



Accent



PJM economics

# Outcome Delivery Incentive Research:

2<sup>nd</sup> Pilot Report

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# Executive Summary

## Introduction

Accent and PJM economics were commissioned jointly by Ofwat and CCW to develop and test a methodology for obtaining the customer evidence needed to support outcome delivery incentive (ODI) rate setting for common performance commitments (PC) at PR24.

The first stage of the study comprised a review of methodology options to deliver research to inform ODIs, and the development of a preferred option/s for PR24 ODI research. This stage culminated in the ‘Stage 1’ report delivered to Ofwat and CCW, and shared with water companies, in January 2022. The methodology was supported by peer review by two leading academics, Prof. Ken Willis (Newcastle University) and Prof. Giles Atkinson (LSE), and the study proceeded to Stage 2 to further develop and test the methodology with customers.

The first stage of testing involved a series of cognitive depth interviews with customers to test the language used and the overall survey performance. Following this stage, which was reported on separately, a number of changes were made to the survey materials, although none that substantially impacted the core structure of the design.

The present report covers a second pilot stage of the study. *This phase has allowed for tests of design performance not available in small cognitive interview samples and is a necessary part of the development of the research instrument.*

The report describes the survey design and methodology and presents key findings from analysis of the 2<sup>nd</sup> pilot data. The questionnaires used in the 2<sup>nd</sup> pilot survey are contained in Appendix A.

## Methodology

*The survey design was based around two linked stated preference exercises:*

- **Impact exercise**

*A pairwise choice exercise, measuring the relative impact of 25 service issue scenarios*

- **Compensation exercise**

*A contingent valuation exercise asking participants to choose between experiencing a service issue and being compensated for it, or not experiencing the issue and not receiving any compensation. Two service issues were included in this exercise: a short, unexpected supply interruption, and an external sewer flooding incident. These are referred to as ‘pivots’ because the valuations for all other service issues are obtained by pivoting off the values obtained for these two issues using the relative impacts derived from the impact exercise.*

*An experimental design was created for each exercise, which involved showing different sequences of choice questions to different participants.*

A total of 452 household customers and 151 non-household customers completed the 2<sup>nd</sup> pilot survey.

The household survey method for the 2nd pilot was an online panel survey. This method was adopted as it allowed for a quick turn around and was cost effective. A target of 400 online interviews was set: 200 for version 1 of the questionnaire and 200 for version 2 of the questionnaire.

Two methods were used for the non-household sample: 140 business-to-business online panel (split 100 version 1 and 40 version 2) and 10 CATI using version 2.

No weighting was applied to the online sample for the purposes of the pilot analysis, and so any observed differences could include differences in sample demographics.

## Findings

### Stated preference design

*The results of the pilot tests provided mixed evidence with respect to the stated preference design approach.*

*In support of the approach:*

- *Participant feedback was good for both the impact and the compensation exercise.*
- *There were very few instances of non-trading behaviour in the scenario impact exercise (where participants always chose the same alternative throughout the exercise).*
- *The econometric models were well estimated, especially considering the small sample size for non-households.*
- *The impact rankings derived from the econometric models were highly consistent with prior expectations.*
- *Also as expected, participants were more likely to take the compensation offered when it was high than when it was low.*

*However, set against these positive findings, two key issues were identified:*

- *At the highest compensation levels shown there were still substantial proportions of participants choosing not to take the compensation offered. Because of this, mean valuation estimates from the pilot survey are unlikely to be accurate, and median valuations are imprecisely estimated.*

*This should be addressable by increasing the compensation levels used in the survey, and/or by choosing lower-impact service issues.*

- *Estimates of the relative value of the two ‘pivot’ scenarios included in the compensation exercise were significantly different when obtained from the compensation exercise than when obtained from the impact exercise. This indicates that participants were not choosing consistently across the two exercises in line with the assumed underlying preference function.*

*There are a number of changes that can be made to the survey to address the issues, including:*

- *Change the service issues to replace external sewer flooding with an issue that has a more precise description of its impact, such as a boil water notice. This should avoid the potential problem that compensation amount is interpreted as an indicator of the severity of the issue, rather than being evaluated on its own merits.*
- *Revise the compensation exercise to encourage participants not to see the amounts shown as indicating the severity of the issue – an issue identified in the parallel cognitive interviews, which are reported on separately.*
- *Revise the structure of the survey to include a single choice exercise combining the impact and compensation exercises. This would eliminate the possibility of any inconsistency in relative values between the two exercises altogether as there would only be one exercise. (This option was suggested by Ofwat’s peer reviewer Prof. Stephane Hess, Leeds University)*

*In light of the findings from the pilot survey, and the fact that the changes recommended are more substantial than are ideally compatible with proceeding straight to the main stage, it would be sensible to undertake a 2nd pilot survey. The content of this 2nd pilot survey should be agreed as soon as possible to minimise the delay to the overall programme caused by this additional necessary testing phase.*

# 1 Introduction

## 1.1 Background and objectives

Accent and PJM economics were commissioned jointly by Ofwat and CCW to develop and test a methodology for obtaining the customer evidence needed to support outcome delivery incentive (ODI) rate setting for common performance commitments (PC) at PR24.

The first stage of the study comprised a review of methodology options to deliver research to inform ODIs, and the development of a preferred option. This stage culminated in the ‘Stage 1’ report delivered to Ofwat and CCW, and shared with water companies, in January 2022. The methodology was supported by peer review by two leading academics, Prof. Ken Willis (Newcastle University) and Prof. Giles Atkinson (LSE), and the study proceeded to Stage 2 to further develop and test the methodology with customers.

The first phase of testing involved a series of cognitive depth interviews with customers to test the language used and the overall survey performance. Following this phase, which was reported on separately, a number of changes were made to the survey materials, although none that substantially impacted the core structure of the design.

Subsequently, and following further industry consultation on the survey materials, a quantitative pilot survey and a further round of cognitive interviews were completed. These were again reported on separately.

The results of the pilot tests provided mixed evidence with respect to the stated preference design approach. Whilst there were many supportive findings, two key issues were identified – discussed later in this report – which motivated the commissioning of a second pilot and a third round of cognitive interviews to test two revised versions of the survey.

The present report covers the second pilot survey. It describes the survey design and explains how and why this has been revised following the 1st pilot, and presents findings from analysis of the pilot data, and recommendations to take the study forward.

## 1.2 Contents

This report describes the research design and presents key findings from analysis of the pilot data. It is structured as follows: Section 2 describes the design of the stated preference exercises and provides details of the pilot survey methodology. Section 3 presents descriptive statistics on survey response, scoping, and demographics. Section 4 presents the results and findings of the scenario impact pairwise choice exercise, and Section 5 presents the results and findings of the service issue contingent valuation exercise. Section 6 presents the results and findings of the Combined Impact-Compensation Exercise. Finally, Section 7 presents conclusions and recommendations on how to take the research forward.

In addition, the report contains a number of appendices: Appendix A contains the pilot questionnaires; Appendix B contains the full set of service issue show material included in the design of the impact exercise; Appendix C contains the full set of verbatim responses to the open-ended questions following the stated preference exercises.

# 2 Methodology

## 2.1 Introduction

This section sets out the methodology used for the 2nd pilot. It includes a description of the stated preference design, and details of the household and non-household pilot survey administration.

## 2.2 Stated preference design

### Overview

In line with recommendations contained in the report on the 1<sup>st</sup> pilot survey, in the 2<sup>nd</sup> pilot two versions of the questionnaire were tested, participants being randomly allocated to one of the two versions.

**Version 1 of the questionnaire** included two stated preference (SP) exercises:

- **SP1 Impact exercise**

A pairwise choice exercise, measuring the relative impact of 26 service issue scenarios

- **SP2 Compensation exercise**

A contingent valuation exercise asking participants to choose between experiencing a service issue and being compensated for it, or not experiencing the issue and not receiving any compensation. Two service issues were included in this exercise: a short, planned supply interruption, and a boil water notice. These are referred to as 'pivots' because the valuations for all other service issues are obtained by pivoting off the values obtained for these two issues using the relative impacts derived from the impact exercise.

**Version 2 of the questionnaire** included a single choice exercise combining the impact and compensation exercises, as suggested by Ofwat's peer reviewer Prof. Stephane Hess, Leeds University:

- **SP3 Combined impact-compensation exercise**

A pairwise choice exercise, directly measuring the compensation required for each of 26 service issue scenarios.

The remainder of this subsection describes each exercise in turn.

### SP1 Impact exercise

Version 1 of the survey questionnaire was designed to include a pairwise choice exercise focusing on the impact on customers of 26 different scenarios which cover service issues

and environmental damages. The scenarios are shown in Table 1 below, while Appendix B contains the full descriptions shown.

**Table 1: SP1 service issue scenarios**

<b>Scenario</b>	
<b>1</b>	Unexpected water supply interruption (6 hours)
<b>2</b>	Unexpected water supply interruption (24 hours)
<b>3</b>	Planned water supply interruption (6 hours)
<b>4</b>	Unexpected low water pressure (6 hours)
<b>5</b>	Boil water notice (48 hours)
<b>6</b>	Do not drink notice (48 hours)
<b>7</b>	Discoloured water (6 hours)
<b>8</b>	Discoloured water (24 hours)
<b>9</b>	Water taste and smell (6 hours)
<b>10</b>	Water taste and smell (24 hours)
<b>11</b>	Sewer flooding: inside your property (1 month)
<b>12</b>	Sewer flooding: outside your property (1 week)
<b>13</b>	Hosepipe ban (5 months)
<b>14</b>	Emergency drought restrictions (2 months)
<b>15</b>	Low flows in rivers nearby (2 months)
<b>16</b>	Low flows in rivers elsewhere (2 months)
<b>17</b>	Storm overflow nearby (4 hours)
<b>18</b>	Minor pollution incident nearby (1 day)
<b>19</b>	Significant pollution incident nearby (4 weeks)
<b>20</b>	Storm overflow elsewhere (4 hours)
<b>21</b>	Minor pollution incident elsewhere (1 day)
<b>22</b>	Significant pollution incident elsewhere (4 weeks)
<b>23</b>	River water nearby is not High quality
<b>24</b>	River water elsewhere is not High quality
<b>25</b>	Coastal bathing water is not Excellent quality
<b>26</b>	Coastal bathing water is neither Excellent nor Good quality

The following changes were made relative to the set of scenarios tested in the 1<sup>st</sup> pilot:

- ‘Planned water supply interruption (24 hours)’ was not included in the 2<sup>nd</sup> pilot.
- ‘Discoloured water (6 hours)’ was added in the 2<sup>nd</sup> pilot.
- ‘Water taste and smell (24h)’ was added in the 2<sup>nd</sup> pilot.
- The duration of the internal sewer flooding incident was changed from ‘1 week’ to ‘1 month’

These changes were made following consultation with water companies.

The scenarios were combined in an experimental design which was created to obtain the sequences of choices that participants faced in the survey. In each question, participants were shown two scenarios, and they were asked to indicate which one would have the most impact on their household/organisation.

- Figure 1 shows the introductory screen
- Figure 2 shows an example of a choice card from the survey, which illustrates the nature of the questions asked.

Participants each saw ten questions such as the one shown in Figure 2.

**Figure 1: SP1 introductory screen**

**Impact of service issues**

You are now going to be shown a series of ten short questions where you will be asked to choose between two different scenarios for your water or wastewater service.

Please consider, and then compare the scenarios carefully, and then **choose the one which would have the most impact** on your household if it were to happen.

Some of the scenarios would affect your own property whereas others would affect your local area. When comparing the impact that each would have, please:

- **do** consider any concerns you may have for the local area or natural environment,
- **don't** consider any impacts on other people outside your household - other people will answer for themselves!

On some of the options you will see an ⓘ . Please click on this to see some more information about the option.

**Figure 2: SP1 example choice card**

You're on choice 4 of 10  
Which of these would have the most impact on your household?

Option A	Option B
<p><b>Significant pollution incident ELSEWHERE (4 weeks)</b></p> <ul style="list-style-type: none"> <li>▶ Untreated sewage spills into a stretch of river somewhere in your region, but not nearby</li> <li>▶ This is due to sewerage equipment failure</li> <li>▶ The damage to the river would be significant, including possible harm to wildlife and health risks to river users, plus visible sewage litter</li> <li>▶ The spill begins on a Wednesday and lasts for 2 days. The river is then back to normal after 4 weeks</li> </ul> <div style="display: flex; align-items: center; justify-content: space-between;">  <span style="margin-right: 20px;"><b>Elsewhere, 4 weeks</b></span>  </div>	<p><b>Sewer flooding: INSIDE your property (1 month)</b></p> <ul style="list-style-type: none"> <li>▶ Flooding from the sewer gets inside your property, affecting your living areas</li> <li>▶ This results from prolonged heavy rainfall in your local area</li> <li>▶ It gives off a foul smell, and damages floors, walls and furniture</li> <li>▶ It takes 1 month for your property to get back to normal</li> </ul> <div style="display: flex; align-items: center; justify-content: space-between;">  <span style="margin-right: 20px;"><b>1 month</b></span>  </div>
21	10
<input type="radio"/>	<input type="radio"/>

Hover buttons, represented by ⓘ , were included on some options. Clicking on these showed more information on the scenario. The full set of showcards and hover button texts is included in Appendix B.

A ‘D-efficient’ design approach was used to create the choice situations faced by each participant from the set of all possible combinations of scenarios. This approach attempts to maximise the precision of the preference parameter estimates, given some prior estimates of the true parameters. For the 2<sup>nd</sup> pilot, priors were based on analysis of data from the 1<sup>st</sup> pilot, with the intention being to revise the priors for the main stage based on analysis of the 2<sup>nd</sup> pilot data as reported herein.

The design comprised 30 blocks of 10 questions each (each participant being randomly allocated to one of the blocks) and was restricted to exclude dominant/dominated pairs of options, such as an unexpected and a planned water supply interruption of the same duration, to ensure that each choice required some meaningful trade-off. The design restrictions are shown in Table 2.

**Table 2: SP1 design restrictions : Excluded pairs**

More impactful	Less impactful
1 Unexpected water supply interruption (6 hours)	Planned water supply interruption (6 hours)
2 Unexpected water supply interruption (24 hours)	Planned water supply interruption (6 hours)
3 Unexpected water supply interruption (24 hours)	Unexpected water supply interruption (6 hours)
4 Emergency drought restrictions (2 months)	Hosepipe ban (5 months)
5 Low flows in rivers nearby (2 months)	Low flows in rivers elsewhere (2 months)
6 Storm overflow nearby (4 hours)	Storm overflow elsewhere (4 hours)
7 Minor pollution incident nearby (1 day)	Minor pollution incident elsewhere (1 day)
8 Significant pollution incident nearby (4 weeks)	Significant pollution incident elsewhere (4 weeks)
9 River water nearby is not High quality	River water elsewhere is not High quality
10 Minor pollution incident nearby (1 day)	Storm overflow nearby (4 hours)
11 Significant pollution incident nearby (4 weeks)	Storm overflow nearby (4 hours)
12 Significant pollution incident nearby (4 weeks)	Minor pollution incident nearby (1 day)
13 Minor pollution incident nearby (1 day)	Storm overflow elsewhere (4 hours)
14 Significant pollution incident nearby (4 weeks)	Storm overflow elsewhere (4 hours)
15 Significant pollution incident nearby (4 weeks)	Minor pollution incident elsewhere (1 day)
16 Minor pollution incident elsewhere (1 day)	Storm overflow elsewhere (4 hours)
17 Significant pollution incident elsewhere (4 weeks)	Storm overflow elsewhere (4 hours)
18 Significant pollution incident elsewhere (4 weeks)	Minor pollution incident elsewhere (1 day)
19 Coastal bathing water is neither Excellent nor Good quality	Coastal bathing water is not Excellent quality
20 Discoloured water (24 hours)	Discoloured water (6 hours)
21 Water taste and smell (24 hours)	Water taste and smell (6 hours)

Note: The impact exercise was designed to exclude any choice sets that included the pairs of scenarios shown in the table.

