

PR19 Customer Challenge Group

Meeting number: 8

Meeting Date: 4th April 2018

Paper No: 6

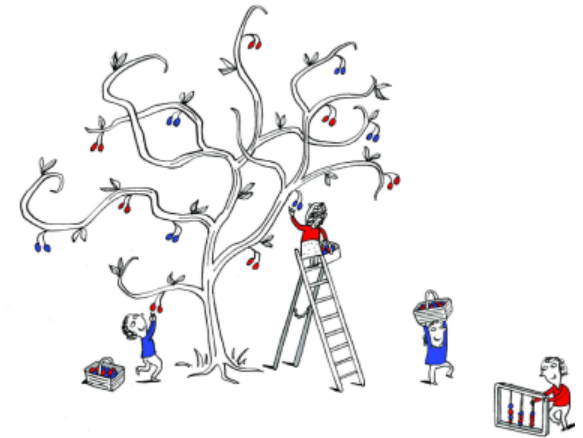
Agenda No: 9

Title: Debrief of non-household willingness to pay research

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Name of research:	Resilience
Purpose of research:	The purpose of the research study was to obtain estimates of non-household customers' WTP for service level changes. These estimates are to be used in cost-benefit appraisals (CBA) for informing the setting of performance commitment (PC) levels, and for the setting of outcome delivery incentive (ODI) rates, consistent with the requirements laid out by Ofwat.
High level approach:	We have replicated the process undertaken with household customers.
Audience/Representativeness:	Customers were recruited across our supply area with varying sizes of company/consumption.
Action needed from the CCG:	This paper is for information purposes.



south east water

PR19 Willingness to Pay Research: Non-households

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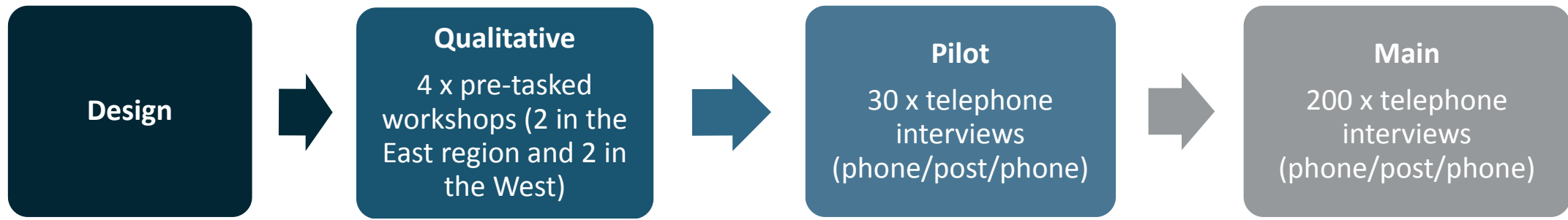
Background

Background

- Willingness to pay (WTP) research uses trade-off questions to explore how much customers value potential improvements to various service levels
- WTP research was a key part of PR14, and remains important for PR19: for setting PC levels and ODI rates.
- Other evidence will be used to ‘triangulate’ the WTP findings, but this WTP research study is key.

