



south east water

PR19 Willingness to Pay Research

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Background

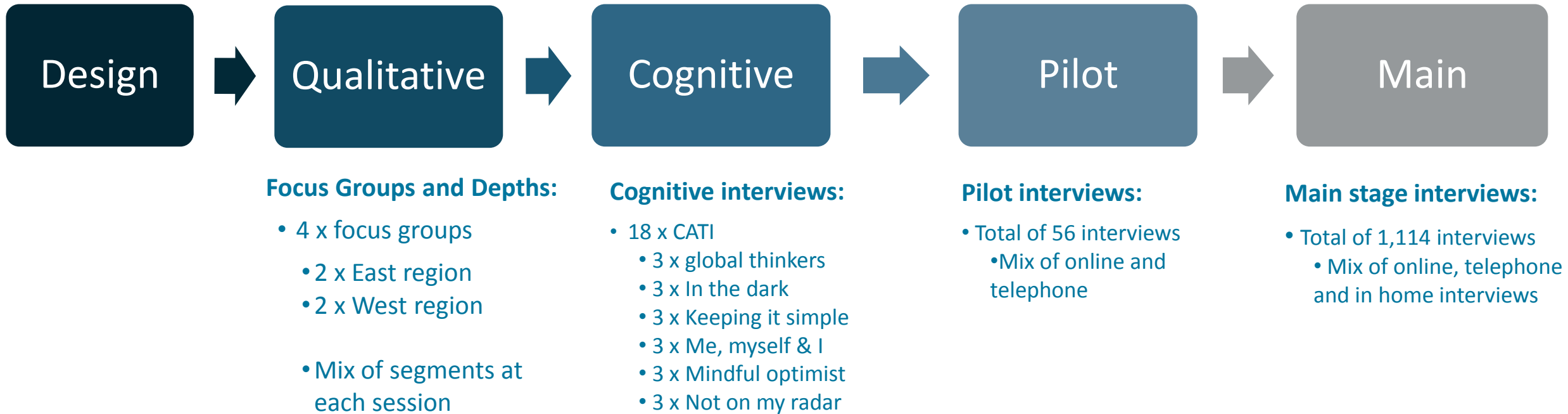
Background

- 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.