## SP2 Compensation exercise

The compensation exercise, included in Version 1 of the questionnaire, was designed to value two service issue scenarios:

- A planned water supply interruption lasting 6 hours, and
- A 48-hour boil water notice incident.

Each service issue was valued by asking participants to choose between experiencing the service issue and being compensated for it, or not experiencing the issue and not receiving any compensation<sup>1</sup>. The order in which the two service issues appeared in the

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<sup>1</sup> Unlike in the 1<sup>st</sup> pilot, the compensation was referred to as a ‘one-off payment’ to reduce the chance that participants might see the amounts shown as indicating the severity of the issue.

questionnaire was determined randomly for each participant to address any concerns around order effects<sup>2</sup>.

Amounts for an initial question in each case were varied across the sample, and this compensation amount was either halved or doubled in a follow-up question, depending on the response to the first question. This is the so-called ‘double-bounded contingent valuation’ method.

Figure 3 shows the introductory screen and Figure 4 shows an example of a choice card from the survey.

**Figure 3: SP2 introductory screen**

### One-off payments for service issues

The following questions will each present you with a choice between:

- a) experiencing a service issue and receiving a one-off payment from your water company,
- or
- b) not experiencing the issue and not receiving any payment.

In each question, the type of service issue and the one-off payment amount will vary. The amounts will not necessarily reflect current compensation entitlements and may exceed these levels - substantially in some cases.

The purpose of these questions is to see if the amounts shown are enough to make up for the impact on your household from the service issue shown. It is important to consider each amount at face value, even if it seems higher than you would imagine might be offered.

The compensation levels for the first question of each exercise were randomly chosen from the sets shown in Table 3. The compensation amounts were shown in pounds for households and as a percentage of the annual water and wastewater services bill for non-households.

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<sup>2</sup> 101 household (49 non-household) participants were shown ‘Boil water notice’ first, followed by ‘Planned supply interruption’, while the reverse was true for 101 household (53 non-household) participants.

**Figure 4: SP2 example choice card**

Which option would you prefer?

Option A	Option B
<b>PLANNED water supply interruption (6 hours)</b> <ul style="list-style-type: none"> <li>▶ Your water company sends you a notice in the post that in 2 days' time your water supply will stop for 6 hours, affecting all taps, toilets, dishwasher, etc</li> <li>▶ This is due to planned maintenance in your local area</li> <li>▶ As planned, it then stops between 12:00 and 18:00 on a Wednesday afternoon</li> </ul>   <p>One-off payment amount *: £50</p>	<b>NO PLANNED water supply interruption</b>
<input type="radio"/>	<input type="radio"/>

\* one-off payments would be paid automatically, and within 7 days, by crediting your bank account, if you have a direct debit set up, or by sending you a cheque otherwise

**Table 3: SP2 compensation levels for the first valuation question**

Household		Non-household		
	Planned water supply interruption (6 hours)	Boil water notice (48 hours)	Planned water supply interruption (6 hours)	Boil water notice (48 hours)
1	£20	£40	40% of your annual water and wastewater services bill	80% of your annual water and wastewater services bill
2	£50	£100	100% of your annual water and wastewater services bill	2 times the amount of your annual water and wastewater services bill
3	£150	£300	3 times the amount of your annual water and wastewater services bill	6 times the amount of your annual water and wastewater services bill

## SP3 Combined impact-compensation exercise

The combined impact-compensation exercise, which was included in Version 2 of the questionnaire, was designed to directly value each of the 26 service issue scenarios covered in the SP1 impact exercise (see Table 1). Participants were asked to choose between two scenarios, each of which involved some service issue/environmental damage or 'No service issue'. Most scenarios involved the water company making a one-off compensation payment to the participant's household/organisation, but some did not.

Figure 5 shows the introductory screen and Figure 6 shows two examples of choice cards from the survey.

**Figure 5: SP3 introductory screens****(a) Screen 1****Service Scenario Choices**

You are now going to be shown a series of ten short questions where you will be asked to choose between two different scenarios for your water or wastewater service. Please read the following instructions carefully.

Each scenario will show a different type of service issue that could happen to your household.

Some of the scenarios would affect your own property whereas others would affect your local area. When comparing the impact that each would have, please:

- do consider any concerns you may have for the local area or natural environment,
- don't consider any impacts on other people outside your household - other people will answer for themselves!

On some of the options you will see an ⓘ . Please click on this to see some more information about the option.

**(b) Screen 2**

Additionally, some of these scenarios will involve your water and/or wastewater provider making a one-off payment to your household.

The amounts will not necessarily reflect current compensation entitlements and may exceed these levels - substantially in some cases.

The purpose of these questions is to see if the amounts shown are enough to make up for the impact on your household from the service issue shown. It is important that you consider each amount at face value, even if it seems higher than you would imagine might be offered.

For each question, please state which option you prefer. If neither of the options is appealing, please still choose the better of the two.

Hover buttons, represented by ⓘ, were included on some options. Clicking on these showed more information on the scenario. The full set of showcards and hover button texts is included in Appendix B.

A ‘D-efficient’ design approach was used to create the choice situations faced by each participant from the set of all possible combinations of scenarios and compensation levels. This approach attempts to maximise the precision of the preference parameter estimates, given some prior estimates of the true parameters. The priors were based on analysis of data from the 1<sup>st</sup> pilot impact exercise.

The design comprised 30 blocks of 10 questions each (each participant being randomly allocated to one of the blocks) and was restricted to exclude dominant-dominated pairs of options, where a higher compensation is paid for a less impactful service issue, to ensure that each choice required some meaningful trade-off. The design restrictions are based on the pairs of service issues shown Table 2. The design also excludes any choice situations in which a higher compensation is paid for an external sewer flooding incident than for an internal sewer flooding incident.

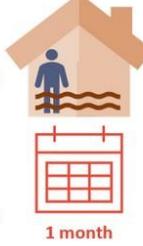
The compensation levels used for SP3 are shown in Table 4, and the range restrictions in Table 5 were imposed to ensure that the options were credible, and that the choice required some meaningful trade-off<sup>3</sup>.

<sup>3</sup> No compensation (i.e., zero compensation) was given for environmental issues (low river flows, storm overflows, pollution incidents, river water quality, coastal bathing water quality).

**Figure 6: SP3 example choice cards****(a) Example 1**

You're on choice 8 of 10

Which option would you prefer? If neither is appealing, please still choose the better of the two

Option A	Option B
<p><b>Boil water notice (48 hours)</b></p> <ul style="list-style-type: none"> <li>▶ Your water company sends you a notice saying you need to boil tap water before drinking, cooking or preparing food to avoid the risk of becoming ill</li> <li>▶ This is due to traces of e-coli being found in the water supply in your area</li> <li>▶ You can still safely use tap water for washing and cleaning</li> <li>▶ Bottled water would be delivered to vulnerable customers that need it</li> <li>▶ You can still safely use tap water for washing and cleaning. The notice arrives on a Wednesday. After two days the water will be safe to drink again and your water company will notify you</li> </ul> <p>One-off payment amount *: £20</p> 	<p><b>Sewer flooding: INSIDE your property (1 month)</b></p> <ul style="list-style-type: none"> <li>▶ Flooding from the sewer gets inside your property, affecting your living areas</li> <li>▶ This results from prolonged heavy rainfall in your local area</li> <li>▶ It gives off a foul smell, and damages floors, walls and furniture</li> <li>▶ It takes 1 month for your property to get back to normal</li> </ul> <p>One-off payment amount *: £10000</p> 



\* one-off payments would be paid automatically, and within 7 days, by crediting your bank account, if you have a direct debit set up, or by sending you a cheque otherwise

**(b) Example 2**

You're on choice 7 of 10

Which option would you prefer? If neither is appealing, please still choose the better of the two

Option A	Option B
<p><b>UNEXPECTED low water pressure (6 hours)</b></p> <ul style="list-style-type: none"> <li>▶ Your tap water supply starts running with a low pressure, without warning</li> <li>▶ This is due to a burst pipe in your local area</li> <li>▶ It takes longer to fill a kettle, sink or bath and a shower would be weak. Some appliances like dishwashers and washing machines may not work properly</li> <li>▶ This happens for 6 hours, between 12:00 and 18:00 on a Wednesday afternoon</li> </ul> <p>One-off payment amount *: £20</p> 	<p><b>PLANNED water supply interruption (6 hours)</b></p> <ul style="list-style-type: none"> <li>▶ Your water company sends you a notice in the post that in 2 days' time your water supply will stop for 6 hours, affecting all taps, toilets, dishwasher, etc</li> <li>▶ This is due to planned maintenance in your local area</li> <li>▶ As planned, it then stops between 12:00 and 18:00 on a Wednesday afternoon</li> </ul> <p>One-off payment amount *: £0</p> 



\* one-off payments would be paid automatically, and within 7 days, by crediting your bank account, if you have a direct debit set up, or by sending you a cheque otherwise

**Table 4: SP3 compensation levels**

<b>Household</b>	<b>Non-household</b>
1	£0 None
2	£10 5% of your annual water and wastewater services bill
3	£20 10% of your annual water and wastewater services bill
4	£40 20% of your annual water and wastewater services bill
5	£60 40% of your annual water and wastewater services bill
6	£100 50% of your annual water and wastewater services bill
7	£150 100% of your annual water and wastewater services bill
8	£300 1.5 times the amount of your annual water and wastewater services bill
9	£500 2.5 times the amount of your annual water and wastewater services bill
10	£1,000 5 times the amount of your annual water and wastewater services bill
11	£2,500 12.5 times the amount of your annual water and wastewater services bill
12	£5,000 25 times the amount of your annual water and wastewater services bill
13	£10,000 50 times the amount of your annual water and wastewater services bill
14	£20,000 100 times the amount of your annual water and wastewater services bill
15	£30,000 150 times the amount of your annual water and wastewater services bill
16	£40,000 200 times the amount of your annual water and wastewater services bill

**Table 5: SP3 design restrictions on compensation levels**

<b>Service issue</b>	<b>Household</b>		<b>Non-household</b>	
	<b>Min</b>	<b>Max</b>	<b>Min</b>	<b>Max</b>
<b>No service issue</b>	0	0	0	0
<b>Unexpected water supply interruption (6 hours)</b>	0	£60	0	0.4
<b>Unexpected water supply interruption (24 hours)</b>	0	£100	0	0.5
<b>Planned water supply interruption (6 hours)</b>	0	£40	0	0.2
<b>Unexpected low water pressure (6 hours)</b>	0	£40	0	0.2
<b>Boil water notice (48 hours)</b>	0	£60	0	0.4
<b>Do not drink notice (48 hours)</b>	0	£60	0	0.4
<b>Discoloured water (24 hours)</b>	0	£60	0	0.4
<b>Water taste and smell (24 hours)</b>	0	£60	0	0.4
<b>Sewer flooding: inside your property (1 month)</b>	£2,500	£30,000	12.5	150
<b>Sewer flooding: outside your property (1 week)</b>	£500	£5,000	2.5	25
<b>Hosepipe ban (5 months)</b>	0	£60	0	0.4
<b>Emergency drought restrictions (2 months)</b>	£40	£500	0.2	2.5
<b>Discoloured water (6 hours)</b>	0	£40	0	0.2
<b>Water taste and smell (6 hours)</b>	0	£40	0	0.2

Note: For non-households, compensations are shown as bill amount multipliers.

## 2.3 Household survey methodology

The household survey method for the 2nd pilot was an online panel survey. This method was adopted as it allowed for a quick turn around and was cost effective.

We used the Dynata online panel. (NB: this represented a difference from the first panel, for which the Kantar online panel was used.)

A target of 400 online interviews was set: 200 for version 1 of the questionnaire and 200 for version 2 of the questionnaire.

No other quotas were applied.

The panel interviews took place between 24 and 31 May. The average completion time for the panel interviews was 9 minutes.

No weighting was applied to the online sample for the purposes of the pilot analysis, and so any observed differences could include differences in sample demographics.

## 2.4 Non household survey methodology

Two methods were used for the NHH sample:

A business-to-business online panel and CATI.

The allocation of the two survey types was as follows:

**Version 1:**

- 100 B2B panel interviews

**Version 2:**

- 40 B2B panel interviews
- 10 interviews using a CATI approach where participants did not have access to the choice materials (to explore how the more complex second design works in this scenario).

# 3 Descriptive Findings

## 3.1 Introduction

This section sets out descriptive findings from the 2nd pilot.

## 3.2 Survey response

The household panel survey achieved 402 interviews, slightly above the 400 targeted.

The non-household survey achieved 151 interviews, slightly above the 150 targeted.

### Water Company

Participants were asked to provide the first half of their postcode, and this was used to allocate them to water and wastewater companies.

If participants had more than one potential water supplier and/or wastewater supplier, they were shown the possible options and asked to select the correct one.

The final allocation by water company for the household and non-household samples is shown in Table 6.

**Table 6: Water company**

	HH %	NHH %
Affinity Water	5	7
Anglian Water	7	11
Bournemouth Water	*	1
Bristol Water	2	1
Cambridge Water	1	4
Essex & Suffolk Water	3	0
Hafren Dyfrdwy		9
Hartlepool Water	0	3
Northumbrian Water	6	2
Portsmouth Water	1	2
Severn Trent Water	12	4
South East Water	3	5
Southern Water	5	17
South Staffs Water	2	14
South West Water	2	5
Sutton & East Surrey (SES) Water	1	1
Thames Water	15	10
United Utilities	15	6
Welsh Water/Dwr Cymru	6	7
Wessex Water	2	11
Yorkshire Water	8	1
<b>Base</b>	<b>402</b>	<b>151</b>

\* = less than 0.5%

The final allocation of wastewater company for the household and non-household samples is shown in Table 7.

**Table 7: Wastewater company**

	HH %	NHH %
Anglian Water	11	13
Hafren Dyfrdwy	*	0
Northumbrian Water	6	3
Severn Trent Water	14	10
Southern Water	10	7
South West Water	3	4
Thames Water	21	26
United Utilities	16	15
Welsh Water/Dwr Cymru	6	5
Wessex Water	4	1
Yorkshire Water	8	10
<b>Base</b>	<b>402</b>	<b>151</b>

\* = less than 0.5%

## 3.3 Demographics

### Age

The age profile of the household sample is shown in Table 8 compared to the Census 2011. The sample has an older profile than the census.

