WRE

WATER RESOURCES EAST

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WRE: Club customer engagement

Final report: combined

September 2021

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Executive summary

In exploring the challenges water companies in the East of England face, the general public (customers and non bill payers) and stakeholder organisations have highlighted the principles on which they want to see future plans developed

1. The principle of a 'best value plan' (not the cheapest but the best for society and the environment) wins approval

- However consumers want you to prioritise the core business activities (which includes protection of the environment, managing flood risk and drought resilience) over the 'added value' elements (boosting the local economy, consulting customers and creating public amenities etc)

2. Consulting and collaborating is good – but only up to a point

- Consumers, NHH and stakeholders point out they are not experts at e.g. optioneering, deciding who should pay, when etc. – and defer decisions to experts
- Stakeholders believe the size of the challenge requires actions from beyond the water companies. Collaboration means being part of the delivery too – and they want to see (and be part of) more creative solutions to addressing the problem.

3. Empower customers to help by reducing their water use: consumers and stakeholders agree that communication is vital

- The public do not know there is a problem. There is little to motivate them to reduce demand. Potential for restrictions in a drought does not appear to trouble people (who approach the prospect with new post-pandemic resilience)
- The water sector's silence on the risk of supply shortages suggests that the problem is not real/immediate

4. Drought resilience should focus first on making the most of what there is

- Demand-side options are favoured above new supply options – with leakage the number one issue that water companies should address (unaware that customers have a part to play here too)
- Other options involving customer behaviour change and universal metering are secondary
- Businesses, always with an eye on cost, are interested in recycling their water and want water companies to prioritise this

5. Options should meet three criteria: financially viable; **low carbon**; and **effective in the long term**

- Options that appear short term stop gaps and/or poor environmentally are largely rejected (including drought permits)
- Recycling water and (low carbon) desalination are the most acceptable of the 'new' supply options
- Water transfer and tankering from other countries have least appeal

Executive summary

6. Environmental ambition is important – but for the general public and NHH, not at any cost

- Restoring past damage is supported but cost implications of improving environments means few support the highest 'destination'
- Stakeholders with an environmental remit support the highest destination

7. Affordability is heightened post Covid: plans should be fair and affordable for all

- Everyone is worried about rising costs
- Inequalities highlighted by the pandemic create a more 'citizen' mentality: important to protect lower income/poorer
- However, stakeholders (and some NHH) believe water is (too) cheap and under-valued
- The need to protect the economically vulnerable is undisputed

8. Urgency is key for stakeholders but less so for the general public/NHH

- Consumers do not see the argument for exceeding statutory timeframes
- Stakeholders are much more urgent about the need for action – but there is no consensus on the optimum timeframes

9. Develop a holistic approach to all aspects of water supply and waste management

- Stakeholders want to see a joined up approach – and this could help consumers appreciate what appear to be contradictions (higher awareness of flooding undermines the drought message)

10. Think outside of the established (regulatory) confines

- Stakeholders challenge the regulatory approach: 5 year cycles promote short-termism; pressure on bills hampers the ability to do the 'right' thing
- Challenge the fundamental idea that water is a limitless resource for all
- Change the focus from consulting to informing

Research objectives and methodology

Photo by Kevin Grieve on Unsplash

Southend On Sea, Essex

Research background & objectives

To provide WRE with the consumer and stakeholder perspective on the optimal regional approach to delivering a 'best value' plan to ensure long term security of supply.

Photo by Anisa Mustafa on Unsplash

Flatford Mill, Essex

1. To understand the consumer context

- General environmental priorities & expectations of organisations to act
- Current awareness & understanding of long term challenges and the implications for water suppliers
- Perception of own water supplier in this context

2. To explore expectations and priorities re environmental planning

- Response to statutory requirements for water companies
- Expectations re meeting or exceeding requirements
- Priorities for investment/protection

3. To explore response to the 'best value' plan objectives

- To explore relative appeal/importance of overarching metrics driving 'best value'

4. Options preferences

- Ranking of preferences and what drives importance

5. Intergenerational economics

- Response to affordability options to understand generational expectations

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Sample & methodology: household consumers

A qualitative reconvened approach was taken to allow a process of informing, followed by a more deliberative-style group that focussed on a series of trade offs. Materials were reviewed by CCW and members of CCGs.

Household sample:

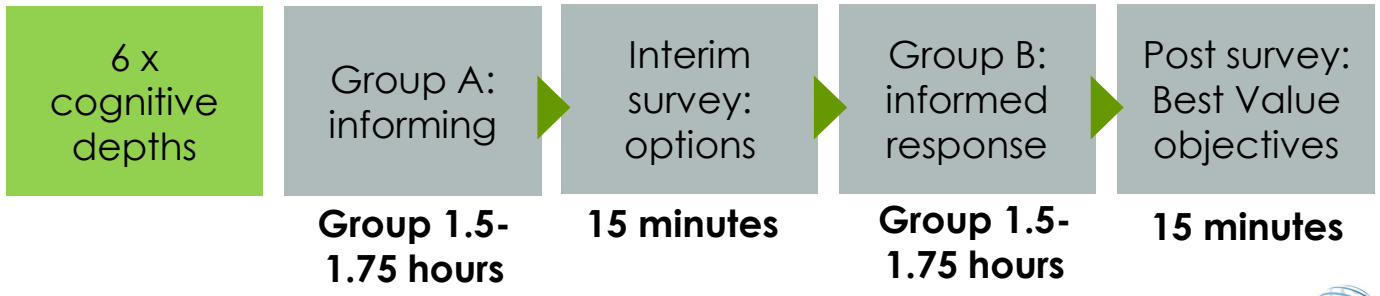
- 18 reconvened group discussions with household consumers
- 1 'mop-up' group to account for drop-outs in earlier fieldwork groups
- Total sample of 89 consumers with 85 completing the process

Fieldwork dates: 23rd August – 16th September

Methodology:

- Cognitive interviews to check comprehension of stimulus materials
- 4-stage process

	Cambridge Water	Essex & Suffolk Water	Anglian Water
16 x Zoom reconvened groups of 5 customers	**4 + 4 groups** 1 x ABC1 1 x C2D 1 x Econ vulnerable 1 x on bill payer /future customer	**6 + 6 groups** 1 x ABC1 1 x C2D 1 x Econ vulnerable 1 x non bill payer/future customer	**8 + 8 groups** 2 x ABC1 2 x C2D 2 x Econ vulnerable 2 x non bill payer/future customer
All complete an interim-task and post task	Interim-task (15 minutes) Post-task (15 minutes)		



Full discussion guide and stimulus packs found in the project appendix

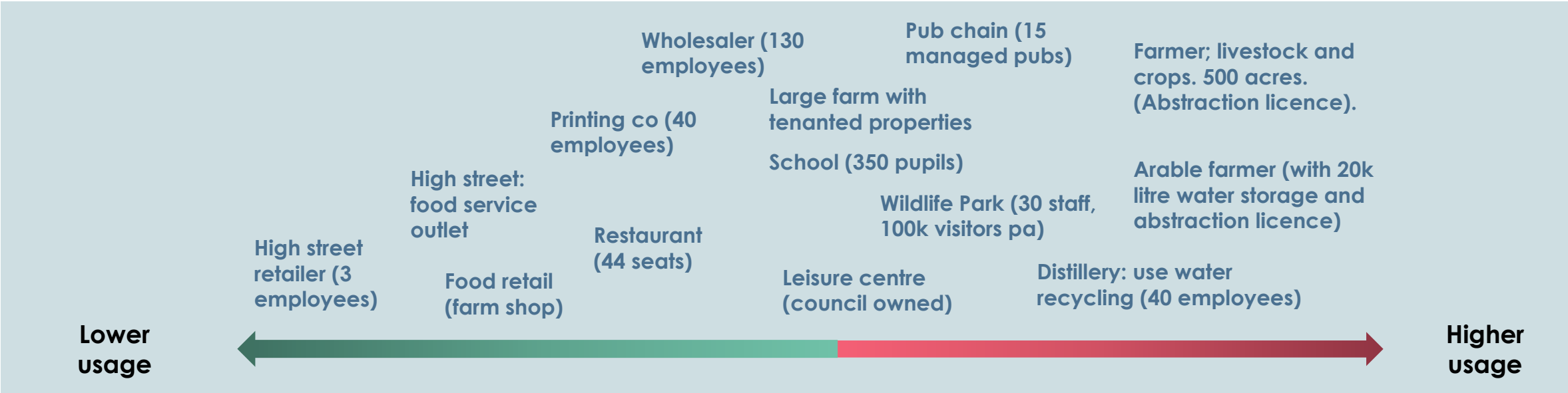
Sample & methodology: non-household customers

With many businesses under particular pressures related to the pandemic, depth interviews (rather than group discussions) proved the best way to achieve a high quality sample reflecting a wide range of business contexts. The discussion guide and stimulus materials were adapted to suit the method with a pre-task helping to set the scene for NHH respondents.

Non-household sample:

- 14 depth interviews with a pre-interview survey task
  - 8 x Anglian Water region
  - 3 x Essex & Suffolk
  - 3 x Cambridge Water region
- **Fieldwork dates:** 17th September – 4th October

	Cambridge Water	Essex & Suffolk Water	Anglian Water
14 x Zoom depth interviews (60 minutes)	**3 depths**	**3 depths**	**8 depths group**
All complete a pre-task	Pre-task (15 minutes)		



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Sample & methodology: stakeholders

The three water companies provided contact details for a selection of regional & national stakeholders as well as NAVs and Retailers. Blue Marble handled the appointment setting and all stakeholders were interviewed in confidence.

Stakeholder sample:

- Individual or paired depth interviews
- Total of 20 organisations and 24 individuals
- Pre-interview briefing note and introductory video

Fieldwork dates: 23rd August – 29th September 2021

	Cambridge Water	Essex & Suffolk Water	Anglian Water
Region focused stakeholders	**4 interviews**	**1 interviews**	**2 interviews**
		3 interviews	
National stakeholders	**5 interviews**		
NAVs & Retailers	**4 interviews**		

- 1 x Utility company
- 6 x Environmental NGO/group
- 1 x farming sector
- 1 x Internal Drainage Board
- 4 x Local Authorities
- 1 x Community group
- 1 x Business representative

Contents

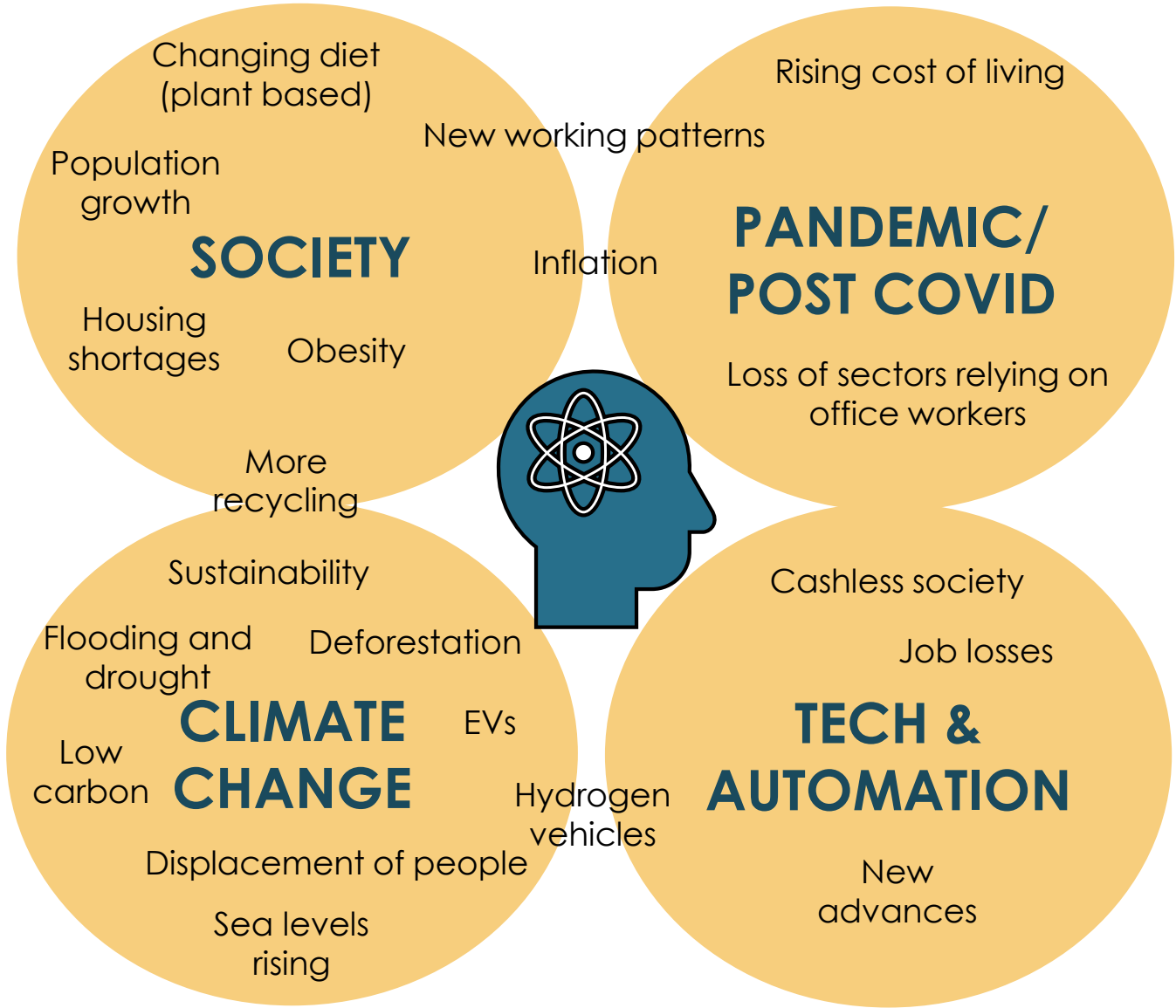
PREVAILING ATTITUDES AND HOW THESE RELATE TO WATER RESOURCE PLANNING

Photo by Adam Rhodes on Unsplash

Sheringham, Norfolk

Consumer mindset: understanding expectations of the future

Four overarching themes relate to consumers' expectations for the next 20-30 years



Current beliefs and attitudes shaping response: environmental

"As people move out of cities this can push out locals leading to reductions in the local labour force."
Anglian C2DE

"Climate change, I have a lot of friends where I live and their houses flooded really badly. You look all over the world and pretty much everywhere has had some really bad flash flooding. I think that has to be some form of indicator of what's going to be going on in the future."
E&S Non bill payers

Climate change is increasing in the public's consciousness, and there is general concern about future impacts of a changing climate and population pressures

- Environmental issues generally more top of mind for higher socio-demographic groups
  - Particularly in terms of personal actions: EVs, solar panels, insulation (more affordable?)
- For lower SEGs, climate change appears more remote: their focus is on more immediate, personal issues (e.g. post Covid concerns about jobs and cost of living rises)

However, knowledge and understanding of specific environmental issues varies widely.

- Prominent issues include plastics, micro plastics, and extreme weather events (fires and floods)
- Climate change is associated with rising temperatures but drought risk is rarely mentioned spontaneously – nor the risk of running out of water
- Coastal/sea health mentioned in relation to micro plastics and oil spills
- Water companies not immediately associated with environment
  - River environments not mentioned spontaneously

Flood risk is a greater concern than drought with several (direct & indirect) personal experiences

- Expectation that water companies can collect and use storm water i.e. manage surplus to mitigate against shortages

Limited awareness of local or national environmental schemes / initiatives

- Local level examples: city centre low emission zones, wind farms, wild flower verges
- National level examples: phasing out plastic bags, boiler replacement, electric vehicles, Green Home grants, aim for net zero (no specifics), banning of halogen lightbulbs

Water company perceptions

Low awareness or appreciation of the role of water companies: few have a view on their water company's reputation

- One isolated recollection of a radio ad about water shortages
- Some see as the big regional company (with e.g. Cambridge the local provider)
- One recollection of the App
- Sewage smells (a couple of mentions)
- Flooding and drainage problems (Milton Keynes)

"I don't really think of them, they just supply the water."
Anglian C2DE

- No strong perceptions of company
- A single positive experience of new meter installation (and lower bills)
- Aware receive 2 bills: assume this is an inefficient/more expensive way to manage water and waste supply

"It's not really meant anything to me other than I get water through my tap."
E&S Economically vulnerable

"If I could just pay Essex & Suffolk then I would expect the bill to be lower."
E&S Economically vulnerable

- Isolated experiences: both positive and negative
  - Positive experience re leakage on property
  - Positive perceptions of call centre service
  - Perception slow to fix leaks

[CW had identified and informed customer of a leak] *"We didn't have to pay for water due to a 'leakage allowance'."*
Cambridge ABC1

There was no detailed questioning about perceptions of water companies with the HH audience however large water users clearly had a better understanding of the water and waste water system. Some mentioned their retail provider (Wave Utilities) and appeared to understand the retail-wholesale structure.