Methodology

A mixed-methodology research programme

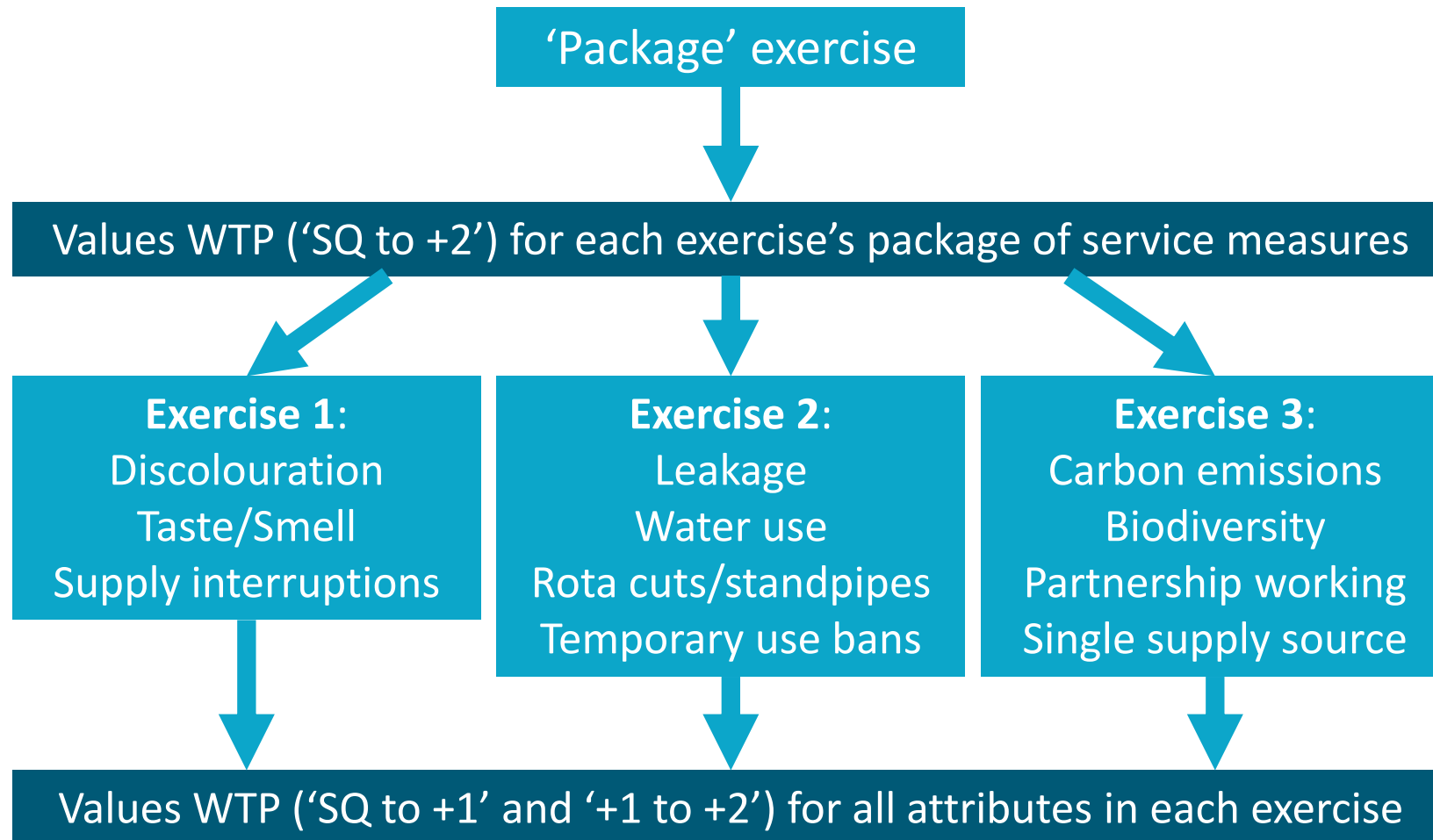


SP survey designed to value 11 key service measures

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
Temporary 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)

Which package do you prefer, A or B?

(1 of 5)

Package	Annual cost	Leakage <small>(i)</small>	Water use <small>(i)</small>	Standpipes and/or rota cuts <small>(i)</small>	Temporary use bans (May to Sep) <small>(i)</small>
A	£341.00 Increase of £6.20 each year between 2020 and 2025	↑↑ 15% reduction in water lost due to leakage	= Company initiatives with no additional savings per person per day	↑↑ 1 in 500 chance per year	↑ 1 in 15 chance per year
B	£372.00 Increase of £12.40 each year between 2020 and 2025	= No reduction in water lost due to leakage	↑ Company initiatives, saving households 5 litres of water per person per day	↑ 1 in 200 chance per year	↑ 1 in 15 chance per year



- Information was given about each of the service measures, including comparative performance against other water companies.
- This could also be accessed during the exercise by clicking on the (i) buttons.
- Formats and information sets were tested carefully in preliminary stages and were found to work well.