**Table 8: Age band**

	Census %	HH %
18-29	20	13
30-64	57	71
65 or older	23	16
<b>Base</b>		<b>402</b>

### Gender

The gender profile of the sample is shown in Table 9 compared to the Census 2011. The HH sample is more male oriented than the Census.

**Table 9: Gender**

	Census %	HH %
Male	49	61
Female	51	39
Non binary	-	0
Prefer to self-identify	-	0
<b>Base</b>		<b>402</b>

### Occupation of head of household

The household sample was asked how they would describe the occupation type of the main income earner in their household.

The sample has more in the 'Supervisory or clerical/ junior managerial/ professional/ administrative' category than the Census (19% compared to 6%) and fewer retired (15% compared to 29%) and fewer students (1% compared to 6%).

**Table 10: Occupation of head of household**

	Census %	HH %
Higher managerial/ professional/ administrative	7	10
Intermediate managerial/ professional/ administrative	21	25
Supervisory or clerical/ junior managerial/ professional/ administrative	6	19
Skilled manual worker	10	14
Semi or unskilled manual work	17	10
Unemployed	4	6
Retired	29	15
Student	6	1
<b>Base</b>		<b>402</b>

Those who stated that the head of household was retired was asked whether the main income earner had a state pension, a private pension or both.

**Table 11: Pension type**

	HH %
State only	19
Private only	24
Both	58
<b>Base: retired</b>	<b>59</b>

## Ethnic group

The ethnic group of the sample was compared with the Census. The sample under-represented non White people.

**Table 12: Ethnic group**

	Census %	HH %
English, Welsh, Scottish, Northern Irish or British	80	85
Irish	1	1
Gypsy or Irish Traveller	*	*
Any other White background	4	3
White and Black Caribbean	1	1
White and Black African	*	*
White and Asian	1	2
Any other Mixed background	1	*
Indian	3	2
Pakistani	2	1
Bangladeshi	1	*
Chinese	1	*
Any other Asian background	1	*
Caribbean	2	1
African	1	1
Any other Black background	1	*
Arab	*	
Any other ethnic group	1	*
Prefer not to say	-	*
<b>Base</b>		<b>402</b>

\* = less than 0.5%

## Household size

46% of the panel sample were 1 or 2 person households. See Table 13.

**Table 13: People in household**

	HH %
1-2	46
3 or 4	43
5 or more	11
<b>Base</b>	<b>402</b>

## Vulnerability

The household sample was asked if they or another member of their household were:

- disabled or suffers from a debilitating illness
- has a learning difficulty
- relies on water for medical reasons
- is visually impaired (i.e. struggles to read even with glasses)
- is over the age of 75 years old
- speaks English as a second language
- is deaf or hard of hearing
- is a new parent

For six tenths (62%) none of the factors applied. The main one that did apply was disability or suffering from a debilitating illness (10%).

**Table 14: Vulnerability**

	HH %
I or another member of my household is disabled or suffer(s) from a debilitating illness	10
I or another member of my household am/is over the age of 75 years old	4
I or another member of my household is deaf or hard of hearing	6
I or another member of my household speaks English as a second language	5
I or another member of my household relies on water for medical reasons	6
I or another member of my household have/has a learning difficulty	5
I or another member of my household is a new parent	6
I or another member of my household is visually impaired	4
<b>None of these apply to me</b>	<b>62</b>
Prefer not to say	5
<b>Base</b>	<b>402</b>

## Ability to pay

The extent to which the household sample may have financial difficulties was probed by asking which of the following statements they most agreed with:

- I can always afford to pay my household bills
- I can usually afford to pay my household bills
- I sometimes struggle to pay my household bills
- I usually struggle to pay my household bills
- I always struggle to pay for my household bills

44% said they could always afford to pay their household bills. 6% of the sample said they usually or always struggled to pay their household bills.

**Table 15: Financial vulnerability**

	HH %
I can always afford to pay my household bills	44
I can usually afford to pay my household bills	30
I sometimes struggle to pay my household bills	20
I usually struggle to pay my household bills	3
I always struggle to pay for my household bills	3
<b>Base</b>	<b>402</b>

## Water meter status

58% of the household sample and 77% of the non-household sample had a water meter.

**Table 16: Whether has water meter**

	HH %	NHH %
Yes	58	77
No	35	19
Don't Know	6	4
Prefer not to say	1	
<b>Base</b>	<b>402</b>	<b>151</b>

Those who had a water meter were asked if they asked for it to be fitted: 48% of the household sample and 49% of the non-household sample who had water meters said they did.

## 3.4 Non household sample characteristics

### How organisation uses water

The main use of water was for normal domestic use for their organisation's customers and employees, mentioned by 81%.

**Table 17: Water use types**

	NHH %
Normal domestic use for their organisation's customers and employees	81
The supply of services your organisation provides (e.g. cleaning services etc.)	33
An ingredient or part of the product or service your organisation provides	25
The manufacturing process which is essential to the running of your organisation	21
<b>Base</b>	<b>151</b>

### Number of sites

Seven tenths of the non-household sample operated from one site. 16% operated from four or more sites:

**Table 18: Number of sites**

	NHH %
1	40
2	23
3	15
4+	21
Prefer not to say	1
<b>Base</b>	<b>151</b>

### Number of employees

The number of employees the organisation has in the UK was probed. Eight per cent were sole traders and 16% had less than four employees. 6% were large organisations with 250 or more employees:

**Table 19: Number of employees**

	NHH %
None, sole trader	11
Fewer than 4 employees	5
4 to 49 employees	26
50 to 249 employees	31
250+ employees	26
Prefer not to say	1
<b>Base</b>	<b>151</b>

## Industry classification

The non-household sample was asked what the core activity of their organisation was. The main areas were wholesale and retail trade, manufacturing and hotels & catering:

**Table 20: Industry classification**

	NHH %
Wholesale and retail trade (including motor vehicles repair)	18%
Construction	11%
Manufacturing	10%
Finance and insurance activities	8%
IT and Communication	7%
Professional, scientific and technical activities	7%
Hotels & catering	5%
Administrative and Support Service Activities	5%
Transport and storage	4%
Arts, entertainment and recreation	4%
Energy or water service & supply	3%
Education	3%
Human health and social work activities	3%
Other service activities	3%
Public administration and defence	2%
Agriculture, forestry and fishing	1%
Real estate activities	1%
Other	6%
<b>Base</b>	<b>151</b>

## 3.5 Billing

For households, 97% of the sample were bill payers and the remaining 2% were non bill payers.

**Table 21: Are you the person in your household who is responsible, either solely or jointly, for paying for your water services bill?**

	HH %
I have complete responsibility for payment	76
I share responsibility for payment with others in my household	21
I have no responsibility	2
<b>Base</b>	<b>402</b>

Nine tenths of HH customers received combined bills. See Table 22.

**Table 22: Whether separate water and wastewater bills**

	HH %
Separate bills	9
Combined bills	90
Don't know	1
<b>Base bill payers</b>	<b>392</b>

Household bill payers were asked how often they made payments for water and sewerage services. This was used to show participants the appropriate bands for the following question on water and sewerage bills. The majority (54%) made payments monthly with about a fifth six monthly.

**Table 23: How often do you make payment for water and sewerage services**

	HH %
Annually	9
Every six months	21
Every month, over eight months of the year	12
Every month	53
Other	3
Don't know	3
<b>Base bill payers</b>	<b>392</b>

Household bill amounts, grouped into seven categories, are shown in Table 24.

**Table 24: Household bill amounts**

	HH %
Less than £120 per year	3
£120 - £239.99 per year	27
£240 - £359.99 per year	23
£360 - £479.99 per year	22
£480 - £719.99 per year	13
£720 - £959.99 per year	4
£960 or more per year	3
I'm not sure	4
<b>Base</b>	<b>380</b>

For the non-household sample the bill distribution was as shown in Table 25.

**Table 25: Non-household bill amounts**

Bill amount	NHH %
Less than £1,000 per year	22
£1,000 to £5,000 per year	46
£5,000 to £25,000 per year	28
More than £25,000 per year	3
I'm not sure	1
<b>Base</b>	<b>151</b>

## 3.6 Service issues

Participants were asked if they had ever experienced any water or wastewater service issues. Overall, 70% of the household sample had experienced at least one service issue compared to 82% of the non-household sample.

As shown in Table 26, the main service issues for households were planned water supply interruptions, hosepipe bans, unexpected low pressure and discolouration of water coming out of your tap. For the non-household sample, the main service issues were unexpected low pressure, planned water supply interruptions, hosepipe bans and discolouration of water coming out of your tap.

**Table 26: Whether experienced any of the following service issues**

	HH %	NHH %
Planned water supply interruption	29	35
Unexpected low pressure	23	36
Hosepipe ban	24	28
Discolouration of water coming out of your tap	19	28
Unexpected water supply interruption	17	25
A change to the taste and/or smell of your tap water	13	21
Boil water notice	11	8
Sewer flooding: outside your property	9	12
Pollution in a river	7	14
Emergency drought restrictions (e.g. tap water being cut off on a rota basis to conserve supplies)	6	12
Pollution in the sea near a beach	7	11
Do not drink notice	5	11
Sewer flooding: inside your property	5	11
Other	0	1
I haven't experienced any of these	30	18
<b>Base bill payers</b>	<b>402</b>	<b>151</b>

All participants who had mentioned the following two service issues were then asked if they had experienced them in the last 12 months:

- Discolouration of water coming out of your tap
- A change to the taste and/or smell of your tap water

Table 27 shows the proportion that had experienced each in the last 12 months.

**Table 27: Proportion who had experienced the following service issues in last 12 months**

	HH %	NHH %
Discolouration of water coming out of your tap	11	19
A change to the taste and/or smell of your tap water	9	16
<b>Base bill payers</b>	<b>402</b>	<b>151</b>

## 3.7 Use of rivers and beaches in the UK

The household sample was asked if they or anyone in their household, used rivers in the UK for any of the following activities:

- Water contact activities (e.g. canoeing, rowing, rafting, paddleboarding, swimming, paddling)
- Fishing
- Walking, running, cycling or sitting nearby or other activities on or around the water (e.g. narrowboating, other types of boating)

Walking, running, cycling or sitting nearby or other activities on or around the water was the most frequently cited activity with 69% of the sample doing it sometimes or often. Fishing was done least with 59% saying they never did it. See Table 28.

**Table 28: Use of rivers in the UK**

	Water contact activities %	Fishing %	Walking, running, cycling or sitting nearby or other activities on or around the water %
Often	13	8	39
Sometimes	14	18	30
Rarely	25	15	14
Never	49	59	17
<b>Base</b>	<b>402</b>	<b>402</b>	<b>402</b>

Similarly, the household sample was asked if they or anyone in their household, used the beach or sea in the UK for any of the same activities.

Again, walking, running, cycling or sitting nearby or other activities on or around the water was the most frequently cited activity with 64% of the sample doing it sometimes or often. Again, fishing was done least with 60% saying they never did it. See Table 29.

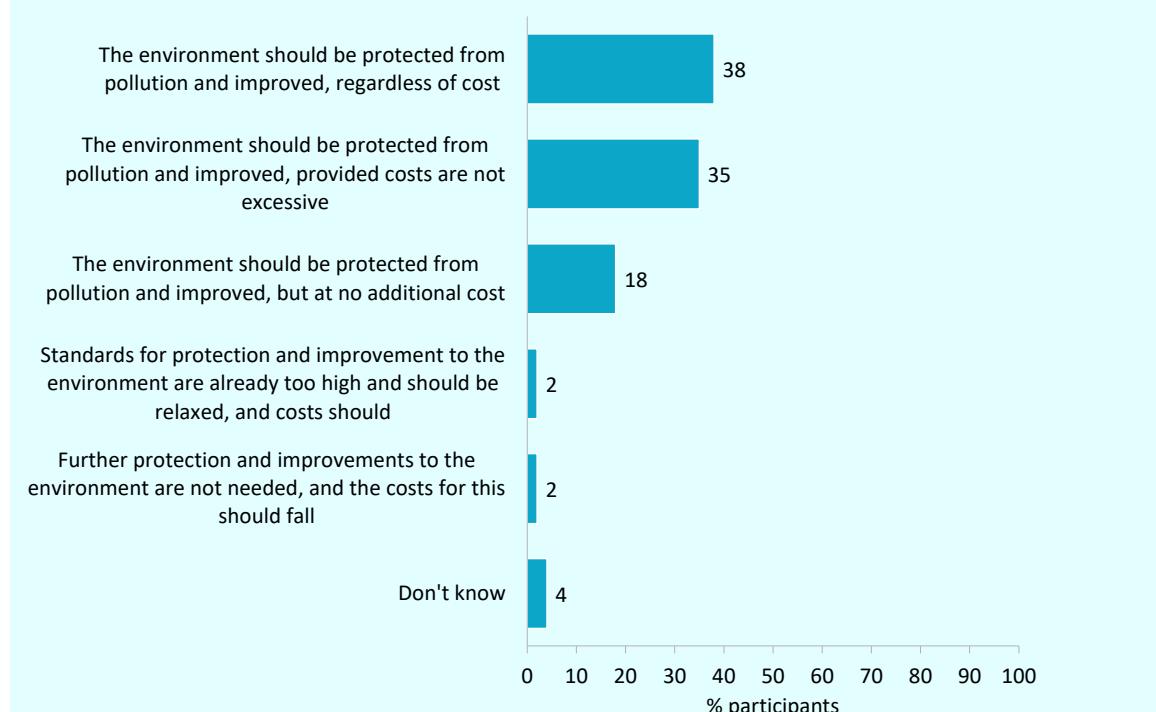
**Table 29: Use of beaches or the sea in the UK**

	Water contact activities %	Fishing %	Walking, running, cycling or sitting nearby or other activities on or around the water %
Often	14	8	31
Sometimes	18	16	33
Rarely	21	15	18
Never	47	60	18
<b>Base</b>	<b>402</b>	<b>402</b>	<b>402</b>

## 3.8 Attitudes to environmental costs

The household sample was asked to state which of a set of five statements about pollution control and the costs of pollution control they agreed with most. Figure 7 shows the findings.

Two statements ‘the environment should be protected from pollution and improved, **regardless of cost**’ and ‘The environment should be protected from pollution and improved, **provided costs are not excessive**’ gained most support with 38% agreeing most with the first and 35% agreeing most with the second.

**Figure 7: Attitudes to environmental costs**

Base: HH 402

# 4 SP1 Impact Exercise Findings

## 4.1 Introduction

This section focuses on findings from the impact exercise. It includes feedback from pilot participants following the exercise, diagnostics concerning the choice data, econometric models, the impact scores generated from those models, and an analysis of the validity of these impact scores by comparing them against prior expectations.