Consumers' expectations of the future

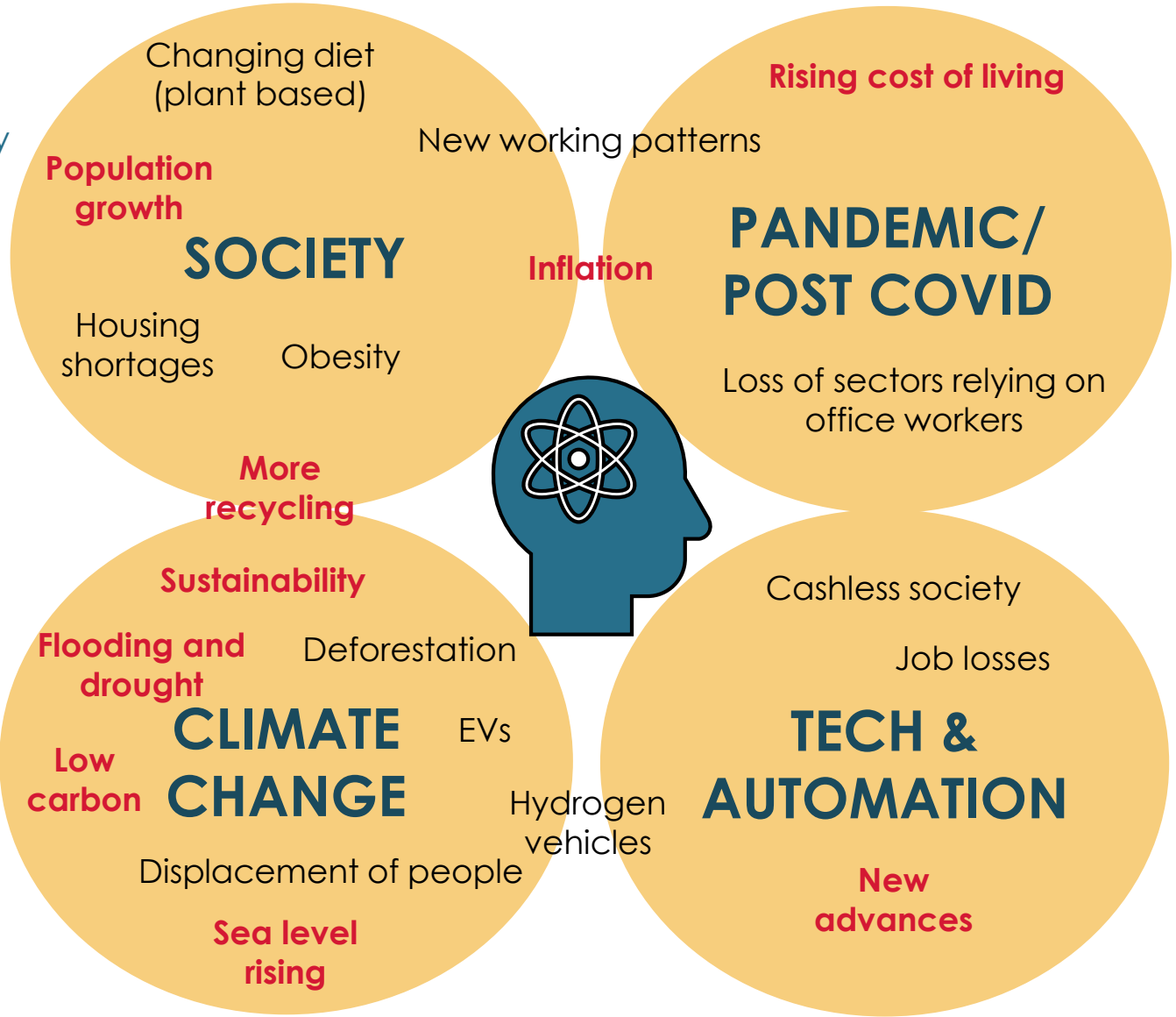
Some future expectations relate directly to (spontaneous) expectations of water companies

Water companies are expected to expand capacity – and manage risks of (sewer) flooding near new housing developments.

As well as growing population needs, some believe water consumption is rising e.g. with hot tub usage.

Water recycling (i.e. grey water at a household level) is a widespread expectation.

Water companies also expected to be increasingly efficient.



Expectation (fear for some) that bills will rise – including water bills.

Technology expected to help manage the existing network – such as new materials that prevent bursts – and new methods for sourcing water e.g. desalination

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Current beliefs and attitudes shaping response: pandemic

Consumers have an altered perspective having experienced the pandemic: respondents draw on the pandemic as a useful context from which to consider the issue of supply security and future planning

"It's going to be difficult if the economy is not in a good way for the bills to increase at that time. Water is one of those things where we don't have a choice, and I feel that if people's wages are going, or people's jobs are going then it's not fair to increase the water bills at this moment."
E&S ABC1

"It's critical that water remains affordable for everyone, especially as people are struggling at the moment because of COVID."
Anglian ABC1

The unexpected can happen (out of nowhere)	We rise to such challenges	Planning for the unexpected is important	The pandemic has shed light on social inequalities	Some have been squeezed – and/or expect cost increases

This new perspective suggests views have shifted from previous research

- Future planning is important: that water companies are doing this is appreciated more
- A belief that there need to be contingency plans: emergency measures would be acceptable in a crisis
- That plans need to be fair to all and affordable
- When it is clear what individuals can do, this should be promoted

Indications from NHH sample that some are acutely cost-conscious (this is born out in our wider research with businesses who are feeling particularly squeezed by a combination of factors: Brexit and Covid).

ATTITUDES TOWARDS DROUGHT RESILIENCE MEASURES

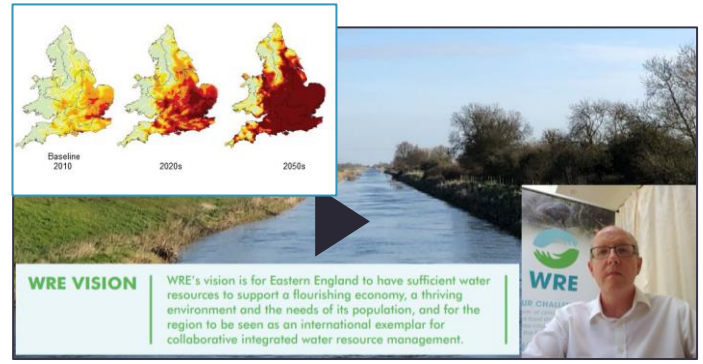
Photo by Marian May on Unsplash

Southwold, Suffolk

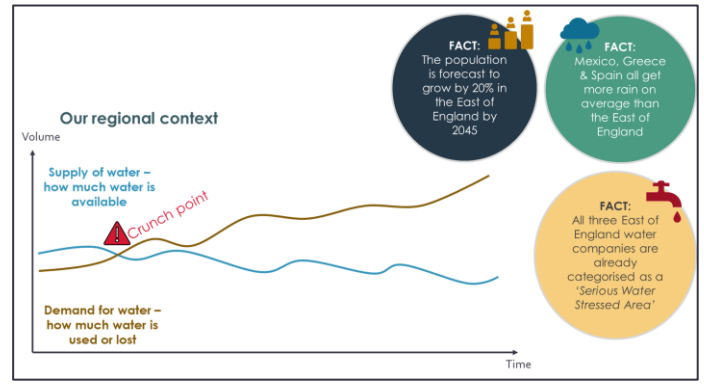
Response to context information about drought resilience

Initial alarm at the regional situation begins to soften when contextualised with recent examples.

- Surprised: a seriousness and urgency not realised
- Warming map visual very striking – with short timescales (already mid way between the middle and the hottest projection)
- Many unaware of the OxCam link specifically – but new developments in context of growing population expected providing an exacerbating factor



- Most unaware that they are in a water stressed area
- Crunch point is alarming: no idea that water shortages imminent unless action taken
- Statistic on Mexico/Spain/Greece rainfall counter-intuitive
- Some surprise that this is 'new news': expect the issue to be in the public's consciousness



- Very few (mainly ABC1) aware of the Cape Town crisis
- Recollections of1976 and 'hosepipe ban' age dependent: most were children at the time and did not recall it as a big deal
- Some awareness of more recent 'hosepipe bans' (generally these feel more frequent than is the case)
  - Some (unspecific) recall of water saving messaging
  - 2012 ban: for those recalling it, overriding sense it didn't affect them much
- Parallels with COVID: if this happened we'd just get through it

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Awareness and attitudes shaping response to drought risk

Consumer mindset is very distant from the context and decisions affecting water resource planning

> *"Climate change, I have a lot of friends where I live and their houses flooded really badly. You look all over the world and pretty much everywhere has had some really bad flash flooding. I think that has to be some form of indicator of what's going to be going on in the future."*
> E&S Non bill payers

Drought risk is not a conscious concern for consumers

None aware of risk of water supply shortages in near future

Shock & surprise about real and immediate risk in their region

Awareness of specific local features - chalk streams - is non existent

Link between water supply & river environments not understood

Spontaneous suggestions on how water companies should be responding;

- Deal with leakage (lots of mentions of leaks)
- Inform and educate: how to preserve water and change behaviour
- Lots of spontaneous mention of 'using the sea' with a handful of mentions of desalination
- Some borrowing/transferring water from wetter regions (ABC1)
- Better capturing of flood water

- Within the NHH sample, farmers are different in that they are more aware of the drought risk, believing it is often underrated and knowing the specific challenges of farming in the East. Low/no rainfall impacts them immediately
- Other types of NHH are particularly environmentally aware (though not necessarily because of any specific business focus) with examples of developing their own businesses in a sustainable way e.g. planting drought resistant species; investing in water recycling technology

Stakeholders: Awareness and attitudes shaping response to drought risk

In contrast to the HH and NHH samples, stakeholders (regardless of type) have a strong awareness of the huge challenges facing the region in terms of water resources planning

- All acknowledge the **particular challenges facing the East of England** – the region with greatest potential problems

- Stakeholders often (especially the enviro-focussed organisations) **take a holistic view of the water environment** i.e. seeing drought, flood, water demand-supply, impact on biodiversity, water quality, CSOs/sewage, as a single system which is difficult to separate
  - Particularly relevant in this region due to biodiversity issues (e.g. chalk streams, the Wash) and seasonal water flow in and out of the Fens (pumping water out in winter etc.)

- **Need for urgency**: aware of difficulty of meeting water resource demand now (and managing flooding) and that things will only get worse
  - Climate change
  - Population increase
  - Large demand from agriculture & other industries (cf. other regions) with the current supply problems heightening food security issues

- Strong feeling that **unsustainable to carry on with BAU, but radical action is required**
  - For many this includes collaborating with others incl. retailers, environmental groups, industries (e.g. farmers, developers), local authorities
  - Appetite amongst many for greater collaboration – not just consultation on high level plans, but on the ground action and local project delivery
  - The specific actions wanted/needed varies by organisation (depending on their interests, values, areas of concern etc.) but a common theme that more action is vital

- Acknowledge that **water companies in East of England are improving, both addressing WRM** and collaborating/consulting others in last c.5 years – but a further step change needed

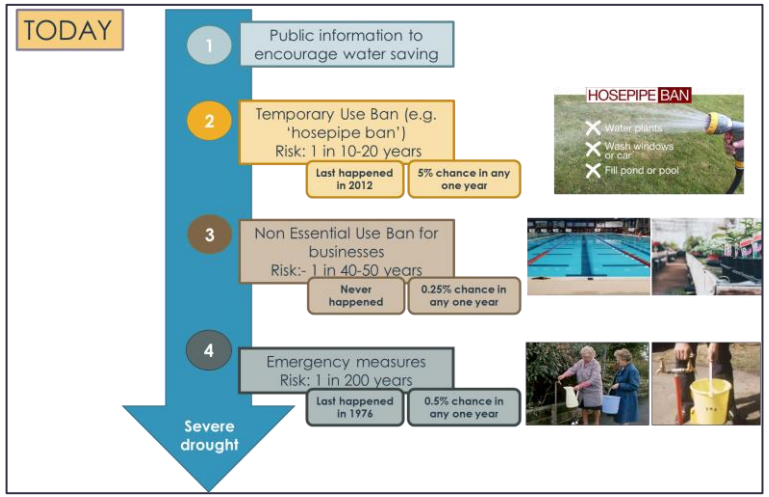
"… the key is to deal with the issue urgently, the most difficult period … appears to be 2025-2035. They've got longer term solutions but what we haven't seen yet is shorter term solutions."
Regional Stakeholder, CW

"They should raise the bar of ambition to look at climate change resilience in a big way. They need to inform stakeholders and customers on what the impact of climate change will be - they have a responsibility to educate customers… business as usual is not an option, this has to be climate change proof, challenging, big picture."
Regional Stakeholder, AW & ESW

"Continue to be open minded to integrating how we work all together to deliver better water supply - continue on the journey you've been on.. Don't just think that engineering is the answer."
Regional Stakeholder, AW

Perceptions of measures available to water companies

Understanding the restriction levels makes consumers less worried about the crunch point as they've lived through the examples and it has been fine



1 in 200 chance of drought restrictions

Consumers consider the probability of drought measures with some pragmatism

- The unexpected can happen - and when it does we rise to the challenge.
- In contrast to previous research, the use of water restrictions was widely accepted as sensible.
- Additionally, some felt 1976 wouldn't happen again with advances in technology, therefore this must be getting increasingly less likely

Varying perceptions of whether this feels high risk or not

- Personal interpretation - and also varying levels of understanding of probabilities
- People also have varying risk appetites

Emergency measures generally regarded as a **low impact & medium to low frequency risk**

"Sounds reasonable and they aren't severe enough to cause public outcry … they are in place for a reason and I can understand the way they are going about it."
Cambridge Non bill payers

"1 in 200 - that's really scary, that's very likely that it would happen."
Anglian Non bill payers

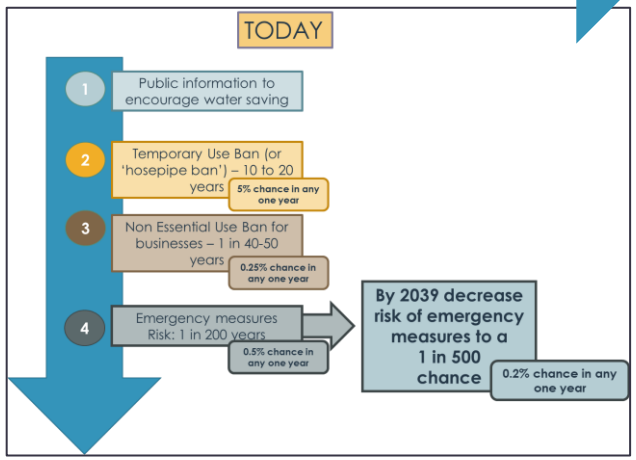
"With 1 in 200, people will say 'oh, that's not going to happen', it's not often enough for people to get concerned about it."
Cambridge Economically vulnerable

- 'Non-essential' is ambiguous to some businesses: non-essential in Covid means as a service not essential so e.g. pubs closed. Here non-essential water use relates to all businesses – but what is non-essential?
- Evaluating the risk (frequency/impact): most NHH find it similarly intangible – except for farmers for whom it is very tangible (though may also not relate to the numbers)
- Stage 4 can seem apocalyptic to some businesses

Response to change in drought resilience risk

Consumers broadly endorse the reduction of use of drought measures from 1 in 200 to 1 in 500 by 2039

1 in 500 chance of drought restrictions



- Consumers can see this is a large reduction in the risk
- Directionally reassuring – but the actual probability largely meaningless and treated as a 'technical' measure for a risk that does not generally keep people awake at night
- Questions arise about how this is going to be achieved

"It's a lot better isn't it. That's over 1 in 5 lifetimes so that's a lot less to worry about. At the same time, with climate change those statistics are also going to be affected, so whilst it might be the plan to do that by 2039, what's the climate going to be in 2039? That 1 in 500 could go back to 1 in 200 by then".
E&S non bill payers

"I don't see how, with temperatures getting higher, water levels decreasing. Are we going to start taking water from the sea and desalinise?!"
Anglian non bill payer

"The target suggests that water companies are concerned about the problem and the risk of shortages. Reassuring that water companies are taking steps to reduce the risk".
E&S ABC1

"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 Economically vulnerable

Local, regional or national communications?

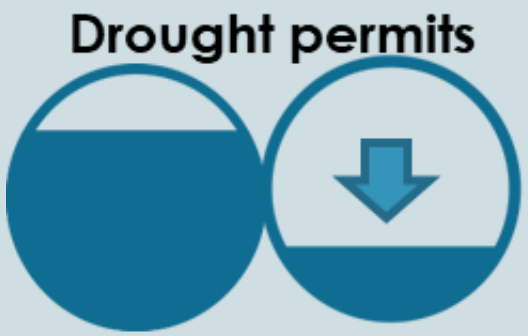
- Local is more relevant for comms on locally-based restrictions
- However national communications likely to have more 'clout'
- Some recall the confusion (and divisiveness) of local tiers during lockdown – and worry about very localised restrictions
- General view is that restrictions should be region (not company) wide (larger are means more effective and fewer boundaries)

Mixed views about the 2039 timeframe (no consensus)

- **Ambitious:** a challenge to make what are anticipated to be big changes/investments
- **Slow:** need to act faster if crunch point is imminent
- Question: what has been achieved so far (since target set)?