2 Methodology

A mixed-methodology research programme

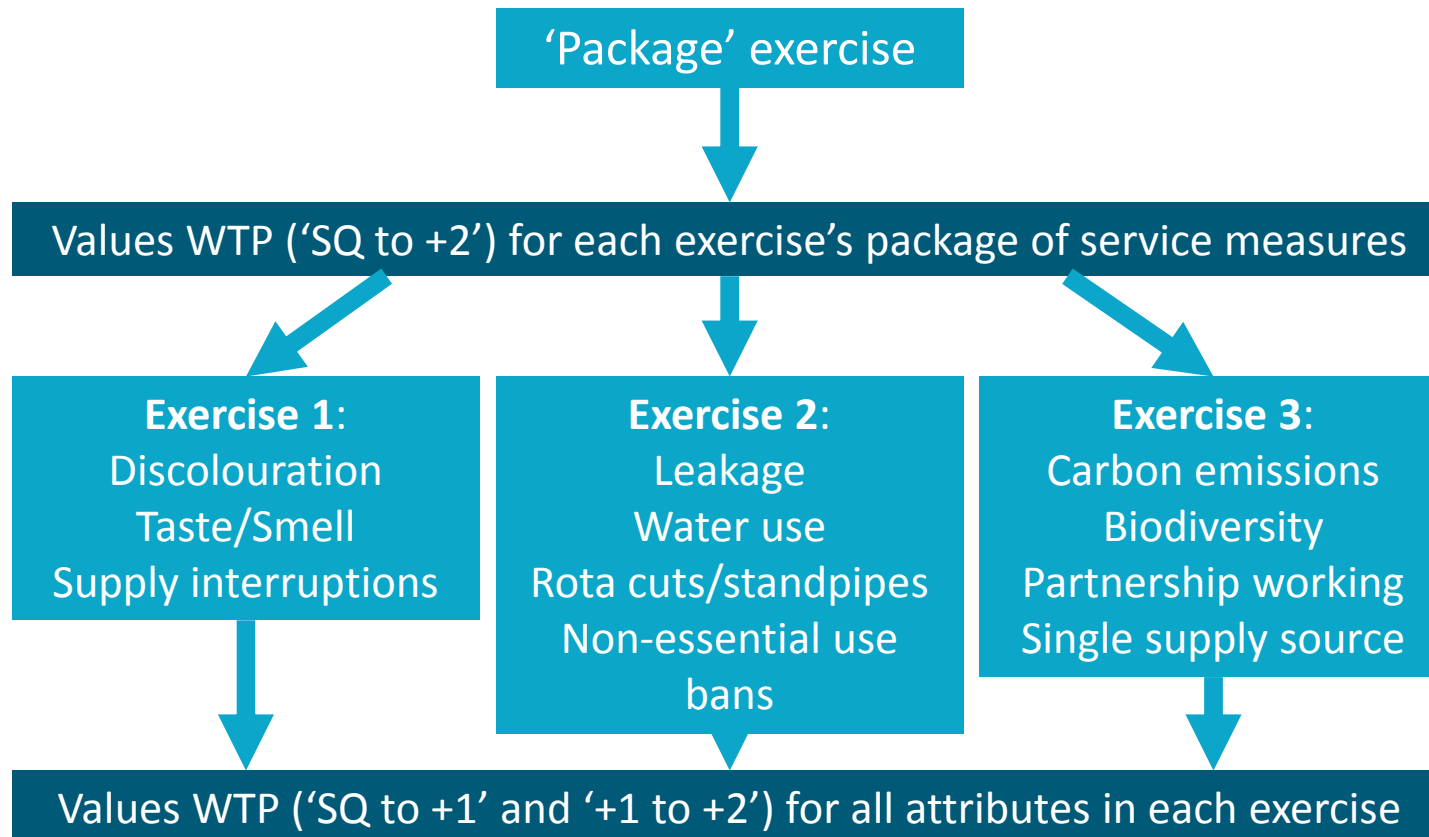


SP survey designed to value 11 key service measures

Service measure	Unit	Levels		
		SQ	+1	+2
Discoloured water	Nr. of contacts per 10,000 props per year	10.5	7	5
Taste & smell not ideal	Nr. of contacts per 10,000 props per year	3.1	1.5	0.9
Water supply interruptions longer than 3 hours	Interruptions per year per 10,000 customers	181	136	90
Leakage	% reduction in water lost due to leakage	0	10	15
Water use	Litres saved per person per day	0	5	10
Rota cuts and/or standpipes	Chance per year	1 in 100	1 in 200	1 in 500
Non-essential use bans (May to Sep)	Chance per year	1 in 10	1 in 15	1 in 20
Carbon emissions	Ktons of CO ₂ eq. per year	240	160	140
Protecting wildlife and increasing biodiversity	Ha of land enhanced to increase biodiversity	1330	1395	1461
Partnering with landowners to improve the environment	Ha of land included in partnership working	3659	7318	10977
Single source of supply	% households with one supply source	67	46	30





- Service measures were selected to reflect the most relevant of Ofwat's common measures and SEW's proposed bespoke measures
- Each measure had three possible values:
 - Status quo (SQ) - the current level of service
 - +1: an improvement
 - +2: a further improvement
- No deterioration levels were included because SEW could not envisage any realistic scenario where deteriorations would be chosen.

