



Water Trading

Report

July 2018

*Prepared for Severn Trent,
Thames Water and United
Utilities*

Contents

Objectives and methodology	Executive summary	1. Informed reaction to water scarcity
3	9	13
2. Anticipated solutions to the water scarcity issue	3. Preference for supply solutions	4. Level of support for water trading
21	31	39
5. Cost implications of water trading	6. Key assurances required	Summary & Recommendations
51	59	68

Click on sections in slide view to jump to chosen section





Objectives & Methodology



Early stage consultation with customers on the development of a water transfer proposition

The Background



UK water resources are under significant and growing pressures. The UK water industry is developing water resource management plans (WRMPs) to ensure the long-term resilience and sustainability of water supplies.



One of the ways in which water companies could help to manage future resources is to trade water between regions. This would mean transferring water from areas in which there is a surplus (such as the North West of England / Wales – ‘donor’ regions), to those areas that will be hardest hit by a deficit (i.e. London and the South East).



Research is needed to evaluate customer views on water transfer solutions in comparison with water supply and demand management alternatives.

Insight will feed into WRMPs ensuring customer interests are at the heart of any long term plans produced

The research objectives

1

To understand the spontaneous views of customers towards possible water resource management options

2

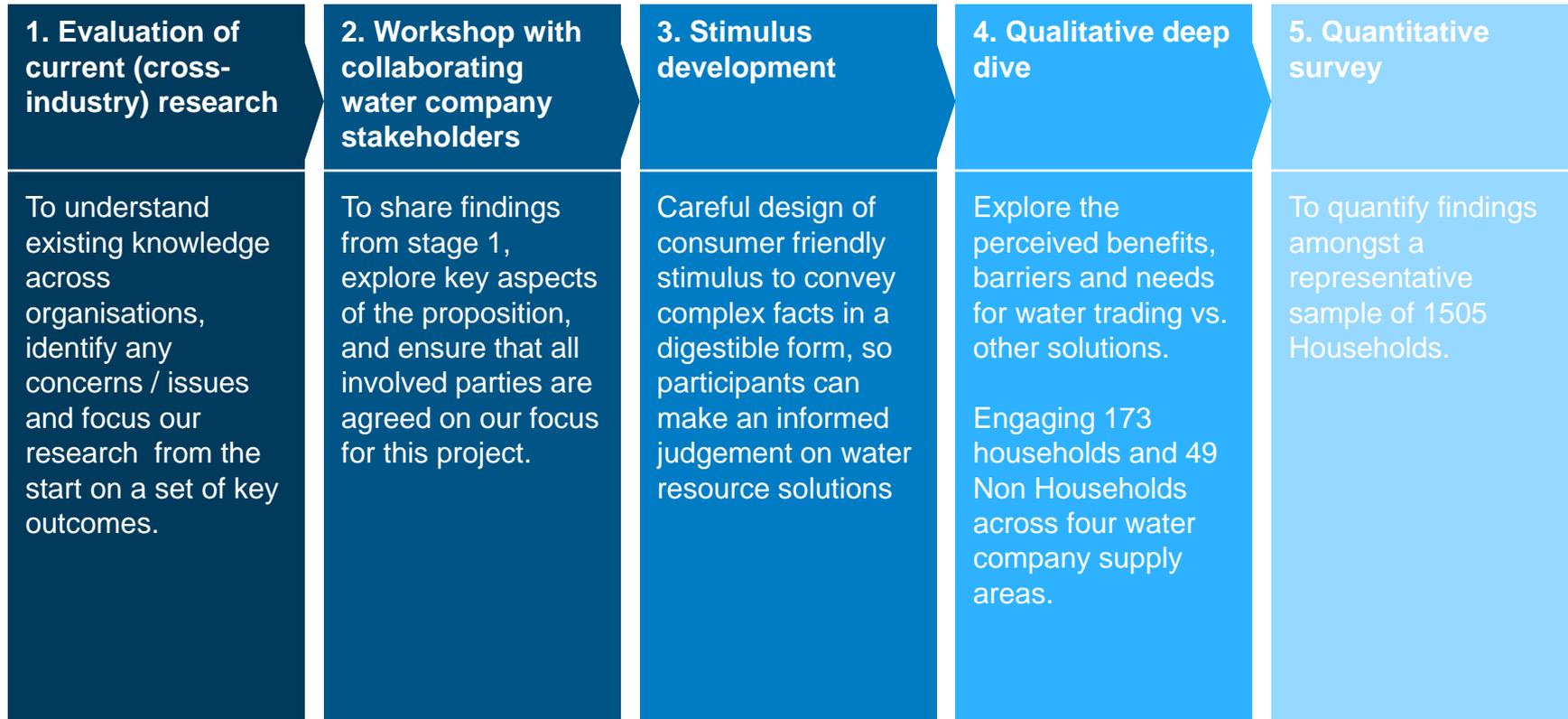
Ascertain customer views towards water trading specifically, focusing on perceived barriers and assurances needed to overcome these barriers

3

How the above differs across key customer groups including region, Household / Non Household and demographic

An overview of the programme

This report is informed by a multi-stage approach combining qualitative and quantitative phases



The sample composition



49 x Non Household depths

A mix of businesses within water company area:

- Location
- Business size
- Sector
- Water bill spend
- Water critical and non critical business function



173 x Household deep dive community

A mix of households within water company area:

- Location
- Demographics (age, gender, social grade)
- Vulnerability (financial, health and wellbeing, water dependent medical condition)



1505 x Household online survey

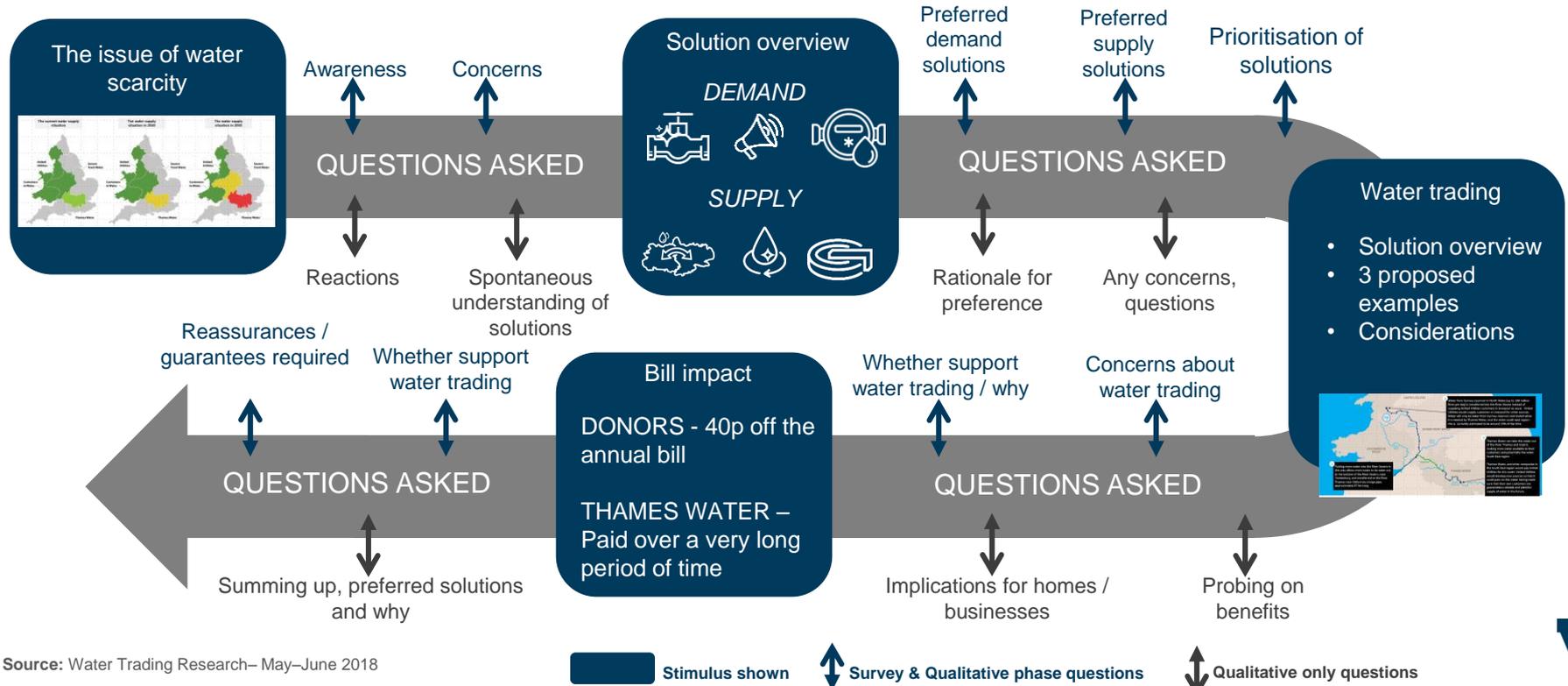
Quotas by water company area for:

- Demographic (age, gender, social grade)
- Selected by water company postcode to ensure accurate representation of customers



Questioning and stimulus journey

The insight gathered is based on an informed customer view. Throughout the research process, participants were provided with increasing levels of information on the issue and possible solutions. The diagram shows what information was provided and the questions asked at each stage.





Executive Summary



Customers have limited knowledge but quickly recognise the need for long term sustainable solutions

1 Informed reaction to water scarcity

7 in 10 customers are concerned about water scarcity, particularly those in Thames Water areas. The main reason for lack of concern is due to the UK's wet climate

Customers question why they don't know more given the severity of the issue

2 Anticipated solutions to the water scarcity issue

Customers recognise that water scarcity is a long term issue requiring immediate nationally co-ordinated action

Customers believe widespread education is needed

They assume that fixing leaks will be the major priority for water companies. This is also the preferred demand solution for all customers

3 Supply options preferred by customers

Water reuse is the most preferred solution, closely followed by building new reservoirs. Whilst re-use and reservoirs are preferred, Thames Water customers are more likely than other customers to choose water transfer first

Customers recommend that water companies prioritise *sustainability when selecting the solutions to put in place

Water trading, delivered cost effectively with assurances, works for customers

4 Level of support for water trading

Multiple concerns raised about security of supply, environmental and financial impacts

- Donor customers are concerned as to the impact on their supply
- Thames Water customers ask whether water will be available when needed

Despite concerns, 74% 'agree' they support water trading as part of the solution - it's logical to share

5 Cost implications of water trading

Customers assume they will cover the cost of water trading through increased bills.