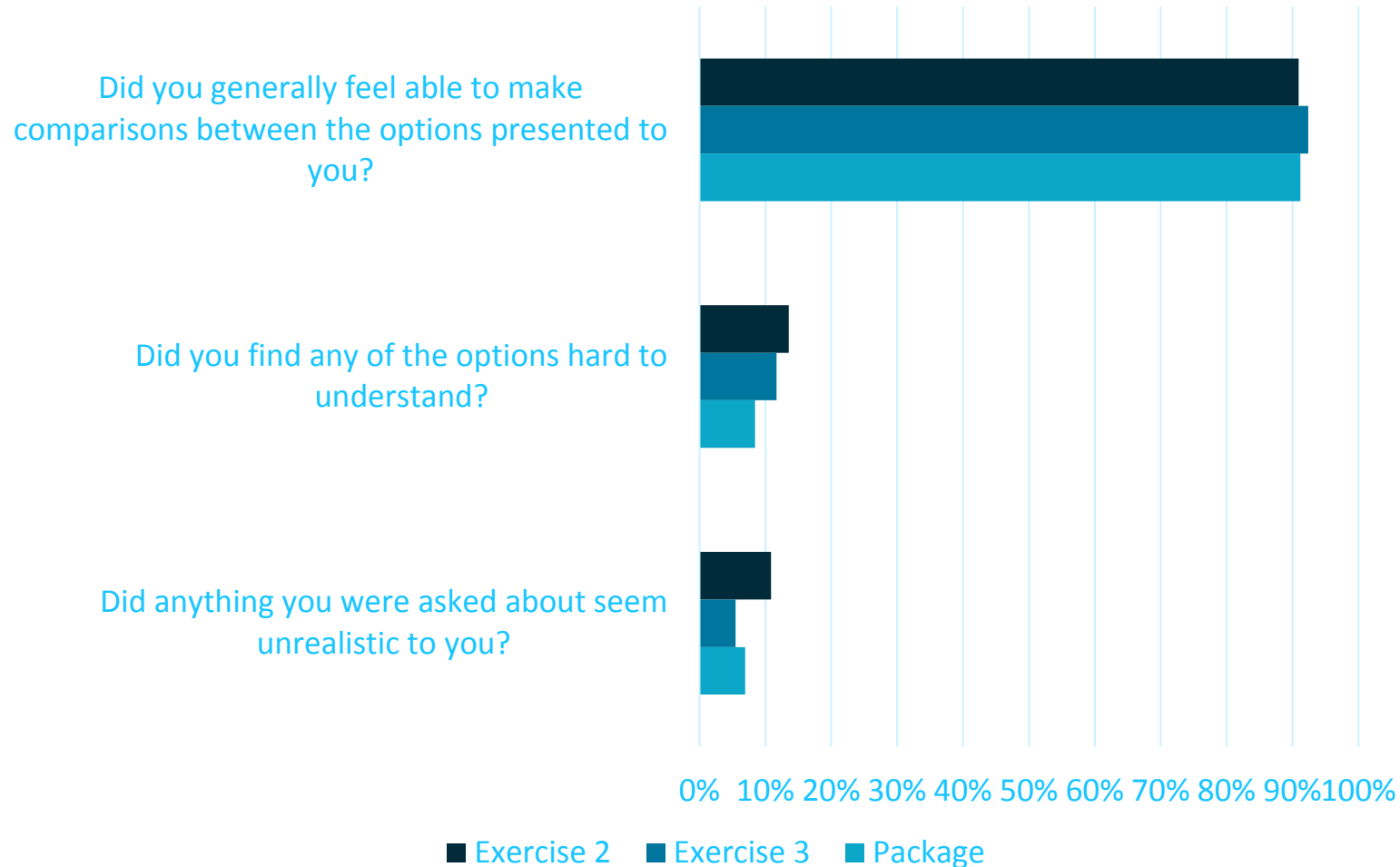
Weighting applied to SEG, age and gender variables

Weighted to South East population figures (Census 2011 data)

Variable		Unweighted	Weighted
SEG	AB	39%	32%
	C1	24%	28%
	C2	17%	19%
	DE	20%	21%
Age	18-34	17%	16%
	35-54	61%	57%
	65+	22%	27%
Gender	Female	55%	51%
	Male	45%	49%

Base: All household interviews (1,114)