Stated Preference Design



- A 'Package exercise' was combined with three 'lower level' exercises to derive main results.
- Each exercise asked participants to choose between options including the corresponding service measures/packages

Example choice question (SP2)

Package	Annual cost	Leakage	Water use	Standpipes and/or rota cuts	Non essential use bans (May to Sep)	
A	Decrease of 2.50%	= No reduction in water lost due to leakage	 10 litres saved per person per day	 1 in 500 chance per year	 1 in 20 chance per year	<input type="radio"/>
B	Increase of 10.00%	 10% reduction in water lost due to leakage	= 0 litres saved per person per day	= 1 in 100 chance per year	= 1 in 10 chance per year	<input type="radio"/>

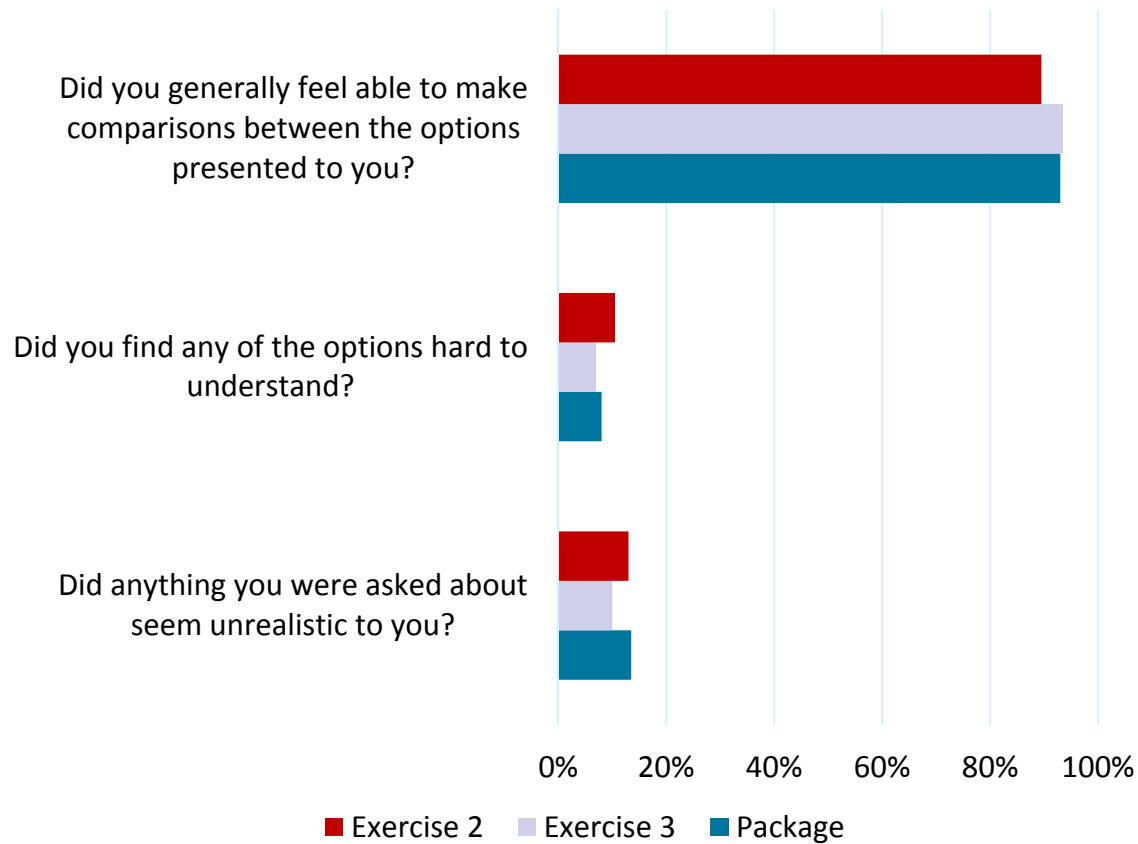
- Information was given about each of the service measures, including comparative performance against other water companies.
- Formats and information sets were tested carefully in preliminary stages and were found to work well.

