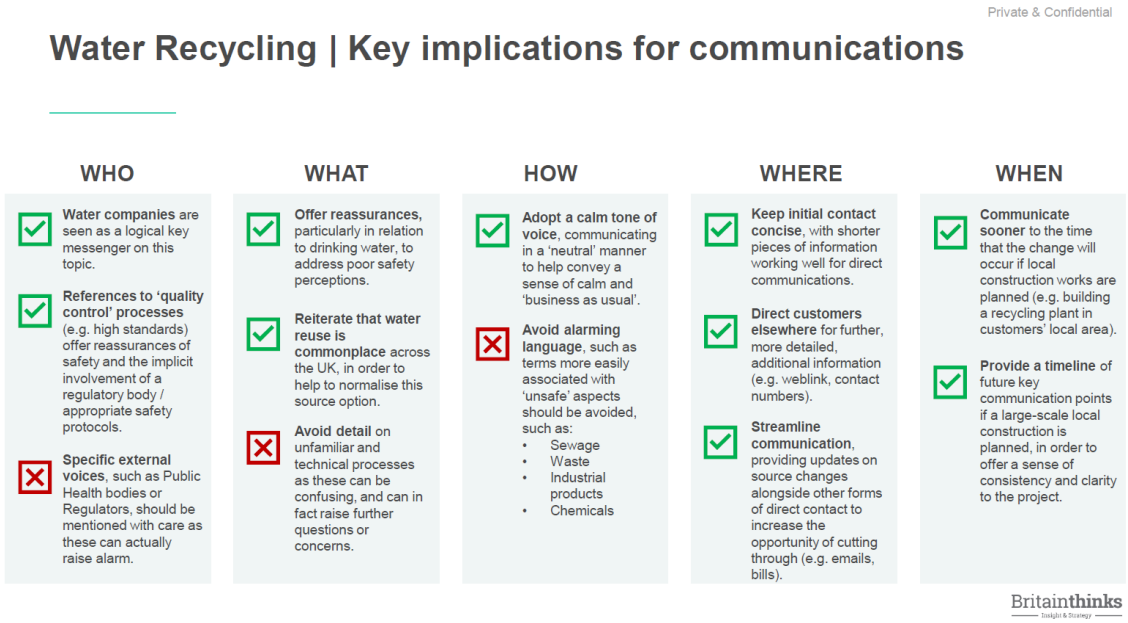


Figure T - 19 Water sources research: Water recycling key implications for communications

Communicating about water recycling with London customers [23]

T.58 The research on source water changes undertaken with Britain Thinks highlighted that water recycling evokes the strongest negative response form customers, largely driven by safety concerns. We then explored this further with customers in London and undertook a focused research study with our online customer community to test the acceptability of water recycling and the communications they would want including the format and scope of the information to ensure they would be informed and confident in the safety and quality of their water supply if water recycling was used in the future. This was an aspect that was specifically raised by DWI to ensure successful promotion of recycling schemes if they are taken forwards.

T.59 This research was undertaken by Verve, a leading UK, MRS registered, market research agency. The methodology is presented in Figure T - 20.

Figure T - 20 Water recycling testing communications: The methodology and sample

The research highlighted that all messaging needs to feel honest in the current culture of misinformation and untruths; the communications need to be clear and simple to avoid misunderstandings and communicating as early as possible will give people with concerns the most time to adjust; the 3 key areas that are important to customers are:

- What is the situation – London could potentially experience an interruption in water supply if we take no action
- What is the solution – A clear explanation of water recycling and what that involves
- What are the consequences – What this means for individuals, the wider community and the environment

A summary of the findings is shown in Figure T - 21.

[23] Thames Water, Customer Voices, Water recycling, Verve, June 2022

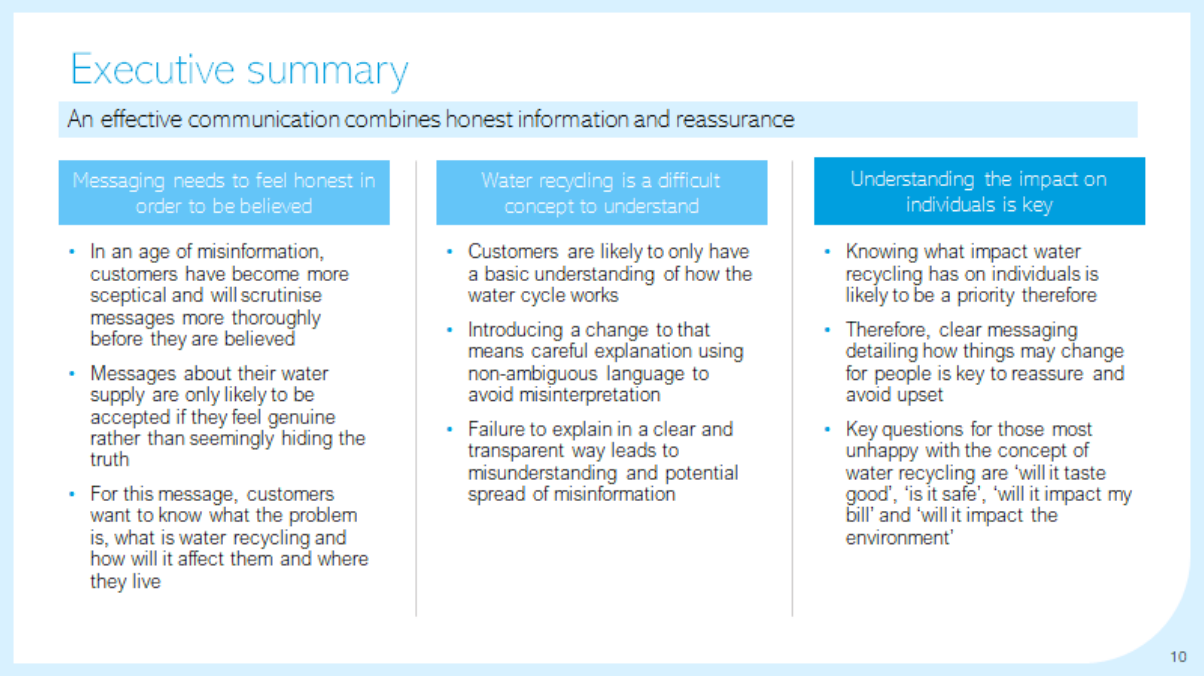


Figure T - 21 Water recycling: A summary of the framework for effective communications


Thames
Water