- Thames customers recognise the need for bill increase but are unable to assess fully without a figure
- In donor regions, 40p is seen as better reinvested into future water resources

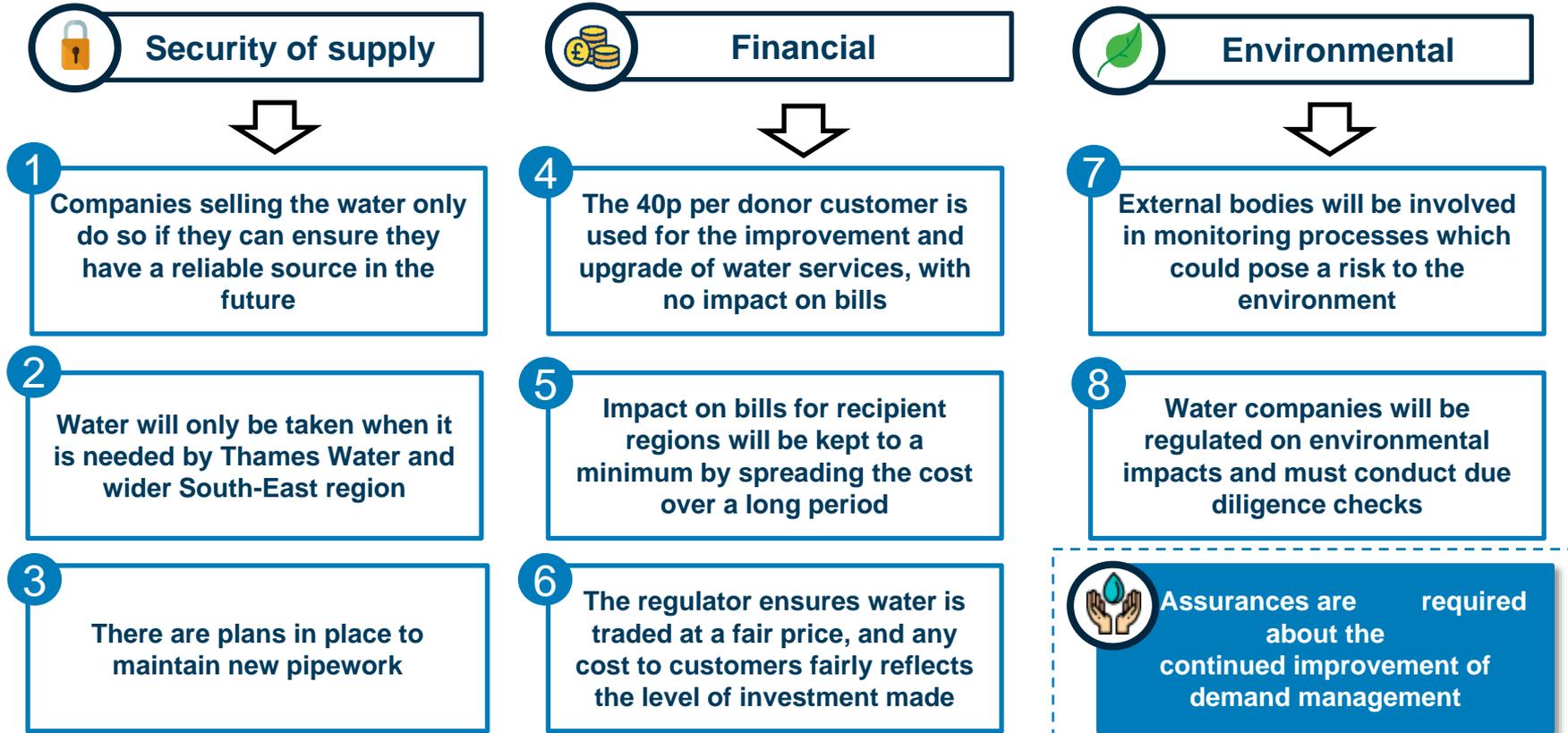
6 Key assurances required

Transparency and fairness is at the heart of assurances needed

Eight assurance statements have been developed to help mitigate core areas of concern with water trading

Customers also need to know that there is continued improvement in demand management

Eight assurance statements have been developed to help mitigate core areas of concern for water trading



Highlighting differences of opinion

There are few areas on which customers differ in opinion on the solution to water scarcity due to their demographic profile.

Differences are observed for:

- Thames Water customers
- Those with a water dependent health condition
- Water critical businesses

These customers are more concerned with the issue of water scarcity given their heightened need for water (now or future).

This results in their greater support of water trading as part of the solution.

Once Thames Water customers are informed they will pay through their bill over a long period, their support levels decline to levels similar to those seen in donor regions - they are unable to assess fully without a figure.

Household and Non Household customers demonstrate very similar views throughout. There are 3 areas on which Non Household customers are differentiated:

- They have additional concerns about the impact of water scarcity on business operations and running costs (e.g. impact on supplier services and costs)
- Additional assurance required that water companies are also planning for the maintenance of a water transfer network over the long term
- Have higher levels of trust in water company working practices to ensure effective planning and delivery of supply solutions

1

Informed reaction to water scarcity



1 Informed reaction to water scarcity



There is little awareness that water scarcity presents a real threat to future UK water supplies

Once informed, the emotional reaction is one of surprise and disbelief due to the wet climate



7 in 10 customers are concerned about water scarcity. Concern is greatest for those in Thames Water areas



In addition to running out of water, customers are worried about the potential impact on water quality, bills, restrictions and wastage



Customers question why they don't know more given the severity of the issue



Take control of the conversation to prevent the spread of misinformation around future water scarcity. The conversation needs to consider the concerns of more 'water sensitive' customer groups and directly affected regions.



There is little awareness that water scarcity presents a real threat to future UK water supplies

Immediate associations are linked to short term problems (summer drought warnings and hosepipe bans), rather than a long term issue

Prior to reading information on water scarcity, the majority had little awareness about:



Water scarcity being a UK wide issue and the timeframe involved



who will be affected



the potential impact on households and Non Households in London and the South East

“This makes me question how my family will be affected when it goes down to less than needed. What are they going to have to give up and how will it affect their lives?”

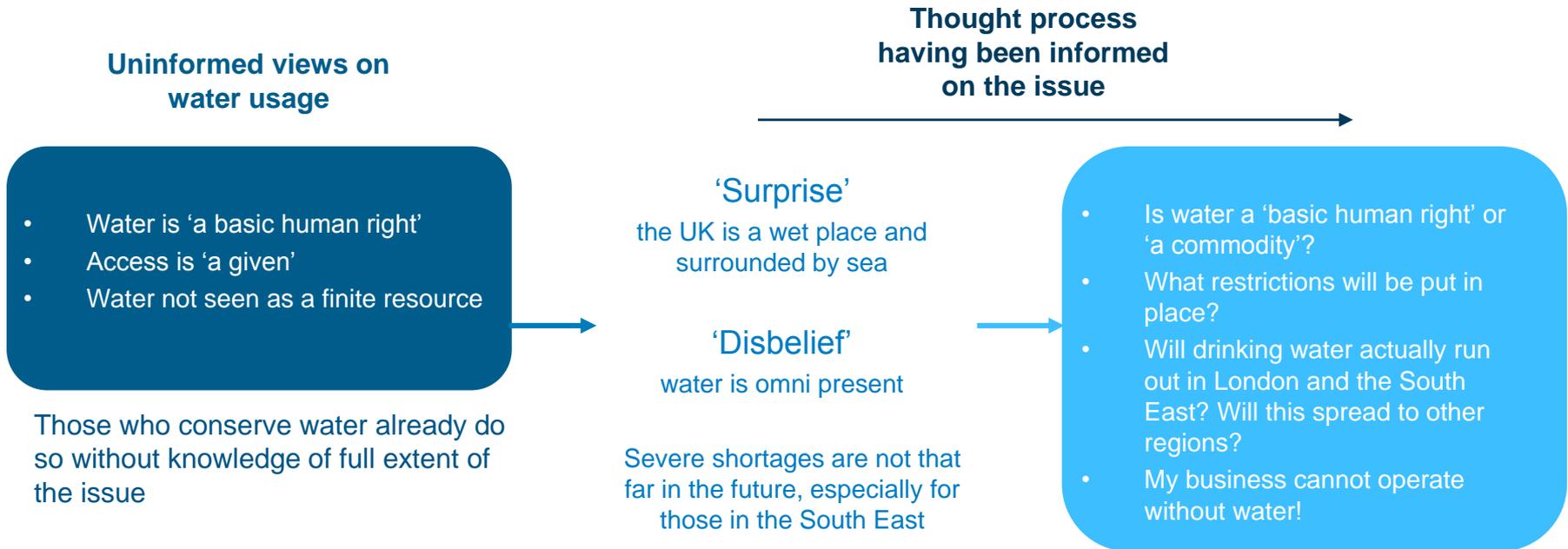
Household, Severn Trent England

“It is a frightening thought that some areas might suffer from a severe shortage of water in such a short amount of time. It will not affect me personally in Wales but I have many friends living in areas that are facing problems in the future. It is a strange concept to think about water shortages in the UK.”

Household in Wales

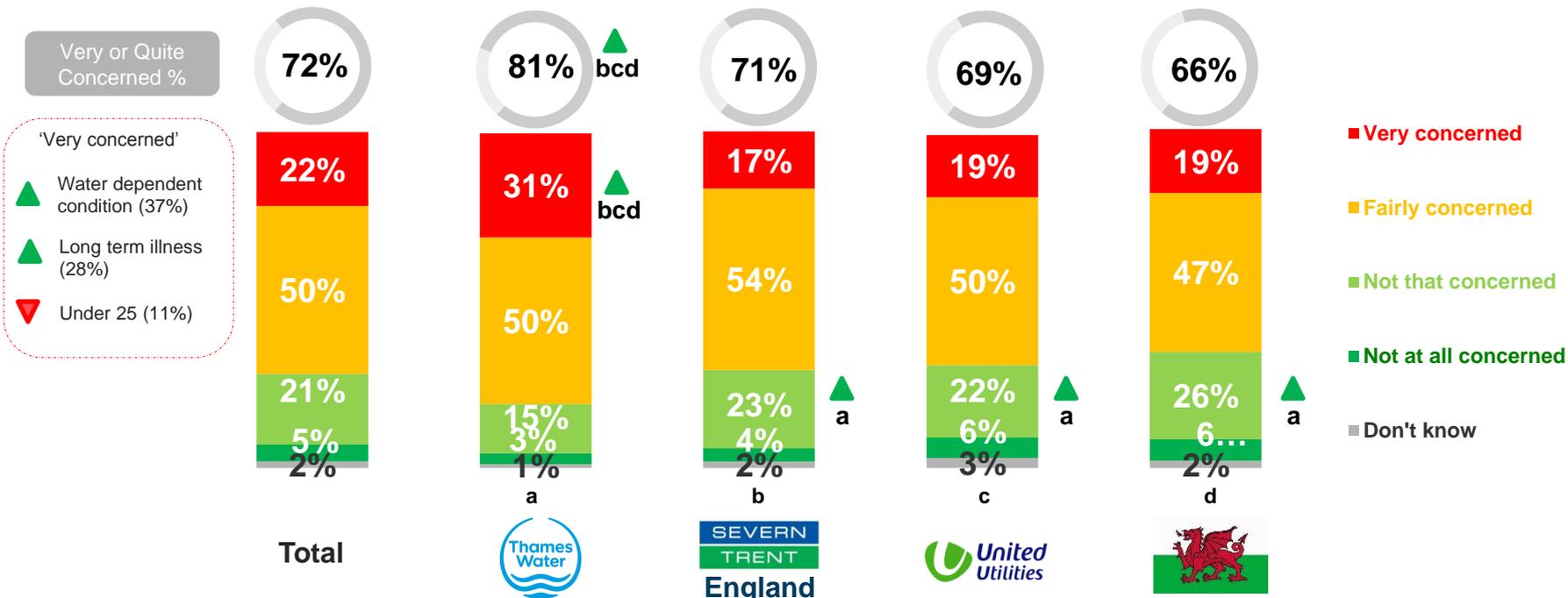
On receipt of water scarcity information, the emotional reaction is one of surprise and disbelief

After reading information about water scarcity, customers expressed concern and indicated the information had challenged their understanding about the availability of water



The majority of customers are left feeling concerned, particularly those living in a Thames Water area

Those with a long term illness or a water dependent medical condition are more likely to be “very concerned”. Future customers (under 25) are concerned to a lesser extent



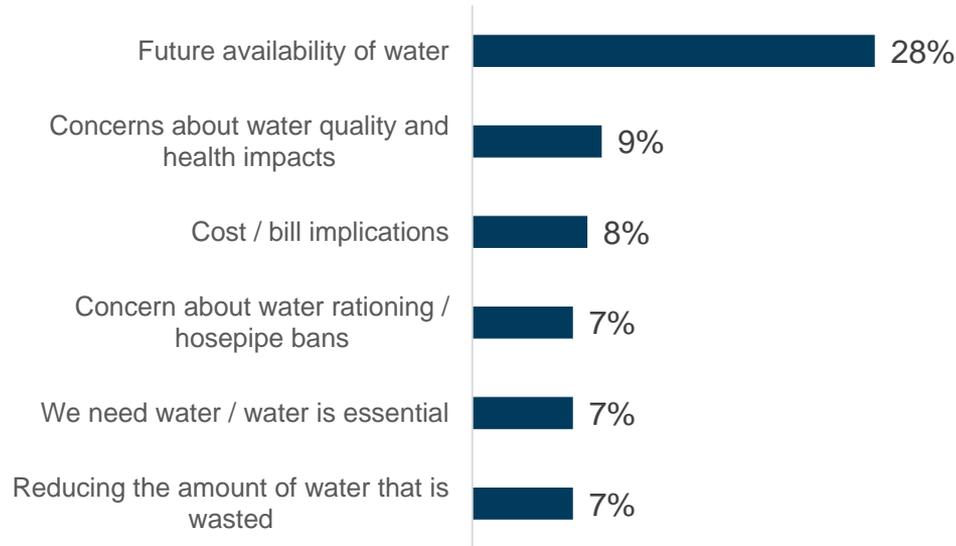
Q11. How concerned are you about the issue of water scarcity in the UK? Base: All respondents (n = 1505) (Thames Water = n=401, Severn Trent = n=400, United Utilities = n=404, Customers in Wales = n=300)
 Source: Water Trading Research— May–June 2018

▲ ▼ Significant difference at 95% conf. level.