- NHH sample respond to the reduction in risk by 2039 from a personal standpoint: those with stronger interest in environmental issues tend to think the timescale is too slow (as the climate change risks have been known for decades)
- Others also think timeframe too generous to water companies who they think should be able to address more quickly

Use of drought permits



Taking more water from rivers and streams requires using 'Drought permits':
Water companies are already licenced by Environment Agency to take river water in normal circumstances. Drought permits allow water companies to take more water from rivers during a drought (i.e. over and above what they are already licenced to take out in normal circumstances).
Over time, too much water has been abstracted from rivers and this has caused environmental damage. Now new legislation will restrict how much water companies can take from rivers.

Context: this is all 'new news' to consumers

- No prior awareness of drought permits
- Some question where they fit into the 4 levels of drought measures
- Low appreciation that water companies take water from rivers
- No awareness of previous levels of abstraction causing environmental damage

"It would be better if they don't take it from rivers … but then we would have to accept hosepipe bans and things, although I don't think a hosepipe ban is a problem".
Anglian Water C2DE

In general, consumers are supportive of reducing drought permit use

- Legislation a good idea to reduce damage – especially those shocked to hear rivers can be harmed by this practice
- Seen as short-term solution: 'robbing Peter to pay Paul'
- Reduction will be good for wildlife and river ecosystems
- Anticipate this will 'force' water companies to look for new sources (some spontaneous suggestions for desalination, water transfer and water recycling)
- Some (ABC1s and more environmentally focused) happier to have drought measures/hosepipe bans more often then use drought permits – others concerned that more restrictions on households will be the outcome
- In the long term, better management of the environment will mitigate climate change and lead to more predictable weather

Some hold a more pragmatic view

- But this could impact water supplies and/or bills
- Water companies need to use these when supplies are low
- Rivers bounce back and recover

"The only negative impact that I can see is that there might be less water and prices might have to increase because of that".
Cambridge non bill payer

Stakeholders

Widespread awareness of water company water resource management plans and use of drought permits – but knowledge of detail varies considerably…

- While stakeholders are much more knowledgeable than the consumer sample, **all are aware of the real and present risk of drought** now and in immediate future.
  - Many acknowledge that the general public are not currently aware of the scale of problem - and for some water companies should play a role in addressing this

- **Limited awareness of regulatory change to 1 in 500 year probability of drought measures**
  - Broad acknowledgement that this is a good step
  - Strong belief that need to **act sooner rather than later**
  - Many feel unable to make proper assessment about whether '1 in 500 year' is an appropriate level; or whether 2039 is soon enough (**they do not feel sufficiently qualified to make that judgement**)

- Given the scale of future challenges, minority of stakeholders believe water use restrictions will need to be imposed: **unrealistic for all consumers/industries to have 'unlimited' water use**.
  - For this minority, in close alignment with consumer views, temporary use bans/restrictions shouldn't necessarily be considered as a system failure but part of the demand management armoury (alongside other measures e.g. compulsory metering).

- In principle **most stakeholders are opposed to use of drought permits** (indeed, they display stronger feelings against use of drought permits than emergency measures):
  - Unsustainable way to meet water demand
  - Negative impact on environment and river biodiversity

- However, some caveats with this**: need to ensure that agriculture (and vital industries e.g. energy) has sufficient water supply and may need to use drought permits in times of emergencies**

"The challenges are massive – a combination of environmental circumstances changing with climate change, the impact on this region will be harder than other regions and population growth and business customers with high usage."
Retailer

"We have to plan to have no drought permits in the future. They are not a long-term solution, they're sticking plasters. We need to avoid damage to streams at all costs and also reduce carbon. It will cost more, but [we] *have to accept that."*
Retailer

Supply and demand option preferences

Photo by Ben Wicks on Unsplash

Cambridge

Response to demand-side and supply-side options

Which are the 3 options you would most like to see included in the plan?

DEMAND OPTIONS / SUPPLY OPTIONS Household Customers n=86	% of top 3 most liked
Leakage detection and reduction	62%
Using grey water or rainwater collection and use	38%
More reservoirs to store water	37%
Higher water efficiency using incentives and awareness campaigns	35%
Universal metering	33%
Taking water from the sea (desalination)	31%
Recycling treated wastewater and returning to the water supply	27%
Storing water underground	17%
Transferring water around and beyond the region	16%
Sea tankering water from other countries	1%

Demand-side options more highly-favoured than supply-side drought resilience measures.

- Maximising usage of existing water supply seen as a more pragmatic approach to drought resilience than increasing supply without first managing usage and wastage.
- There is also a belief that reducing demand will lead to less of a cost impact overall.
- Many acknowledge that in the context of climate change, demand-reduction alone may not be enough to maintain the supply/demand balance.

The primary concern for customers is that companies reduce leakage, with 62% rating this in their top three options (the next option was 24pp behind at 38%)

- They expect companies to 'get their houses in order' before any major new resources are considered or before demands are made of customers to reduce their own leakage/usage.

There are no significant variations in preference between water areas or key demographics such as SEG, economic vulnerability or bill paying status.

- NHH preferences largely mirror those of consumers, with a few exceptions.
- NHH prioritise using grey water above leakage, reflecting the practical and cost-conscious nature of businesses, many of whom already reuse water for non-drinking purposes to cut costs e.g. using rainwater to wash cattle sheds
- Desalination is rated less highly, being seen as too expensive and with high environmental costs
- Water efficiency incentives/campaigns rank near the bottom, with other options seen as being more impactful

Response to demand-side and supply-side options

Which are the 3 options you would <u>least like</u> to see included in the plan?

DEMAND OPTIONS / SUPPLY OPTIONS Household Customers n=86	% of top 3 least liked
Sea tankering water from other countries	93%
Transferring water	44%
Taking water from the sea (desalination)	43%
Using grey water or rainwater recycling systems in homes and for commercial use	23%
Universal metering	21%
Recycling treated wastewater and returning to the water supply	16%
More reservoirs to store water	15%
Storing water underground	15%
Higher water efficiency using incentives and awareness campaigns	12%
Leakage detection and reduction	7%

Sea tankering is by far the least favoured option, with 93% of HH consumers rating it in their three least favoured options.

- The option in second place is 49 pp behind sea tankering.
- Transferring water is the second most disliked option, mirroring its second-from-bottom position in the table of those options which are liked most.

Views around desalination and grey water recycling appear to be polarised.

- Desalination is third in this table but ranks in the middle of the ratings for most-favoured options
- Grey water recycling comes fourth in this table, but is ranked second in the top three best options table.

There are no significant variations in least favoured options between water areas or key demographics such as SEG, economic vulnerability or bill paying status.

- NHH ranking of the worst options suggests cost is a strong driver with the most (perceived) expensive options least liked: sea tankering, desalination and underground storage.

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Stakeholders

Overall, stakeholders believe a **balance of both demand-side and supply-side options** will be required to meet the scale of the challenge

- For some, especially but not limited to those with an environmental focus, there is a **preference for focusing on demand-side options first / in the short term**
  - These are seen to have less environmental impact: the more that can be done to limit demand the less supply-side infrastructure will be needed
  - No clear consensus about the extent to which demand-side only can be the solution to future challenges

"I think at the moment their priority should be demand because it's just going to go up and up - manage that and plan for the future."
Regional Stakeholder, CW

- **Generally defer to water companies to decide on the right options** based on certainty of supply, cost and environmental impacts.
  - Do not want to give their opinions on the best solutions without further details e.g. cost, carbon, biodiversity impacts of specific solutions.
  - Want water companies to follow the data and the science.

- **Some call for radical look at the challenges ahead, and new ways of thinking:** range of different proposals put forward by stakeholders:
    - Invest in natural water storage solutions
    - Regulatory structure needs changing (5 year planning cycle too short term)
    - Innovate and collaborate more to actually deliver plans (bring together different water companies, academics, retailers, LAs, developers, enviro groups). Going beyond consultation, acknowledgement that water companies can not meet challenge alone.
    - Increase cost of water (currently much cheaper than all other utilities)
    - Change assumption that consumers can have limitless usage
    - Educate customers, businesses and stakeholders about water resource problems (inform not just consult)

- N.B. **Some criticism of current regulatory system preventing more 'radical' approaches** - regulators devolving responsibility for big problems to the water companies.

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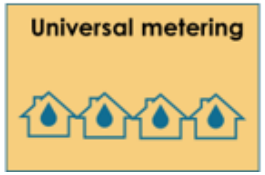
Attitudes towards demand-side options

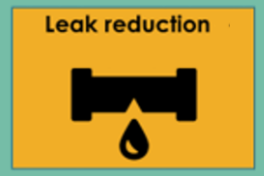
Photo by Brian Ramsey on Unsplash

Great Yarmouth, Norfolk

Demand options – Overview

	CUSTOMER SUPPORT	CUSTOMER CONCERNS
	• Making the most of what we have is considered common sense • A natural first step before new initiatives are considered	• Leakage reduction is primarily the responsibility of companies, rather than customers
	• Logical option for making most of current supply • Lower environmental impact than other options • Perceived low cost/disruption to implement • Highly relevant for large users (NHH)	• Contamination • Limited potential impact on usage • Perceived high cost/disruption to implement
	• Makes the most out of existing supply • Empowers customer to reduce usage and bills • Low cost	• Public 'too lazy' to make significant impact • Incentivisation costly
	• Fair for customers to pay for what they use • Potential to save money • Forces customers to be aware of usage • (Lower relevance for NHH)	• Change to status quo unfair for larger/low income families • Resistance to 'being forced' to have meter • Want to use water without worrying about it

Demand options – Leak reduction (1/2)



Most liked rank = 1

- 1st of 4 demand options
- 62% rated in top 3 most liked.

Least liked rank = 10

- 4th of 4 demand options
- 7% rated in top 3 least liked

CUSTOMER SUPPORT

- Making the most of what we have is considered common sense
- A natural first step before new initiatives are considered

CUSTOMER CONCERNS

- Leakage reduction is primarily the responsibility of companies, rather than customers

Leakage reduction by companies is the option most favoured by customers.

- It is the top-rated option across all key demographics, 24pp ahead of the second most favoured option.

Leakage is the big issue in consumer consciousness - and a bone of contention - with companies perceived to be wasting a great deal of water through negligence.

- Leakage was mentioned spontaneously throughout the research and was highly resonant and relatable for most customers, viewed as wastage and a moral issue companies should prioritise.
- Views are driven by personal experience of seeing large-scale leaks and a perception that the infrastructure is old and in disrepair.

Making the most of what we have is considered common sense and should be the primary focus before committing to new initiatives.

- Although customers recognise that they themselves have a responsibility to reduce their water use, they expect companies to 'get their houses in order' before any major new resources are considered, or before demands are made of customers to reduce their own leakage or usage.

"I see a lot of leaks in village areas (local to me) but never see the company out looking after this or trying to correct it."
Anglian ABC1

"I chose leakage detection as there have been a lot of burst pipes/leaks around here and I have seen how much water is wasted."
Anglian C2DE

"There is so much wasted water through unseen leaks there needs to be a better way to detect these leaks."
Anglian NHH

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Demand options – Leak reduction (2/2)

Many think that all leaks should be fixed, whatever the cost.

- In principle, leaks should be repaired at any cost as water is a vital resource - and the information (in the research) has shown its scarcity
- Additionally, existing leaks will only get worse over time as pipe materials degrade; and the longer they go on for, the more they will cost.

However, most would be happy for leaks to be addressed only when it would be cost beneficial

- In practice, if it doesn't make financial sense it would be better to leave the water to disperse naturally, especially if fixing the leak would be disruptive or destructive.
- Customers believe water companies should prioritise repairs based on the volume of water leaked and that repairs should be carried out with durable materials to achieve permanent fixes.

Current leakage levels are seen to be too high, but customers agree that a 50% reduction is acceptable

- Many respondents spontaneously suggested that 10% leakage would be a pragmatic figure; a significant reduction while appreciating that 0% leakage is not realistic.

However, the timeframe (2050) is too far out: 2030 would be better

- Leak reduction is extremely important to people and many do not understand why addressing them should take 30 years, particularly as (some mention) this was a key argument for privatisation.

	Total leakage figure today	How many Olympic swimming pools is that per day?	Leak reduction – company-side: Proportion of treated water leaked from company pipes	Leak reduction – customer side: Proportion of treated water leaked from customer pipes
Anglian Water (serves 2.23m customers)	82 litres per property/day	73	70%	30%
Essex & Suffolk (serves 1.8m customers)	81 litres per property/day	58	79%	21%
Cambridge Water (serves 351k customers)	87 litres per property/day	5	70%	30%

Repairing leaks: Company or customer?

Customers would be happy with 50% reduction across company and household pipes.

Why is leakage common on customer pipes?

- You may not know about it
- Expensive to fix
- Doesn't feel urgent – don't get round to it

What support do customers need to address leaks?

- Leakage allowance
- Water companies alerting you to a leak
- Smart metering
- Insurance policies

Demand options – Using grey or rainwater

Most liked rank = 2

- 2nd of 4 demand options
- 38% rated in top 3 most liked.

Least liked rank = 4

- 1st of 4 demand options
- 23% rated in top 3 least liked.

CUSTOMER SUPPORT

- Logical option for making most of current supply
- Lower environmental impact than other options
- Perceived low cost/disruption to implement
- Highly relevant for NHH users

CUSTOMER CONCERNS

- Contamination
- Limited potential impact on usage
- Perceived high cost/disruption to implement

For many using grey or rainwater is a logical way of maximizing the existing water supply.

- Using drinking-quality water for purposes such as flushing the toilet feels non-sensical: many customers are keen to reuse water which would otherwise go to waste.
- Many keen to see UK fully harness excess rainfall and seawater, particularly floodwater and 'out of season' rain as a result of climate change.
- Some question why it is not already being done.

The perceived lower environmental impact is also appealing for many, although there were queries over the potential for contamination.

- Some wary of 'dirty' water being used around the home and worry that it may affect the clean drinking-water supply.

However, opinions on using a grey water system are polarized due to the cost and disruption to implement it.

- A significant proportion believe it would be difficult & expensive to install new systems, particularly retrofitting old buildings.
- Those who support the initiative sometimes do not grasp that new infrastructure would be required; or believe that it would be worth the cost as a long-term initiative to reduce water usage.

Some perceive that grey water usage would not have a big enough impact on current demand to justify investing in it.

"It seems genuinely confusing why we flush our toilets with treated water and the idea of using rain or grey water for this seems to make total sense to me."
Cambs ABC1

"Recycling - or using grey water - helps prevent the problem rather than looking for new sources."
Cambs NHH

"[I'm] just a bit uncomfortable with dirty/used water being reused around the house… instinctively it feels dicey.
Cambs C2DE

"After being flooded severely three times, all this flash flood water just went to waste, when it could have been encouraged to go somewhere for …reusing for the future."
Anglian C2DE

blue marble

Demand options – Higher water efficiency through education

Most liked rank = 4

- 3rd of 4 demand options
- 35% rated in top 3 most liked

Least liked rank = 9

- 3rd of 4 demand options
- 12% rated in top 3 least liked

CUSTOMER SUPPORT

- Makes the most out of existing supply
- Empowers customer to reduce usage and bills
- Low cost

CUSTOMER CONCERNS

- Public 'too lazy' to make significant impact
- Incentivisation costly

As with reducing leakage & using grey water, making better use of existing water resources is the primary reason this appeals to customers.

- Reducing water usage is a logical first step before considering initiatives to increase supply.
- Mentioned spontaneously throughout the research: many spoke of water company education at school (theirs or their children's). For many it is a hygiene factor.

Some believe education, awareness and incentives will ensure that customers play their part in reducing water usage…

- Customer awareness of the potential for water shortages is low: respondents believe the issue receives less publicity than other environmental challenges e.g. plastics and carbon emissions.
- Once educated, customers acknowledge the potential to reduce their usage (and with it their bills), but want water companies to give them guidance on how to do this.

…but others feel that customers will not make enough effort to have a large impact on usage.

- Some are cynical about the public's capacity to adopt changes and believe that any impacts would be slight and short-term, with people quickly reverting to previous behaviours.
- Long-term incentivisation is seen as essential to driving permanent behaviour change – but this would be expensive.

"I feel that we can all save water by using less, but we need to know how this can be done and the impact if we continue to use water at the rate we do (awareness campaigns)."
Cambs C2DE

"…having taken part last time I wasn't aware of how bad the situation could be in such a short period of time. Changing our habits on saving water is a cheap option as long as we all do it!"
E&S ABC1

"The public cannot be relied on to continue saving water once any campaign has settled in no incentive for them unless a long term discount can be applied."
Cambs C2DE

"Incentives tend to have limited impact and people often go back to previous habits."
E&S ABC1

Demand options – Universal metering (1/2)

Most liked rank = 5

- 4th of 4 demand options
- 33% rated in top 3 most liked

Least liked rank = 5

- 2nd of 4 demand options
- 21% rated in top 3 least liked

CUSTOMER SUPPORT

- Fair for customers to pay for what they use
- Potential to save money
- Forces customers to be aware of usage

CUSTOMER CONCERNS

- Change to status quo unfair for larger/low income families
- Resistance to 'being forced' to have meter
- Want to use water without worrying about it

Despite some resistance to 'being forced' to adopt meters, household customers agree with the principle that it is fair to pay for the water that you use.