## 4.2 Participant feedback

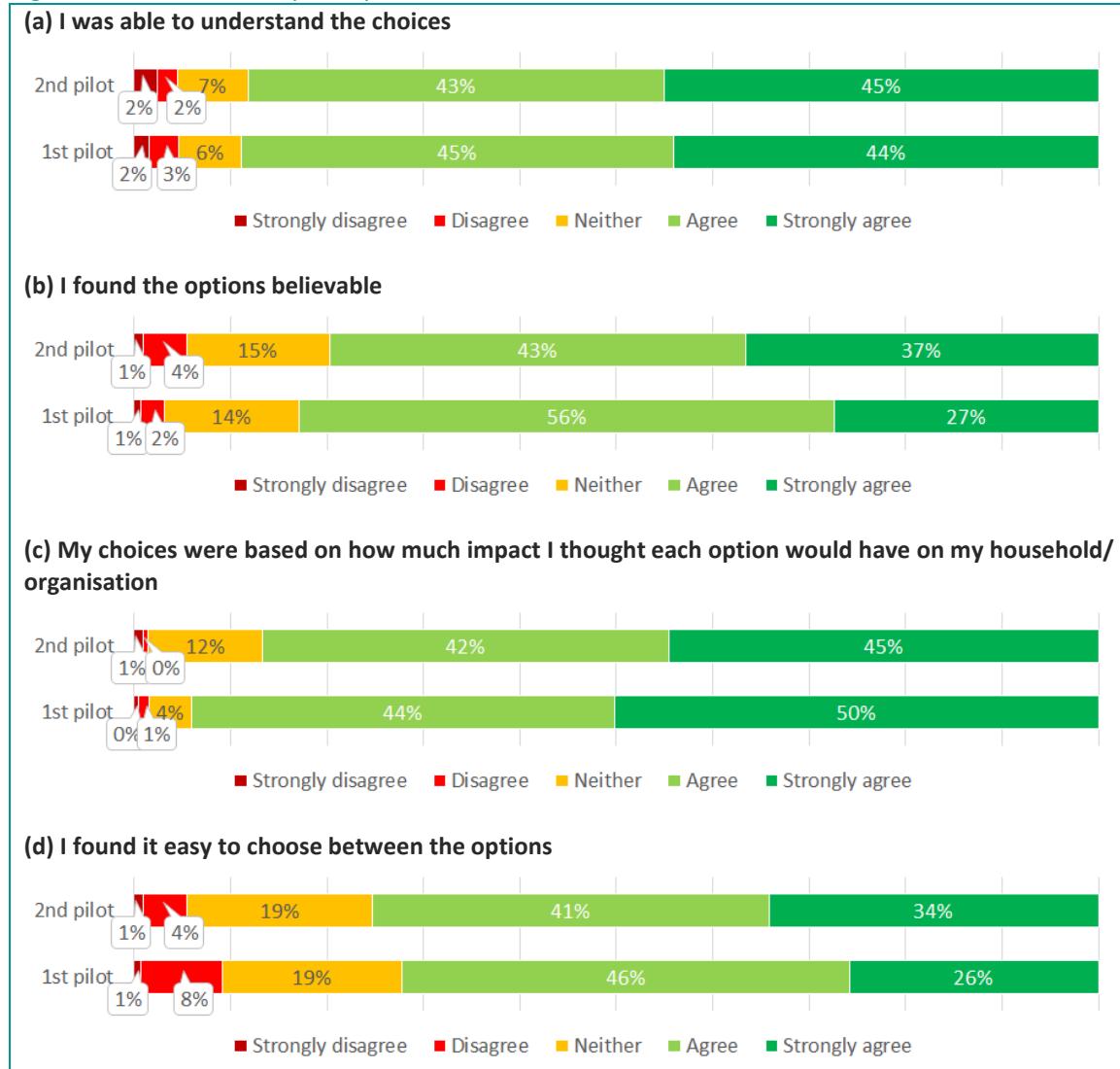
Feedback from participants following the impact exercise was positive. As shown in Figure 8 (household) and Figure 9 (non-household), only small proportions of participants disagreed a) that they were able to understand the choices, b) that they found the options believable, c) that their choices were based on how much impact each option would have on their household/organisation, and d) that they found it easy to choose between the options.

The highest proportion of participants disagreeing was found among non-household participants, 9% of whom disagreed that it was easy to choose between the options. However, a review of the reasons given did not suggest any cause for concern with regard to the validity of the vast majority of responses. (See Appendix C for a complete list of verbatim responses.)

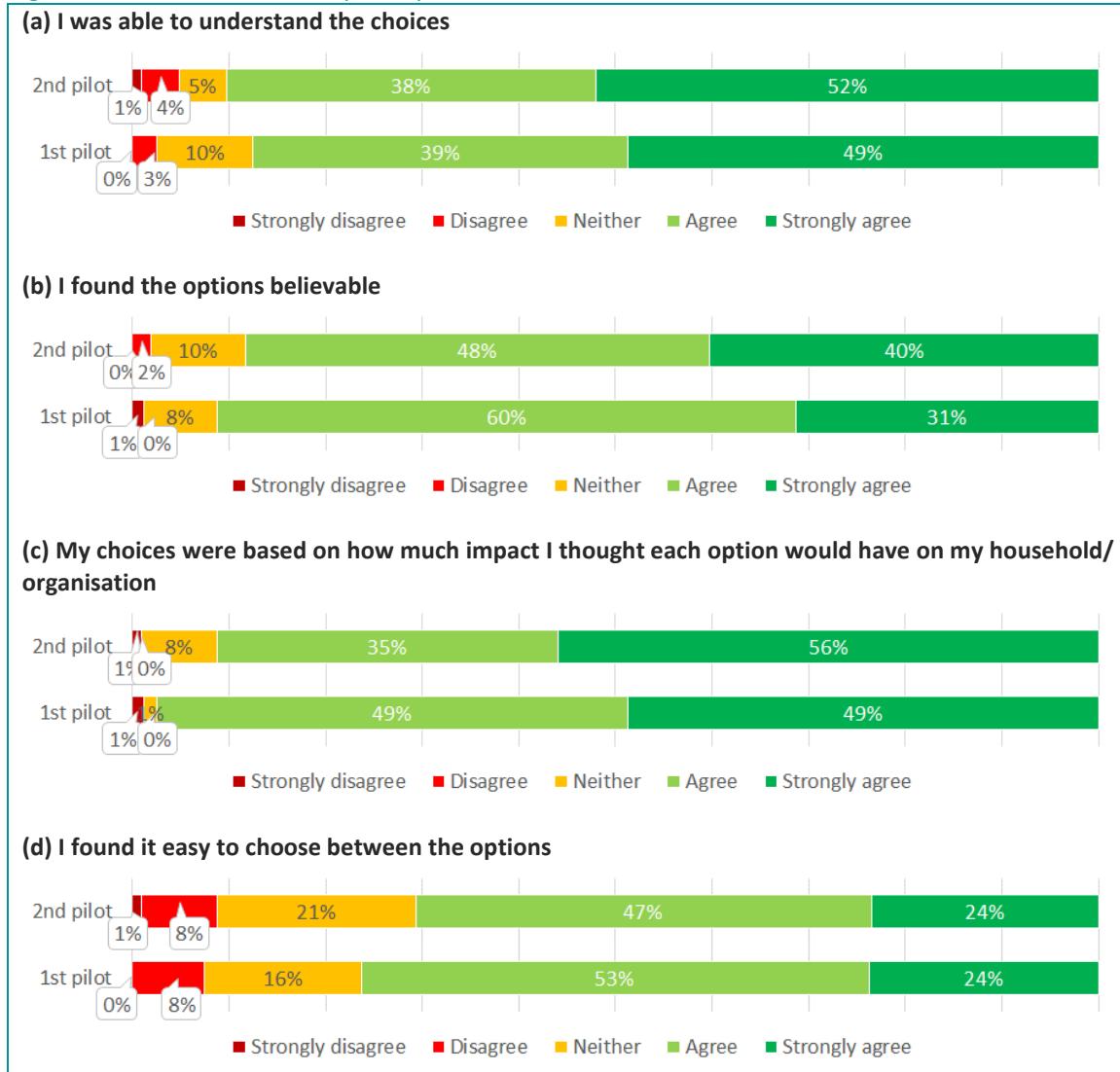
Among the very few who indicated that they were not able to understand the choices, a number gave such reasons as ‘Because they were explained simply, but in great detail’, ‘i wasn’t’, ‘I did understand’, suggesting that, in fact, they did not disagree at all (see Appendix C).

The percentages in the top two ‘Agree’ categories were similar between the two pilot surveys.

Overall, the responses to the follow-up questions do not suggest any issues around the format or design of the exercise that need addressing. The findings provide support for considering the responses to the choice questions to be valid and meaningful in the vast majority of cases.

**Figure 8: SP1 household participant feedback**

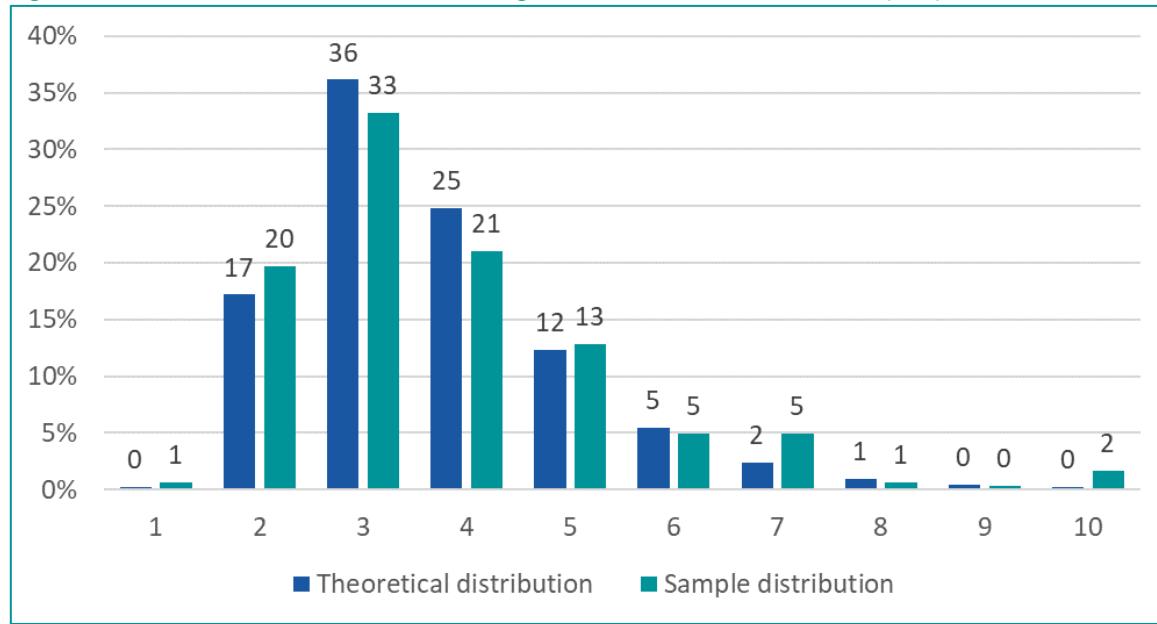
Base: Pilot 2 = 202; Pilot 1 = 450 (Panel sample)

**Figure 9: SP1 non-household participant feedback**

Base: Pilot 2 = 102; Pilot 1 = 80

## 4.3 Diagnostics

Making the same choices repeatedly (e.g., Option A chosen nine times in a row) can be indicative of not engaging with the survey, and a large number of non-traders implies a poor-quality dataset for analysis. Figure 10 compares the sample distribution of the maximum length of runs of identical choices (e.g., same option chosen at most 5 times in a row) against the theoretical distribution that is obtained when there are equal choice probabilities for Option A and Option B in each question. Only a tiny proportion (1.6%) chose the same option across all 10 choice occasions. A somewhat higher proportion of participants made long runs of identical choices than expected based on the theoretical distribution, but the two distributions are very similar, indicating that non-trading is not a cause for concern.

**Figure 10: Distribution of the maximum length of runs of identical choices (SP1)**

Base: 304 participants (full sample)

## 4.4 Econometric modelling

The SP1 choices were analysed using a conditional logit model with choice as the dependent variable, a {1,0} variable indicating whether any given scenario was seen as having a greater impact than the other scenario available in any given choice occasion. The model estimates the impact of each scenario in comparison to a base scenario/variable which is omitted. (The decision which variable is chosen as the base variable is arbitrary and has no influence on the final outcome.)

Separate models were estimated for the household and non-household samples. Larger coefficients on any of the variables imply a greater impact of that scenario compared to scenarios that have smaller coefficients. The models are shown in Table 30 and Table 31 respectively.

The findings from the econometric analysis are positive, although have a worse goodness of fit than obtained from the 1st pilot. The majority of coefficients are highly statistically significant, i.e., most scenarios have a statistically larger or smaller impact than the omitted base scenario which is a storm overflow elsewhere lasting 4 hours for households and coastal bathing water being neither Excellent nor Good quality for non-households. However, the pseudo-R<sup>2</sup> statistics – a measure of overall goodness of fit - are 0.08 and 0.13 for the household and non-household models respectively, which are lower than those obtained in the 1<sup>st</sup> pilot (0.15 and 0.27 respectively). This indicates a lower degree of explanatory power of the models in comparison to those from the 1st pilot, which is consistent with there being a smaller degree of variation in impact estimates across service issues than was previously found.

**Table 30: SP1 household econometric model**

	Coef.	Std. Err.	z	P>z
<b>Sewer flooding: inside your property (1 month)</b>	2.392	0.347	6.90	0.000
<b>Emergency drought restrictions (2 months)</b>	1.795	0.271	6.62	0.000
<b>Sewer flooding: outside your property (1 week)</b>	1.715	0.265	6.46	0.000
<b>Planned water supply interruption (6 hours)</b>	1.405	0.260	5.41	0.000
<b>Unexpected water supply interruption (24 hours)</b>	1.389	0.269	5.16	0.000
<b>Do not drink notice (48 hours)</b>	1.338	0.241	5.54	0.000
<b>Unexpected water supply interruption (6 hours)</b>	1.326	0.273	4.86	0.000
<b>Water taste and smell (24 hours)</b>	1.233	0.239	5.17	0.000
<b>Discoloured water (6 hours)</b>	1.197	0.251	4.77	0.000
<b>Discoloured water (24 hours)</b>	1.166	0.238	4.90	0.000
<b>Boil water notice (48 hours)</b>	1.159	0.258	4.49	0.000
<b>Water taste and smell (6 hours)</b>	1.092	0.241	4.53	0.000
<b>Significant pollution incident nearby (4 weeks)</b>	0.915	0.277	3.30	0.001
<b>Significant pollution incident elsewhere (4 weeks)</b>	0.815	0.221	3.69	0.000
<b>Unexpected low water pressure (6 hours)</b>	0.744	0.257	2.90	0.004
<b>Minor pollution incident nearby (1 day)</b>	0.687	0.229	3.00	0.003
<b>Storm overflow nearby (4 hours)</b>	0.614	0.219	2.81	0.005
<b>Hosepipe ban (5 months)</b>	0.574	0.259	2.22	0.027
<b>Low flows in rivers elsewhere (2 months)</b>	0.554	0.234	2.37	0.018
<b>Minor pollution incident elsewhere (1 day)</b>	0.478	0.249	1.92	0.055
<b>River water nearby is not High quality</b>	0.387	0.230	1.68	0.092
<b>Low flows in rivers nearby (2 months)</b>	0.323	0.226	1.43	0.152
<b>River water elsewhere is not High quality</b>	0.289	0.217	1.33	0.184
<b>Coastal bathing water is neither Excellent nor Good quality</b>	0.134	0.240	0.56	0.578
<b>Coastal bathing water is not Excellent quality</b>	0.107	0.244	0.44	0.661
<b>Storm overflow elsewhere (4 hours)</b>	0.000			
<b>No. of observations</b>			4,040	
<b>No. of participants</b>			202	
<b>Pseudo R<sup>2</sup></b>			0.08	

Note: Conditional logit estimates on unweighted data. Dependent variable: choice. Standard errors clustered by participant.