Sample vs. Population proportions by nr. of employees

Nr. of employees	Sample	Population
Sole trader	7.5%	19.8%
1-49	71.0%	30.3%
50-249	14.0%	12.3%
250+	7.5%	37.6%

➤ This research is being supplemented with interviews with larger NHH customers to address sampling quotas

Participant feedback

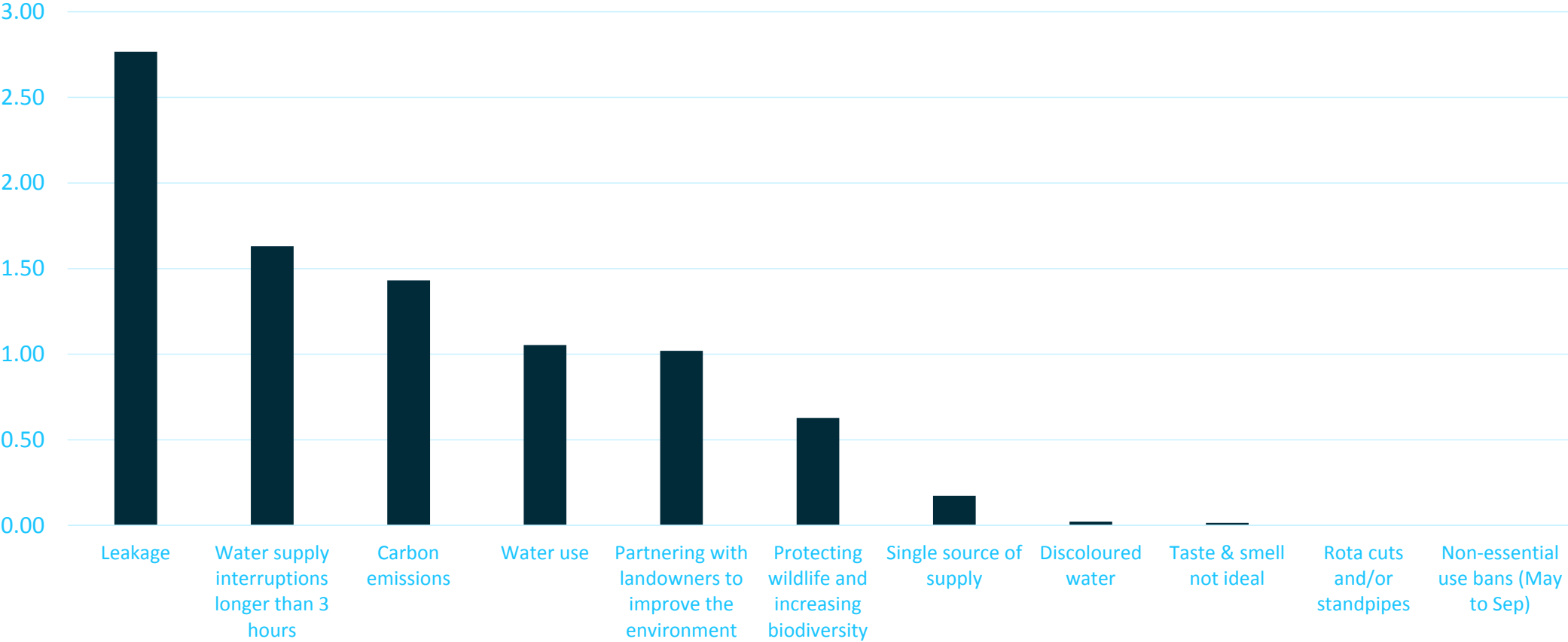


- The vast majority of participants felt able to make comparisons
- Very few found any of the options hard to understand
- Even fewer found any of the exercise to be unrealistic.