- There were comparisons with other services where you pay by usage, such as energy and petrol.

However, this is a rational response to the concept and many simultaneously recognise that it may be disadvantageous to larger families and those on a low income.

- Many feel changing *the status quo* would be unfair for these people, potentially leading to a sudden increase in bills.
- Some worry that people sacrifice hygiene if forced to pay for what they use, similar to the 'heat or eat' dilemma in energy.

However, the potential to save money makes this option very attractive to many customers, including the economically vulnerable, and social tariffs could also be a solution.

- Many customers believe they are paying for more than they use currently and would see a bill reduction if they were moved onto a meter. Some also thought they could further reduce bills by limiting usage.
- As a result, universal metering was in the top three most-liked options for 47% of economically vulnerable customers (ranking joint first with leakage reduction)
- If universal metering goes ahead, customers want water companies to help potentially vulnerable customers with initiatives such as social tariffs, bill capping or phased introduction.

"The situation we're all in, we can afford it. My concern is vulnerable families [who] need to use a lot of water but are reticent to use it because you can't afford the bill. That's my huge concern about it (...) I don't want people to not use water because they can't afford it, because I know the knock-on effect that'll have."
Anglian ABC1

"Metering means people become responsible for their own use through paying for how much water they use making them more efficient users."
Anglian C2DE

"Universal Metering allows people to monitor and try to lower their bills."
E&S NHH

blue marble

Demand options – Universal metering (2/2)

Perceptions of the suitability of the economic and stretch targets vary by region

- **Anglian Water** already has very high levels of metering and the economic target of 93% is deemed acceptable.
- **Cambridge Water** currently has lower meter coverage, but customers in the region are again comfortable with the economic target because it is above 90%.
- In both of these regions, customers often feel that the small % of additional coverage achieved by the stretch target would not be worth the investment.
- **E&SW** customers noted its poor coverage relative to the other companies and many feel that the economic target is not ambitious enough – a 6pp increase compared with Cambridge Water's 16pp.
- For some in this region, the stretch target feels more appropriate, but others wonder if there is a halfway house between that and the economic target – and if there are lesson to be learned from the other companies in how to achieve it.

How many households have meters in your area?	% of customers with a meter	Percentage metered – economic target £	Percentage metered – stretch target (requiring major additional spend) £ £ £
Anglian Water	90%	93%	98%
Essex & Suffolk Water	65%	72%	98%
Cambridge Water	75%	91%	98%

"The cynic in me says that to get form 90% to 93% in 25-years, they're probably doing precisely nothing besides putting meters in new properties."
Anglian C2DE

"Essex and Suffolk would only be up 7% with the economic target and still not better than Cambridge is now. Either they're not spending the same amount of money as everyone else or they really need to invest."
E&S non bill payer

How long should it take?

The 25 year timescale is deemed too long and a 5-10 year target would be preferable, particularly as it is believed that water meters do not take long to install. However, customers aren't sure what the implications might be if the timescale is reduced.

What support do customers want from water companies?

- Affordability: Only accelerate if bills are capped
- Education: Teach people how to save water to avoid spending too much

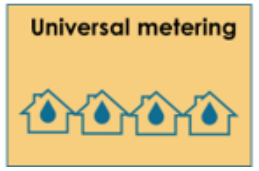
Stakeholders

- Widespread **support for all demand-side measures**: potentially quick to implement (not requiring large-scale infrastructure) and environmentally friendly
- Supporting the principle of **'making best use of the water we do have'**
- But views vary on whether demand-side options that rely on consumer behaviour change alone will be sufficient to address challenges

- Majority support strongly: first step in sustainable resource management
- Minority criticise current economic leakage level: not sustainable, not true reflect true costs of leaks
- Unacceptable to have leaks: how can expect customer to be water-efficient if companies aren't?

- Strong support incl. from developers & LAs: interest in collaborating to achieve this particularly in new builds
- Strong support from environmental groups – particularly for new developments (to address both flood & drought)
- Need better incentives in place to encourage more grey water schemes, including for businesses - payback period for grey water too long (10-12 years) so need incentives. Need to educate consumers.

- All agree consumer water efficiency drive should be part of the mix but significant differences in views about the extent to which consumer behaviour change can address the challenge
- Water companies - and regulators/government/others – need to make step change in behaviour change campaigns to see any real shift



- Strong support, indeed some frustration that not already imposed (why should water be different to energy?)

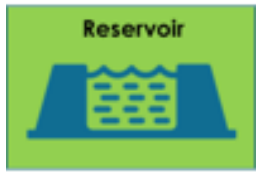
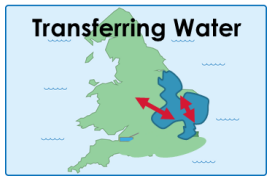
- Additional calls to use economic levers to reduce demand e.g. increase cost of water (for all but most vulnerable), provide financial incentives for domestic & business water efficiency, introduce tiered tariffs, tax businesses that turn 'water into profit'

Attitudes towards supply-side options

Photo by Devin Kleu on Unsplash

Cambridge

Supply options – Overview

	CUSTOMER SUPPORT	CUSTOMER CONCERNS
	• Feels like a familiar, tried and tested option • Environmentally friendly • Attractive community asset	• Construction requires disruption, money and large amounts of land • Environmental impacts • Rely on rainfall - less certain due to climate change
	• Almost unlimited resource • Logical choice given UK is an island • Perception that it will help address rising sea levels	• Expensive • Environmental impact • Inland customers concerned about transport of water
	• Recycling feels like a sensible option	• Low understanding of 'recycling' process limits engagement • Recycling doesn't feel innovative • Negative perception of 'dirty' water
	• Water is stored and readily available when needed • Underground storage more effective and desirable than reservoirs • Limited environmental impact	• Required water treatment expensive and energy intensive • Rainfall dependent
	• Makes sense for areas with high rainfall to share water with areas experiencing a shortage	• Not a long-term solution • Expensive • Energy intensive
	• A 'last resort' option	• Limited capacity • Not a long-term solution • High financial and environmental costs

Supply options – Reservoirs

Most liked rank = 3

- 1st of 6 supply options
- 37% rated in top 3 most liked

Least liked rank = 7

- 5th of 6 supply options
- 11% rated in top 3 least liked

CUSTOMER SUPPORT

- Feels like a familiar, tried and tested option
- Environmentally friendly
- Attractive community asset

CUSTOMER CONCERNS

- Construction requires disruption, money and large amounts of land
- Environmental impacts
- Rely on rainfall - less certain due to climate change

Customers are generally comfortable with reservoirs: a tried and tested option which feel familiar.

- Views in support of reservoirs were often quite vague and generic: customers simply feel they are a 'good idea that works', rather than being able to cite a more specific reason.
- Equally, many do not feel any strong arguments against this option.

Several issues divide opinion: the environmental impact…

- Many feel that using water from reservoirs would be less damaging to the environment than creating water through other initiatives, and that the structures themselves would provide a habitat for local wildlife.
- Others are concerned that construction would harm wildlife and destroy habitats.

…community impacts…

- Reservoirs can appeal as they also create attractive community assets that can be used for leisure.
- Others are put off by: the disruption of their construction; the high cost which would have to be paid for by local people; and the large amounts of land required. The latter a particular concern for the Cambridge and Essex & Suffolk regions, which have high population density.

…and cost.

- Whilst some find the low running costs attractive, others feel the expensive construction means reservoirs are not a viable option.

Many question whether this option which relies on rainfall is sensible in the context of climate change.

"Reservoirs are brilliant because they are there to supply us with water when needed and can also be used by wildlife also enjoyed by the communities e.g. lakes."
Cambs C2DE

"Reservoirs are costly to build, impact on the wildlife and during droughts will be empty anyway!"
E&S C2DE

"Reservoirs to store excess water when it is available is common sense."
Anglian NHH

"Despite being a reasonably good Idea man made reservoirs are going to take a long time to build a lot of money and will disturb communities and nature in the building process."
Anglian ABC1

Supply options – Desalination

Most liked rank = 6

- 2nd of 6 supply options
- 31% rated in top 3 most liked

Least liked rank = 3

- 3rd of 6 supply options
- 43% rated in top 3 least liked

CUSTOMER SUPPORT

- Almost unlimited resource
- Logical choice given UK is an island
- Perception that it will help address rising sea levels

CUSTOMER CONCERNS

- Expensive
- Environmental impact
- Inland customers concerned about transport of water

Access to almost unlimited supplies of water makes this option appealing to many.

- Using an abundant resource which surrounds the country feels like a logical strategy to guaranteeing future supply
- In the context of rising sea levels, some felt that taking water from the sea would help to address this issue.
- Many raised using seawater spontaneously without knowing the tech exists.
- Knowledge of other countries using this approach is also a positive.

"If it's going to harm the environment more by getting this water then it's not worth it because it'll make it worse in the long run."
E&S Non bill payer

The high environmental impact of this option was a key issue during the homework task, but this information was often not retained.

- During the discussion, environmental impacts were secondary to discussion around the benefits of a limitless water supply and concerns over cost.
- When prompted, some respondents feel that although the high carbon footprint and marine damage are off-putting, issues around water security are more urgent and they are willing to let go of their concerns. The prospect of using renewable energy to reduce the impact is very popular.
- ABC1 respondents tend to be more sceptical of the environmental cost of desalination, particularly the fact that little is known about the long-term effects of 'messing around with nature' in this way and the potential for further damage to our already ailing oceans.

"Desalination is used all over the world, as an island it makes sense to explore and utilize the sea."
Cambs C2DE

There are some isolated views relating to region.

- **Anglian:** sensitivity to coastal flooding in low-lying areas – could this help?
- **East of England generally:** positive about local economic benefits of development (similar to benefits from North Sea oil and nuclear power.)
- **Cambridge:** as a landlocked region, cost disadvantages of piping water from the coast.

"Pulling seawater when there should be ample freshwater available is costly to the environment and only masks the issue of waste."
Anglian NHH

blue marble

Supply options – Recycling

Most liked rank = 7

- 3rd of 6 supply options
- 27% rated in top 3 most liked

Least liked rank = 6

- 4th of 6 supply options
- 16% rated in top 3 least liked

CUSTOMER SUPPORT

- Recycling feels like a sensible option

CUSTOMER CONCERNS

- Low understanding of 'recycling' process limits engagement
- Recycling doesn't feel innovative
- Negative perception of 'dirty' water

The concept of 'recycling' was welcomed, but respondents were hazy over what this option would entail, limiting engagement.

- Whilst respondents welcome the fact recycling makes full use of the existing water supply, they were unclear what this option would entail and how exactly it would differ from 'standard' treatment of water within the water cycle.
- For some, recycling feels like something which we should be doing already, rather than an innovative new initiative.
- There is also some confusion between this option and the use of grey water for non-drinking purpose.

As a result, responses to this option were muted, with respondents displaying neither a strong like or dislike to the concept.

- This lack of engagement is mirrored in the option's mid-table position in both measures.

Negative perceptions revolve around the use of 'dirty' water.

- Some dislike that 'dirty' water would be involved in the process – this term should be avoided when describing the option. Whilst they trust that water would be made safe and clean before consumption, there is a psychological barrier around perceived quality.
- They would want some reassurance that water would be checked after treatment to ensure it is fit for release into the natural environment and some expressed concerns around the impact on the environment of building of recycling plants.

> *"Obviously they know what they're doing, when you hear the words 'recycled water' you think, 'ewww, what's been in the water before and where's it coming from?'"*
> E&S ABC1

> *"Reading that, my first thought was 'why aren't we doing that already'. We should be"*
> Anglian C2DE

> *"I think that's fine - isn't water recycled anyway?"*
> E&S C2DE

> *"I think that's OK, so long as it's safe water. If they do that, I don't want to know they're doing that - psychologically, I wouldn't want to know. It's not a nice thought, even if it's safe."*
> E&S C2DE

Supply options – Storing water underground

Most liked rank = 8

- 4th of 6 supply options
- 17% rated in top 3 most liked

Least liked rank = 8

- 6th of 6 supply options
- 15% rated in top 3 least liked

CUSTOMER SUPPORT

- Water is stored and readily available when needed
- Underground storage more effective and desirable than reservoirs
- Limited environmental impact

CUSTOMER CONCERNS

- Required water treatment expensive and energy intensive
- Rainfall dependent

The concept of storing water underground again makes those in support of this option feel that we would be 'making the most of what we have'.

- Capturing and storing 'natural' rainwater is seen as an effective way of evening out supply during fluctuations in rainfall, rather than creating water via other methods.
- Customers perceive that having water stored would be a good 'back-up plan' in times of drought.

"Underground storage is a natural source of water from rainfall and has less evaporation during predicted climate change."
Cambs C2DE

Some see underground storage as more effective and desirable than storage above ground in reservoirs.

- Water would not be as prone to evaporation as in reservoirs, making the storage more effective.
- Storing water underground does not require as much land as reservoirs, limiting the impact on local habitats, and some believe that we could repurpose existing voids such as mines.

"Storing Water Underground: [It's in the bottom three] purely because of the excessive amount of treating involved. This obviously amounts to more energy used, greater cost and more time."
E&S C2DE

Negative perceptions of this option revolve around the cost and energy required to carry out treatment.

- Many perceive that treatment would be required before storage and again before usage because the water would 'go stale', which would be expensive and energy intensive.

"Underground storage seems to be a good option and will have less of an impact on the environment. Water can be stored for future use during periods of low water. It seems a clean way to store water although it is treated prior to storage."
Anglian C2DE

Some also point out that this option relies on rainfall, which is uncertain in the context of future climate change.

Supply options – Transferring water

Most liked rank = 9

- 5th of 6 supply options
- 16% rated in top 3 most liked

Least liked rank = 2

- 2nd of 6 supply options
- 44% rated in top 3 least liked

CUSTOMER SUPPORT

- Makes sense for areas with high rainfall to share water with areas experiencing a shortage

CUSTOMER CONCERNS

- Not a long-term solution
- Expensive
- Energy intensive

Respondents are generally comfortable with the concept of sharing water between areas that have an excess or shortages.

However, this option is not seen as a long-term solution given it relies on rainfall, which may be affected by future climate change.

- Transferring seen as 'moving the problem around' rather than solving it.
- In particular, transferring within a region was deemed non-sensical, as the receiving area would likely also be experiencing a shortage.

Many are put off by the high financial and environmental costs of pumping water long distances.

Some are reluctant for water to be shared with companies who have poor efficiency ratings, even their own.

- Many feel that companies should address leakage before water is transferred to them, with levies applied to poor performers.
- However, poor efficiency is not the customer's fault and they shouldn't suffer – either from water shortages or increased bills.

Opinion divided over the fairness of customers paying different bill amounts.

- Many did not know that average water bills differ between suppliers and this option brought home the fact that customers could pay a different amount for exactly the same water.

Altered taste is not a significant concern as 'beggars can't be choosers'.

"I'm happy sharing it wherever it's needed, if the pipelines are there and it's doable then why not?" E&S C2DE

"You wouldn't want it wasted. If you'd gone to all that effort and resources to put in the pipes and transfer it you wouldn't want to just see it wasted. That just seems like throwing it away. I'd rather we kept it to ourselves is someone else was just going to waste it." Anglian ABC1

""I think we should all be paying the same, it shouldn't be more profitable for one company than it is for another." Anglian C2DE

Supply options – Sea tankering

Most liked rank = 10

- 6th of 6 supply options
- 1% rated in top 3 most liked

Least liked rank = 1

- 1st of 6 supply options
- 93% rated in top 3 least liked

CUSTOMER SUPPORT

- A 'last resort' option

CUSTOMER CONCERNS

- Limited capacity
- Not a long-term solution
- High financial and environmental costs

Sea tankering is by far the least favoured option of all.

- Only 1 out of 86 respondents put it in their top three most-liked options.
- 93% of HH consumers put it in their three least favoured options and the option ranked second worst was 49 pp behind it at 54%.
- 42% did not consider any of the suggested arguments a strong reason to consider sea tankering.

"Sea tankering feels like a band aid, a temporary solution. It's expensive and not great for the environment. Importing anything at the moment is also a challenge."
Cambs C2DE

Many consider this a 'daft' option, given the perceived significant cons and few pros.

- This option is something to consider only as a last resort.

"Sea tankers seem an expensive way of getting a limited quantity delivered to a port where would it be stored or taken by road tankers."
Cambs C2DE

Limited capacity is the main drawback for most respondents.

- Respondents struggle to believe that this option could provide enough water to satisfy potential demand.
- For this reason, sea tankering is viewed as a short-term, temporary measure only.

In addition, respondents are wary of the financial and carbon costs of such an energy inefficient process.