**Table 31: SP1 non-household econometric model**

	Coef.	Std. Err.	z	P>z
Sewer flooding: inside your property (1 month)	2.878	0.586	4.91	0.000
Do not drink notice (48 hours)	2.396	0.403	5.95	0.000
Emergency drought restrictions (2 months)	2.376	0.457	5.20	0.000
Sewer flooding: outside your property (1 week)	2.072	0.461	4.50	0.000
Water taste and smell (6 hours)	2.070	0.444	4.67	0.000
Unexpected water supply interruption (24 hours)	2.063	0.457	4.52	0.000
Discoloured water (6 hours)	1.913	0.420	4.55	0.000
Boil water notice (48 hours)	1.907	0.424	4.50	0.000
Significant pollution incident nearby (4 weeks)	1.903	0.446	4.27	0.000
Unexpected water supply interruption (6 hours)	1.880	0.549	3.43	0.001
Planned water supply interruption (6 hours)	1.676	0.444	3.77	0.000
Unexpected low water pressure (6 hours)	1.534	0.422	3.64	0.000
Discoloured water (24 hours)	1.443	0.430	3.35	0.001
Water taste and smell (24 hours)	1.355	0.445	3.05	0.002
Significant pollution incident elsewhere (4 weeks)	1.294	0.432	3.00	0.003
Storm overflow nearby (4 hours)	1.082	0.395	2.74	0.006
Minor pollution incident elsewhere (1 day)	1.072	0.417	2.57	0.010
Minor pollution incident nearby (1 day)	1.033	0.430	2.40	0.016
Low flows in rivers elsewhere (2 months)	0.971	0.386	2.51	0.012
Hosepipe ban (5 months)	0.903	0.432	2.09	0.036
Low flows in rivers nearby (2 months)	0.835	0.382	2.19	0.029
Storm overflow elsewhere (4 hours)	0.569	0.423	1.35	0.179
River water nearby is not High quality	0.369	0.389	0.95	0.342
Coastal bathing water is not Excellent quality	0.281	0.422	0.67	0.505
River water elsewhere is not High quality	0.216	0.432	0.50	0.617
Coastal bathing water is neither Excellent nor Good quality	0.000			
No. of observations			2,040	
No. of participants			102	
Pseudo R <sup>2</sup>			0.13	

Note: Conditional logit estimates on unweighted data. Dependent variable: choice. Standard errors clustered by participant.

## 4.5 Impact scores

Figure 11 and Figure 12 show the impact scores for each of the 26 scenarios for households and non-households, respectively, compared against impact scores obtained from the 1<sup>st</sup> pilot. The impact scores were calculated as exponentiated coefficients (odds ratios) based on the corresponding estimates in Table 30 and Table 31, and were scaled to sum to 100 across the full set of scenarios covered in the exercise. These scores are an index representing the relative impact of each scenario.

The highest impacts among household customers were associated with

- Sewer flooding: inside your property (1 month)
- Emergency drought restrictions (2 months)
- Sewer flooding: outside your property (1 week)
- Planned water supply interruption (6 hours)
- Unexpected water supply interruption (24 hours)

The top five scenarios in terms of impact on non-household customers were

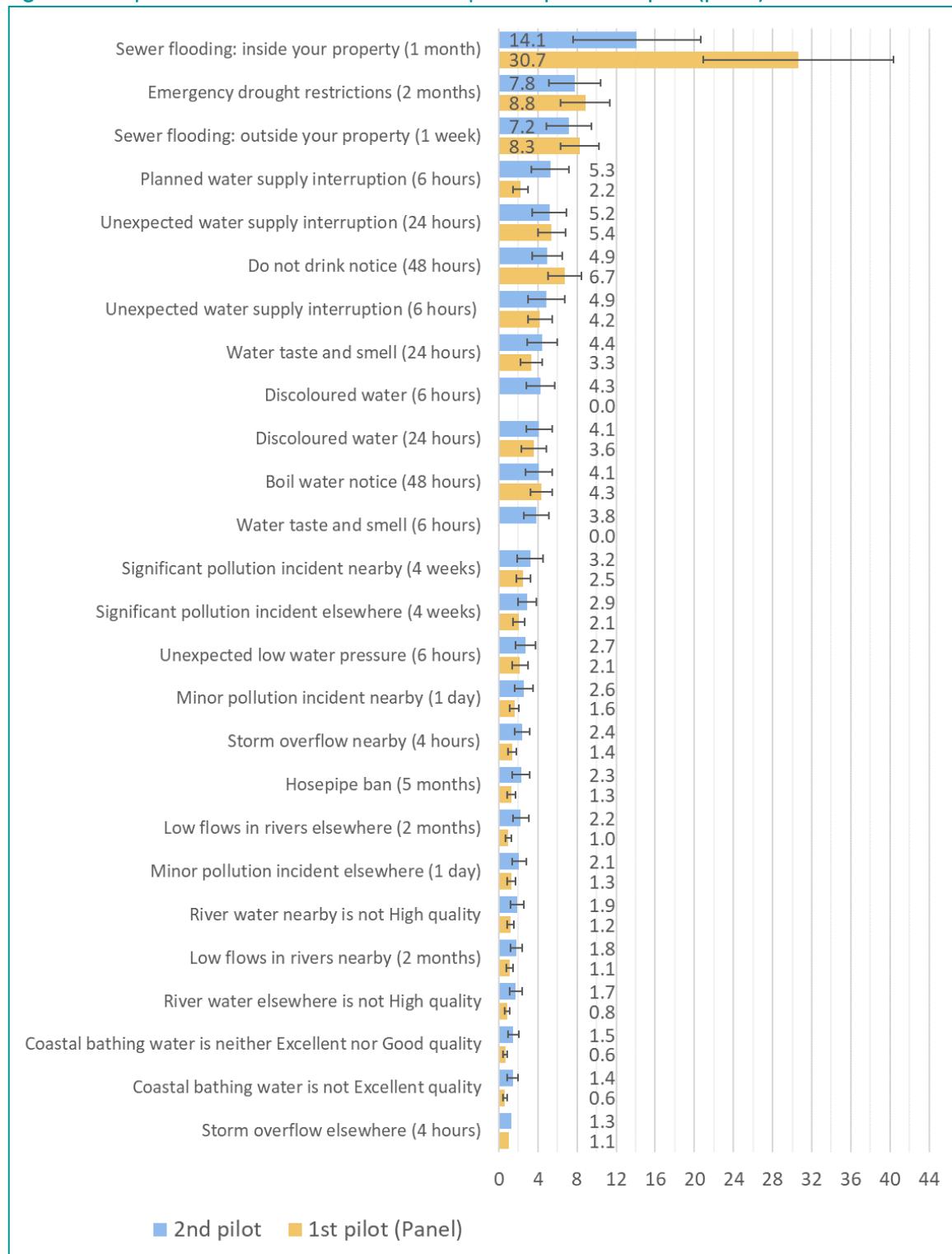
- Sewer flooding: inside your property (1 month)
- Do not drink notice (48 hours)
- Emergency drought restrictions (2 months)
- Sewer flooding: outside your property (1 week)
- Water taste and smell (6 hours)

The impact ranking for households was very similar between the 2<sup>nd</sup> and the 1<sup>st</sup> pilot. Four out of five top-ranked scenarios in the 2<sup>nd</sup> pilot ranked among the top five in the 1<sup>st</sup> pilot, and the impact rank correlation between the two surveys is 0.95 (on a 0-1 scale) when scenarios that appeared in one survey only are excluded, and the ranks are adjusted accordingly. The rank correlation between impact rankings from the 2<sup>nd</sup> and the 1<sup>st</sup> pilot is very high also for non-households (0.94).

While the top five scenarios accounted for 60% and 80% of the ‘total impact’ for household and non-households, respectively, in the 1<sup>st</sup> pilot, these percentages are down to 40% only, for both samples, in the 2<sup>nd</sup> pilot, i.e., the ‘total impact’ was more evenly distributed among the various scenarios in the 2<sup>nd</sup> pilot compared to the 1<sup>st</sup> pilot. This more even distribution is consistent with there being a lower goodness of fit in the 2<sup>nd</sup> pilot models than was found in the 1<sup>st</sup> pilot models.

Of particular note is that finding that the impact score for internal sewer flooding, the highest-impact issue, was only 14.1 and 13.2, for household and non-household customers, respectively, in the 2<sup>nd</sup> pilot, compared to 30.7 and 52.5, respectively, in the 1<sup>st</sup> pilot. In addition, the impact score of a planned water supply interruption lasting 6 hours, one of the SP2 pivot attributes, was double that in the 1<sup>st</sup> pilot. These differences translate into considerable differences in the relative valuation of internal sewer flooding in comparison to a short planned water supply interruption between the two pilot surveys, as shown in Table 32. Here it can be seen that the relative impacts of internal sewer flooding to a short supply interruption were very much higher in the 1<sup>st</sup> pilot than at the 2<sup>nd</sup> pilot.

There were no substantive revisions to the SP1 design between the 1<sup>st</sup> pilot and the 2<sup>nd</sup>, and so differences in design cannot explain the differences in observed findings. The differences could, at least to some extent, reflect differences in sample demographics. However, a more likely explanation, in our view, is that the finding is related to differences in the quality of response obtained from the panel providers used in the 1<sup>st</sup> and 2<sup>nd</sup> pilots. The time taken to complete the SP1 exercise was substantially lower amongst participants in the 2<sup>nd</sup> pilot (median=129 seconds) than in the 1<sup>st</sup> (median=221 seconds), and so it would be consistent for the responses to be less well-considered, and for there to consequently be more randomness in them. This would lead to the observed finding of a poorer goodness of fit, and less variation in impact scores, for the 2<sup>nd</sup> pilot than the 1<sup>st</sup>.

Figure 11: Impact scores for the household sample: 2<sup>nd</sup> pilot vs 1<sup>st</sup> pilot (panel)Base: 2<sup>nd</sup> pilot = 202; 1<sup>st</sup> Pilot (Panel) = 450

Note: The error bars show 95% confidence intervals calculated using the delta method. The duration of 'Sewer flooding: inside your property' was 1 week in the 1<sup>st</sup> pilot as opposed to 1 month in the 2<sup>nd</sup> pilot. 'Discoloured water (6 hours)' and 'Water taste and smell (6 hours)' not included in the first pilot. Not shown: 'Planned water supply interruption (24 hours)' (included in 1st pilot only).

Figure 12: Impact scores for the non-household sample: 2<sup>nd</sup> pilot vs 1<sup>st</sup> pilot

Base: 2<sup>nd</sup> pilot = 102; 1<sup>st</sup> pilot = 80

Note: The error bars show 95% confidence intervals calculated using the delta method. The duration of 'Sewer flooding: inside your property' was 1 week in the 1<sup>st</sup> pilot as opposed to 1 month in the 2<sup>nd</sup> pilot. 'Discoloured water (6 hours)' and 'Water taste and smell (6 hours)' not included in the 1<sup>st</sup> pilot. Not shown: 'Planned water supply interruption (24 hours)' (included in 1<sup>st</sup> pilot only).

**Table 32: Pilot 1 vs Pilot 2 relative impacts of internal sewer flooding to a short planned supply interruption**

	<b>Impact of internal sewer flooding as a multiple of short planned supply interruption impact</b>
<b>HH</b>	
Pilot 1 (PAF)	37.8
Pilot 1 (Panel)	13.6
Pilot 2 (Panel)	2.7
<b>NHH</b>	
Pilot 1	33.1
Pilot 2	3.3

## 4.6 Expectation-based validity analysis

As a test of the validity of the rankings derived from the econometric models, we checked the relative impacts between pairs of scenarios against prior expectations. In most cases, the rankings were in line with expectation; however, there were some minor violations observed in the 2<sup>nd</sup> pilot as shown in Table 33.

In most cases, the rank differences are small, and these are also subject to sampling error. These findings are therefore supportive of the design's expected ability to generate valid impact scores from the full main stage sample.

**Table 33: Impact exercise design restrictions : Violations**

	More impactful	Less impactful	Violations	
			HH (ranks)	NHH (ranks)
1	Unexpected water supply interruption (6 hours)	Planned water supply interruption (6 hours)	7 <sup>th</sup> vs 4 <sup>th</sup>	
2	Unexpected water supply interruption (24 hours)	Planned water supply interruption (6 hours)	5 <sup>th</sup> vs 4 <sup>th</sup>	
3	Unexpected water supply interruption (24 hours)	Unexpected water supply interruption (6 hours)		
4	Emergency drought restrictions (2 months)	Hosepipe ban (5 months)		
5	Low flows in rivers nearby (2 months)	Low flows in rivers elsewhere (2 months)	22 <sup>nd</sup> vs 19 <sup>th</sup>	21 <sup>st</sup> vs 19 <sup>th</sup>
6	Storm overflow nearby (4 hours)	Storm overflow elsewhere (4 hours)		
7	Minor pollution incident nearby (1 day)	Minor pollution incident elsewhere (1 day)		18 <sup>th</sup> vs 17 <sup>th</sup>
8	Significant pollution incident nearby (4 weeks)	Significant pollution incident elsewhere (4 weeks)		
9	River water nearby is not High quality	River water elsewhere is not High quality		
10	Minor pollution incident nearby (1 day)	Storm overflow nearby (4 hours)		18 <sup>th</sup> vs 16 <sup>th</sup>
11	Significant pollution incident nearby (4 weeks)	Storm overflow nearby (4 hours)		
12	Significant pollution incident nearby (4 weeks)	Minor pollution incident nearby (1 day)		
13	Minor pollution incident nearby (1 day)	Storm overflow elsewhere (4 hours)		
14	Significant pollution incident nearby (4 weeks)	Storm overflow elsewhere (4 hours)		
15	Significant pollution incident nearby (4 weeks)	Minor pollution incident elsewhere (1 day)		
16	Minor pollution incident elsewhere (1 day)	Storm overflow elsewhere (4 hours)		
17	Significant pollution incident elsewhere (4 weeks)	Storm overflow elsewhere (4 hours)		
18	Significant pollution incident elsewhere (4 weeks)	Minor pollution incident elsewhere (1 day)		
19	Coastal bathing water is neither Excellent nor Good quality	Coastal bathing water is not Excellent quality		26 <sup>th</sup> vs 24 <sup>th</sup>
20	Discoloured water (24 hours)	Discoloured water (6 hours)	10 <sup>th</sup> vs 9 <sup>th</sup>	13 <sup>th</sup> vs 7 <sup>th</sup>
21	Water taste and smell (24 hours)	Water taste and smell (6 hours)		14 <sup>th</sup> vs 5 <sup>th</sup>

Note: The impact exercise was designed to exclude any choice sets that included the pairs of scenarios shown in the table.