In addition to running out of water, customers have concerns about water quality, bills, restrictions & wastage

The nature of concerns are consistent across water company area



“The information provided is frightening, I had no idea that there would be a problem in the London area in a few years time. I am of course very concerned, I have experienced hose pipe bans and water restrictions in the past but these have always been temporary”

Household, Thames Water

“Employees in businesses waste water because they are not paying the bill... Our business has high water use we have introduced ways to reduce waste but many don't do this.”

Non Household, Severn Trent England

Q12 - What concerns or questions does water scarcity raise for you when thinking about how your home or area could be affected? Base: All respondents (n = 1080)

(Thames Water = n=401, Severn Trent = n=400, United Utilities = n=404, Customers in Wales = n=300)

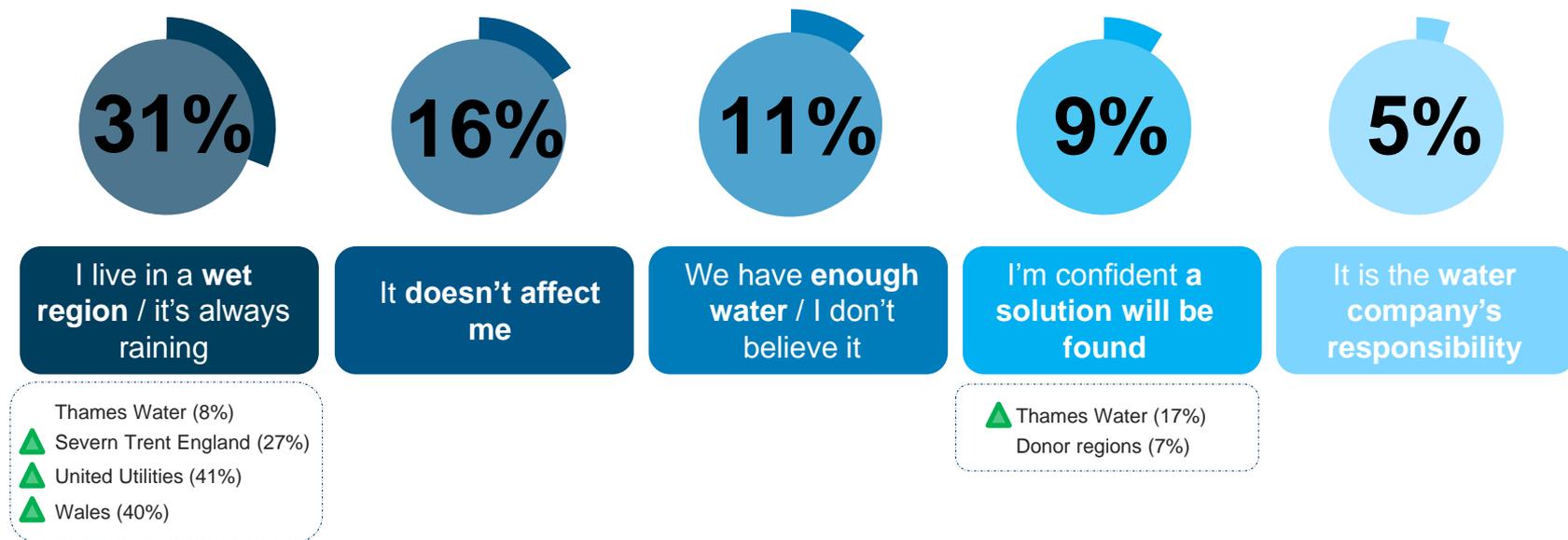
Source: Water Trading Research– May–June 2018

  Significant difference at 95% conf. level.

Any lack of concern is largely due to the inability to associate our wet climate with water scarcity

Those in 'donor' regions are significantly more likely to feel disbelief due to the wet climate. Thames customers tended to feel more confident that a solution will be found

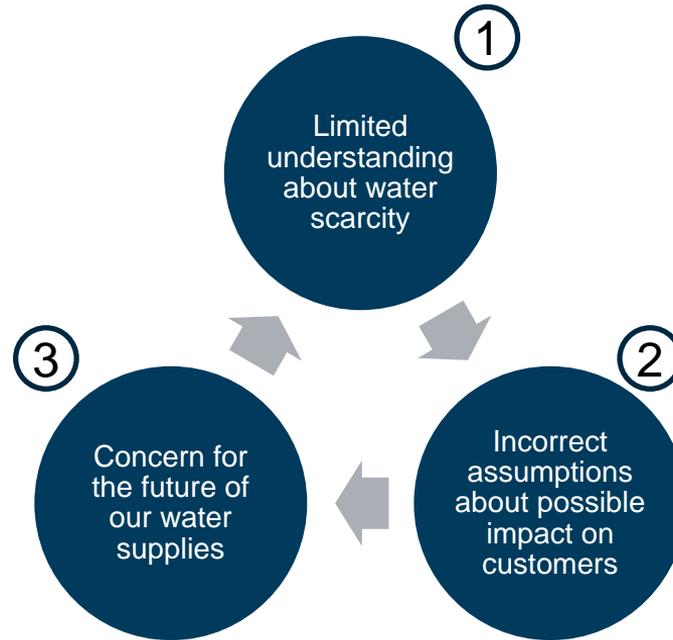
Reasons for lack of concern



Q12 - Why is it you do not have concerns about water scarcity? Base: All respondents (n = 397)
 (Thames Water = n=401, Severn Trent = n=400, United Utilities = n=404, Customers in Wales = n=300)
 Source: Water Trading Research– May–June 2018

Customers question why they don't already know about this issue given the severity of the consequences

- There is a perception that **customers have a “right” to know** this information
- Lack of awareness leads to **questions as to whether water companies are doing enough** to address the issue
- **Education is key to reducing** the spread of mis-information and to demonstrate what is already happening to manage current demand and plan ahead to secure future supplies



“I am really shocked that in 2065 the outlook for water is so bad. This is really concerning in this day an age that we are going to have a shortage of water...what are we doing to ensure this doesn't happen? Why isn't this information in the media?”

Non Household, Severn Trent

2

Anticipated solutions to the water scarcity issue



2 Anticipated solutions to the water scarcity issue



Having reviewed the facts, customers spontaneously recognise that water scarcity is a long term issue requiring immediate action, nationally co-ordinated by water companies, regulator and government



Customers believe widespread education on the issue of water scarcity is needed



There is an assumption that water companies will prioritise fixing leaks as part of the solution. This is the preferred demand management solution for all customers



Both Household and Non Household customers believe individuals have a role to play in conserving water



Raise awareness that water companies have a co-ordinated regional and national plan in place to manage water resources in both the short and the long term

On receipt of information, customers recognise that water scarcity is a long term issue requiring immediate action

There is widespread concern for reliability of supply for future generations, even amongst those who acknowledge this will not impact them in their lifetime



Customers recognise that action is needed now to protect the future of our water supplies



Thinking long term raises concern for the next generation – will children and grandchildren have enough water? Those who will not be impacted in their lifetime are still concerned for future generations



Education of our children is seen as a key element of the long term solution:

- Education programmes through schools (involving water company schemes)
- Promoting water saving practices and respect for our water supplies amongst the young

“The shortages look very worrying for future generations. I expect water companies to be doing something right now to ensure that as much water is gathered as possible and the infrastructure is fit for the future”

Household, United Utilities

“The information provided is very frightening, perhaps not for my generation selfishly but for our children and grandchildren. this makes you realise how serious the situation is”

Household, Severn Trent England

“a good reasoned campaign of educating the public would be in order starting with schools where the basic rules of using water sparingly could be taught.”

Household, Thames Water

Water scarcity is seen as a national issue to be co-ordinated by water companies, regulator and government

Before hearing about the possible solutions, customers feel reassured to hear that water companies are collaborating to address the issue on a national level

Access to drinking water is a basic human right – everyone should have the same access

Water companies should be working together to proactively review solutions to combat future water scarcity

This leads to the 'logical' solution of 'sharing water'

Government and regulator should be involved to ensure the process is transparent and fair

“There needs to be a national solution which means that water "sharing" and co-operation becomes the norm in the future”

Household, United Utilities (vulnerable customer)



A small minority of households believe water company regions should sustain their own supplies

This regional view is informed by both rational concerns about long-term sustainability, and emotional views driven by political and / or historical events



Rational drivers

- Long-term regional *sustainability - develop solutions within region for that region
- There are concerns about sharing water with an area that is perceived to have high levels of leakage



Emotional drivers

- Wariness amongst those in Wales due to past supply management approaches
- Nationalism – specific to Wales (it's our water)
- A parochial view of water quality “water just tastes better in the North”

“London should look after itself, it has enough money in the area to look at other water supply solutions”

Household, United Utilities

“We need to learn from building the Tryweryn reservoir 63 years ago. This harmed a whole community and the Welsh culture have not yet forgiven this poor decision.”

Household, Wales

Customers suggest widespread education of the population, anticipating restrictions and bill increases

Customers assume that water companies will prioritise fixing leaks as part of the solution



Restrictions

Assumptions that there will be restrictions on the type of water use and possible taxation for high usage

Bill increase



Predict bills will go up to finance solutions and dissuade water wastage



Fixing leaks

Old and inefficient systems mean water is being wasted
No point adding more to the supply if it is leaking out

Educate the population

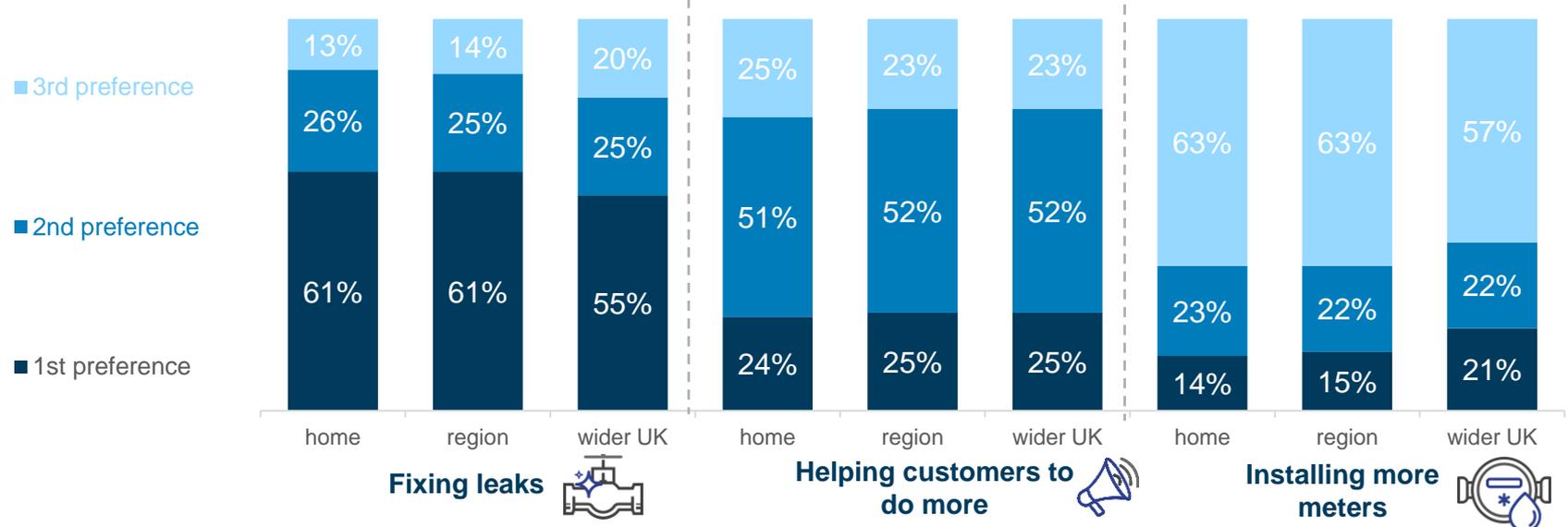


Teach people to save water – but in reality people are reluctant to change their ways

Fixing leaks is the demand management solution of choice for the majority of customers

Helping customers to do more is the second choice before installing more meters

Preference for demand solutions: All customers



Q13 Please put these options for managing water demand in order where 1 is your most preferred and 3 is your least preferred when thinking about the needs of your home. / your region / the wider UK. Base: All respondents (n= 1505)

Source: Water Trading Research– May–June 2018

  Significant difference at 95% conf. level.