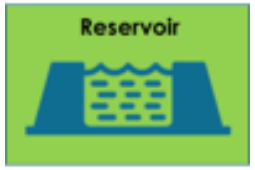
"I think the only one that seems really ineffective is taking water from other countries - high environmental impact and high cost. Not a long term solution. The UK needs to be self-reliant."
Anglian ABC1

Stakeholders

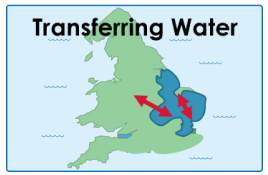
Infrastructure based supply-side solutions preferred by minority (industry) due to perceived increased security of supply

- Strong support - a sustainable option (would like to see natural water storage mentioned explicitly)
- Environmental groups see potential in better water management in the Fens: storing water rather than pumping it out to sea in the winter (link with agriculture pumping water away in winter)

- Popular solution: underlying principle of using what we've got efficiently & effectively
- Potential for use in agriculture: opportunities for 'circular economy' of water with agriculture sector
- Minority (one) worry about health aspect if not managed properly



- Most believe necessary, but a long term solution that won't address more immediate water shortages
- Some support dependent on environmentally sensitive construction (e.g. supporting biodiversity) and benefit to local communities (e.g. recreational benefits)



- Popular solution: aware already happening and happy to see more
- Provides degree of flexibility to respond to changing supply-demands
- But some point out that this is not increasing supply (not 'new water') – a short term solution only?

- Significant concerns about cost: financial and carbon; and concerns about damage to environment by waste produced
- Some support dependent on being powered by renewable energy sources

- Least supported option: not sustainable, energy intensive, very high carbon footprint
- Some strong opposition

"Sea tankering is just the most filthy way of transporting, using so much energy, it can't be efficient or economically or environmentally viable."
Regional Stakeholder, AW & ES

blue marble

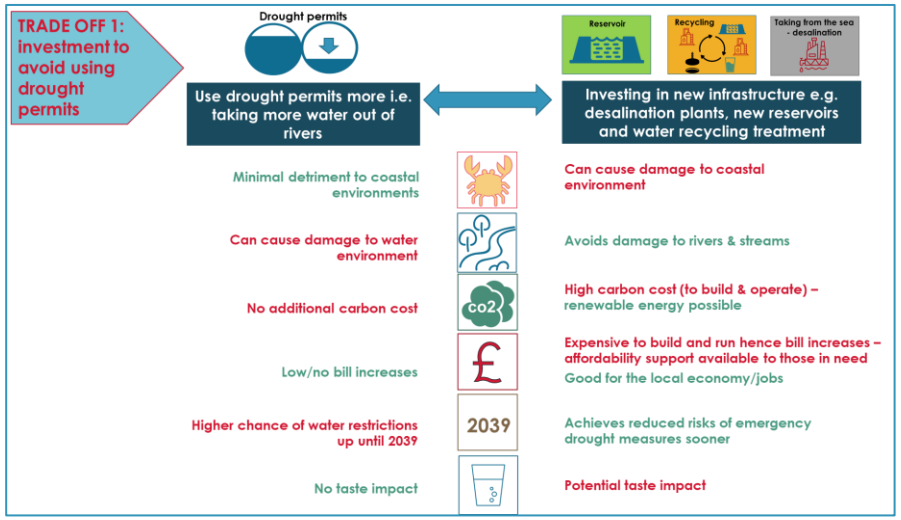
ATTITUDES TOWARDS ENVIRONMENTAL AMBITION & TRADE OFFS

Photo by Daniel M on Unsplash

Colchester, Essex

Trade-off 1

Drought permits vs new methods



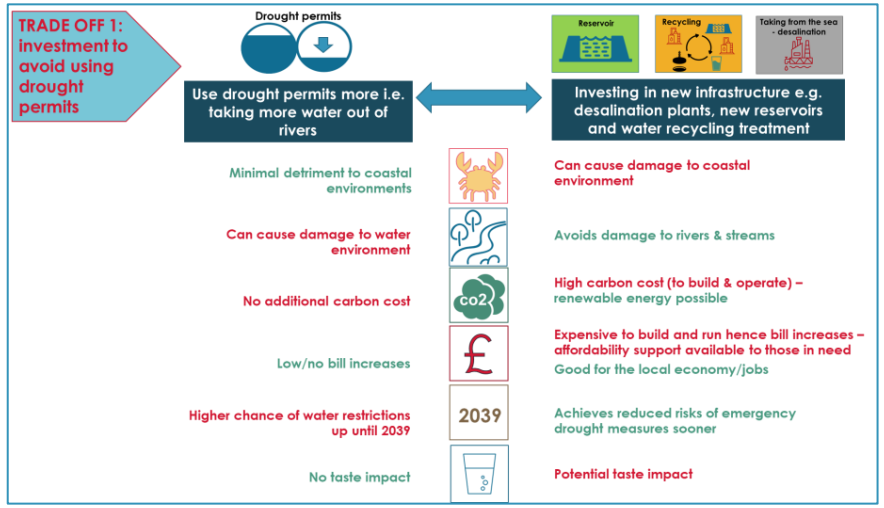
A difficult decision, but investment in new infrastructure is the more popular option

- The majority feel that the new initiatives provide an effective long-term strategy for water resilience. By contrast, many customers consider that if drought permits are being used currently but we are still at risk of water shortages, then it is a sign that they are not a reliable long-term solution, particularly as climate change occurs.
- Bill increases are a concern for many, even well-off customers. However, many feel that the need to invest is inevitable and it would be better to do so now, than continue damaging rivers until they run dry; continuing to rely on drought permits feels like *'kicking the can down the road.'*
- For some the risk to the water supply does not feel so bad as to warrant building new infrastructure, particularly given the high associated financial and environmental costs of some of the associated options – desalination is a particular sticking point for many. They would prefer to carry on using drought permits to avoid even greater damage to the environment from the new measures.
- However, the possibility of using renewable energy largely dispels negativity over the environmental impacts of the new infrastructure.

- Response very similar to consumers, with some hesitancy particularly about the cost of new methods
- Within NHH sample, 3 examples of businesses saying we need to value water more therefore (those who can) need to pay more. This view from the more sustainability-leaning businesses across a mix of sectors)

Trade-off 1

Drought permits vs new methods



"I feel like I don't really want to bear this cost in my life time, but I think in terms of like longevity, and in terms of keeping for our children and our children's children, something drastic has to change, and that is the new infrastructure."
E&S Economically vulnerable

"Invest in new infrastructure (...) I think the problem we have is that drought permits are obviously where we're at at the moment. For the long term, at some point they're going to have to invest in new infrastructure, otherwise we'll be in the same position in 20 years (...) I think we've got to build for the future otherwise our kids will be in exactly the same situation in 2050. Definitely invest in new infrastructure."
Cambs ABC1

"Drought permits looks cost neutral in terms of no bill increase, so that's my preference - rivers go down and fill up again – like they did in the floods recently."
Anglian NHH

"The drought permit doesn't help in terms of eradicating the problem, so you're better looking at one of the solutions. The difficulty is in choosing which one, because they are all costly and not completely environmentally friendly."
E&S NHH

"I think we have to venture (into investment). You look at the pros of drought permits … it's all very much like 'we're not doing anything, so nothing is affected'. You look at the pros on the other side and we're at a point now where we have access to these advanced methods. We have to spend a bit and burn a bit of energy to get somewhere and actually move".
Anglian C2DE

"I think investing in new infrastructure will cause more problems - damaging other elements of the environment."
E&S C2DE

"I wouldn't want to see sea-tankering and de-salination - those would have to be on a desperation basis."
Anglian C2DE

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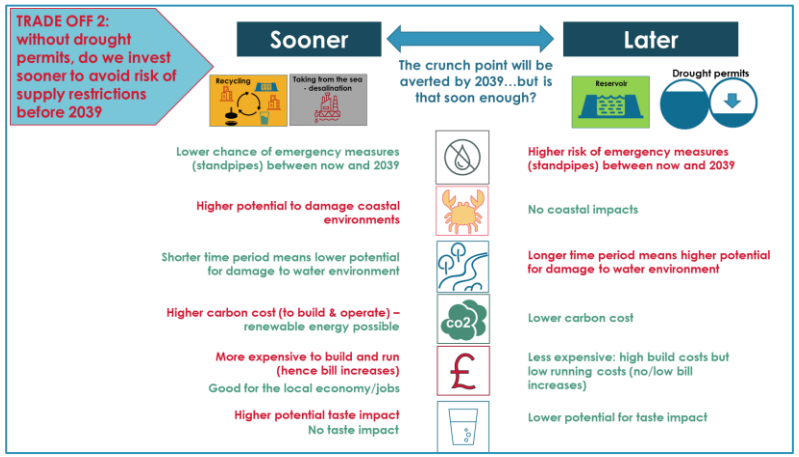
Trade-off 2

Sooner vs later



"Sooner. I think COVID has taught us … we can't just let things resolve themselves or let someone else do it. We need to deal with things now. There maybe more negatives than positives in the short-term, but leaving it isn't necessarily going to support our need for water".
Anglian Non bill payer

"We need to act now - droughts are imminent and 2039 is such a long way off."
E&S ABC1

Opinion was divided across the sample, with no clear consensus on the best option

- Many feel that if new infrastructure will be needed at some point, it would make sense just to *'get it done'*, although this thought process is divorced from the actual benefits of a shorter timescale.
- However, for many the amount of time saved doesn't feel significant or meaningful, and preference is based on the associated supply options rather than the pros and cons of the different timescale. For example, some chose 'Sooner' because it doesn't involve the drought permits they had rejected in the previous trade-off.
- Some younger customers believe that better technology may exist in the future which would increase supply with fewer impacts on the environment.
- Customer sentiment around this issue is less about *avoiding supply restrictions* and more about feeling that the *long term water supply is being safeguarded*, as that is their bigger concern.

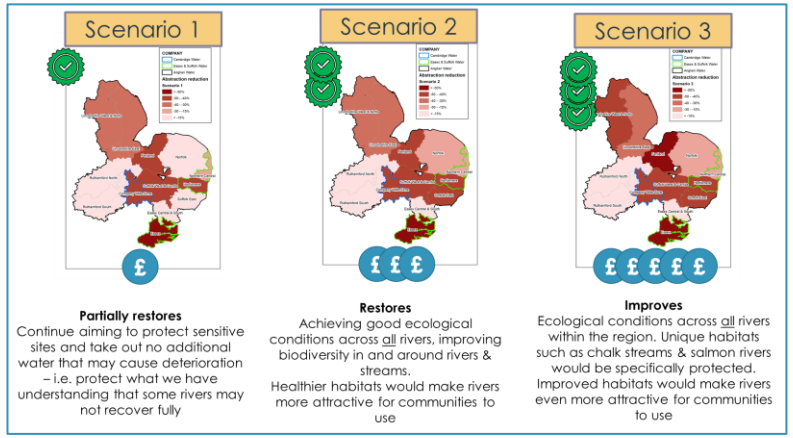
"The time period is arbitrary. I'd prefer we look at a truly sustainable solution that would last decades, generations."
Anglian NHH

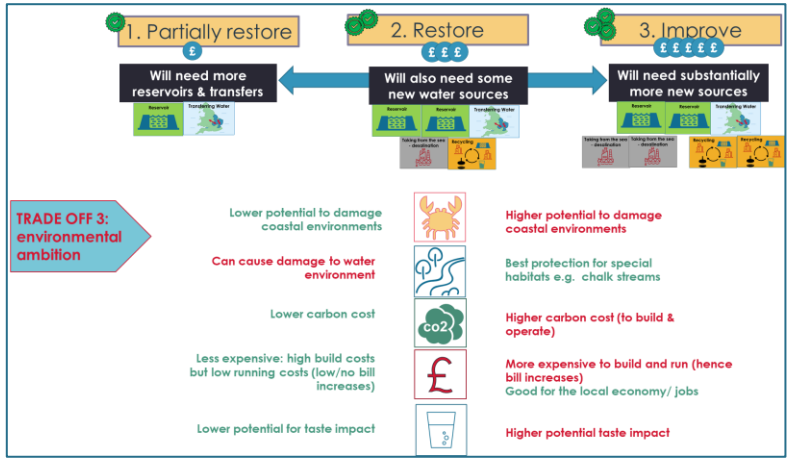
"I wonder … if in the meantime we could find better solutions, and better materials so we look at reducing [drawing] on the water environment."
Cambs Non bill payer

- Time difference seems arbitrary to NHH sample. General view is focus on sustainable option (i.e. do it properly) so the choice becomes more about the option than the timescale.
- Their concern is that water companies take the best (cost efficient) actions… rather than being fearful that 2039 is too late.

Trade-off 3

Environmental ambition





NB fieldwork took place before the gas crisis hit the headlines

Whilst 3 is the ideal option, scenario 2 is more realistic and reflects what most customers are willing to pay for.

- **Consumers are unaware of environmental damage due to over-abstraction and want to see rivers recover.** Although the vast majority of customers say they are willing to pay for environmental improvements, the research sends a clear message that it should not be at any price.
- **Some who originally chose *Improve* switched to Scenario 2: Restore in the trade-off exercise**, put off by the high cost and low differentiation vs other cheaper options; few know about chalk streams and are not motivated by them. Desalination is a polarising factor, with some customers gravely concerned about the environmental impact on the sea and marine life, in some cases pushing them from 'improve' all the way back to 'partially restore'
- **The majority want plans constrained to the less costly Restore option:** Seen as a compromise between environmental improvements and bill increases; 63% of customers chose this option in the homework exercise, compared with 35% choosing Improve. This is being driven both by the better-off demographic who repeatedly display a social responsibility to those worse off; and by the worse-off in the population for whom bill affordability is a very high priority.*
- **Very few spontaneously chose Scenario 1: Partially Restore** until it was explained that bills would be impacted, when some from the C2DE groups switched to it from the other options.
- **Customers would like to see water companies take a flexible approach**, tailoring scenarios to suit the damage done to that area and staggering implementation from scenarios 1 to 3.

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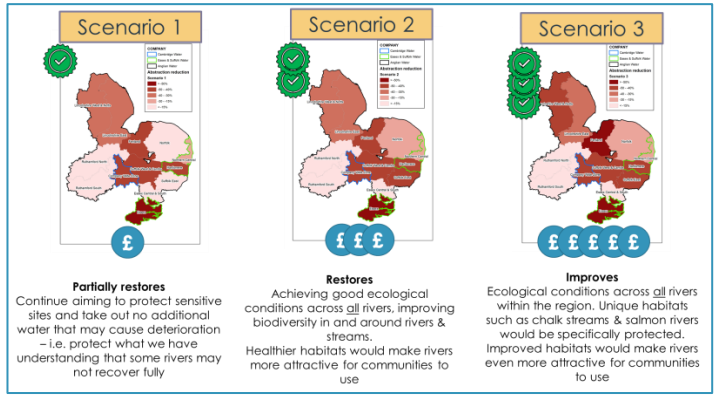
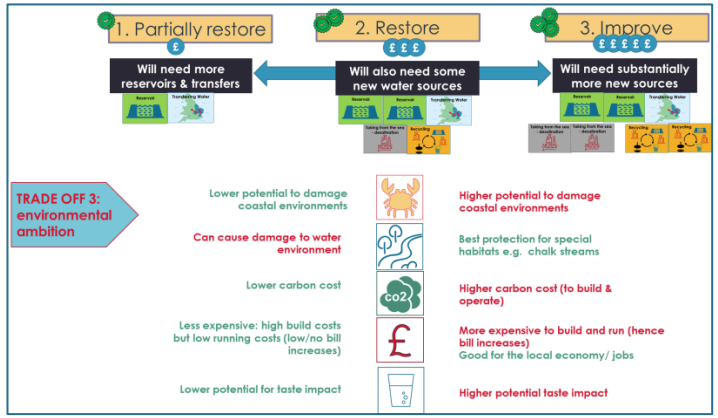
Trade-off 3

Environmental ambition





"One is out of the question for me. We've got to a point where something has to be done and partial just doesn't cover it now… You can put prices up but it has to be affordable and gradual. Two is still the best option."
E&S C2DE

"Option 2 isn't enough, you're not future proofing there, you're moving the problem to further down the line. I feel option 3 is the way forward but I'd like an alternative to the desalination, I feel there should be other options."
Cambs NHH

"I'll stick with two because it'll improve rivers and not just partially. There will be less expensive build costs [than three] and long-term bills will be cheaper."
Cambs C2DE

"I would start to veer more towards the middle scenario [from three] I would want to see improvement but if it's going to be detrimental in other areas then it's not worth it as much."
E&S Non bill payer

"It depends who's paying for it, doesn't it, at the end of the day. If it's coming out of water company profits then fair do's, if they're pushing up prices for you then it's not quite so easy to stomach."
E&S NHH

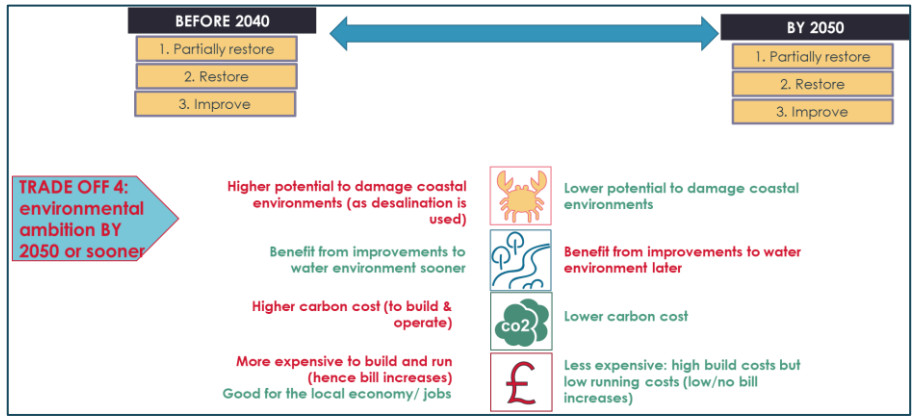
"The fact is I don't think they're going to build that many desalination plants. I can't see them doing that. So they'll have to look at reservoirs and the transference and also recycle, which is most probably going to be better, so I've gone backwards, [from three to two]."
E&S Economically vulnerable

"I would still go with restore, the carbon and habitat costs are too big [to choose scenario three]."
Anglian Economically vulnerable

- Most NHH respondents reflect the consumer view and choose Scenario 2
- Abstractors, however, are concerned about the emphasis on amenity use of rivers and the implications for industries needing the water (hence lean towards Scenario 1)

Trade off 4

Before 2040 vs By 2050?