# 5 SP2 Compensation Exercise Findings

## 5.1 Introduction

This section focuses on findings from the compensation exercise. It includes feedback from pilot participants following the exercise, analysis of the contingent valuation data, and derived valuations for all the service issue scenarios based on combining this analysis with the impact scores obtained in the previous section.

## 5.2 Participant feedback

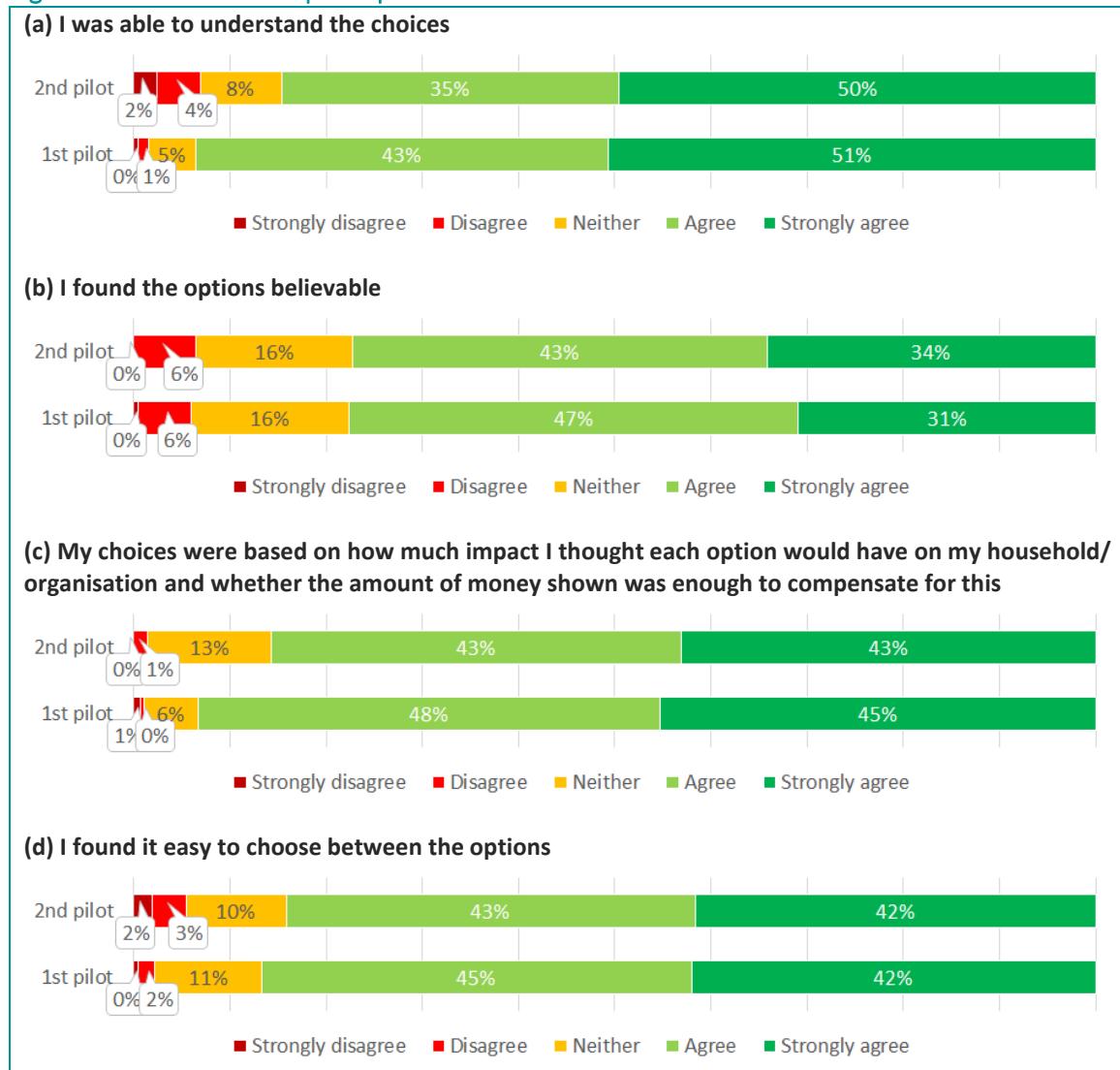
Feedback from participants following the compensation exercise was positive as shown in Figure 13 (household) and Figure 14 (non-household). Only small proportions disagreed a) that they were able to understand the choices, b) that the options were believable, c) that their choices were based on how much impact each option would have on their household/organisation and whether the amount of money shown was enough to compensate for, and d) that they found it easy to choose between the options.

The percentages in the top two 'Agree' categories were somewhat lower in the 2<sup>nd</sup> pilot than in the 1<sup>st</sup> pilot, the differences being statistically significant at the 5% level, for households only, for the following aspects:

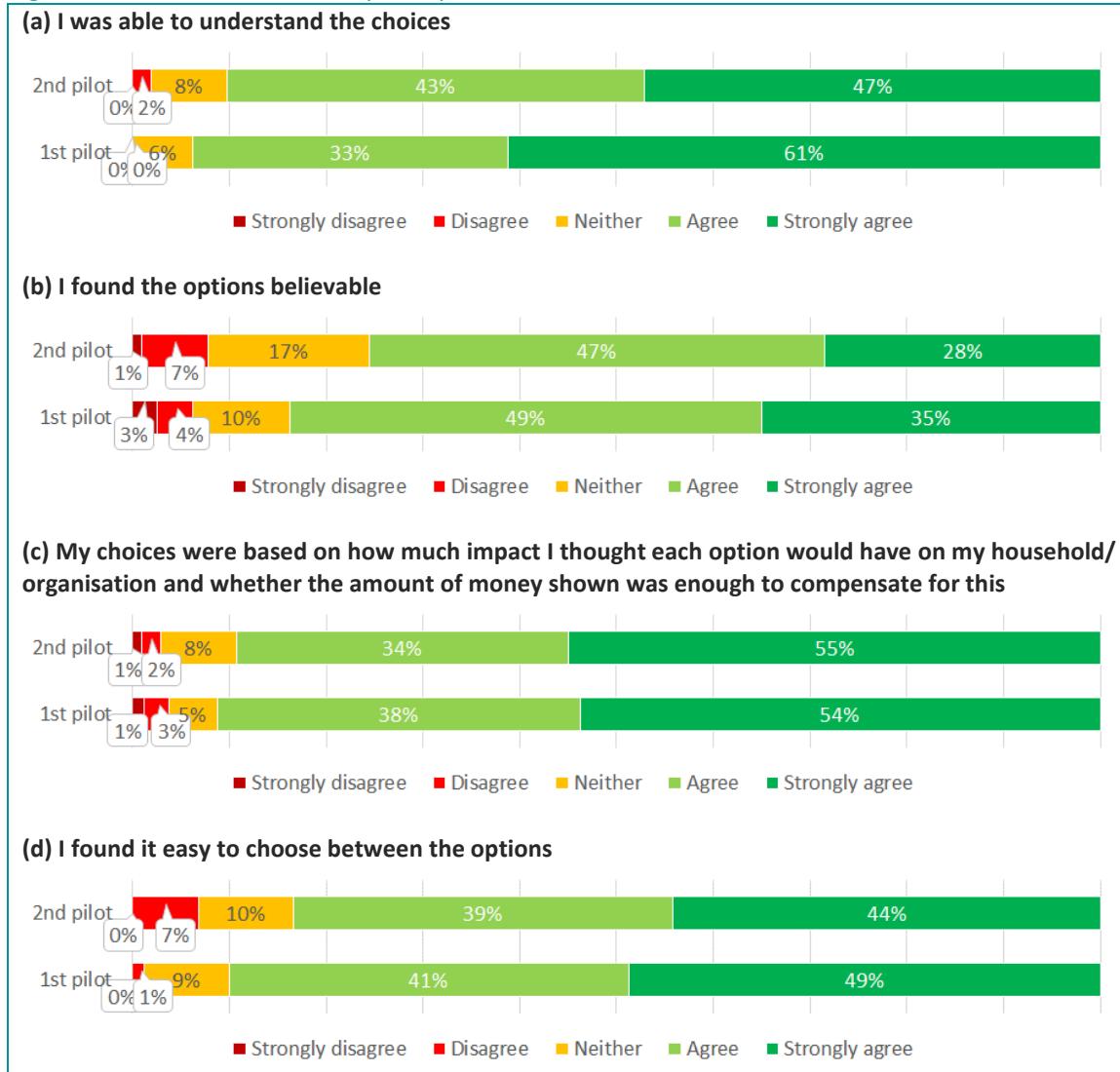
- 'I was able to understand the choices'
- 'My choices were based on how much impact I thought each option would have on my household and whether the amount of money shown was enough to compensate for this'

As in the 1<sup>st</sup> pilot study, we found that around 40% of those who disagreed that the options were believable, found compensation amounts to be unbelievably high or seemed to question whether any compensation would be paid at all. For example:

- *I doubt so much would be paid out*
- *I DON'T THINK THAT THEY WILL PAY THAT LEVEL OF COMPENSATION*
- *THE AMOUNTS WOULD NEVER BE PAID*
- *They would not offer a free year or two*

**Figure 13: SP2 household participant feedback**

Base: Pilot 2 = 202; Pilot 1 = 450 (Panel sample)

**Figure 14: SP2: non-household participant feedback**

Base: Pilot 2 = 102; Pilot 1 = 80

The selected responses to feedback follow-up questions<sup>4</sup> shown in Table 34 suggest that

- Some participants may have viewed the ‘one-off payment’ as a fee/charge to be paid to the water company in order to
  - prevent the issue from occurring (response no. 3) or
  - be sent a boil water notice when tap water was not safe to drink (response no. 4)
 instead of as a compensation payment to be received from the water company in the event of a service issue;
- Some participants may have misunderstood the ‘Boil water notice’ questions as offering a choice between being sent vs not being sent a notice when tap water was not safe to drink (responses no. 4 and no. 7).

<sup>4</sup> The full set of verbatim responses is included in Appendix C.

**Table 34: Selected SP2 feedback follow-up responses**

No.	<b>Why were you unable to understand the choices?</b>
1	I didn't understand what it meant but a one off payment
2	I misunderstood the first two questions [Those relating to a planned water supply interruption]
3	Maybe it was my screen layout but I couldn't tell for sure if it meant the cost would prevent the problem.
No.	<b>What was not believable about the options shown?</b>
4	I cannot believe that there would be a charge to be notified about these issues. Surely this would never be accepted
5	giving the compensation
6	The percentage of payment to be made in first option. Too much money.
No.	<b>Why was it difficult choosing between the options?</b>
7	Ensure of the implications of no notice given. How would I know to boil the water?
8	Planned is better obviously the payments required were too much for this option.

An examination of the reasons given by the participants for their choices also suggests that some participants did not interpret the SP2 questions as intended. Participants who chose not to experience the service issue (Option B) in the follow-up valuation question, having also chosen Option B in the first valuation question, were asked to explain why they chose Option B. Around 25% of the responses indicate that the participants did view the 'one-off payment' as a fee/charge to be paid to the water company or, at least, potentially suggest that they may have viewed the payments as fees/charges instead of compensations. The relevant responses are shown in Table 35 (planned supply interruption) and Table 36 (boil water notice). Note that most of these participants agreed or strongly agreed that they were able to understand the choices.

While it is conceivable that some participants may have thought that they would have to pay a fee if they opted to be sent a 'Boil water notice' when tap water was not safe to drink (see response no. 21 in Table 36), it is not clear how the 'one-off payment' came to be seen as a fee/charge in the context of a planned water supply interruption, although it is possible that this misinterpretation was carried over from the 'Boil water notice' exercise when the latter came before the 'Planned water supply interruption'<sup>5</sup>, perhaps because the planned supply interruption, too, involved a notice by the water company, albeit an advance notice (see response no. 3 in Table 35).

**Table 35: Selected reasons for choosing 'No planned water supply interruption'**

No.	<b>Reason for choosing 'Option B' (no service issue)</b>
1	Unable to afford the one off payment
2	We shouldn't have to pay it
3	Why would you be expected to pay for something that should be done as standard
4	Cheaper
5	Can't afford extra payments
6	Because I am already paying enough for water supply and due to the cost of living crisis I feel like any extra costs would be tough
7	Cheaper
8	I do not want to pay
9	I'm not paying extra money for that
10	i can't afford the charges

<sup>5</sup> The order of the two exercises was randomised across participants.

No.	Reason for choosing 'Option B' (no service issue)
11	As stated before. ['Why should I pay for this. God gave water for free. It's these greedy companies that are raping people financially for this commodity. Its not fair. And some of us are not flourished with cash either so have to watch our pennies']
12	i dony think that option one would really affect us enough to pay extra
13	Cheaper
14	Rather not pay a percentage of rates in 1 payment even if planned.
15	Cost
16	Because nobody would want their water service interrupted and I'm happy paying full price for my services not being interrupted
17	is cheaper
18	The costs are still too high

Note: Reasons for choices only asked of participants who chose 'Option B' in both the first and the follow-up question.

Table 36: Selected reasons for choosing 'No boil water notice'

No.	Reason for choosing 'Option B' (no service issue)
1	Couldn't afford the extra payments
2	Cos I wouldn't be able to pay the full one of payments
3	It is ridiculous to be expected to pay for a notification on a public health and safety issue
4	Cheaper
5	I can't afford an extra payment
6	Again, the cost of living crisis means there isn't ample money after paying all other bills
7	Cheaper
8	I do not want to pay
9	I'm not paying extra money for that
10	Because we would be able to communicate the problem with employees and place clear notices on taps around the building. Less expensive this way.
11	i cant afford to pay extra
12	I thought the cost made it most appropriate
13	Why should I pay for this. God gave water for free. It's these greedy companies that are raping people financially for this commodity. Its not fair. And some of us are not flourished with cash either so have to watch our pennies
14	It didn't seem the most practical to choose for that scenario and the impact was not great enough to factor in the cost.
15	I don't mind boiling water
16	Same again. Would not like to pay lump sum
17	the price
18	Because nobody wants their own water supply interrupted and would be happy to pay full price for a fair working service that doesn't affect your normal routine.
19	160% would potentially be a great deal of money ... choose the cheaper option
20	firts looks very expensive
21	Although I really anted to opt for the boil notice, the costs were far too high.

Note: Reasons for choices only asked of participants who chose 'Option B' in both the first and the follow-up question.

While the feedback statistics are supportive overall of the design of the compensation exercise the reasons participants gave for their choices and/or for negative feedback suggest that some participants viewed the 'one-off payment' as a fee/charge to be paid to the water company and that some participants may have misunderstood the 'Boil water notice' questions as offering a choice between being sent vs not being sent a notice when tap water was not safe to drink. To remedy these issues, we recommend revising the questionnaire as follows:

**RECOMMENDATIONS:**

- Further clarify the instructions to this exercise and/or the choices themselves to avoid misinterpretation
- Refer to compensation as 'Compensation' instead of a 'One-off payment'
- Retain the feedback questions within the main stage questionnaire to allow checking the robustness of key findings to the exclusion of participants who give feedback indicating invalid responses.