Key Results

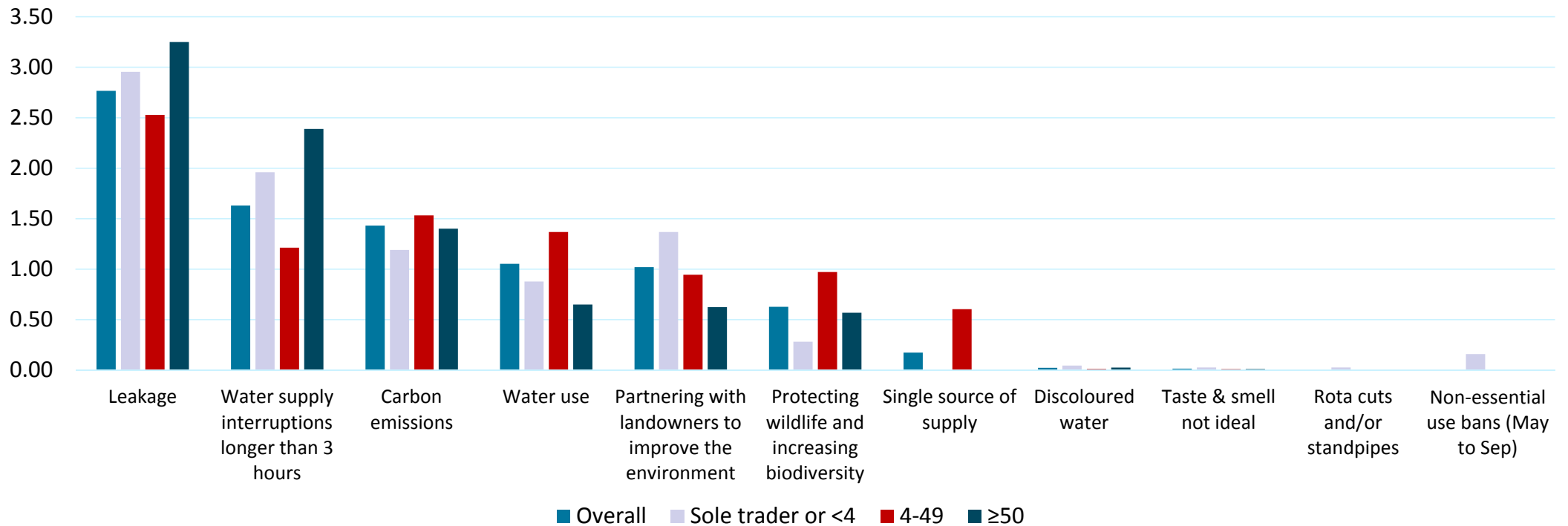
WTP (%/NHH/yr) for 'SQ to +1' improvements, by service measure



WTP (%/NHH/yr) for improvements, by service level

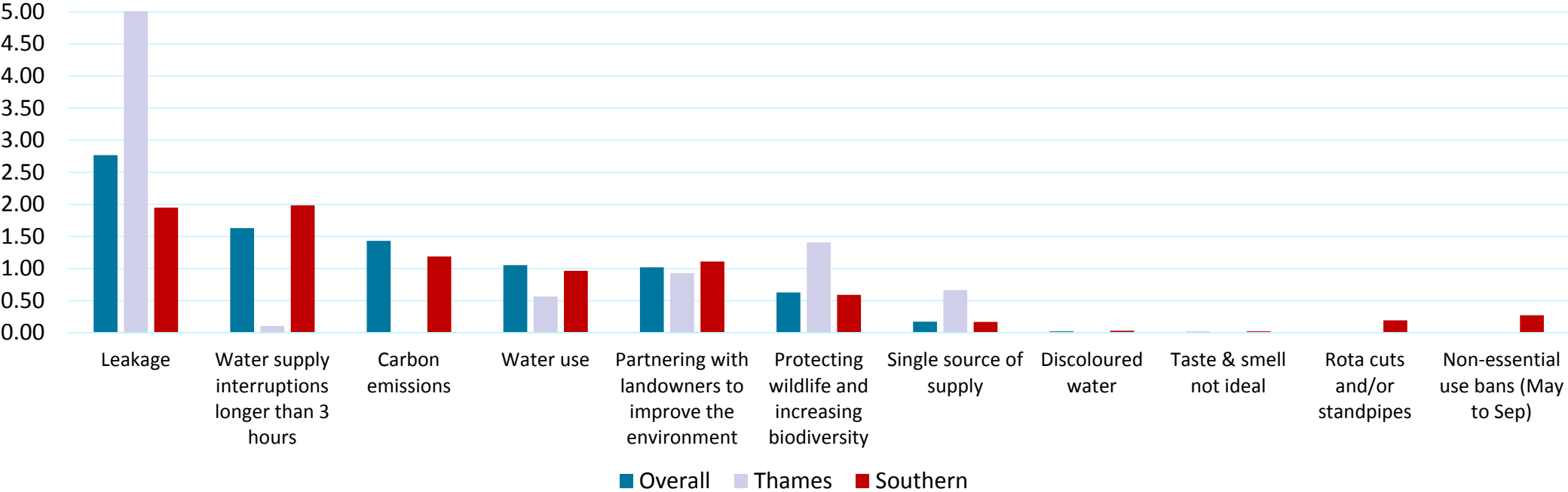
Service measure	Unit	Levels			WTP (%/nhh/yr)	
		SQ	+1	+2	SQ to +1	+1 to +2
Leakage	% reduction	0	10	15	2.77	1.38
Water supply interruptions longer than 3 hours	Nr. of interruptions per 10,000 props per year	181	136	90	1.63	1.67
Carbon emissions	Ktons of CO2eq/yr	240	160	140	1.43	0.36
Water use	L/yr/customer reduction	0	5	10	1.05	1.05
Partnering with landowners to improve the environment	Ha of land	3659	7318	10977	1.02	1.02
Protecting wildlife and increasing biodiversity	Ha of land	1330	1395.3	1460.6	0.63	0.63
Single source of supply	% households with one supply source	67	46	30	0.17	0.13
Discoloured water	Nr. of contacts per 10,000 props per year	10.5	7	5	0.02	0.01
Taste & smell not ideal	Nr. of contacts per 10,000 props per year	3.1	1.5	0.9	0.02	0.01
Rota cuts and/or standpipes	Chance per year	1 in 100	1 in 200	1 in 500	0.00	0.00
Non-essential use bans (May to Sep)	Chance per year	1 in 10	1 in 15	1 in 20	0.00	0.00