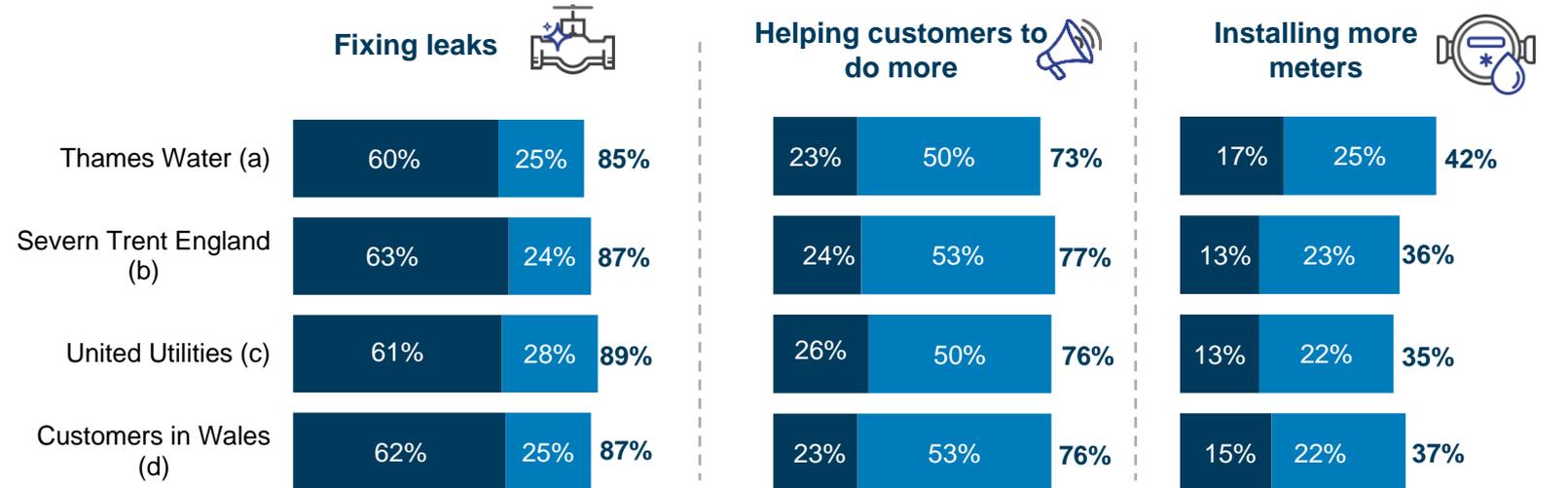
There are no differences by water company region in terms of preference for demand management solutions

Preference for demand solutions:
My home

1st preference

2nd preference

1st + 2nd %



Q13 Please put these options for managing water demand in order where 1 is your most preferred and 3 is your least preferred when thinking about the needs of your home. / your region / the wider UK. Base: (Thames Water = n=401, Severn Trent = n=400, United Utilities = n=404, Customers in Wales = n=300)
Source: Water Trading Research– May–June 2018

▲ ▼ Significant difference at 95% conf. level.

A small minority with technical knowledge spontaneously mention supply solutions to address water scarcity

They expect water companies to be going beyond what they are currently doing and investing in more complex solutions

Spontaneously mentioned and considered as 'logical':



Desalination – we are surrounded by sea, it will never run out



Water reuse (both water treatment and recycling of grey water spontaneously mentioned) – make use of waste water that would otherwise be thrown away; some go on to suggest that we can use waste water for non drinking requirements at home



Water transfer – move water from a 'water rich' area to a 'water poor' area, those in water scarce areas should not be penalised. They understand this already happens in parts of Wales and the North East (no mention of Thames Water transfers)

“A new strategy should be considered. Conversion of sea water, more boreholes to abstract water from the ground, better use of "grey water " for non potable activities. Scotland has an abundance of water.”

Household, United Utilities

“I would like more investment in infrastructure to store and contain our rainwater. It is embarrassing such a wet nation has a problem with water supply in a couple of weeks of sunshine.”

Household, United Utilities

“I would think that, looking to the future, they've got to maybe look at the recycling side of things, how they can provide more water that way.”

Non Household, Severn Trent England



Both Households and Non Households believe customers have a role to play in conserving water

This view is held across water company regions, being particularly strong amongst Thames Water customers

The Non Household view



- A desire to be supported to be more water efficient
- Current water saving practices are largely driven by cost saving goals

The Household view



- Water savvy customers point to their current water saving practices (water butts, using grey water, shorter showers)
- Those who want to do more need to know that this will have a measurable impact

- **Call for ‘big’ businesses to be taxed for water wastage**
- **Whilst installing more meters is seen as a rational option, it is the least preferred demand solution. Larger households fear rising bills and there are questions as to whether water meters can be as effective as energy meters in helping to manage consumption**

“We already do a lot at and installed meters long ago, but its difficult to get residents to save water as they don’t pay the bills...if we can change their behaviour that would be fantastic”

Non Household, Thames Water

“I personally think that by sharing baths, washing clothes once or twice a week, showering , turning off the tap while brushing your teeth, turn off dripping taps it's just little things that could help to save water.”

Household, Severn Trent England



3

**Supply options
preferred by
customers**



3 Supply options preferred by customers



Customer reaction to possible supply side solutions is informed by personal experiences and cultural values



Water reuse is the most preferred solution, closely followed by building new reservoirs



Whilst reservoirs and re-use are still preferred overall, Thames Water customers are more likely than other customers to choose water transfer first



All three supply solutions raise social, environmental and financial concerns – regional transfer having the most concerns

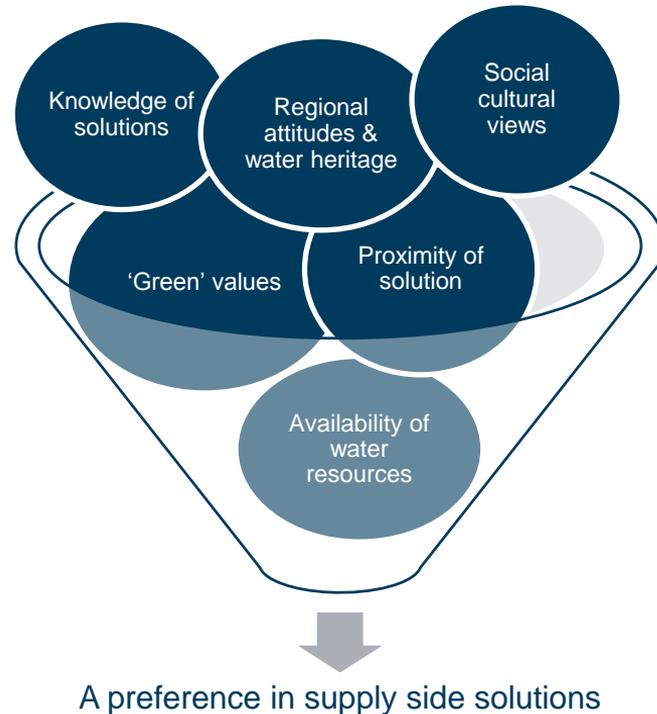


Customers recommend that water companies prioritise long-term *sustainability when selecting the solutions to put in place



For water transfer to be seen as viable, customers need to see that it can provide enough water for the long term without negative impact on current customers

Customer reaction to possible supply side solutions is informed by personal experiences and cultural values



“In the West Midlands there are any number of disused industrial parks – there maybe a possibility of constructing medium sized reservoirs on these sites”
Household, Severn Trent England

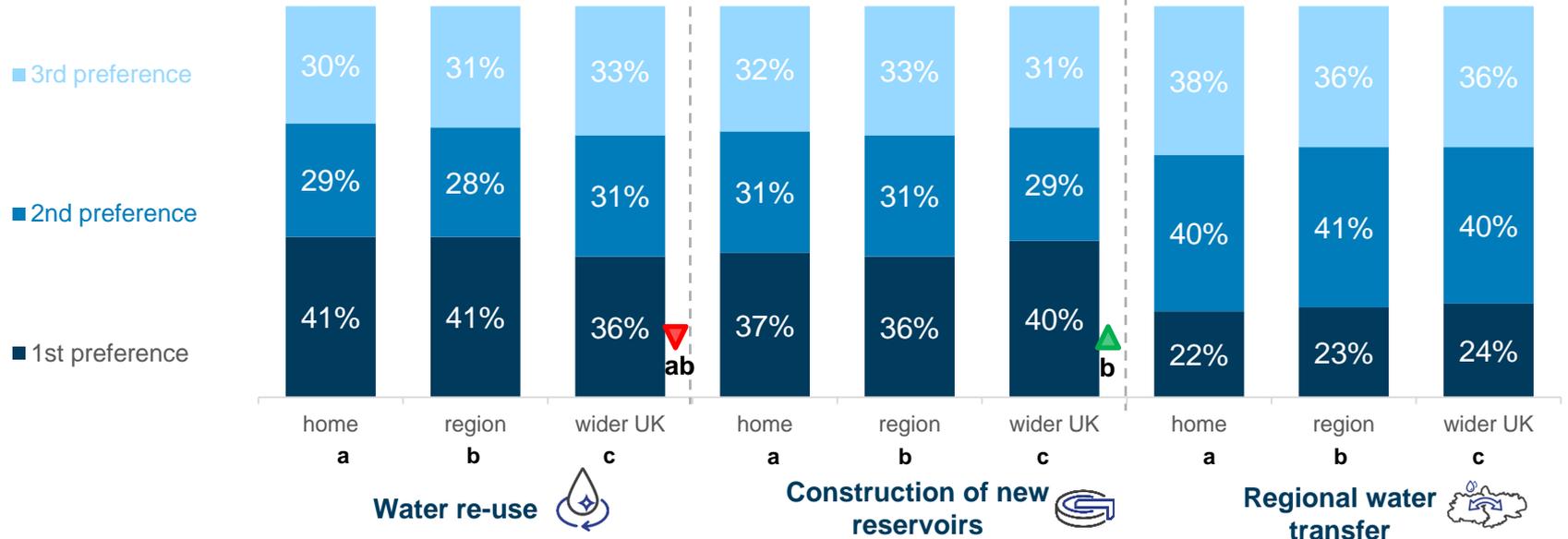
“Water is a free commodity and should be shared between areas. Government should be doing this not private companies”
Household, Thames Water

“I’m not one of these massive environmentalists who are going to say, ‘Not in my back yard,’ or something like that, or worry about the little hedgehogs.”
Non Household, Thames Water

Water reuse is the most preferred solution, closely followed by building new reservoirs

Whilst regional transfer is the least preferred of the three solutions, 62% of customers choose it first or second when thinking about the needs of their home

Preference for supply solutions: All customers



Q14 Please put these options for increasing the supply of water in order where 1 is your most preferred and 3 is your least preferred when thinking about the needs of your home. / your region / the wider UK.

Base: : All respondents (n= 1505)

Source: Water Trading Research– May–June 2018

▲ ▼ Significant difference at 95% conf. level.