With regard to the second of the above recommendations, this would reverse a change made following the previous round of testing. Originally, the design for the SP2 exercise included the term 'Compensation' rather than 'One-off payment'; however, in the previous cognitive interviews, it was found that some participants interpreted compensation as a signal of the severity of the service issue shown, which would be inconsistent with the valuation construct. Consequently, the term 'One-off payment' was proposed as a replacement.

The findings from the present round of testing suggest that this revised term has not been correctly interpreted by some. One option would be to add further explanatory text to overcome the potential misinterpretation. However, our recommendation is instead to revert back to the original term of 'Compensation'. This is because the recommendation to change the term was driven by a particular issue with the External sewer flooding service issue, which was one of the original two 'pivot' service issues included in the SP2 exercise. For this service issue, there was necessarily some ambiguity in the description with respect to how severe the impact would be on the customer, given that customers have different styles of property and the service issue had to be described in a way that was applicable to all of these. Due to its high impact nature, there were also high amounts needed to fully compensate customers, in an economic sense, for the disutility experienced.

Given that the External sewer flooding service issue was no longer used as a pivot attribute, the argument for avoiding using the term 'Compensation' is weaker. In the case of Planned supply interruptions and Boil water notices, there is substantially less ambiguity over the severity of the impact that would occur, and also a lower required compensation due to the lower impact nature of the incidents. Consequently, the original advantage of the 'Compensation' term – its natural connection with the idea of being paid for a harm – appear to us to dominate over the potential disadvantage of its being associated with financial damages, and we therefore recommend its reinstatement in place of the term 'One-off payment'.

## 5.3 Contingent valuation results

Estimates of the proportions choosing not to experience the service issues covered in the compensation exercise are shown in Figure 15 for households and in Figure 16 for non-households<sup>6</sup>.

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<sup>6</sup> The estimates were obtained from the *DCchoice* package for the R environment (R Core Team 2021), and were checked against estimates obtained using several different algorithms available from the *lcens* package. See Nakatani, Tomoaki, Hideo Aizaki, and Kazuo Sato (2020). *DCchoice: An R Package for Analyzing Dichotomous Choice Contingent Valuation Data*. R package version 0.0.17 and Gentleman R., and Alain

As expected, all curves are downward sloping, indicating that participants were more likely to choose not to experience the service issues when a low compensation was offered than when compensations were high.

The main concern regarding pilot testing of the compensation exercise is to make sure that the range of compensation amounts is appropriate. For the purposes of estimating median values, the critical issue is that the amounts shown span the median; whilst to estimate the mean it is necessary to ensure that the upper end of the range is sufficient to adequately 'choke off' the majority of the demand.

In the 1<sup>st</sup> pilot, at the highest compensation levels shown there were still substantial proportions of participants choosing not to take the compensation offered. Because of this, mean valuation estimates from the 1<sup>st</sup> pilot survey were considered unlikely to be accurate, and median valuations were imprecisely estimated.

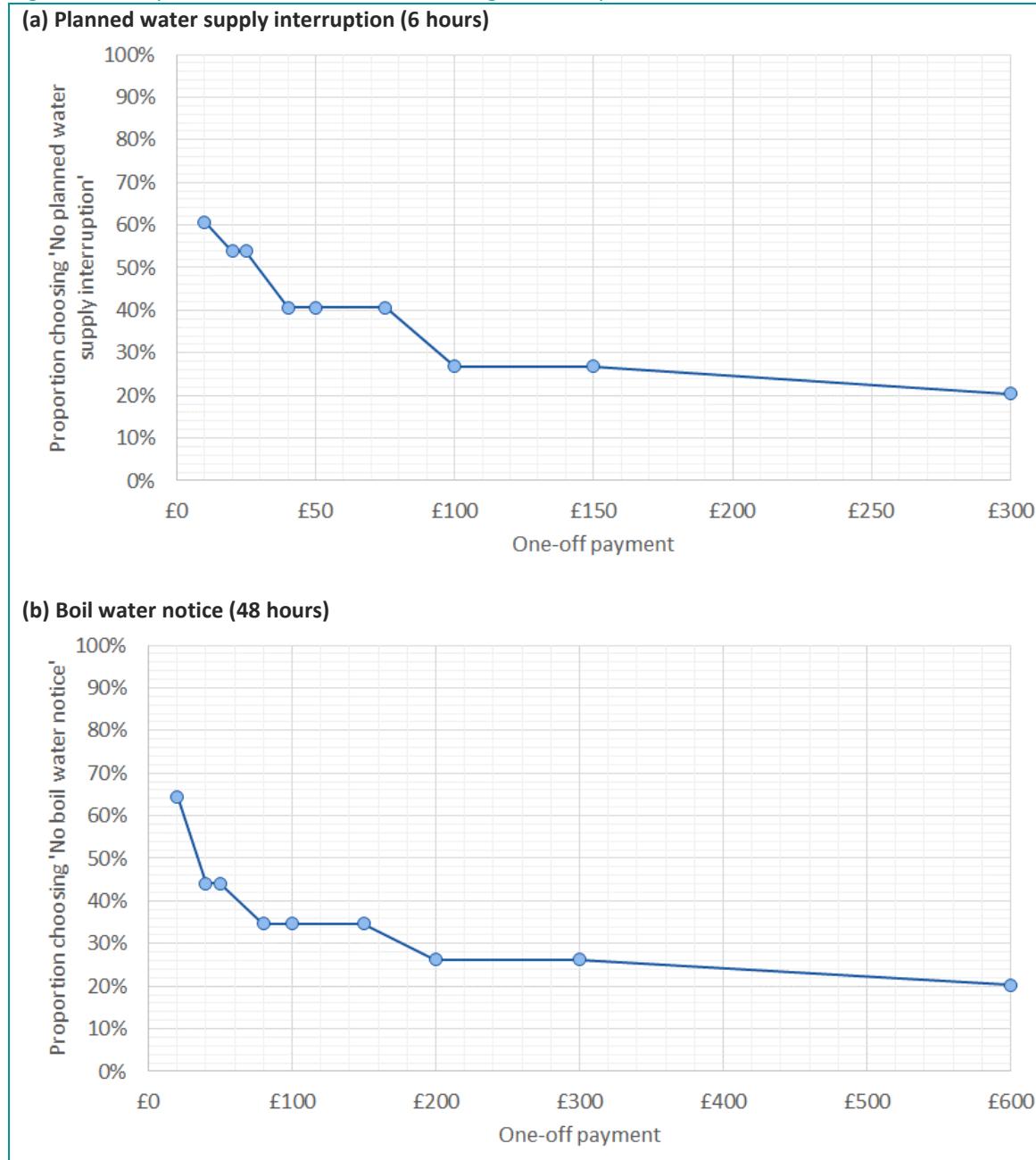
The curves shown in Figure 15 and Figure 16 indicate that the issue identified with the 1<sup>st</sup> pilot data has adequately been resolved, insofar as there are only 20% of households, and 10% of non-households, still rejecting the compensation offer at the highest levels shown, for both pivot service issues. This finding means that median and mean values can both be estimated from the data for both service issues and both customer types.

At the lower end of compensation amounts, the proportions rejecting the compensation offer are well under 100%. However, pinning down the tail of the distribution at the left-hand end has a lesser impact on estimation of the mean than pinning down the right-hand tail. Hence there is little value in including smaller amounts offered than the ones shown while, at the right-hand end, the highest amount shown also seems adequate, particularly given the risk that inclusion of very high amounts can potentially have on the plausibility of the exercise.

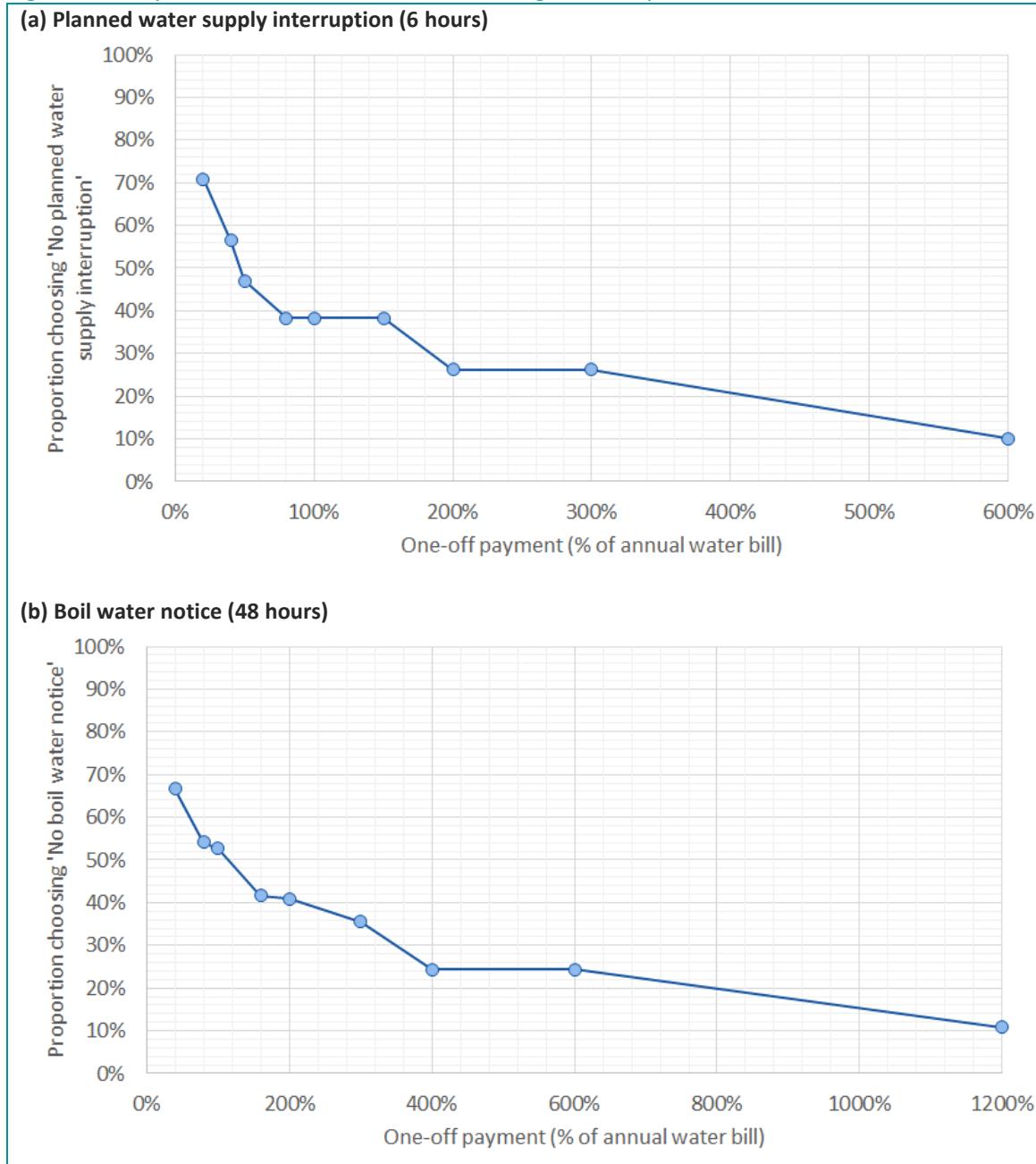
For this reason, we would not recommend any changes to the compensation levels shown for this exercise.

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Vandal (2021). *Icens: NPML for Censored and Truncated Data. R package version 1.64.0.* The main advantage of the non-parametric approach over parametric estimates is that NPML estimation avoids a-priori specification of a functional form for the 'demand' function.

**Figure 15: Proportions of households choosing not to experience the service issue**

No weighting was applied for the purposes of the pilot analysis.

**Figure 16: Proportions of non-households choosing not to experience the service issue**

No weighting was applied for the purposes of the pilot analysis.

Though the samples are not necessarily representative of the customer base, as no weighting has been applied at the pilot stage and the non-household sample is small, it is indicative to note the implied valuations arising from the choice data. For example, based on the curve in panel (a) of Figure 15 we estimate that just over 60% of household customers are willing to forego a £10 compensation to avoid a planned water supply interruption lasting 6 hours, which indicates that these customers' valuation of avoiding the service issue is £10 or higher.

Table 37 presents estimates of mean and median valuations of avoiding the service issues covered in the compensation exercise.

**Table 37: Valuations of avoiding service issues****Planned water supply interruption (6 hours)**

	<b>HH</b>	<b>NHH</b>
<b>Mean</b>	£85	138% of the annual water and wastewater bill
<b>Mean conf. interval</b>	(£68, £103)	
<b>Median</b>	£29	47% of the annual water and wastewater bill

**Boil water notice (48 hours)**

	<b>HH</b>	<b>NHH</b>
<b>Mean</b>	£161	274% of the annual water and wastewater bill
<b>Mean conf. interval</b>	(£127, £198)	
<b>Median</b>	£34	115% of the annual water and wastewater bill

Note: The mean is a lower bound Turnbull estimate, as explained in the text. Bootstrap confidence intervals based on 10,000 replications. (Interval not reported for NHH due to convergence issues in non-parametric ML estimation.) The median was estimated by interpolating between the relevant probability estimates.

To estimate the implied mean valuation, we used the Turnbull approach, which calculates the lower-bound of the mean valuation and represents a conservative estimate of the true mean. It is a conservative estimate as it assumes that the valuation of those who prefer ‘no service issue’ to, say, a £10 compensation, but prefer experiencing the service issue ‘in return for’ a £20 compensation, is £10 and no more, instead of attempting to smooth out the distribution between compensation levels. The Turnbull approach effectively treats the piecewise linear curves shown in are well under 100%. and Figure 16 as ‘step functions’.

Households’ mean valuation of a 6-hour planned water supply interruption is consistent with the mean valuation of £154 of a 6-hour unexpected water supply interruption found in the 1<sup>st</sup> pilot survey (household panel sample), given the lower impact of a planned interruption compared to an unexpected interruption<sup>7</sup>. It is also not out of line with the values included in a compilation of valuations from several studies undertaken for PR19<sup>8</sup>, i.e.,

- £91 and £157 for a planned 3–6-hour interruption, and
- £121 and £226 for a planned 6–12-hour interruption.

Importantly, the 1<sup>st</sup> pilot study found a 5-fold (11-fold) difference between the relative mean (median) valuations of the two pivot scenarios<sup>9</sup> obtained from the compensation exercise and their relative impacts derived from the impact exercise (for the household Panel sample). In the 2<sup>nd</sup> pilot survey, we find that household customers’ relative valuation of a boil water notice (48 hours) and a planned water supply interruption (6 hours) is around 2.5 times higher than the relative impact of the two scenarios, when the

<sup>7</sup> This conclusion does not extend to non-households. However, as noted in the 1<sup>st</sup> pilot study, even at the highest compensation levels a considerable proportion of non-household customers chose not to experience the service issue leading to severe downward bias in mean valuations.