Participant feedback

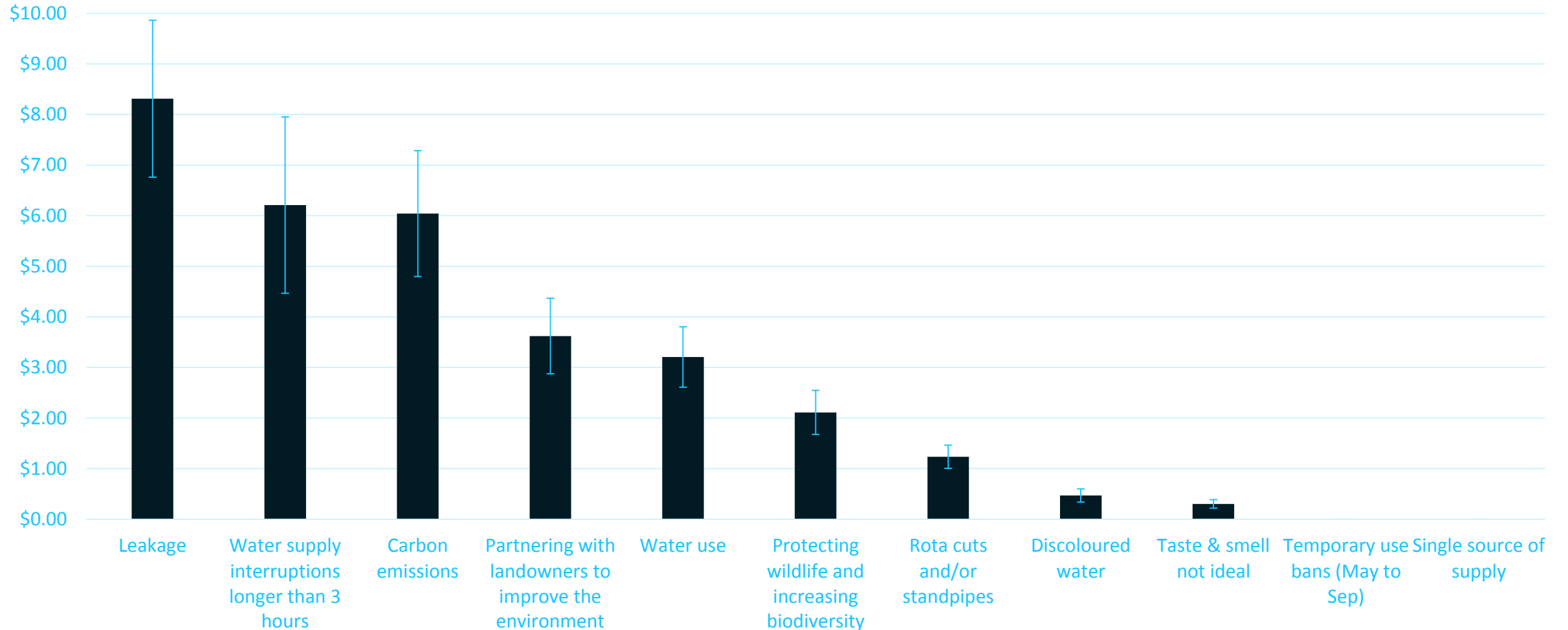


- The vast majority of participants felt able to make comparisons
- Very few found any of the options hard to understand
- Even fewer found any of the exercise to be unrealistic.



Key Results

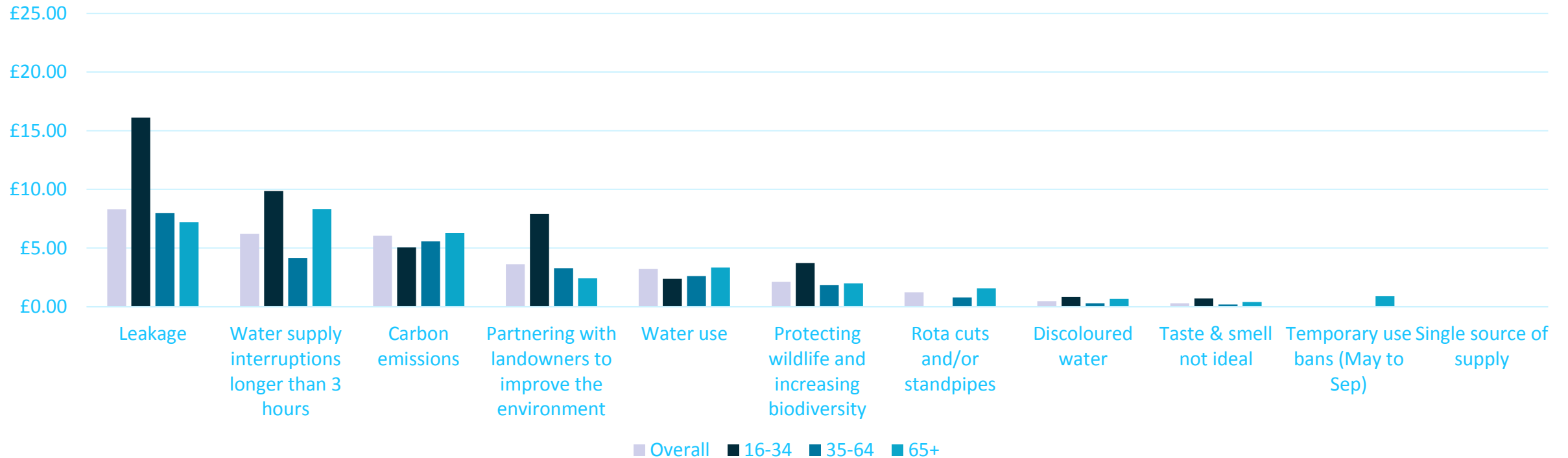
WTP (£/hh/yr) for 'SQ to +1' improvements, by service measure