Water reuse remains the first choice when looking at regional preferences

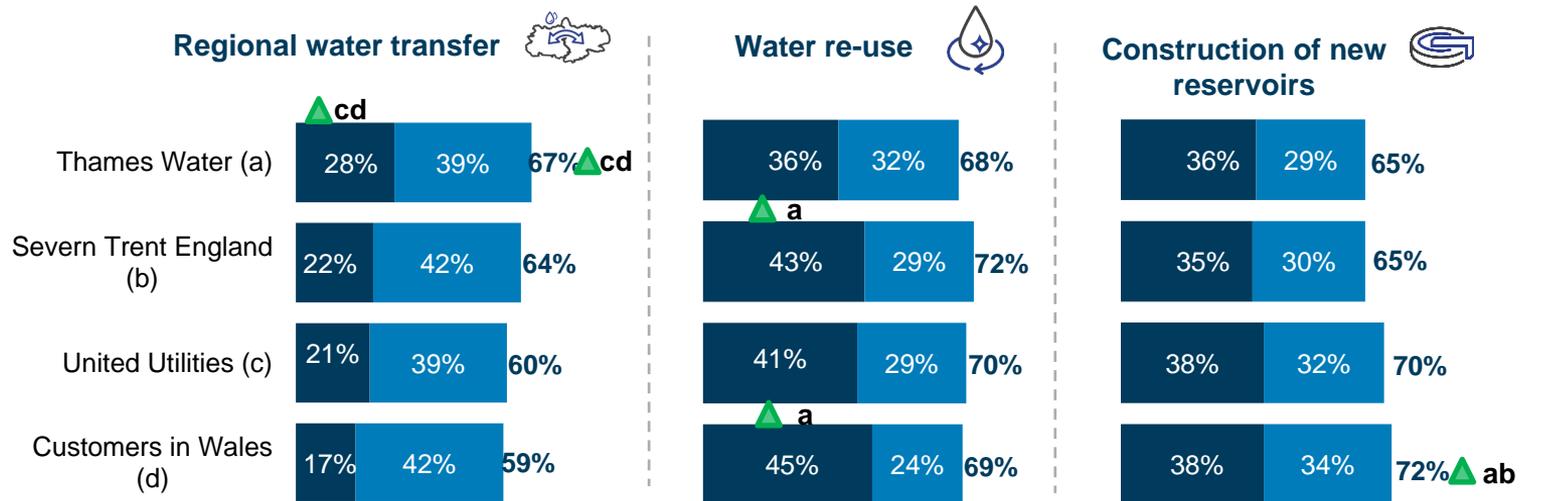
Whilst water re-use and new reservoirs are ranked equally for first choice by Thames Water customers, the proportion who choose transfer first is higher than in donor regions

Preference for supply solutions:
My home

1st preference

2nd preference

1st + 2nd %



Q14 Please put these options for increasing the supply of water in order where 1 is your most preferred and 3 is your least preferred when thinking about the needs of your home

Base: (Thames Water = n=401, Severn Trent = n=400, United Utilities = n=404, Customers in Wales = n=300)

Source: Water Trading Research- May-June 2018

Significant difference at 95% conf. level.



Customers recognise that all three solutions are viable, there being a number of common drivers of preference

Customers are more confident assessing reservoirs given their familiarity. Reservoirs are unique in that they have clear long term benefits for wildlife and the community

Perceived benefits			
Uses water that already exists – a logical solution	✓	✓	✓
A familiar approach that already exists and works	✓	✓ Limited to those who know of transfers impacting their region	✓ Less familiar than reservoirs
Creates jobs	✓	✓	✓
Can be used for other purposes	✓ i.e. leisure pursuits, education, wildlife	Not perceived as a benefit	Not perceived as a benefit
A sustainable solution	✓	?	✓

All three supply solutions raise social, environmental and financial concerns

The most assurances are required for water transfer. This solution is least familiar and is seen to have the greatest potential for disruption given the extent of the distance covered

Perceived concerns			
Flooding			Not perceived as a concern
Disruption to the surrounding community			
Impact on local environment			
Threat to drinking water supply / quality	Not perceived as a concern		
High costs			
Lacks long term sustainability	Not perceived as a concern		Not perceived as a concern

Customers recommend that water companies prioritise long-term sustainability when selecting solutions

Prioritisation of factors in choosing a solution: <i>Ranked 1st or 2nd</i>	Total	a 	b 	c 	d 
Sustainable – the ability of a particular option to provide more water for the long term	56%	52%	60%  a	57%	57%
The environment – whether an option has a benefit to the environment and minimises any negative effects	41%	42%	41%	38%	44%
The volume of water produced	30%	30%	28%	34%  bd	27%
Resilient – the ability of a particular option to cope with a range of challenges, such as droughts and power cuts	26%	25%	28%	26%	28%
Cost to build and manage new solutions such as pipes, treatment centres and reservoirs	26%	27%	24%	24%	27%
Acceptable – the option is acceptable to the widest range of customers	20%	23%  d	20%	21%	17%

Q17. What do you think water companies should prioritise in deciding which solutions to use? Please put the following in order, where 1 is the most important, and 6 is the least important priority.

Base: All respondents (Thames Water = n=401, Severn Trent = n=400, United Utilities = n=404, Customers in Wales = n=300)

Source: Water Trading Research– May–June 2018

  Significant difference at 95% conf. level.

4

Level of support for water trading



4 Level of support for water trading



Customers raise multiple concerns about water trading. These relate to security of supply, environmental impacts and questions around the financial cost



Donor customers are particularly concerned as to whether water trading will negatively impact their own water supplies over time. Thames Water customers need reassurance that supplies will be there when needed



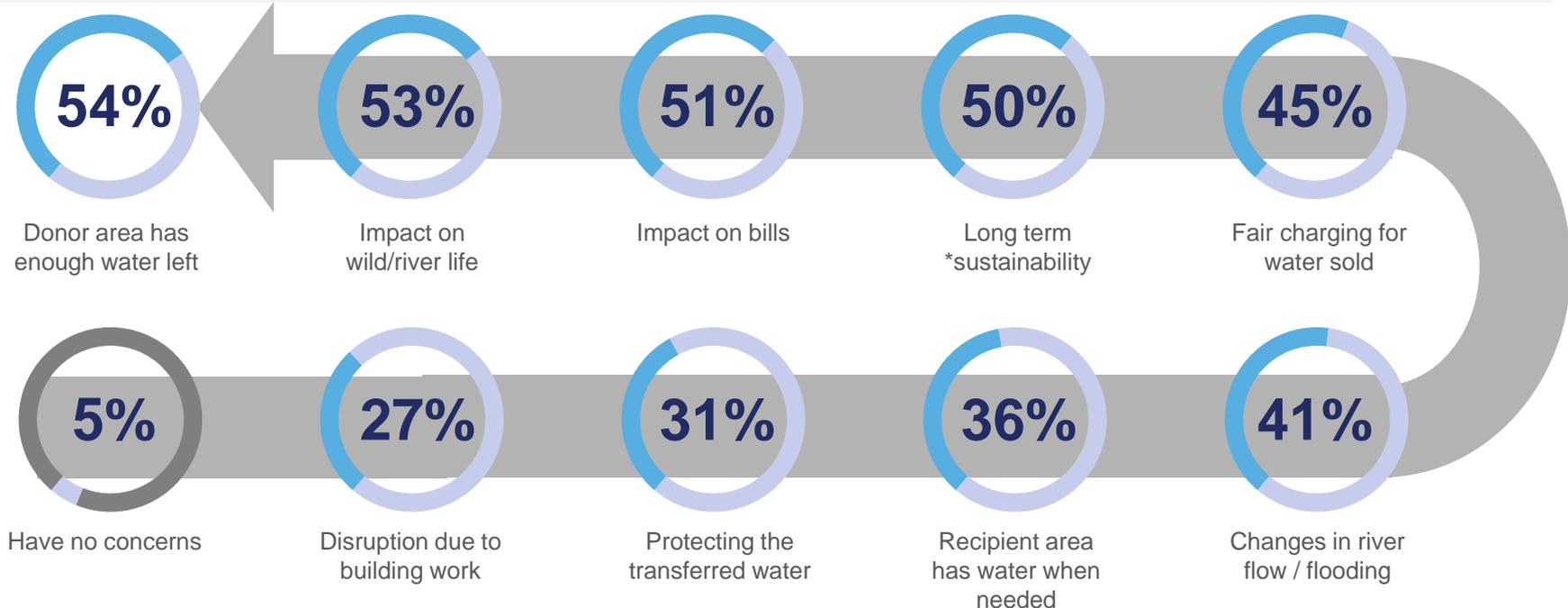
Despite concerns, 74% of customers 'agree' that they would support water trading as part of the solution to water scarcity - it's logical and necessary to share resources



If water trading is to be used as part of the solution, water companies need to be able demonstrate that water trading is sustainable for the long term for both donor and recipient regions, without negative impacts on customers or the environment

Despite acceptance, there are still significant concerns

Customers raise on average four concerns about water trading - supply reliability, environmental risks, bill impact and sustainability are consistent worries across water company area



Q18 - The following have been raised as possible concerns should water trading go ahead. Which of the following, if any, are of particular concern to your home or your area?
 Base: All respondents (1505)
 Source: Water Trading Research- May-June 2018

*sustainability refers to the ability of a particular option to provide more water for the long term

The more water an area has available, the more concerned customers are with ensuring enough is left post transfer

Thames Water customers are most concerned with there being enough water for their area when required

*sustainability refers to the ability of a particular option to provide more water for the long term

Concerns about water trading	Total				
		a	b	c	d
The donor area has enough water left	54%	43%	54% ▲a	58% ▲a	61% ▲a
Impact on wildlife / river life	53%	50%	52%	57% ▲a	55%
Impact on customer bills	51%	53%	50%	55% ▲d	46%
Long term *sustainability	50%	48%	53% ▲d	50%	46%
Fair charging for water sold	45%	49%	43%	44%	45%
Changes in river flow / flooding	41%	40%	41%	43%	41%
Recipient area has water when needed	36%	44% ▲bcd	33%	36%	30%
Protecting the transferred water	31%	36% ▲bd	29%	34% ▲d	26%
Disruption due to building work	27%	31% ▲d	26%	28% ▲d	21%
No concerns	5%	5%	5%	4%	6%

Q18 - The following have been raised as possible concerns should water trading go ahead. Which of the following, if any, are of particular concern to your home or your area?

Base: All respondents (Thames Water = n=401, Severn Trent = n=400, United Utilities = n=404, Customers in Wales = n=300)

Source: Water Trading Research– May–June 2018

▲ ▼ Significant difference at 95% conf. level.

Water shortfall for donor customers is the top concern, linked to perceptions that trading is not sustainable

Whilst sharing resources is perceived as logical, the process is perceived to threaten access to a reliable source of water in donor regions. Those in Wales are the most concerned about this issue

Concerns raised by customers:

- The North and West becoming water scarce areas over the long term due to sharing, threatening the reliability of their own supply



Questions asked by customers:

- How will water companies meet the needs of their customers when responding to requirements of London and the South East?
- How will the system maintain the right levels of water in the donor region over the long term?



SEVERN
TRENT
England

United
Utilities



"I think the most important consideration would be the possible shortfall to my area ..It may not affect me personally, in my lifetime, but over the longer term taking a precious water resource away just seems a bit like "robbing Peter to pay Paul"
Household, United Utilities

"It's quite scary that we're potentially running out of water. In Wales it's quite a fortunate position, but I just wondered, when that will change with the supplying of water to others."
Non Household, Wales

Non Households in donor regions are concerned about the impact of an ‘unreliable’ supply on their business

Non Households are concerned by how supply limitations in the donor region may adversely affect the running of their own or a supplier’s business



SEVERN
TRENT
England

United
Utilities



Concerns raised by customers:

- Shortfalls in the donor regions after over-trading issues whilst moving water from one location to another causing issues with the network (causing disruption to supply)
- The extent to which water companies will be able to keep up with maintenance of the water trading infrastructure, with potential negative impacts on supply reliability

“We’ve got to be careful that the basics are still on the table in terms of making sure that the region isn’t starved of water as a result of over trading x amount of millions to some other region.”

Non Household, Severn Trent England

“The only impact on my business, slightly, is I’ve got a number of clients around the Liverpool area, who are manufacturing facilities...So, as long as they don’t have any issues getting the amount of water they need to manufacture the products that they do, to enable me to be able to still place the people within that business.”

Non Household, United Utilities

Water access and quality are top concerns for Thames Water customers

Customers are most concerned by those implications which could affect their everyday lives. Although water is being transferred into the region there is still concern about the extent to which water will be available and is safe to use



“It’s a concern if the water is of lower quality due to the logistics in getting it to London from the North West.”