" [It will] take a bit longer but be less harmful to the environment."
Anglian ABC1

"Look at the Olympics! How does it take so long build reservoirs?!"
E&S C2DE

"2050 gives them an awful lot of time to do it (...) I think they should be pushed into acting sooner, with incentives or penalties. My personal view is that reserviors should be sooner (...) I think more local reservoirs as a buffer should be done quicker and more easily."
Anglian NHH

"Waiting another ten years is trivial in the grand scheme of things. We've waited long enough anyway."
Anglian ABC1

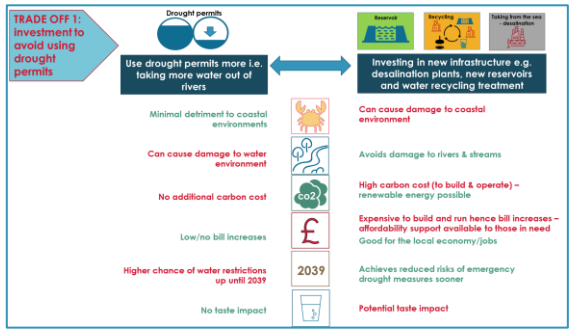
The majority consider that achieving these ambitions by 2050 is acceptable.

- For many, this decision was largely based on a simplistic assessment of the two lists of pros and cons: there are more disadvantages associated with the earlier target.
- In general, achieving the target by 2050 was seen as less damaging overall to the environment.
- Most believe that an additional 10 years is not a long time to wait, particularly as there will be progression over that period and there are clearly many other pressing issues which also need attention.
- Some younger customers also believe that technological advances in water are inevitable, and this makes the longer timeline a better option.
- Some who favour the shorter timeline feel that the sooner the target, the less likely it will be to become derailed by other issues.
- Many also question why it should take so long to implement the improvements and feel that it could be quicker

- Some opt for the more urgent timeframe (pre 2040) in line with their environmental outlook more generally.
- Most sidestep and expect the water companies to know the optimum timeframe through projections and modelling (they can't give a meaningful answer)

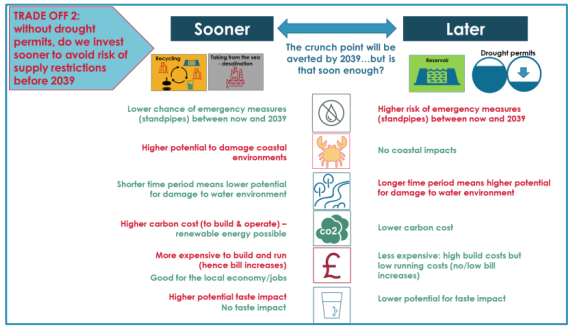
Trade offs: Stakeholders

1: Drought permits vs new methods



- Stakeholders **do not support drought permits** as part of the solution
  - Unsustainable '*sticking plaster*'
  - Destructive to the environment (a widely held view, beyond the enviro-centric)
  - Industry need to be able to abstract: agriculture and energy plants (so prefer new investments for the public water supply)
- However **many challenge the assumption that need to build to manage supply**; and choice presents a false dichotomy:
  - Need to include the demand options and nature based solutions – and innovation

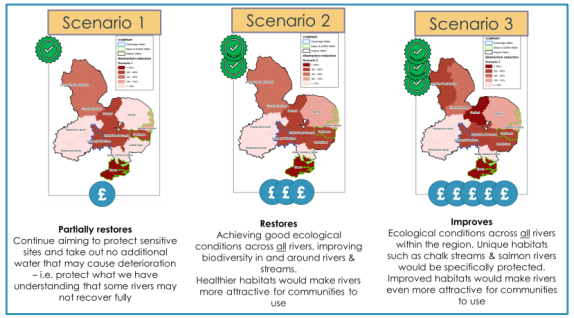
2: Sooner vs later



- Stakeholders often can't be drawn on this trade off: they believe that urgent action should be taken but don't have the information or expertise to advise on what the solution should be
  - Many are very cautious about desalination on the grounds of financial cost, carbon cost and environmental impact
  - Recycling generally seen as a more acceptable way forward
- Anticipate the solution is a mix
- Key drivers: supply security, environmental protection and speed

Trade offs: Stakeholders

3: Enviro ambition/ 4: 2040/2050



"They need shorter term solutions than 2050 - it's a live issue. Although the reservoir is already planned it's not going to be available into 2035. They need to address issues in the interim period as well. … I would have liked a slide that said before 2030 to be honest."
Regional Stakeholder, CW

- **Almost universally want water companies to have high environmental ambition**
  - Want to see at least restoration (scenario 2) and preferably improvement (scenario 3)
- They **challenge the sector** to think more creatively about how to pay for a better environment:
  - Look for alternative funding streams e.g. considering value of biodiversity net gain
  - The cost shouldn't rest entirely on the water sector and should be spread e.g. higher food costs, higher developer costs, wherever water creates profit
- Some stakeholders also believe **water should cost the consumer more** (as it will then be valued more)
- Speed – this needs to be done immediately: stakeholders think it is an issue to be addressed urgently and **for some 2039 perceived to be too late**

BEST VALUE PLAN

Photo by Andrew Banner on Unsplash

Ludham, Norfolk

Best value plan - overview

For stakeholder audience: Best Value Plan (rather than cheapest solution) generally seen as the appropriate approach for a responsible company

- Necessary to consider wider environmental implications of business e.g. contribution to achieving net zero
- Calls for natural capital approach to accounting within the water industry (from enviro organisations)

- **Repeated theme that water is currently cheap** (relative to other utilities) and may be need to increase prices – many happy to see general price rises (with financially vulnerable customers protected)

- Some (minority) **cynical about whether possible to deliver plan** as shareholders will still require profit. (See the need for more work at Board level to ensure environmental sustainability is fully considered.)

General public view is largely accepting of the idea of the best rather than the cheapest

- NB terminology can be confusing as 'best value' in other consumer contexts means 'the cheapest'
- Consumers don't necessarily equate the idea of this plan affecting customer bills directly. (ABC1s are more likely to see that this will affect their bill whereas C2Ds tend not to be aware that investment choices impact their bills.)

Best value plan objectives

Objective	% of Top 4 Best Objectives
Affordable water bills over the long term	70%
The most from what we have (reducing leakage, encouraging customers to use less)	68%
A plan that that is adaptable in case of new/emerging conditions	65%
Ambitious targets to reduce carbon emissions and use renewable energy	49%
Better natural habitats: supporting wildlife & biodiversity	44%
A reduction in flood risk to communities	40%
Higher levels of resilience to drought (reducing the risk of emergency measures)	39%
Creating attractive water environments for recreation and wellbeing	17%
What regional organisations, businesses and consumers say they want	6%
Job creation and benefits to the local and regional economy	5%

Household Customers n=82

There is general approval for the suite of objectives; customers do not consider anything to be missing.

- **Affordability is the most popular objective** and is deemed a 'no-brainer' for providing universal access to an essential product. ABC1s were particularly vocal around protecting the vulnerable in the post-Covid context.
- **Making the most of what we have** is considered common sense and should be the primary focus before committing to new initiatives – it echoes the popularity of the reducing leakage option in the homework task.
- **Adaptability is crucial**, especially post-Covid when people are conscious that we're not as prepared for unpredictability as we should be.
- **The least popular objectives are those geared towards 'added value':** there is a desire for water companies to focus instead on their remit, which they are experts in. In particular, customers feel that businesses and consumers don't have enough knowledge to provide a valuable contribution to the plan.
- Customers are supportive of the concept of a Best Value Plan, perceiving that although it may not be the cheapest, it may be **better value for money overall because solutions will not be a quick fix**. However, as above, affordability is paramount.

Best value plan objectives - Stakeholders

Across the board stakeholders generally approved of the 12 core objectives:

- Most are as expected for a water company
- Many objectives reflect statutory/regulatory requirements of water companies
- Many believed objectives are interlinked (so difficult to identify priorities/most important objectives) and believe that holistic approach should be taken
- In principle, difficult to disagree with any without seeing greater detail

- **Objectives identified as highest priority reflected organisational interests and desire to work together on delivery** e.g. developers and LAs prioritise flood risk; retailers want to work on reducing customer usage; environmental NGOs on wildlife and biodiversity

- Some **question importance of affordable bills for all** (notwithstanding the need to protect the financially vulnerable)

- **GAP:** The only area identified as missing is a greater and explicit focus on need adapt **to climate change** (expect and want direct mention of climate change)

"I think it's hard to argue that it's not the right thing to do.. if it's about protecting a customer's local environment, they'd probably accept that."
Retailer/NAV

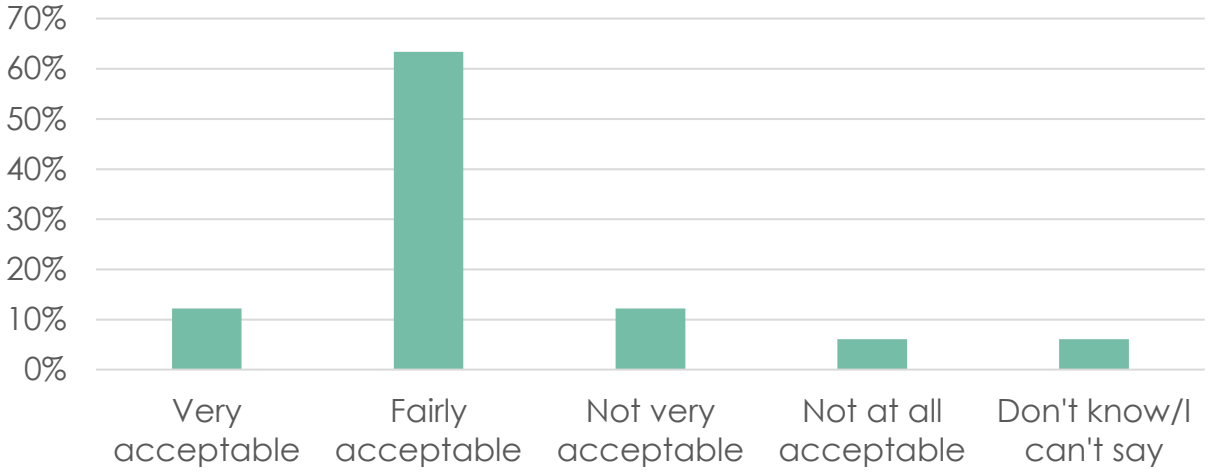
There's nothing here that's very surprising. It's difficult to argue they're not all priorities
Regional Stakeholder, CW

"Sometimes cheap is not always the best… we need to have better investment going forward to make sure we have the best solutions for the local area… people may have to pay for it in the future.. but there needs to be a good argument."
Regional Stakeholder, CW

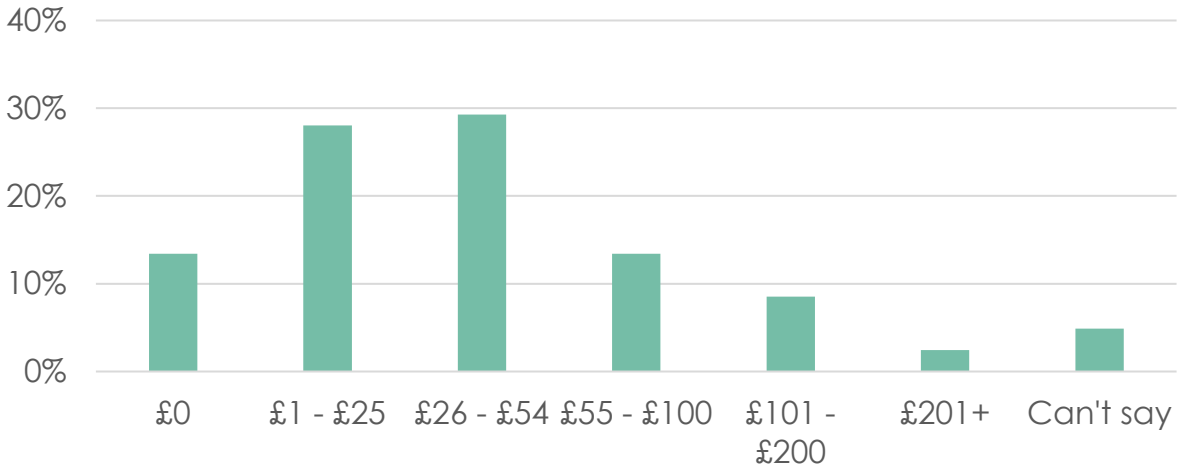
"Yeah, we're all for best value rather than least cost – least cost is what has dominated water industry since privatisation – best value has to be there as it seems it's the only way to get environmental impact taken account of. We want to see water companies put their water resource on their asset sheets – building in a natural capital approach to the water industry."
Regional Stakeholder, CW

Acceptability of bill increases

Assuming your top 4 objectives were implemented, how acceptable would you find it if water bills were increased to deliver these?



How much extra per year would be acceptable to meet these wider objectives?



Household Customers n=82

- **There is widespread willingness to accept bill increases in order to deliver desired objectives:** 76% find the prospect acceptable (12% scoring them 'very acceptable')
- In a free text question, most think increases of up to £1 per week would be acceptable: £1 - £25 (28%) or £26 - £54 (29%) pa.
- This level of acceptability reflects a highly informed and engaged sample (and not reflective of uninformed response)
- In this qualitative sample we find:
  - **Older customers are more willing to pay to deliver objectives:** almost three times as many over 50s found it 'very acceptable' compared with under 50s.
  - **Over 50s would also pay higher amounts:** a third would pay over £55 compared with less than a quarter of under 50s.
  - **Indications are that E&S customers are more willing to pay higher amounts** than Cambridge and Anglian Water: however this view potentially shaped by seeing bill and performance data relative to AW and CW.
  - **Economically vulnerable customers are least willing to pay:** 35% consider bill increases unacceptable vs 14% of economically stable customers

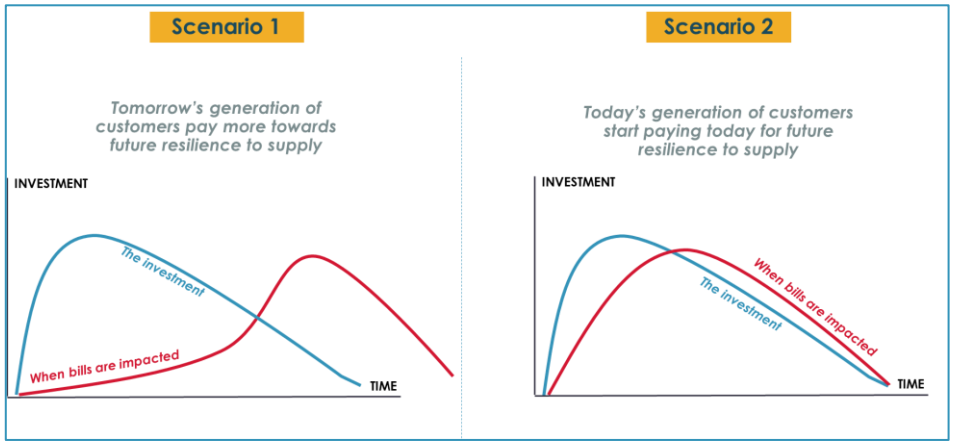
NB: The above commentary is based on qualitative data from interim and post-task surveys. %s provide an indication of weight of response but are not statistically significant.

Intergenerational fairness

Customers found it hard to decide which is the fairest solution to this ethical conundrum and there was no clear consensus.

- Currently the bill increases appear abrupt in both scenarios and there is a desire for a middle option with a flatter curve.

> *"I think what's fairer is if these humps on the graph could be flattened a bit, and the timescale elongated (...) that would be fairer because the rewards will be reaped for a considerable length of time so the increase in tariff should be spread over a longer period."*
> Cambs Non bill payer



Scenario 1: Delay payments

- For many, it doesn't make sense to be paying for something you are not using at that time and some older customers thought that they would die before they would see any benefit from their contribution.
- Economically vulnerable customers would choose this scenario because they cannot currently afford a rise in bills, and some younger customers considered that they would be more financially stable and able to pay later on in life.

> *"I'd go for scenario one because it's hard to pay for something that you don't know is tangible, it's hard to see what you're being charged for without seeing the end product."*
> Cambs Non bill payer

Scenario 2: Start paying now

- For some, scenario 2 feels logical because customers pay for the investment whilst it is being made.
- Some older customers would rather pay instead of their children and grandchildren, even though they may not see the benefits themselves.
- ABC1s in particular pointed out that we have caused the problem of climate change rather than future generations and therefore should bear the cost.