WTP (£/hh/yr) for improvements, by service level

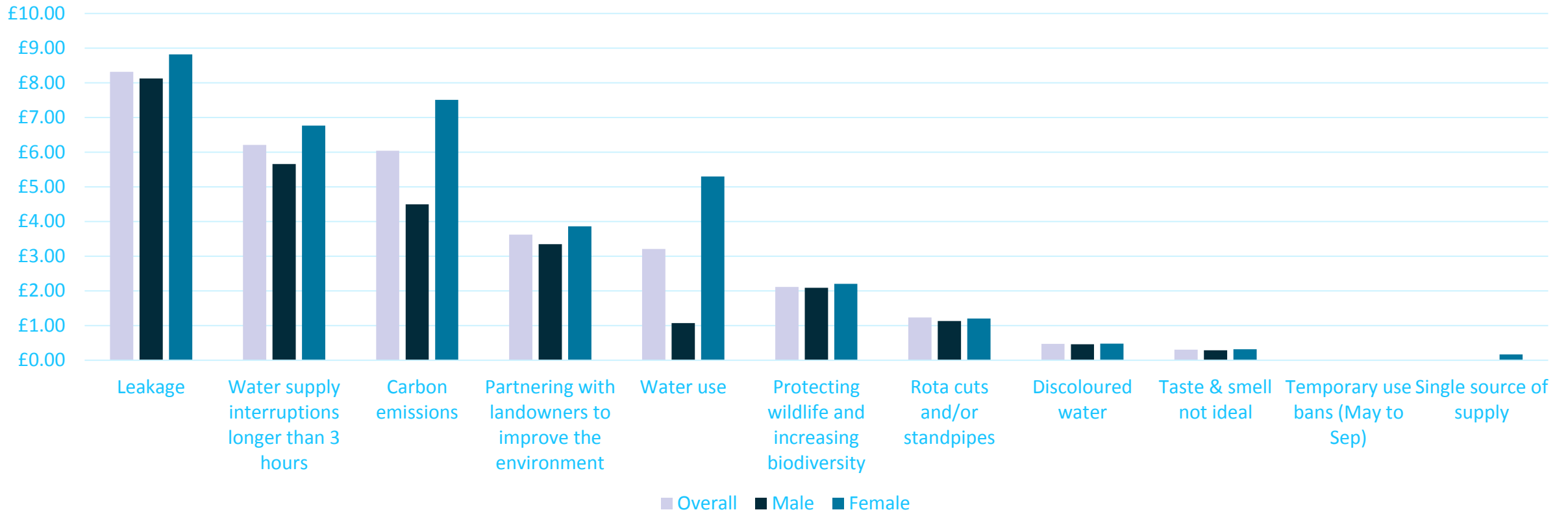
Service measure	Unit	Levels			WTP (£/hh/yr)	
		SQ	+1	+2	SQ to +1	+1 to +2
Leakage	% reduction in water lost due to leakage	0	10	15	£8.31	£4.16
Water supply interruptions longer than 3 hours	Interruptions per year per 10,000 customers	181	136	90	£6.21	£6.35
Carbon emissions	Ktons of CO ₂ eq. per year	240	160	140	£6.04	£1.51
Partnering with landowners to improve the environment	Ha of land included in partnership working	3659	7318	10977	£3.62	£3.62
Water use	Litres saved per person per day	0	5	10	£3.21	£3.21
Protecting wildlife and increasing biodiversity	Ha of land enhanced to increase biodiversity	1330	1395	1461	£2.11	£2.11
Rota cuts and/or standpipes	Chance per year	1 in 100	1 in 200	1 in 500	£1.23	£0.74
Discoloured water	Nr. of contacts per 10,000 props per year	10.5	7	5	£0.47	£0.27
Taste & smell not ideal	Nr. of contacts per 10,000 props per year	3.1	1.5	0.9	£0.30	£0.11
Temporary use bans (May to Sep)	Chance per year	1 in 10	1 in 15	1 in 20	£0.00*	£0.00*
Single source of supply	% households with one supply source	67	46	30	£0.00*	£0.00*

WTP for 'SQ to +1' by Age (£/hh/yr)