WTP for 'SQ to +1' by Number of employees (%/NHH/yr)



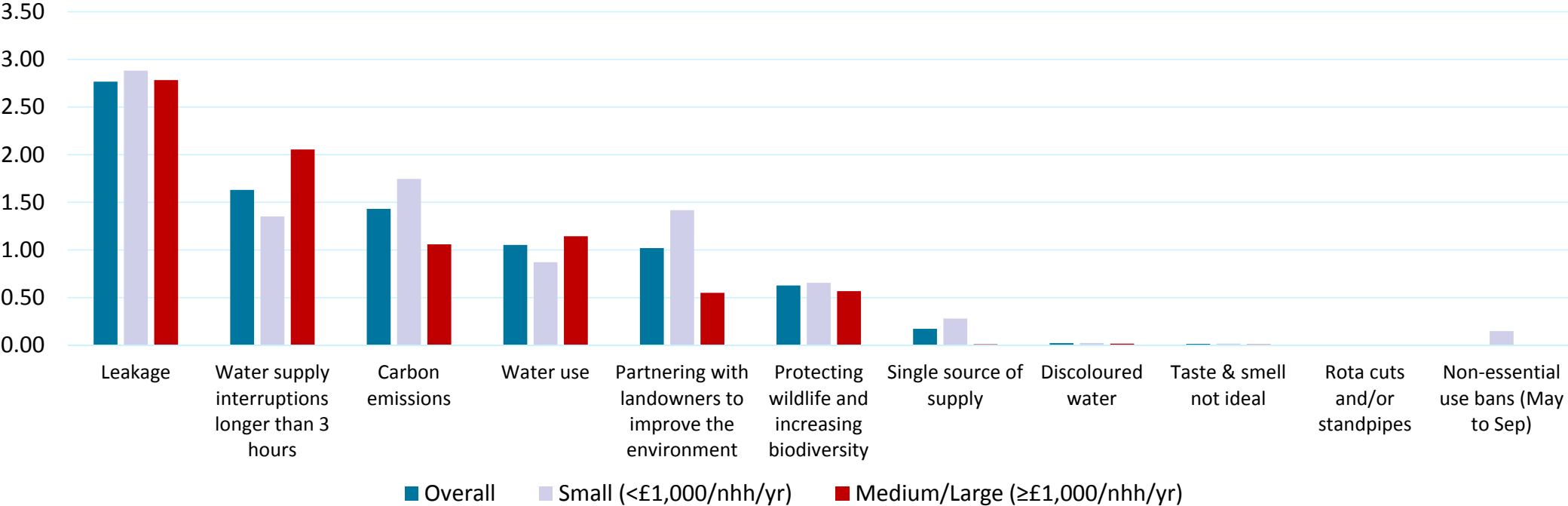
➤ Similar values and ranking by number of employees, e.g. all had highest valuation for reducing leakage.