> *"I think if we want improvements we are going to have to start paying for them now. I'm happy to start investing now as it feels urgent. It would be really unfair to pass onto our grandchildren the cock up we made."*
> E&S C2DE

PLAN ALIGNMENT (DWMP)

Photo by Niklas Weiss on Unsplash

Halesworth, Suffolk

DWMP Context

Flooding was mentioned spontaneously across our sample as an issue that affects households during periods of heavy rainfall

- The effects of flooding have impacted pavements and roads from excess rainwater or overflowing drains, at local water sources such as reservoirs, or even in their own back gardens
- ***HOWEVER*:** this was mentioned in the context of water supply when discussing resourcefulness and wasting clean water supply
- **Few consider the wastewater system and knowledge of how it works and the problems it faces are limited:** The link between flooding and the waste water system is not made spontaneously

"We're only customers, not experts... so the companies have responsibility to educate us."
E&S C2DE

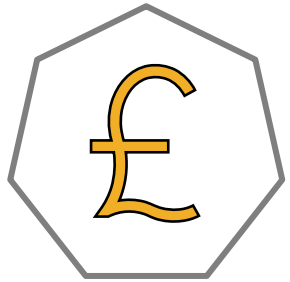
Stakeholders want water companies to tackle the challenges facing water environments in a holistic way: drought, flood, water demand-supply, impact on biodiversity, water quality, CSOs/sewage

"Got to see all these as interlinked, can't look at any solution in isolation – there has to be a holistic view of water"
Regional Stakeholder, AW

- Some businesses (notably larger/agriculture-based) have greater understanding of waste water/drainage challenges
- However, none of the NHH respondents put the issues or solutions in the context of their own businesses (and consequently their responses largely mirror the general public views)

Factors to consider when assessing solutions

When it comes to solutions for wastewater management, customers weigh up 3 different criteria: Cost, Long term effectiveness and Disruption



Cost

Customers consider cost implications of implementing solutions as they are concerned that costly measures that could see a rise in bills

"I'm always supportive of adopting new technology."
Anglian NHH

Long term effectiveness

It's important to assess how effective solutions are; customers don't want to see stopgaps or short-term solutions that won't help us in the long run

Disruption

To a lesser extent, customers do consider how disruptive it might be to implement solutions and are reluctant to consider those that have potential to disrupt (be that their lives, surroundings etc.)

- Businesses have a keener eye on costs: some options they don't think are feasible (upgrading the whole sewer system)
- Nature-based solutions are popular with the more environmentally focused (but this tends to reflect personal values rather than a business operation response)
- More pronounced preference for the sector to adopt 'new tech' but no concrete examples of what this might be… but expect innovation to help to solve problems

Changing customer behaviour

"We have a responsibility as well. But only if we're educated on it - things like how we were told how to not flush baby wipes etc."
E&S C2DE

"I like A the most, but it will take a while to shift customer behaviour, like with plastic bag reduction."
Anglian NHH

PROS

- Seems like it would be an effective solution if everyone did their bit
- BUT this would only work if there was more education on how to change behaviour; and help such as free or discounted water butts

CONS

- Difficult to maintain and ensure behaviour continues to change in the longer term
- For a small portion it feels like water companies are passing the buck

Small changes would be cost effective as spread over a number of people

Would be effective if it could be guaranteed that enough people were doing their bit

Minimal disruption unless customers are expected to make big structural changes

Supported by some stakeholders (issue raised spontaneously)

Using new technology to manage the network

PROS

- Good to invest in new technology
- A way to "make the most of what we have"

CONS

- Confusion as to how this would work and what the benefits would be
- How would it be implemented?
- How effective would it be?
- Doesn't feel like a standalone solution
- Requires more explanation

"I feel they should use technology to manage the network better - avoid wasting water through flooding and burst water mains."
Cambs NHH

"The ones I like the most are more technology to manage the network and managing surface water, they would mean we have more storage so we can use what we've got."
Cambs C2DE

Assumption that this would be an expensive option, but potentially worth it if it is a long-term solution

Would need to understand more about how it works to gage effectiveness

Assumption that this would be disruptive as would require digging up the pipe network

Managing 'surface water'

"Any that deal with flooding would help. Flooding is going to be a bigger issue isn't it, it needs dealing with so why not take the water and store it somewhere. Managing surface water is definitely a must."
Anglian C2D

"It seems like it would never work as water patterns constantly change and deluges are frequent. I don't think systems could cope with the inconsistencies of rainwater coupled with the high volumes."
Cambs NHH

PROS

- For those who have experienced how disruptive and damaging flooding can be this is very appealing
- Makes sense to design new gardens, roads, surfaces in this way as a form of future proofing

CONS

- Some feel that from a consumer perspective this could be costly and disruptive if they are expected to re-do their garden themselves with their own funds
- Uncertain how effective this option would be

Cost would depend on the specific measure put in, but customers are reluctant to pay much to put these solutions in place

Customers don't know their effectiveness

Very disruptive if customers are required to re-do their gardens to implement these measures

Supported by range of stakeholders, particularly for new builds/ new developments (issue raised spontaneously)

Upgrading new sewer systems

"Upgrading the sewer system should be done and companies need to be responsible for what they're doing and not merely the customers."
Anglian C2D

"Upgrading the sewer system would be expensive and there are so many leaks in the current system, because it's so old."
Anglian NHH

PROS

- Especially good idea for new builds as they're building systems for water supply anyway
- Customers feel this should be done anyway and companies are responsible for making sure the system is working as effectively as it can

CONS

- Would require digging up roads
- Sounds expensive

Assumption that this would be an expensive option, but worth it as it's a long-term solution

More information on effectiveness would help assess whether this solution is worth the cost and disruption

Concerns about disruption from digging up existing network to rebuild/upgrade

Building more storage

"I don't like E, all the others seem more natural, storage is more of an eyesore, it's a strange solution compared to the others."
Cambs ABC1

"They should prioritise Building storage if it could be done in a natural way rather than industrial containers - people don't want that on their doorstep!"
E£S NHH

PROS

- Makes logical sense to find somewhere to store water if there is pressure on the drains
- An easy fix

CONS

- Feels like a short-term solution or stop gap
- Isn't particularly innovative or modern and some feel there must be better, more effective solution
- Unsightly and not particularly pleasant to see or think about stored waste

£ A cheap solution for the short term

Concerns that this would only help temporarily and not be effective in the long term

Some worries about where they'd be placed – ideally want to be placed out of towns

Using nature-based solutions

"I really don't like the idea of destroying or damaging natural habitats."
Anglian Non bill payer

"I'm unsure how sustainable F is. Is there a negative impact on wildlife with this type of solution? I fear it might not be environmentally friendly."
Anglian NHH

PROS

- If it could be done in a way that benefits the environment and wildlife then this is a great solution

CONS

- Need more information to get on board with this idea – it sounds like sewage is being pumped into natural habitats which is very unappealing
- Customers don't like the idea of any solution that could destroy or damage natural habitats or wildlife

Cost wasn't a concern for this solution

Would need to learn more about how this works; even if very effective not worth disruption or damage

Worries that wastewater would damage nature or environment

Strongly supported by environmentally focussed stakeholders, and some others (issue raised spontaneously)

DWMP: future planning and collaboration

Overall response: great to have a plan in place to address future issues, and customers are supportive of these efforts

- It should be a joint effort between customers and water companies to take action and make a change: but responsibility is seen to primarily lie with the water companies
- ***IMPORTANTLY*:** in order for customers to take action there needs to be an information campaign about the issues faced to guide consumers on how they can help

  - *What are the challenges water companies face when it comes to wastewater management?*
  - *What causes these problems/challenges?*
  - *What are the consequences if problems aren't addressed?*
  - *Crucially, what can customers do to help?*
  - *What are the benefits if customers change their behaviours?*

"It makes sense for everyone to collaborate and be on the same page. It should be easier to delegate things as they shouldn't be going against each other … we're all in this together, so let's work together."
Anglian C2D

"I feel like it's both, but I do feel like the water company has more responsibility. Quite clearly water companies aren't doing what they should be doing, customers do have a role to play but it's a very small role"
Anglian Non bill payer

The idea of organisations working together sounds sensible

- They can hold each other accountable and ensure a variety of needs are being addressed and looked after
- Some concerns of having 'too many cooks'; internal interests and politics may distract from the end goal
- It's important to customers that they are informed of the work being done – they want to know what is happening behind the scenes and this will help encourage them to alter their behaviour too

"I think there's a lot of things that if people get their heads together and think of a joined-up approach to dealing with some issues there's other added benefits that can come along as well, so I'm all for that."
Anglian NHH

- Businesses feel that it is a positive and logical approach for water companies, customers and other organisations to work together to achieve a joined-up strategy for wastewater management

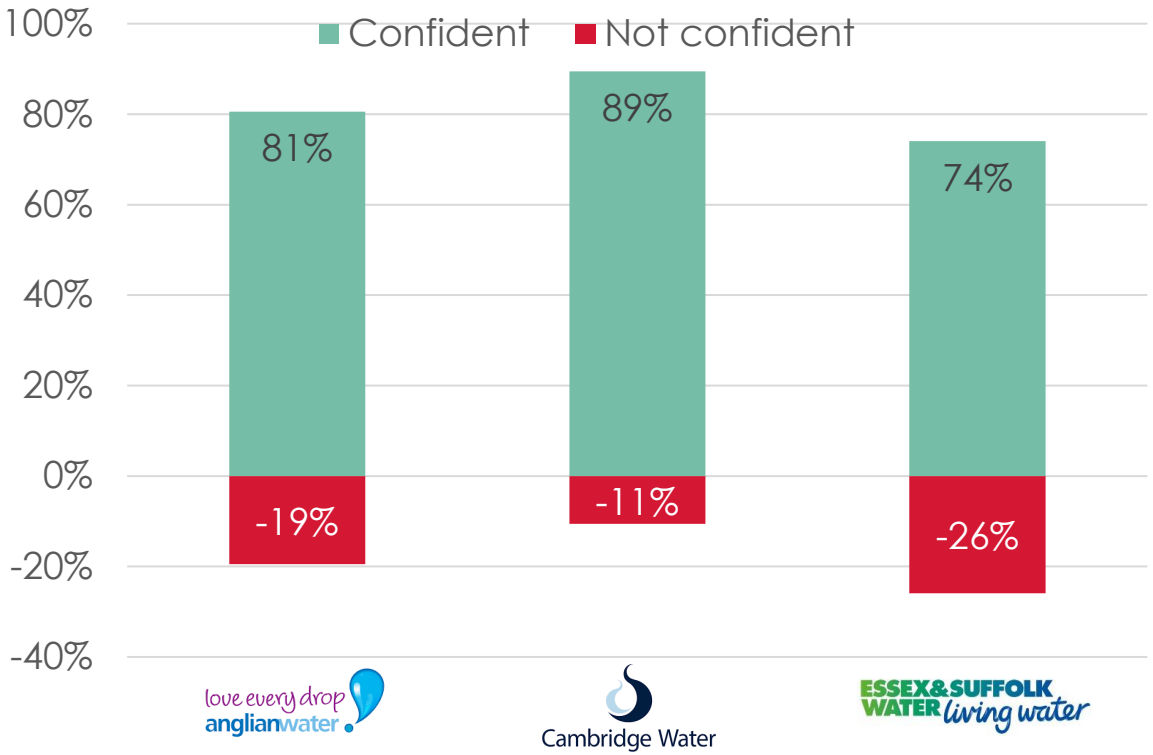
AND FINALLY…

Photo by Ian Dinmore on Unsplash

Langley Marshes, Norfolk

Consumer confidence in water company

Overall, how confident are you that your water company will make the right decisions?



Household Customers n=82

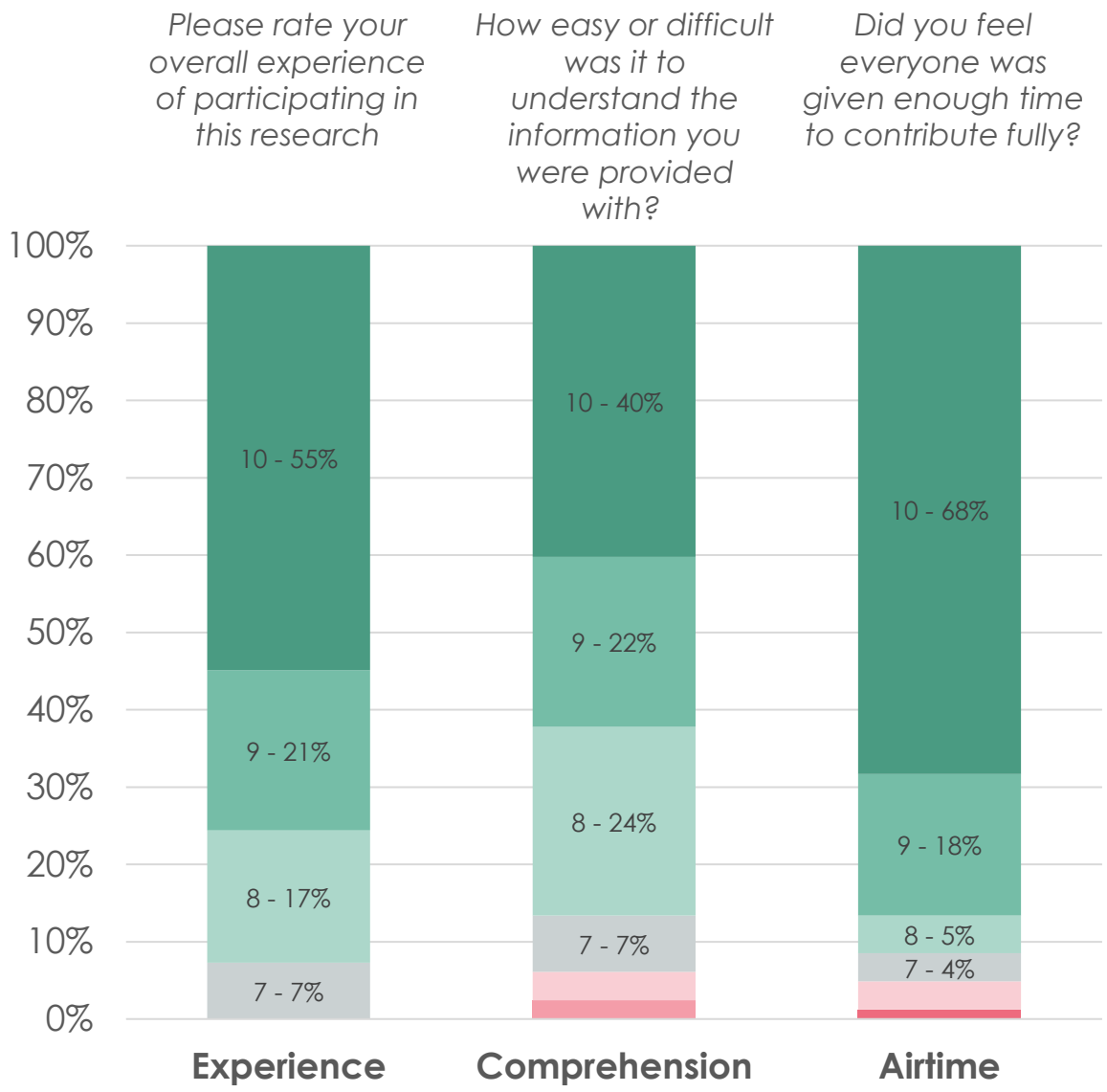
The research has shown that customer attitudes towards water planning are very similar across the three regions.

- Those differences which do exist relate to the specific geographical area, rather than their perceptions of the water company operating in that region; for example whether customers are based on the coast or inland, or have experienced flooding where they live.
- Customers do not have a close relationship with their water company and there is evidence that perceptions around each supplier's ability to plan for the future have been driven more by the information shared in this research than any previous experience with them; Essex and Suffolk's confidence figures are lower based on its lower universal metering coverage and higher bills.
- Overall, customers have high confidence in water companies' abilities to plan for the future, and the research itself is evidence to customers that they have the matter in hand.

"In comparison Essex and Suffolk water are very behind; metering, high prices etc and this is not acceptable. If could choose to go elsewhere I would."
Anglian NHH

"Thank you for taking the current situation in relation to the future seriously, it is unfortunate that we appear to have fallen behind where it seems we should really currently be, but it is possible with careful management to turn that around and create a much brighter future while balancing our needs with costs."
Anglian C2DE

Customer assessment of the research process



"It was an eye-opening experience where I learnt a lot of information that I didn't know, it was worrying but at the same time important to know the facts of the future and discuss ways to mitigate any potential problems. It has made me more aware of my personal water usage and it was valuable education."
E&S ABC1

"The host was very polite and friendly. She listened to all our ideas, treating each and every one of us respectfully and including us all equally in conversations."
Cambs C2DE

"This is the first online research I have taken part in and it worked very well. Both those running it and the participants were able to get their ideas, views, questions and answers across clearly."
Anglian C2DE

"Very enjoyable, informative and triggered a lot of hope that water companies are working positively to ensure that they implement an action plan to ensure that the goals set are achieved."
E&S ABC1

"I thought the research was well conducted and well supported with visuals."
Anglian Economically vulnerable

Household Customers n=82

Blue Marble Research Ltd
www.bluemarbleresearch.co.uk
01761 239329

APPENDIX I: METHOD STATEMENT

Photo by Kevin Grieve on Unsplash

Claybury Park, Essex

Sample: household customers

Household sample:

- 18 reconvened group discussions with household consumers
- 1 'mop-up' group to account for drop-outs in earlier fieldwork groups
- Total sample of 89 consumers with 85 completing the process

Structure:

- The number of groups per company reflects the relative size of the regions.
- The sample was structured to be inclusive of the full range of customer segments, including bill payers and non-bill-payers, future customers, customers in economically vulnerable circumstances, and non-household customers.