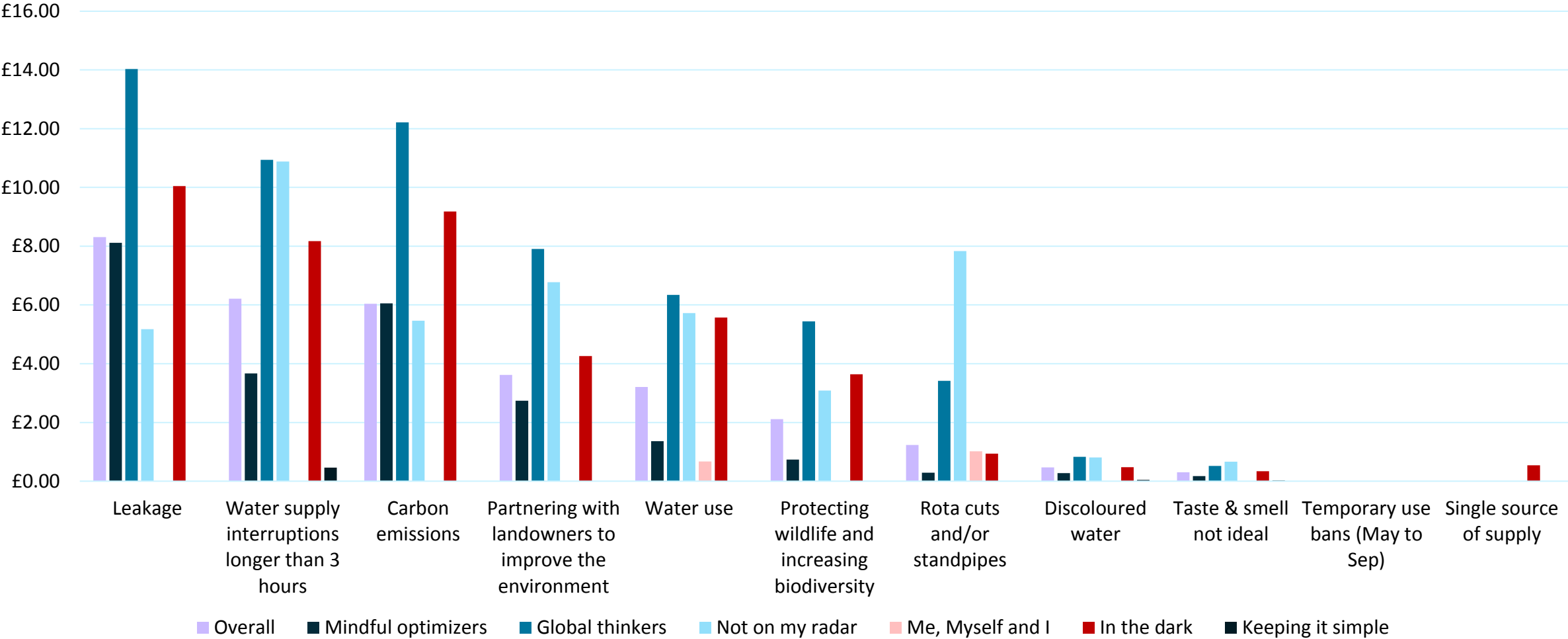
- Younger people had higher WTP for Leakage reduction, Supply interruptions, Partnerships with landowners and Protecting wildlife
- Older people also had higher WTP for supply interruptions, plus Water use, Rota cuts and Temporary use bans
- Process of triangulation can consider demographic breakdown and test the sensitivity of the plan to alternative values

SQ to +1 WTP by Gender (£/hh/yr)