Household, Thames Water

Concerns raised by customers:

- Having a consistent supply of water during water trading (most important for customers with medical issues)
- Water available has been protected and not contaminated by the process



Questions asked by customers:



- Will there be enough water available when needed?
- How will the supply be managed whilst setting up the infrastructure?
- Will there be restrictions to access post water trading?
- Is it efficient to treat water twice in the process (once at Deerhurst, then again when extracted by Thames Water)?
- Is it safe to consume water that has been transferred? Will transfer worsen the quality?

Impact on river life and wildlife is of high concern across all regions

Information provided, which detailed the scale of processes involved to move and treat water, heightened concerns about the impact on river and wildlife

Concerns raised by customers:

- Disruption to natural habitats and landscapes
- Spread of invasive species - more likely to be a concern where rivers are used in the process to transfer water rather than pipes



Questions asked by customers:

- Once wildlife habitats are disrupted can this be reinstated again?



“Concerns with any water transfer is the potential movement of fish and water borne creatures that do not belong in the area they end up. There is also the potential to spread invasive species that would not otherwise have moved into these new areas.”

Household, United Utilities

“Once they’ve actually done it it’s too late then, isn’t it, you know, when there’s some species or wildlife has become extinct from it all, which they wouldn’t know until they actually started on this.”

Non Household, Wales

Adding more water into rivers raises concern over increased risk of flooding

Those who have experienced flooding first hand have heightened concerns about increasing water volumes

Concerns raised by customers:

- Environmental changes from localised flooding and disruption to surrounding areas especially around the River Severn
- Affecting the balance of the river and it's wildlife



Questions asked by customers:

- Will putting more water into the rivers not cause more flooding?
- Will it be better to transfer water in pipework instead of a natural river to prevent flooding?



SEVERN
TRENT
England



“My only other concern would be about potential flooding...if we have a lot of rain added to the water being pumped into rivers there is a higher risk of flooding to low lying areas like the south east of England”

Household, Wales

“There is a huge concern about the river, what happens when you get more rainfall than normal or more freak storms? I guess, is there going to be more localised flooding as a result of that, would be my concern”

Non Household, Severn Trent England

Customers recognise that disruption from building work is necessary to ensure we have water for the future

Customers are concerned for the local communities that will be adversely impacted. Concern is greatest for Thames Water and United Utilities - it is perceived that most work will take place here

Concerns raised by customers:

- Disruption to people's homes and businesses which will require compensation and/or protection
- The vast area of the country that will be impacted by the 87km of pipe and lengths of river involved
- Construction works impacting on local areas - expect this to cause some residents to lobby local councils and challenge planning permissions



Questions asked by customers:

- How much of the infrastructure is already in place?
- Will the pipe go underground or over ground?
- Will homeowners and landowners be recompensed / paid for building works on their properties?



“There did up our road and you just get on with it knowing things will be better afterwards”

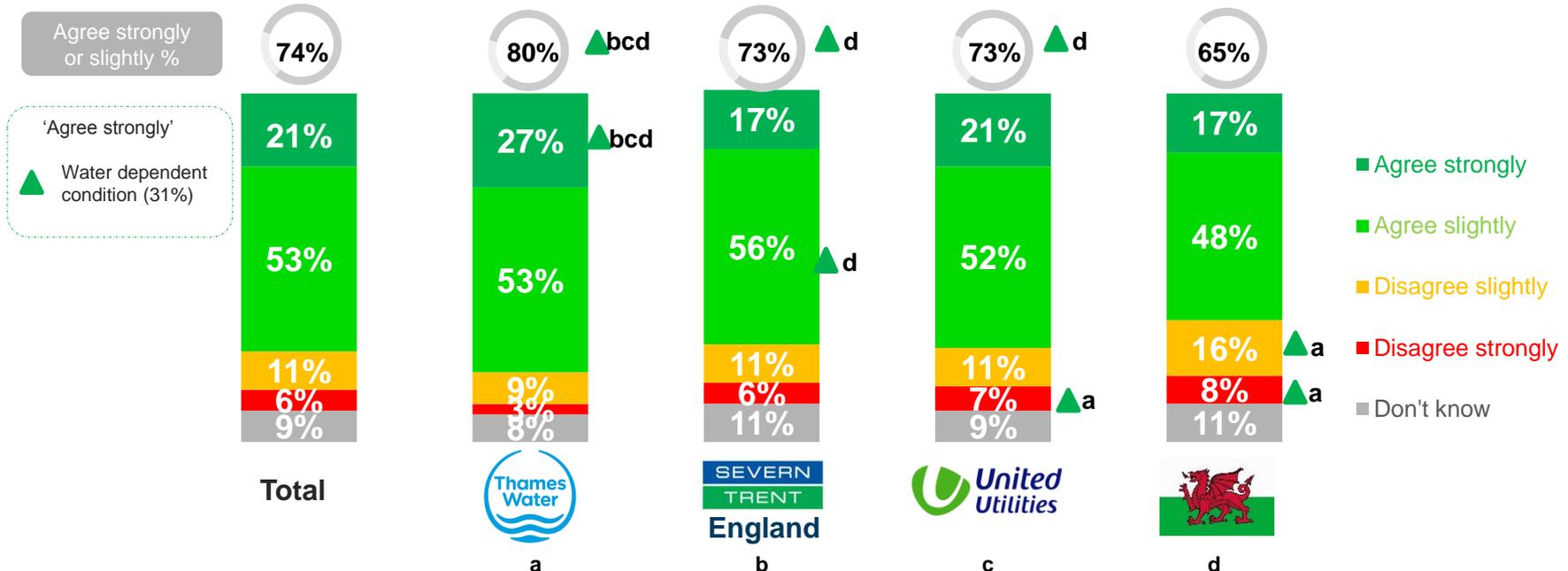
Non Household, Wales

“I think you will come up against a lot of resistance from locals as to the building of the pipes especially in the Cotswolds.”

Household, Thames Water

Despite concerns, 74% 'agree' they would support water trading as part of the solution to address water scarcity

Thames Water customers are more likely to 'agree strongly', as are those with water dependent medical conditions. 9% of customers say they 'don't know' due to the complexity of the decision and information still required to make an informed choice



Q19. PRE BILL INFORMATION: Water trading is just one of the possible solutions to provide more water to areas that have less water than needed. To what extent do you agree with the following statement? I support the use of water trading as part of the solution to address water scarcity in the UK
 Base: All respondents (n= 1505) (Thames Water = n=401, Severn Trent = n=400, United Utilities = n=404, Customers in Wales = n=300)
 Source: Water Trading Research– May–June 2018

Significant difference at 95% conf. level.

Customers who support water trading do so because it's logical to share

Views are divided as to whether water trading is sustainable for the long term. There are concerns that trading will cause water rich areas to run out too

Strongly agree

Strongly disagree

Support driven by...

- ✓ A logical solution to address water scarcity at a national level
- ✓ Supports the continuation of drinking water supply across the UK in both water rich and poor areas
- ✓ Uses an established network of rivers which will aid the transfer of water around the country
- ✓ Has the potential to improve water supply in donor regions due to investment in infrastructure
- ✓ Creates employment opportunities nationally

Lack of support driven by...

- × Will disrupt and contaminate river life and the surrounding environment
- × Is not as effective as alternative supply solutions or other demand management solutions
- × Is not sustainable for the long term
- × Water company areas should be self sufficient

Q20. Why do you say that you agree/disagree with the statement 'I support the use of water trading as part of the solution to address water scarcity in the UK'?

Base: All respondents who AGREE (n= 1105) DISAGREE (n=255)

Source: Water Trading Research– May–June 2018

5

Cost implications of water trading



Stimulus shown to customers on bill impact



You live in a region that could supply water in a water trade. This means your water company could sell water to companies in other regions.

The water bill for customers in your region could come down by around 40p a year because of water trading.

The focus of this research has been on the bill impact for customers. Information on the level of return to the providers of the capital required to finance water trading was not shared with customers. Given that investor return is standard practice irrespective of the supply solution put in place, it was not considered useful to share this level of detail. Transparent pricing was found to be critical to customers and is guaranteed. Ofwat ensures the prices customers pay reflect a fair return on the capital provided, and profits are not excessive.

You live in an area where there is a shortfall of water. Your water company will make an investment to pay for new water resource options to make sure that London and surrounding areas have a secure supply of quality water into the long term future.

This is the case whichever water resource option, or options, is chosen. Customers in your region will then pay for this through their water bill over a very long period of time.

5 Cost implications of water trading



Customers assume they will cover the cost of water trading through increased bills. A small minority are wary about water companies profiting unfairly



On sharing likely bill impact, support declines amongst Thames customers, with minimal change in acceptance for donor regions

- Thames customers recognise that bills need to increase, but without a figure they are unable to make a full assessment
- Bill impact information provokes an emotional response for donor region customers. 40p is seen to have little impact and would be better reinvested into future water resources



Water companies require an overall statement that demonstrates their promise to customers around fair and appropriate pricing in the provision and trading of water

Customers assume they will cover the cost of water trading through increased bills

Both donor and recipient customers recognise that water trading requires significant investment in new infrastructure and ongoing maintenance



Anticipate an increase in customer bills due to the buying of water from elsewhere

Concerned about impacts of price hikes on low income households



Expect households will experience an increase in costs due to investment in infrastructure in donor regions

Differences of opinion with some expecting increased bills and others suggesting their could be a decrease due to the trade



Like Severn Trent there is an expectation of rising bills due to the required infrastructure

Assumptions are tainted by past water management solutions involving water transfer from Wales to England and the unfair implications on household bills

Questions raised by customers:

- What does it cost to build the infrastructure and who pays?
- What are the cost inputs in relation to the volume of water supplied?



A small minority are wary of water companies profiting unfairly at the expense of customers and / or recipient regions

Those who lack trust in water companies associate 'trading' with profit making. Selling water does not square for a resource seen as a basic human right

Concerns raised by customers:



- Unreasonable profits from the sale going to shareholders rather than being passed to customers or re-invested into water resources
- Malpractice fears – donor water companies holding recipient regions to ransom for a necessary resource at an unfair price
- Possible pricing wars across water companies
- The risk of unfair trading makes water trading unacceptable



Questions asked by customers:

- How will the cost charged be agreed?
- Who will monitor this to ensure it is a fair price?



“Potentially the regulator will need to oversee the market if there is a risk that companies could make more profit supplying water to other regions rather than supplying their existing customers.”

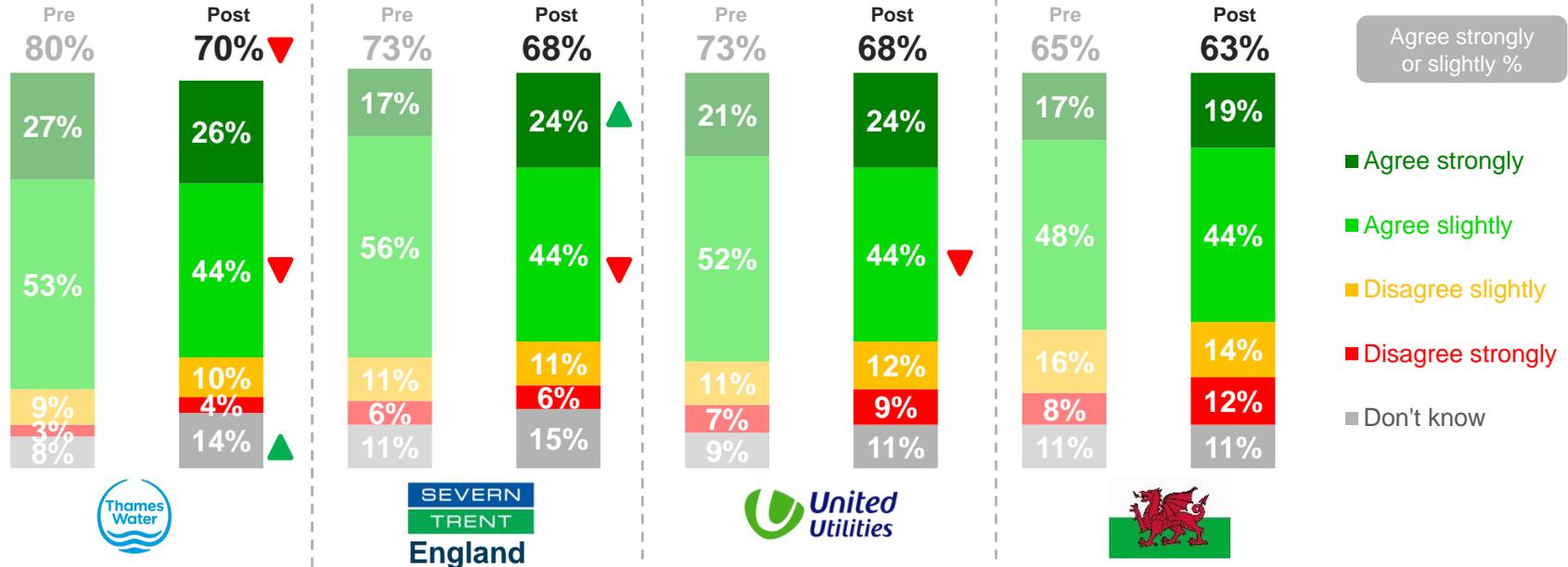
Household, Severn Trent England

“I only see this scheme benefiting the shareholders at these companies and would be dubious that the profit would overshadow an attempt to provide the best option for the masses.”