Fieldwork dates: 23rd August – 16th September

	Cambridge Water	Essex & Suffolk Water	Anglian Water
16 x Zoom reconvened groups of 5 customers	**4 + 4 groups** 1 x ABC1 1 x C2D 1 x Econ vulnerable 1 x on bill payer /future customer	**6 + 6 groups** 1 x ABC1 1 x C2D 1 x Econ vulnerable 1 x non bill payer/future customer	**8 + 8 groups** 2 x ABC1 2 x C2D 2 x Econ vulnerable 2 x non bill payer/future customer
All complete an interim-task and post task	Interim-task (15 minutes) Post-task (15 minutes)		

blue marble

Recruitment: household consumer screening criteria

- An reputable external recruiter, BEAM Fieldwork, managed recruitment of the household consumer sample.
- A recruitment screener including detailed quotas was created to ensure that a representative sample of customers took part (see below).
- Respondents were free-found rather than using customer lists in order to reduce the risk of data security breaches.

- **Exclusions:**
  - Those outside the Cambridge, E&S and Anglian Water regions, confirmed by home postcode.
  - Those with somebody in their household working within the past 5 years in: advertising, marketing and branding; market research; media, TV and radio; newspaper, magazine and journalism; any water company or their affiliates e.g. Ofwat.
  - Those participating in market research more than three times OR within the last 3 months OR about water within the last 5 years.
  - Those with poor quality home internet and unwilling to participate by telephone.
  - Those unwilling to be recorded and the footage/audio to be shared with the client.
  - Those unwilling to be recontacted re-contacted by BEAM, the research agency Blue Marble or the end client for further research opportunities related to this research project.

- **Target and achieved quotas:**

Criteria	SEG						Age					Gender		Ethnicity	Household composition	Location	Metering	Bill payment	Technical proficiency	Vulnerability		TOTAL RECRUITS
	A	B	C1	C2	D	E	20s	30s	40s	50s	60+	Male	Female	BAME respondents	Has child(ren) at home	Rural/semi-rural	Water Meter	Non-bill payers	Digitally excluded	Economically vulnerable	Other vulnerability	
TARGET	Min. 3	Min. 10	Min. 10	Min. 10	Min. 10	No quota	18	18	18	18	18	Min. 36	Min. 36	Min. 18	36	18 - 36	Min. 36	20	6	20	Min. 25	**90**
ACHIEVED	3	14	30	26	14	2	17	21	24	15	12	39	50	26	36	22	51	20	6	20	29	**89**

Nb, granular quotas were applied at regional and research group level. Where necessary, age quotas were sacrificed in order to achieve higher priority quotas.

- **Incentivisation:**
  - £100 via BACS or Amazon voucher for those completing all four stages of research with 90 minute group sessions.
  - £120 via BACS or Amazon voucher for those completing all four stages of research with 105 minute group sessions.
  - Those who did not complete all four stages received a relevant proportion of the total incentive.

Methodology: household consumer research methodology

A qualitative reconvened approach was taken to allow a process of informing, followed by a more deliberative-style group that focussed on a series of trade offs. Materials were reviewed by CCW and members of CCGs.

6 x cognitive depths

- Given the unfamiliar nature of the subject matter and the need to develop clear and succinct stimulus it was important to test the approach and stimulus material
- Cognitive video depths checked comprehension, reducing the risk of questions or stimulus being ambiguous or difficult to interpret
- Changes were agreed with the WRE team ahead of the main fieldwork

Group 1.5-1.75 hours

Group A: informing

- Online groups with 5 respondents
- Introduced the key concepts of water resource planning and the supply/demand balance before focusing on specific areas of interest including drought resilience measures, environmental ambition and introducing supply measures.

15 minutes

Interim task: options

- Online survey (with open ended questions)
- Provided a more granular analysis of how different segments responded to demand/supply options
- Built on topics covered in Group A, allowing a considered response, but completed individually outside of the group environment, which can influence personal opinions

Group 1.5-1.75 hours

Group B: informed response

- Online groups with 5 respondents
- Explored the supply/demand options considered in the interim task before focusing on trade-offs in specific areas of interest including drought permits, investment timelines and environmental ambition.

15 minutes

Post survey: Best Value objectives

- Online survey (with open ended questions)
- Provided a final assessments on the importance of different metrics and options preferences
- Built on topics covered in Groups A and B, allowing a considered response, but completed individually outside of the group environment, which can influence personal opinions

Fieldwork: household consumer research materials

Cognitive depths

COGNITIVE script and stimulus

Group A

GROUP A script and stimulus

Interim task

INTERIM TASK

Group B

GROUP B script and stimulus

Post-task

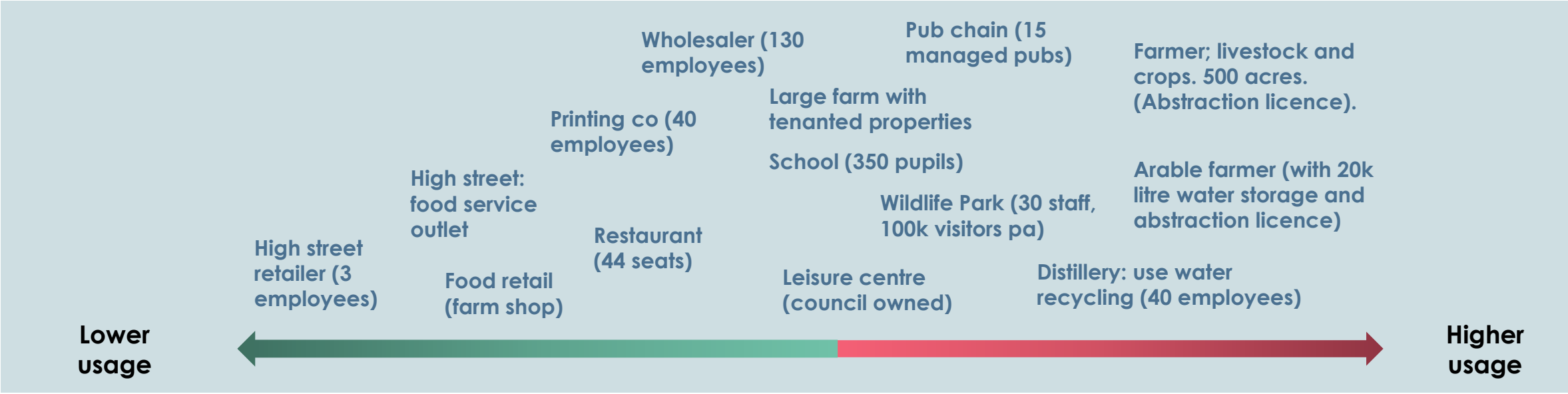
POST TASK

Sample: non-household customers

Non-household sample:

- 14 depth interviews with a pre-interview survey task
  - 3 x Cambridge Water region
  - 3 x Essex & Suffolk region
  - 8 x Anglian Water region
- **Fieldwork dates:** 17th September – 4th October

	Cambridge Water	ESSEX&SUFFOLK WATER living water	love every drop anglianwater
14 x Zoom depth interviews (60 minutes)	**3 depths**	**3 depths**	**8 depths**
All complete a pre-task	Pre-task (15-20 minutes)		



blue marble

Recruitment: non-household customer screening criteria

- Three external recruiters, BEAM Fieldwork, Fieldmouse Research and Ardent Fieldwork managed recruitment of the non-household sample.
- A recruitment screener including detailed quotas was created to ensure a good mix of business customer participants.
- Respondents were free-found rather than using customer lists in order to reduce the risk of data security breaches.

- **Exclusions:**
  - Those outside the Cambridge, E&S and Anglian Water regions, confirmed by business postcode.
  - Those who do not manage the company water contract.
  - Those whose business does not have a business water supply separate from their home water supply.
  - Those whose business spends less than £1000 per year on water.
  - Those participating in market research within the last 3 months OR about water within the last 5 years.
  - Those without a laptop/desktop or tablet computer with a working microphone, or poor quality internet.
  - Those who would require assistance to join a Zoom call.
  - Those unwilling to be recorded and the footage/audio to be shared with the client.
  - Those unwilling to be recontacted re-contacted by BEAM, the research agency Blue Marble or the end client for further research opportunities related to this research project.

- **Target and achieved quotas:**

Criteria	Sector							Business size		Water usage		Water spend			TOTAL RECRUITS
	Agriculture	Manufacturing and industry	Food and drink	Retail	Tourism / Leisure / Entertainment	Hospitality	Education / Health / Residential Care etc	Microbusiness (10 or fewer employees)	Larger business (11+ employees)	Water used for staff / customer food prep, toilets, kitchens and showers	Water critical to organization, used in production, processing, animal welfare	£1,000 - £5,000	£5,000 - £14,000	£15,000 +	
TARGET	Max. 3	Max. 3	Max. 3	Max. 3	Max. 3	Max. 4	Max. 3	Max. 8	Min. 8	Good mix		Good mix			**16**
ACHIEVED	3	2	2	2	2	2	1	7	7	7	7	7	4	3	**14**

- **Incentivisation:**
  - £100 via BACS or Amazon voucher for those completing both stages of research

blue marble

Methodology: non-household consumer research methodology

Due to their limited availability, non-household participants required a more compact research process. With many businesses under particular pressures related to the pandemic, depth interviews (rather than group discussions) proved the best way to achieve a high quality sample reflecting a wide range of business contexts. The research reused much of the same content as the household depths, but lower priority topics were removed and much of the background context was covered in a pre-task rather than in the interview.

15 minutes

Pre-task

- Online survey (with open-ended questions)
- Introduced the key concepts of water resource planning and the supply/demand balance before asking respondents to rate supply/demand options
- Efficient method of imparting the required knowledge to the research participants and capturing granular data on their supply/demand option preferences

60 minutes

Video depth

- Video depth with one respondent
- Built on topics covered in the pre-task, including the key concept of water resource planning, before focusing on specific areas of interest including drought resilience measures, environmental ambition and supply side options.
- Also explored trade-offs in specific areas of interest including drought permits, investment timelines and environmental ambition.

Fieldwork: non-household research materials

Pre-task

NHH PRE-TASK

Depth Interview

NHH script and stimulus

Sample: stakeholders

Stakeholder sample:

- Individual or paired depth interviews
- Total of 20 organisations and 24 individuals
- Pre-interview briefing note and introductory video

Fieldwork dates: 23rd August – 29th September 2021

	Cambridge Water	ESSEX&SUFFOLK WATER living water	love every drop anglianwater	
Region focused stakeholders	**4 interviews**	**1 interviews**	**2 interviews**	• 1 x Utility company • 6 x Environmental NGO/group • 1 x farming sector • 1 x Internal Drainage Board • 4 x Local Authorities • 1 x Community group • 1 x Business representative
		3 interviews		
National stakeholders	**5 interviews**			
NAVs & Retailers	**4 interviews**			

Recruitment: stakeholder screening criteria

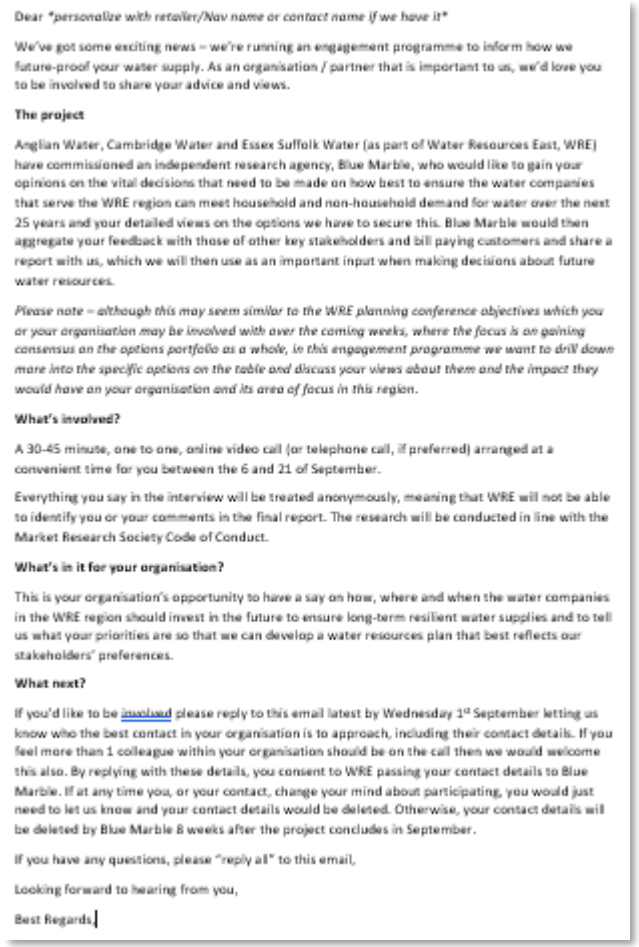
- Recruitment of stakeholders was carried out by each of the client companies using an invitation letter which was written by Blue Marble, which outlined the background to the research, what would be involved and how they could take part.
- Any stakeholders who agreed to participate were passed to Blue Marble to arrange the interview.
- A simple quota spec was agreed prior to recruitment kicking off, as below.

- **Exclusions:**
  - There were no specific exclusions.

- **Target and achieved quotas:**

Criteria	Region-focused stakeholders			National-focus stakeholders	NAVs & Retailers	TOTAL RECRUITS
	Cambridge	Essex & Suffolk	Anglian			
TARGET	4	4	4	6	6	**24**
ACHIEVED	4	2.5	3.5	4	4	**18**

- **Incentivisation:**
  - In line with usual practice, stakeholders were not offered incentives, to maintain impartial working relationships with the client companies.



Dear **personalize with retailer/Nav name or contact name if we have it**

We've got some exciting news – we're running an engagement programme to inform how we future-proof your water supply. As an organisation / partner that is important to us, we'd love you to be involved to share your advice and views.

The project

Anglian Water, Cambridge Water and Essex Suffolk Water (as part of Water Resources East, WRE) have commissioned an independent research agency, Blue Marble, who would like to gain your opinions on the vital decisions that need to be made on how best to ensure the water companies that serve the WRE region can meet household and non-household demand for water over the next 25 years and your detailed views on the options we have to secure this. Blue Marble would then aggregate your feedback with those of other key stakeholders and bill paying customers and share a report with us, which we will then use as an important input when making decisions about future water resources.

Please note – although this may seem similar to the WRE planning conference objectives which you or your organisation may be involved with over the coming weeks, where the focus is on gaining consensus on the options portfolio as a whole, in this engagement programme we want to drill down more into the specific options on the table and discuss your views about them and the impact they would have on your organisation and its area of focus in this region.

What's involved?

A 30-45 minute, one to one, online video call (or telephone call, if preferred) arranged at a convenient time for you between the 6 and 21 of September.

Everything you say in the interview will be treated anonymously, meaning that WRE will not be able to identify you or your comments in the final report. The research will be conducted in line with the Market Research Society Code of Conduct.

What's in it for your organisation?

This is your organisation's opportunity to have a say on how, where and when the water companies in the WRE region should invest in the future to ensure long-term resilient water supplies and to tell us what your priorities are so that we can develop a water resources plan that best reflects our stakeholders' preferences.

What next?

If you'd like to be involved please reply to this email latest by Wednesday 1st September letting us know who the best contact in your organisation is to approach, including their contact details. If you feel more than 1 colleague within your organisation should be on the call then we would welcome this also. By replying with these details, you consent to WRE passing your contact details to Blue Marble. If at any time you, or your contact, change your mind about participating, you would just need to let us know and your contact details would be deleted. Otherwise, your contact details will be deleted by Blue Marble 8 weeks after the project concludes in September.

If you have any questions, please "reply all" to this email,

Looking forward to hearing from you,

Best Regards,

Invitation letter

Methodology: stakeholder research methodology

Due to their limited availability, non-household participants required a more compact research process. With many businesses under particular pressures related to the pandemic, depth interviews (rather than group discussions) proved the best way to achieve a high quality sample reflecting a wide range of business contexts. The research reused much of the same content as the household depths, but lower priority topics were removed and much of the background context was covered in a pre-task rather than in the interview.

60 minutes

Video depth

- Video depth with one respondent
- Respondents were sent a summary of the key question topics and asked to watch an introductory video before the interview in order that they were familiar with the subject material
- Interview covered specific areas of interest including drought resilience measures, supply and demand-side options and the Best Value Plan, before exploring trade-offs in around drought permits, investment timelines and environmental ambition.

Fieldwork: stakeholder research materials

Depth interview

Discussion guide

Stimulus

Stimulus