SQ to +1 WTP by Sewerage Supply Area (%/NHH/yr)

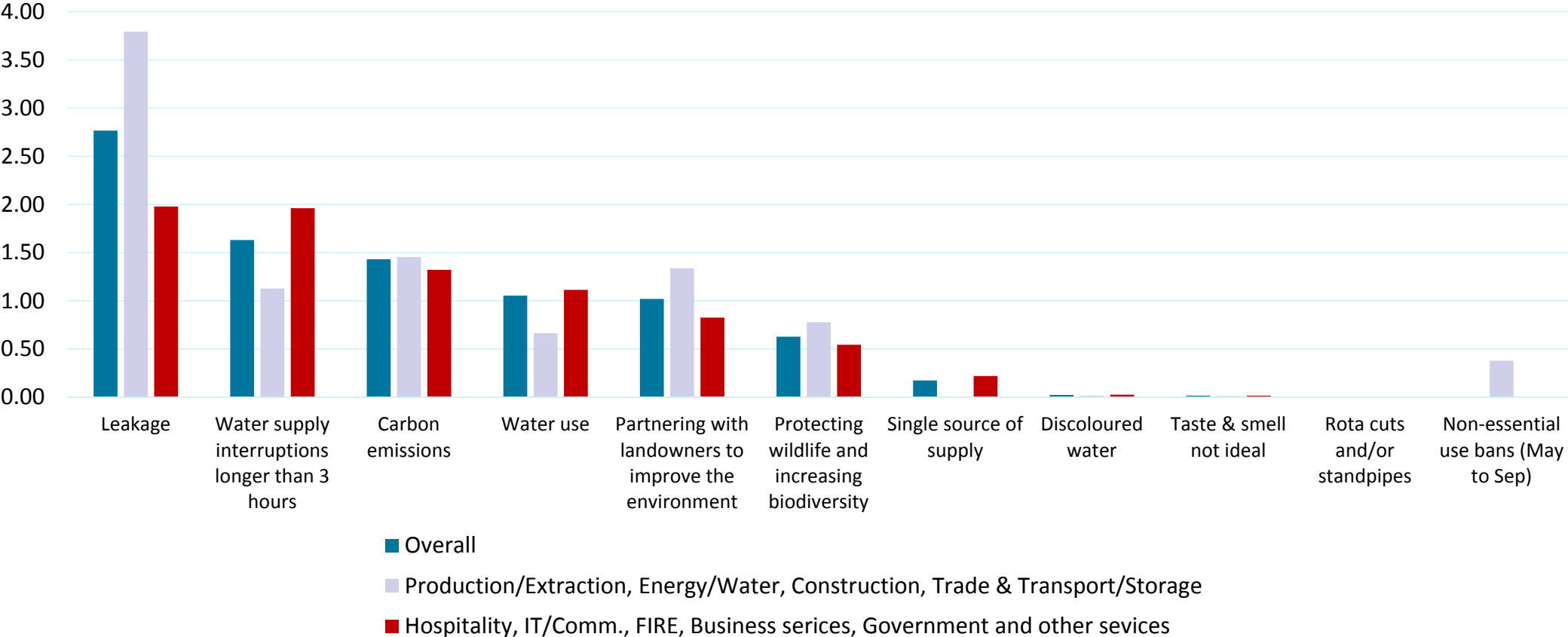


- Those in Thames sewerage supply area had higher values for Leakage reduction, Protecting wildlife and Single source of supply.
- Those in Southern area had higher values for Water supply interruptions, Carbon emissions, Rota cuts and NEUBs.