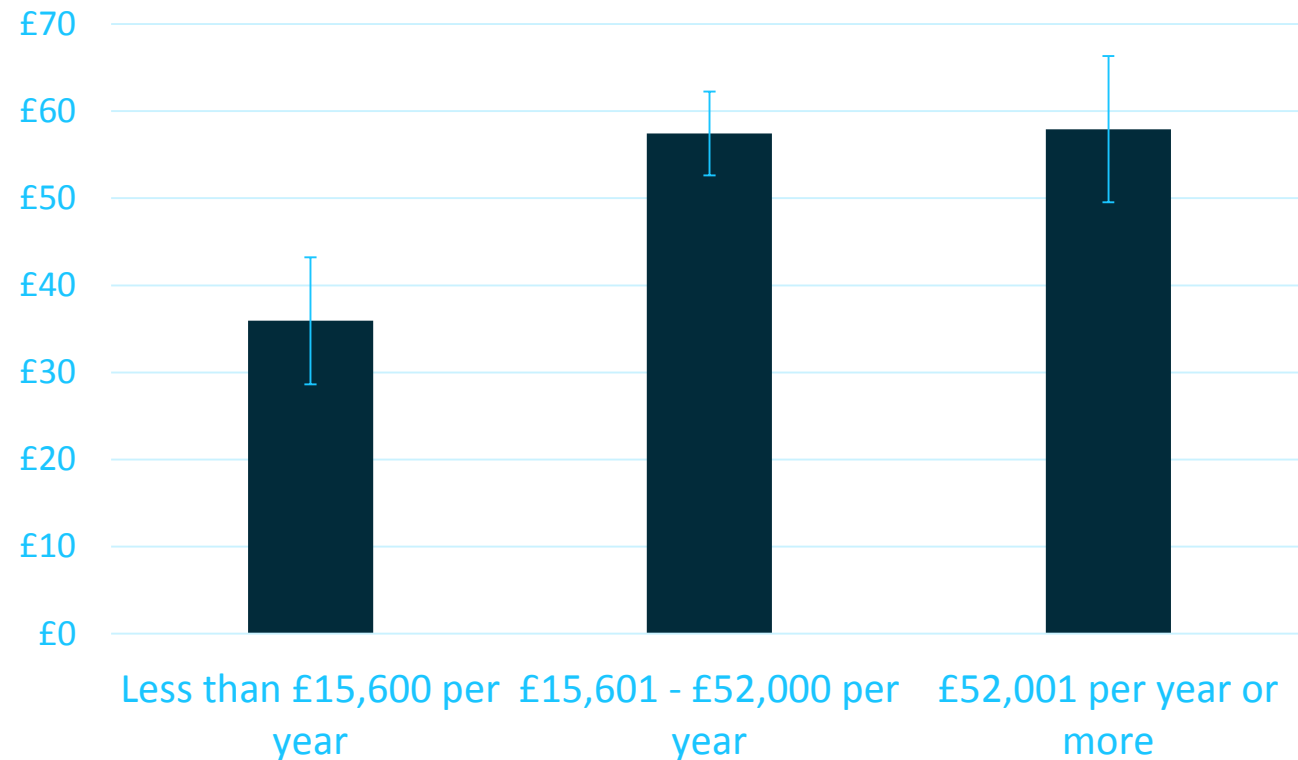


- Generally, men and women had similar WTP.
- However, women had higher WTP for Carbon emissions, and Water use reductions

SQ to +1 WTP by Segment (£/hh/yr)



Package WTP (SQ to +2) by Income group (£/hh/yr)



- Low income households were found to have lower WTP, on average.
- No real difference in WTP between middle and high income households.

WTP comparisons to PR14 and WRMP research

Service measure	Unit	SEW PR19 WTP Research (WTP £/unit)	SEW PR14 WTP Research (WTP £/unit)	SEW PR19 WRMP Research (WTP £/unit)	PR14 industry range (WTP (£/unit))
Discoloured water	Property affected		£126	-	£109 - £15,061
	Complaint	£1,239			
Water supply interruptions longer than 3 hours	Property affected	£1,275	£749 - £5,993	-	£50 - £13,662
Leakage	1 MI/day	£682,011	-	£18.11/hh/year, but for unspecified level of improvement	£35,614 - £247,500
Water use	Litre/person/day	£526,112	-	£11.23/hh/year, but for unspecified level of improvement	-
Rota cuts and/or standpipes	Property affected	£228	-	£85	-
Temporary use bans (Mar-Sep)	Property affected	£0	£108	£42	£0 - £123

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.
- Discolouration value has increased, but is now measured differently. Still well within PR14 industry range
- Interruptions value is consistent with PR14 values
- Leakage seems high, but is consistent with high values estimated in WRMP research
- Water use not previously measured at PR14
- Rota cuts/standpipes somewhat higher, and Temporary use bans somewhat lower than WRMP research.



Conclusions

Conclusions

- WTP research is important for PR19: for setting PC levels and ODI rates.
- This study has employed a multi-stage methodology to develop and test a stated preference survey instrument to engage participants and obtain meaningful trade-off responses
- The results suggest that household customers have particularly high values for leakage reduction, avoiding supply interruptions and reducing carbon emissions, but no value for reducing frequency of temporary use bans or reducing the proportion of households served by a single supply source.
- Other evidence will be used to ‘triangulate’ the WTP findings, but this WTP research study is key, particularly where other WTP evidence is scarce or non-existence.
- A draft report has been delivered to SEW and the final report will follow.