Household, United Utilities

On sharing bill impact, support declines for Thames Water customers, with minimal change amongst donor regions

Support declines for a proportion of Thames Water customers because they do not know how much their bill will be impacted. 40p off the annual bill is not enough to make a difference to support levels in donor regions



Q21. Having heard about the potential impact on customer bills, to what extent do you agree with the following statement?

I support the use of water trading as part of the solution to address water scarcity in the UK

Base: All respondents (n= 1505) (Thames Water = n=401, Severn Trent = n=400, United Utilities = n=401, Customers in Wales = n=300)

Source: Water Trading Research– May–June 2018

▲ ▼ Significant difference at 95% conf. level.

Support levels for Thames customers are impacted by lack of a figure rather than the need to pay through the bill

Thames household customers recognise that bills need to increase to finance the supply of water through trading

Customer thinking:

Bill increase inevitable - rather pay more and have a sustainable supply



Hope that Thames Water deliver on their promise to spread the cost over a long period



Anxiety over the inability to provide a figure



“I think a modest increase in the water bill is acceptable, I personally would be able to afford an increase in the bill, but I am not sure if anyone else could, it would depend how much the increase was”
Household, Thames Water

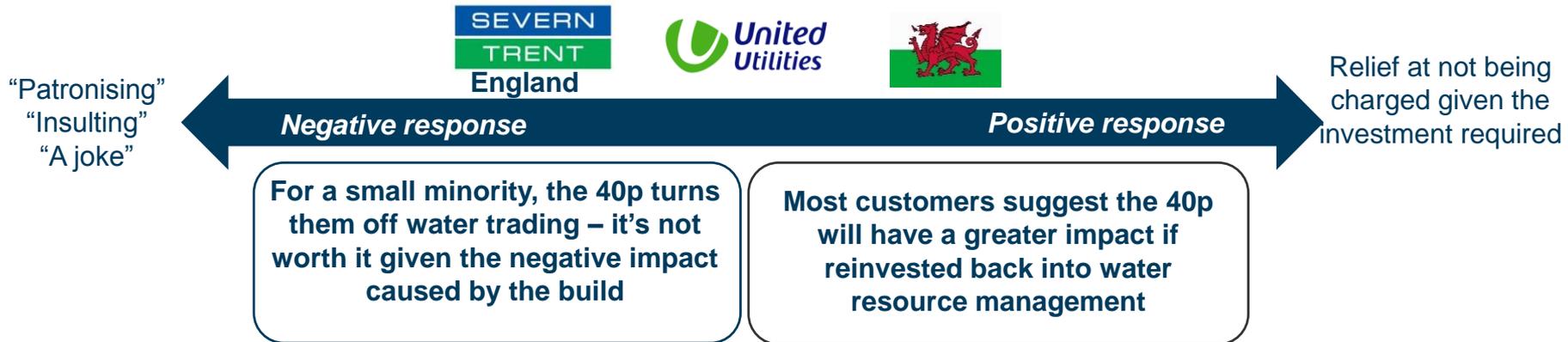
“Spreading over a longer period of time I would hope means the increases will be minimal monthly to spread the increases better”
Household, Thames Water

“How much will our bills increase by? These increases should be fixed and not fluctuating during the “very long time” we have to foot this bill for”
Household, Thames Water



40p off has little bearing on customer support in donor region households

Bill impact information provokes an emotional response amongst donor households. Ultimately 40p is not worth giving back to customers and would be better reinvested



“This is so sad, all the disruption from the work and the loss of a lot of wildlife for a mega 40p a year. I would rather lose 40p and not disturb the natural environment”
Household, Wales

“I think for the amount of work that has to go into this I think 40p is reasonable even if it was a pound of two I would still think it was good for what is about to eventually happen to all of us.”
Household, United Utilities

6

Key assurances required



6 Key assurances required



Customers find it difficult to decide on the best solution and put their trust in water companies to choose for them



Transparency and fairness is at the heart of assurances needed



Eight assurance statements have been developed to help mitigate core areas of concern for water trading



Assurances are not just about water trading – customers need to know that there is continued improvement in demand management solutions



There is a careful balancing act to play between imparting knowledge to customers on the issue and not scaring them – this needs to be co-ordinated between water companies.

Customers find it difficult to decide on the best solution and put their trust in water companies to choose for them

Customers feel they don't have sufficient knowledge to decide on the most appropriate supply solution. The decision is perceived as complex and so responsibility is devolved

“As members of the public we place our trust in decision makers to make the best decision for the greater good and not be influenced by financial concerns”
Household, Severn Trent England

“I don't need to know what goes on behind the scenes, as long as nice, lovely, cold water comes out of my tap. What do I care?”
Non Household, Thames Water



The optimists

The majority of Households and Non Households place trust in their water company to make the right choice

Indifferents

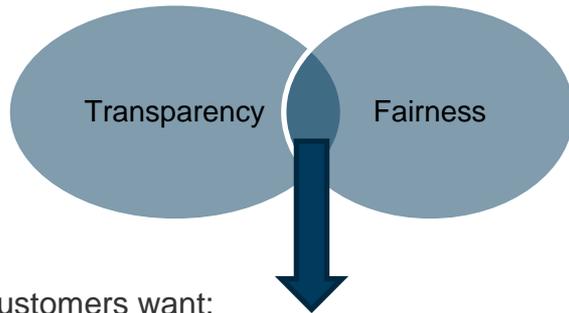
This includes those who 'don't care' and want to see water companies just get on with it! A small minority of Non Households sit here

The pessimists

A small minority of households do not trust water companies to make the right decision and suspect the solutions with the most chance of shareholder profit will be chosen.

Transparency and fairness is at the heart of assurances needed

Customers share consistent views about how they would like to see water companies working together and communicating with customers through the water trading process



Customers want:

- Clear information about:
 - how water trading will work in practice
 - the role of different organisations involved
 - what the real impact on the customer will be
- Strict monitoring and control

“I do support water companies using water trading to help water scarcity as long as all is done to be fair to all parts of the country and as long as it’s all checked”

Household, Severn Trent England

“You don’t want the water companies self-policing because let’s face it, they only have their best interests at heart. You need an independent company or agency to monitor it”

Non Household, United Utilities

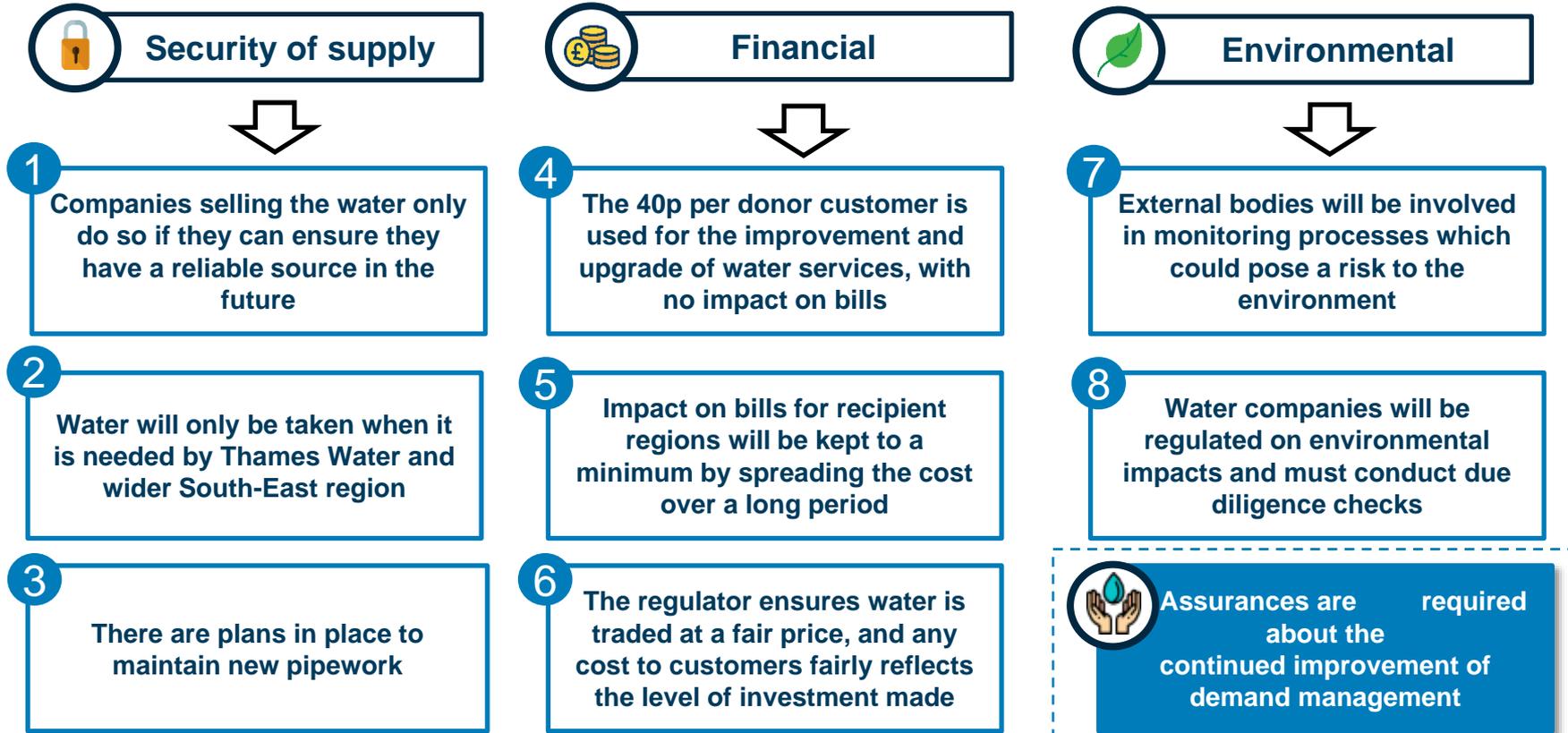
17% of customers point to the need for transparency and fairness with regards to the water trading process

Q22. What kind of reassurance, guarantees or information would you need to hear from your water company about the long term solutions they will put in place to help address water scarcity in the UK?

Base: All respondents (n= 1505)

Source: Water Trading Research– May–June 2018

Eight assurance statements have been developed to help mitigate core areas of concern for water trading



Consistent access to drinking water supply is a top assurance



31% mentioned that knowing their security of supply would remain consistent during water trading is a key assurance required

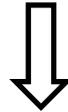
Security of supply

CONCERN

Water trading from the North West will cause a shortfall in those regions, especially during times of drought

CONCERN

The extent to which water companies will keep up with maintenance of water transfer infrastructure



ASSURANCES

- Companies selling the water only do so if they can ensure they have a reliable source in the future
- Water will only be taken when it is needed by Thames Water and wider South-East region

ASSURANCE

There are plans in place to maintain new pipework

“Me and my family will totally support the water companies but I do think we need to be offered guarantees, guarantees that our water supply would never be in danger.”

Household, Wales

“I would like guarantees that water quality is going to remain of a high standard and that there are extensive well thought out plans for ensuring that places with surplus water are not going to fall short due to water transfer.”

Household, United Utilities

Q22. What kind of reassurance, guarantees or information would you need to hear from your water company about the long term solutions they will put in place to help address water scarcity in the UK?