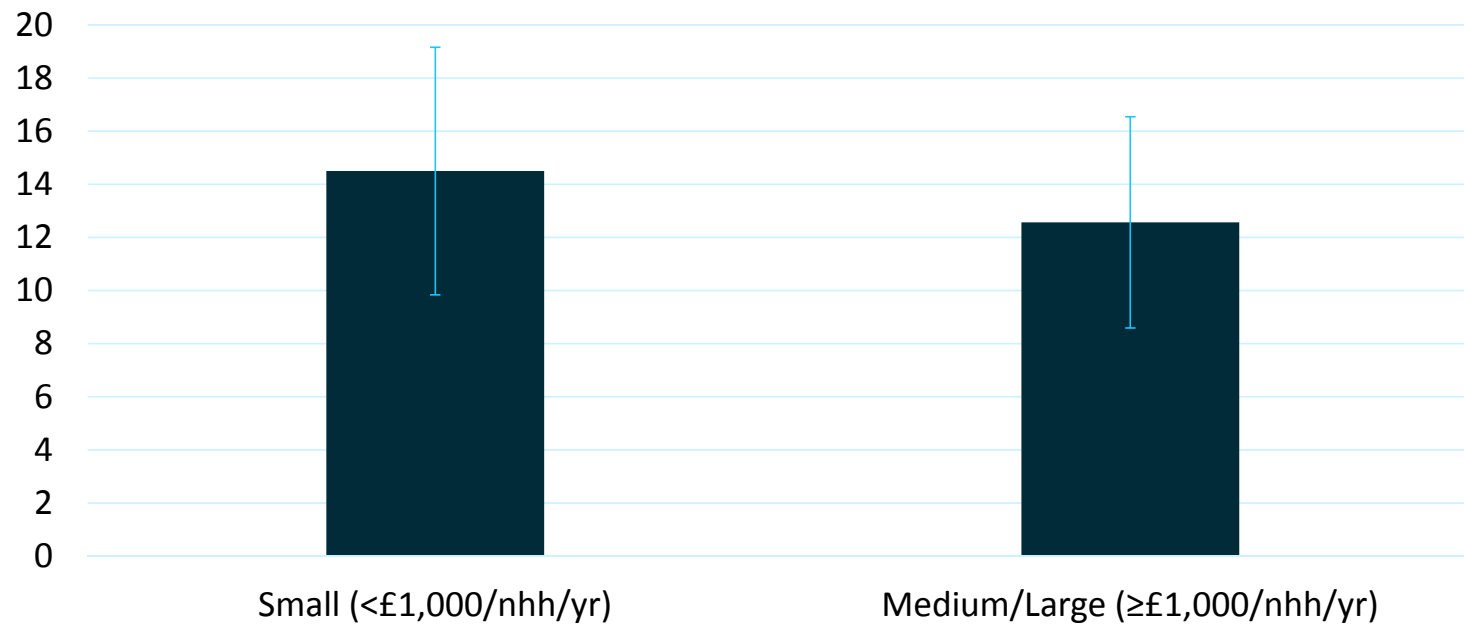
SQ to +1 WTP by Bill Band (%/NHH/yr)



SQ to +1 WTP by Industry Sector (%/NHH/yr)



Package WTP (SQ to +2) by Bill Size(%/NHH/yr)



➤ No significant difference found in WTP between small and large users.

WTP comparisons to PR14 research

Service measure	Unit	SEW PR19 WTP Research (WTP £/unit)*	SEW PR14 WTP Research (WTP £/unit)	PR14 industry range (WTP (£/unit)**
Discoloured water	Property affected	-	£133.06	£109 - £15,061
	Complaint	£227	-	
Water supply interruptions > 3 hours	Property affected	£1,246	£1,530- £12,240	£720 - £27,960
Leakage	1 Ml/day	£943,160	-	£56,612 - £118,800
Non-essential use bans (May-Sep)	Property affected	£0	£88.24	£0 - £1,690

* Original NHH unit WTP values estimated in % terms and converted to £ by multiplying with sample average water and sewerage bill (£4,523) and dividing by 100.

** PR14 industry range source: Accent (2014) Comparative review of willingness to pay results

- Few comparable service measures to PR14 SEW study or PR14 industry review.
- Discoloured water value has increased, but is now measured differently. Still well within PR14 industry range
- Interruptions value seems reasonable, though not far from lower bound of the PR14 values
- Leakage seems high



Conclusions

Conclusions

- This study has employed a multi-stage WTP research methodology, similar to the household approach, to develop and test a stated preference survey instrument to engage participants and obtain meaningful trade-off responses
- The results suggest that non-household customers, like households, have particularly high values for leakage reduction, avoiding supply interruptions and reducing carbon emissions, but little or no value for reducing frequency of water use restrictions (non-essential use bans or rota cuts).