Base: All respondents (n= 1505)

Source: Water Trading Research– May–June 2018

Operating using fair practices will give financial assurance



24% mentioned the need for assurances around the financial and bill impacts involved in water trading

Financial

CONCERN

- That donor customers will pay for the infrastructure required through their bills
- 40p off the annual bill is not sufficient to have an impact on a household

ASSURANCE

The 40p per donor customer is used for improvement / upgrade of water services, with no impact on bills

CONCERN

- Thames Water customers expect to pay through their bill but need to understand the financial impact on their household to assess the solution

ASSURANCE

Impact on bills in recipient regions will be kept to a minimum by spreading the cost over a long period

CONCERN

- Suspicion that water companies will use water trading to profit unfairly
- Businesses believe water should be traded using a fixed price to ensure a fair deal

ASSURANCE

The regulator ensures water is traded at a fair price, and any cost to customer fairly reflects the level of investment made

“They need to make sure water is being bought and sold for a fair price. Not water companies profiting massively. It needs regulation”

Non Household, Severn Trent

“Ultimately, customers' concerns are largely based on cost. If water bills can be kept down, these solutions will be welcomed”

Household, Wales

Q22. What kind of reassurance, guarantees or information would you need to hear from your water company about the long term solutions they will put in place to help address water scarcity in the UK?

Base: All respondents (n= 1505)

Source: Water Trading Research– May–June 2018

Monitoring and control will provide environmental assurance

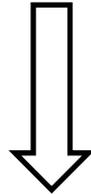


8% mentioned protecting/safeguarding the environment during water trading as a key assurance need

Environmental

CONCERNS

- Huge implications for the natural environment and landscape (e.g. spread of invasive species, contaminated water, increased risk of flooding, pipes or pumping stations being an eye sore)
- Water received has been protected and not contaminated by the process of transfer (through treatment or movement through pipes and rivers)



ASSURANCES

- External bodies will be involved in monitoring water trading processes which could pose a risk to the environment
- Water companies will be regulated on environmental impacts and must conduct due diligence checks

“I think the Waterways agency should explore the impact on river quality. A consortium of interested parties would need to be formed”

Household, United Utilities

“The plans look fine on paper but they do not show the environmental/ecological impact they would have if large amounts of water is drawn away. I think the Environment agency should have a say in these matters”

Household, Thames Water

Q22. What kind of reassurance, guarantees or information would you need to hear from your water company about the long term solutions they will put in place to help address water scarcity in the UK?

Base: All respondents (n= 1505)

Source: Water Trading Research– May–June 2018

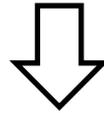
Assurances are not just about water trading - customers need to see that demand management is improving



Demand management

CONCERNS

- Water companies are wasting water through leaks
- ‘Other’ customers are wasting water and could do more before additional water is put into supply
- We should use what we have more efficiently rather than invest huge sums in supply solutions



ASSURANCES

- That water companies continue to reduce leakage levels
- Supply solutions are already working in conjunction with demand management to ensure a sustainable and reliable supply
- Water companies are investing in innovation in water efficiency measures

“Educating people to be mindful of the amount of water that they use on a daily basis...I think it would definitely make a difference that would actually help the environment and help the country.”

Non Household, Thames Water

“More money should be used towards buying new equipment to try to try to find and repair leaks and to let more people know about water meters and how best to use them. Plus more people should be informed about reduced rates for smaller households”

Household, United Utilities

Q22. What kind of reassurance, guarantees or information would you need to hear from your water company about the long term solutions they will put in place to help address water scarcity in the UK?

Base: All respondents (n= 1505)

Source: Water Trading Research– May–June 2018



Summing up



Customers have limited knowledge but quickly recognise the need for long term sustainable solutions

1 Informed reaction to water scarcity

7 in 10 customers are concerned about water scarcity, particularly those in Thames Water areas. The main reason for lack of concern is due to the UK's wet climate

Customers question why they don't know more given the severity of the issue

2 Anticipated solutions to the water scarcity issue

Customers recognise that water scarcity is a long term issue requiring immediate nationally co-ordinated action

Customers believe widespread education is needed

They assume that fixing leaks will be the major priority for water companies. This is also the preferred demand solution for all customers

3 Supply options preferred by customers

Water reuse is the most preferred solution, closely followed by building new reservoirs. Whilst re-use and reservoirs are preferred, Thames Water customers are more likely than other customers to choose water transfer first

Customers recommend that water companies prioritise *sustainability when selecting the solutions to put in place

Action

Take control of the conversation to prevent misinformation around future water scarcity.

Action

Raise awareness that water companies have a co-ordinated regional and national plan in place

Action

For water transfer to be seen as viable, customers need to see that it is sustainable for the long term

Water trading, delivered cost effectively with assurances, works for customers

4 Level of support for water trading

Multiple concerns raised about security of supply, environmental and financial impacts

- Donor customers are concerned as to the impact on their supply.
- Thames Water customers ask whether water will be available when needed

Despite concerns, 74% 'agree' they support water trading as part of the solution - it's logical to share

Action

Demonstrate that water trading is sustainable for the long term for both donor and recipient regions

5 Cost implications of water trading

Customers assume they will cover the cost of water trading through increased bills.

- Thames customers recognise the need for bill increase but are unable to assess fully without a figure
- In donor regions, 40p is seen as better reinvested into future water resources

Action

Water companies require an overall statement to demonstrate their promise on fair and appropriate pricing

6 Key assurances required

Transparency and fairness is at the heart of assurances needed

Eight assurance statements have been developed to help mitigate core areas of concern with water trading

Customers also need to know that there is continued improvement in demand management

Action

There is a careful balance to play between imparting knowledge and scaring. This needs to be co-ordinated across water companies



Pen Portraits



Hearing from those who are most concerned by the possible impact of water scarcity (1)



Tony is retired and lives in London.
He has two adult sons

What are their concerns?

Has experienced hosepipe bans in the past but this was temporary. Surprised by how soon there will be a problem in London.

“The information is a very damning picture of water shortage within the UK. The short length of time when there will be a water shortage. It’s difficult to imagine, within my lifetime there will be a severe water shortage”

What key questions do they have?

- Do we need to introduce more measures, such as “x” amount of water being provided at certain times of the day?
- How much in £ would water be increased to year after year (by x%)



A residential care and assisted living home with 450 staff.
A water critical/sensitive business

What are their concerns?

Water is critical for personal care (some residents wash more than once a day due to health reasons), water is also used for drinking, cooking, washing, cleaning.

“If there was to become a shortage of water, especially around personal care, the costs would increase because you’d need to buy more bottled water”

What key questions do they have?

- Will customers need to pay more for their water because they have to get it from elsewhere?
- Will water companies get businesses to use water storage tanks?
- Will the government tell businesses they need to manage their water better?

Hearing from those who are most concerned by the possible impact of water scarcity (2)



Sam has type 1 Diabetes which means he needs to keep hydrated and drinks up to 9 litres of water a day

What are their concerns?

How other areas with a shortage will affect his area.

"I'd be concerned for people who have to have to keep hydrated, have dialysis or people with skin disorders who need to bathe regularly. I guess my concern is that it would only be a matter of time before water from our region starts to drop to the same low levels"

What key questions do they have?

- What will happen after 2065 in the United Utilities area?

Hearing from those who are less likely to be concerned by the possible impact of water scarcity



A recruitment agency based in South Manchester



Leanne, 50, lives on her own in Newport

What are their concerns?

Water isn't the businesses biggest expenditure and the issue is considered to too far in the future to warrant concern now.

"It's not the forefront of my mind...the North West has enough water to 2045 and beyond"

What key questions do they have?

- What are the variables that could change the situation of water scarcity?
- How can these predictions be accurate? How do water companies really know that things in the climate are going to change and therefore in 2065 water scarcity isn't a problem?

What are their concerns?

Not surprised by the water scarcity map because the areas with concern are those that are most highly populated. Doesn't feel they or their family will be affected first hand.

"As far as concerns go, I do not have any as where I live there is no shortage of water and I doubt if there ever will be"

What key questions do they have?

- If other areas are worse off, could we help them?
- Not sure it would be practical to pipe water from rich areas to those in need?

Hearing from customers with a 'regional perspective' on dealing with water scarcity (a minority view)



Janet lives in Swansea with her husband and two teenage children

What are their concerns?

Resources being taken from Wales leading to decreased quality and supply of water. Impact of flooding or environmental issues through the implementation of solutions – similar to Tryweryn.

"If you want to live in an area like London, you pay the price house value wise. It may end up where you pay water supply wise. We all have choices and Wales is where I want to live. I think it all goes with the territory - that may seem harsh, but it's my view"

What key questions do they have?

- Will customers in Wales be re-compensated?
- Will our bills be reduced?
- Will areas of Wales have their economy's boosted if involved in transferring water from a reservoir?



Simon lives in Manchester with his wife and daughter, aged 10.

What are their concerns?

More financially deprived areas of the UK will need to pay for provisions in London and South East meaning higher bills. Feels we live in a London-centric economy. Expects water companies to source water as locally as possible to reduce costs associated with essential supply.

"London should look after itself, it has enough money in the area to look at other water supply solutions"

What key questions do they have?

- Would it be possible for regions to use their own solutions first before more costly solutions involving moving water are used?

Hearing from those who want to do more to help personally to address water scarcity



A large horticultural business in Greater London where water is critical to running the organisation and wellbeing of customers and employees.

What are their views?

The Facilities Manager is responsible for monitoring the onsite water network for leaks and to ensure all water tanks are filled up in case of drought. Believes Thames Water have been proactive encouraging residential customers to not waste water but want to see them do more with businesses.

“If they could encourage a lot more businesses to save water, then, obviously, that will help contribute to trying to save as much water as possible”

What key questions do they have?

- What measures can businesses take to reduce water wastage?



Martin lives in Oxfordshire with his daughter. Water is critical to his medical conditions.

What are their views?

Believe water companies should ensure all properties have water meters and customers should do more themselves to save water e.g. using water butts to store rain water to water the garden, cutting down on having baths, using the washing machine once a week

“I am trying to do my bit - water meter, water butts in the garden to collect the rain water. I wish I could shower more but I have to have a bath due to skin conditions so I can put products in the bath to help”

What key questions do they have?

- Is having a meter enough?
- How are water companies going to ensure households are reducing the amount of water they use?
- What water saving methods can households apply to cut back on water use?

Hearing from customers who prefer other supply solutions over water transfer (1)



Josh from South Wales who lives with his wife.

What are their views?

Building of new reservoirs because the positives outweigh the negatives. Priority should be given to those areas where reservoirs do not currently exist.

“ I feel that building more reservoirs would be most beneficial due to the vast amount of green land located in rural areas when other buildings and infrastructure cannot be built”

What key questions do they have?

- Lots of distress was caused in the 1960's when transferring water from Wales to Liverpool
- Cost to transfer water from one area to another



Ian is retired and lives in Manchester with his wife.

What are their views?

Water re-use is considered sensible and vital for those already using drinking water in urban areas. Building new reservoirs sounds like a long term solution but it's not quick and causes disruption to local communities

“Water reuse seems obvious! Isn't all water reused eventually? The natural process takes a while, granted, but surely technology can safely speed that up now”

What key questions do they have?

- The impact on Households in the North West after giving away water to other regions
- Moving water around the country will create one problem in one area by trying to solve it in another – should only be done in emergencies not as part of the water supply

Hearing from customers who prefer water transfer over other supply solutions (2)



Grace lives with her parents
in Berkshire

What are their views?

Believes water transfer is the most cost effective and convenient solution. Some concern exists over the contamination of water during transit. Building reservoirs would be more expensive

"I believe these will use rivers and pipes to transfer the water and the cost will be less than building reservoirs"

What key questions do they have?

- What are the costs involved?
- Will customer's bills increase massively?
- Will water companies pay for part of the solution as well as customers?



A property management and
lettings company based in
Greater London

What are their views?

Believes the UK has the right building expertise to construct the right infrastructure. Building works bring employment to the area which is positive for the future. Is put off water reuse and considers the chemicals involved would not be safe to drink

"Having enough water outweighs the risk that potentially might occur from water trading"

What key questions do they have?

- Will water companies let customers know they have assessed the risks and put measures in place to prevent disruption to the area and environment?