<sup>8</sup> Accent/PJM Economics, June 2018, ‘Comparative Review of PR19 WTP Results’. This study does not include valuations of a ‘Boil water notice (48 hours)’ or a comparable incident.

<sup>9</sup> A sewer flooding incident outside one’s property (1 week) and an unexpected water supply interruption (6 hours).

comparison is based on mean valuations, and only 1.5 times when based on median valuations. This indicates a much greater degree of consistency between the choices made in SP1 and SP2 in comparison to the 1<sup>st</sup> pilot.

## 5.4 Scenario valuations

Table 38 presents household valuations for individual scenarios obtained by combining impact scores from Figure 11 and Figure 12 with the value estimates for ‘Planned water supply interruption (6 hours)’ and ‘Boil water notice (48 hours)’ shown in Table 37 above. The table includes comparisons against a compilation<sup>10</sup> of valuations from several studies undertaken for PR19.

Compared to the 1<sup>st</sup> pilot, the choice of pivot scenario has a much smaller impact on the calculation of scenario valuations. Valuations based on the supply-interruptions pivot tend to be lower than PR19 valuations, as do valuations based on the median value of the boil-water scenario. Conversely, most valuations pivoted on the mean boil-water notice valuation lie within the range of PR19 valuations, with notable exceptions being internal and external sewer flooding<sup>11</sup>.

The values obtained from the 2<sup>nd</sup> pilot are less spread apart than might have been expected, particularly considering the low values estimated for internal sewer flooding in comparison with those obtained at PR19. This is consistent with the lower goodness-of-fit estimated with the SP1 econometric models, as discussed in Section 4.

As set out in that section, the relative impacts of internal sewer flooding in relation to a short planned supply interruption were very much lower in the 2<sup>nd</sup> pilot than in the 1<sup>st</sup>. Furthermore, we would expect the SP1 findings from the main sample, and hence the relative values across service issues, to be closer to those from the 1<sup>st</sup> pilot, given the anticipated use of PAF as well as panel methods in the main stage, than those from the 2<sup>nd</sup> pilot. The results in Table 38 should not therefore be considered indicative of the values that might be expected to emerge from the main sample with respect to internal sewer flooding. We would instead expect the findings to be significantly higher than shown here.

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<sup>10</sup> Accent/PJM Economics, June 2018, ‘Comparative Review of PR19 WTP Results’

<sup>11</sup> The duration of the do not drink notice differs considerably between the present study (48 hours) and PR19 reference studies (2 weeks).

Table 38: Scenario valuations (households)

Scenario	Pivot scenario: Planned water supply interruption (6 hours)		Pivot scenario: Boil water notice (48 hours)		PR19 comparative review <sup>(a)</sup>		
	Mean <sup>(b)</sup>	Median <sup>(b)</sup>	Mean <sup>(b)</sup>	Median <sup>(b)</sup>	Min	Max	Median <sup>(c)</sup>
Sewer flooding: inside your property (1 month) <sup>(1)</sup>	£228	£79	£551	£117	£1,772	£123,477	£50,970
Emergency drought restrictions (2 months) <sup>(2)</sup>	£126	£43	£304	£65	£43	£730	£491
Sewer flooding: outside your property (1 week) <sup>(3)</sup>	£116	£40	£280	£60	£714	£8,317	£4,422
Unexpected water supply interruption (24 hours) <sup>(4)</sup>	£84	£29	£202	£43	£90	£332	£295
Planned water supply interruption (6 hours) <sup>(5)</sup>	£85	£29	£205	£44	£91	£226	£157
Do not drink notice (48 hours) <sup>(6)</sup>	£80	£27	£192	£41	£431	£63,964	£548
Unexpected water supply interruption (6 hours) <sup>(7)</sup>	£79	£27	£190	£40	£136	£3,822	£515
Discoloured water (24 hours) <sup>(8)</sup>	£67	£23	£162	£34	£75	£314	£231
Water taste and smell (24 hours) <sup>(9)</sup>	£72	£25	£173	£37	£147	£38,235	£266
Discoloured water (6 hours) <sup>(10)</sup>	£69	£24	£167	£36	£60	£139	£90
Boil water notice (48 hours) <sup>(11)</sup>	£67	£23	£161	£34			
Water taste and smell (6 hours) <sup>(11)</sup>	£62	£21	£150	£32			
Significant pollution incident nearby (4 weeks) <sup>(12)</sup>	£52	£18	£126	£27			
Significant pollution incident elsewhere (4 weeks) <sup>(12)</sup>	£47	£16	£114	£24			
Storm overflow nearby (4 hours) <sup>(11)</sup>	£39	£13	£93	£20			
Minor pollution incident elsewhere (1 day) <sup>(12)</sup>	£34	£12	£81	£17			
Minor pollution incident nearby (1 day) <sup>(12)</sup>	£42	£14	£100	£21			
Unexpected low water pressure (6 hours) <sup>(13)</sup>	£44	£15	£106	£23	£21	£158,790	£421
Hosepipe ban (5 months) <sup>(14)</sup>	£37	£13	£90	£19	£32	£325	£97
Low flows in rivers elsewhere (2 months) <sup>(15)</sup>	£36	£13	£88	£19			
River water nearby is not High quality <sup>(16)</sup>	£31	£11	£74	£16			
River water elsewhere is not High quality <sup>(16)</sup>	£28	£10	£67	£14			
Coastal bathing water is neither Excellent nor Good quality <sup>(17)</sup>	£24	£8	£58	£12			
Low flows in rivers nearby (2 months) <sup>(15)</sup>	£29	£10	£70	£15			
Coastal bathing water is not Excellent quality <sup>(17)</sup>	£23	£8	£56	£12			
Storm overflow elsewhere (4 hours) <sup>(11)</sup>	£21	£7	£50	£11			

Notes:

(a) Accent/PJM Economics, June 2018, 'Comparative Review of PR19 WTP Results'. Only attributes valued on a per-property basis are considered.

(b) Mean and median values are reported on a per-incident basis, with the value being contemporaneous with the timing of the incident.

(c) Median across studies

- (1) PR19: duration of incident not indicated; extent of damage varies across studies
- (2) PR19: 'Rota cuts and/or standpipes'; duration of incident, where indicated, varies across studies ranging from 2-4 weeks to 2 months
- (3) PR19: two estimates referring to flooding on peoples' land and in gardens not considered
- (4) PR19: includes 'unexpected'/'unplanned' interruptions of 'up to 24 hours', '12-24 hours', '>24 hours'
- (5) PR19: duration of incident: '3-6 hours', '6-12 hours'
- (6) PR19: 'Water not safe to drink'; duration of incident is 2 weeks, where indicated
- (7) PR19: duration of incident: '3-6 hours', 'around 6 hours', '4-8 hours', '6-12 hours'
- (8) PR19: duration of incident: '24 hours', not indicated (for one study)
- (9) PR19: duration of incident: 'few days', '3 days'
- (10) PR19: duration of incident: 'few hours'
- (11) PR19: not covered
- (12) PR19: valuations are per incident
- (13) PR19: 'Low water pressure'; duration of incident not indicated except for one study (3-6 hours)
- (14) PR19: 'Temporary use ban'
- (15) PR19: valuations are per mile of river
- (16) PR19: valuations are per km of river
- (17) PR19: valuations are per bathing water site

# 6 SP3 Combined Impact-Compensation Exercise Findings

## 6.1 Introduction

This section focuses on findings from the combined impact-compensation exercise. It includes feedback from pilot participants following the exercise, diagnostics concerning the choice data, econometric models and a sensitivity analysis, and the impact scores generated from those models, including a comparison against impact scores based on the SP1 impact exercise.

## 6.2 Participant feedback

Participant feedback was positive overall for SP3, although substantially less positive than for SP1 and SP2.

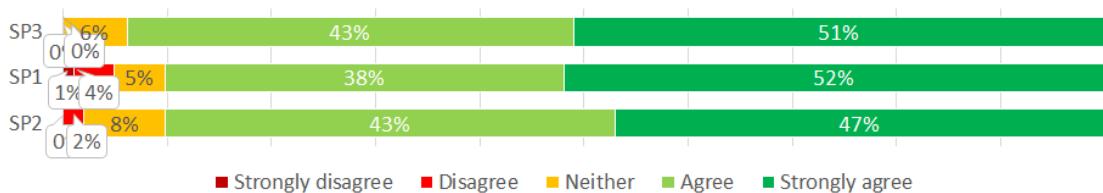
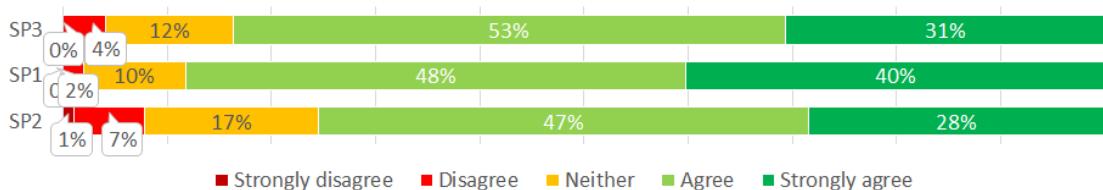
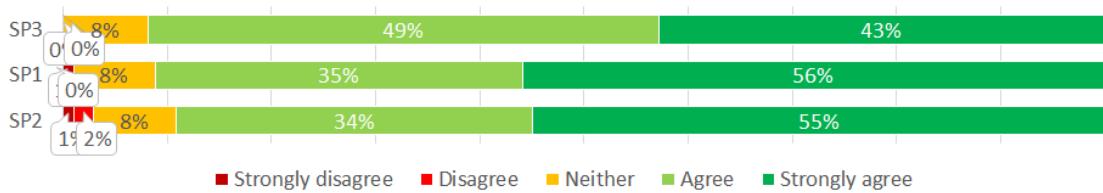
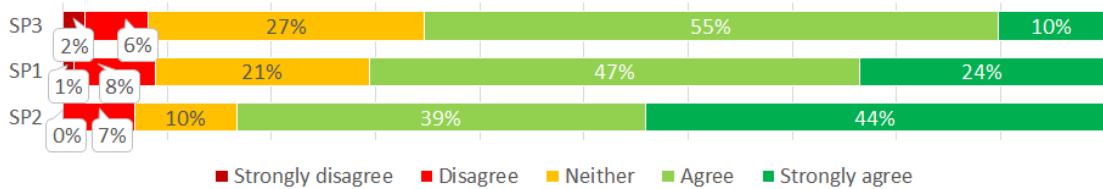
- For households, the combined proportion of participants in the 'Agree' categories was significantly lower ( $p<0.05$ ) on all questions, except for the question regarding whether choices were based on impact (panel c).
- For households, the proportion of participants in the top 'Strongly agree' category was considerably lower in SP3 on all feedback questions.
- The proportion of participants who strongly agreed that they found it easy to choose between the options in SP3 was only half or less the corresponding proportion in SP1 and SP2, for both households and non-households, the relevant differences being highly statistically significant except for non-households in the comparison between SP3 and SP1 ( $p= 0.052$ ).

A problematic issue, in terms of SP design, that emerges from the responses to the feedback follow-up questions, which were asked of participants who disagreed or strongly disagreed regarding the feedback statements, is that some participants appear to have viewed the 'one-off payment' as a fee/charge to be paid to the water company as shown in Table 44, similarly to what occurred in the SP2 compensation exercise.

**Figure 17: SP3 household participant feedback**

Base: SP3 = 200; SP1 = 202; SP2 = 202.

Note: The panel (c) questions were 'My choices were based on how much impact I thought each option would have on my household/ organisation' in SP1 and 'My choices were based on how much impact I thought each option would have on my household/ organisation and whether the amount of money shown was enough to compensate for this' in SP2.

**Figure 18: Combined impact-compensation exercise SP3: non-household participant feedback****(a) I was able to understand the choices****(b) I found the options believable****(c) My choices were based on how much impact I thought each option would have on my household/organisation and the amount of money shown****(d) I found it easy to choose between the options**

Base: SP3 = 49; SP1 = 102; SP2 = 102

**Table 39: Selected SP3 feedback follow-up responses**

No.	Why were you unable to understand the choices?
1	I based my decisions on price
2	Loaded questions that were unfairly canvassed. Do you really need to justify your existence or substantiate an additional charge this way?
3	Why were you unable to understand the choices?
No.	What was not believable about the options shown?
4	By the astronomical charges for something that the customer has not done
5	I do not expect to pay an additional sum for many of these events.
6	Unrealistic charges
6	some of the amounts being asked to pay for. also the drought period would be too long here
7	the cost
8	The money situation that i would be placed in made it difficult

### RECOMMENDATION

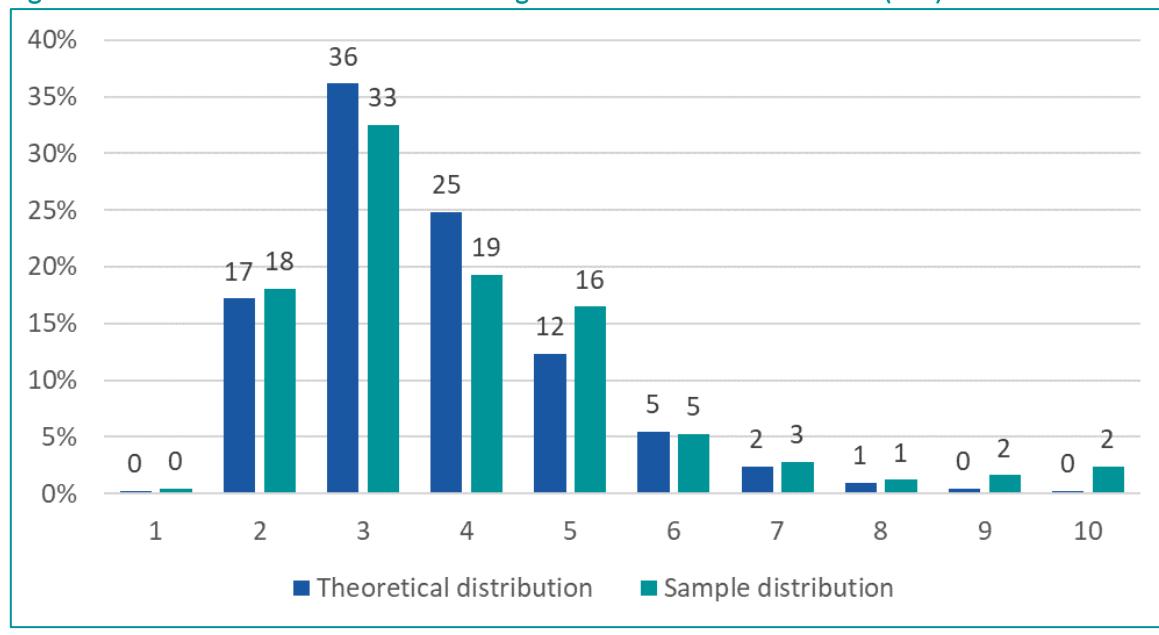
As for SP2, we would recommend referring to compensation as ‘Compensation’ instead of a ‘One-off payment’ and adding clarifications to ensure the exercise is correctly interpreted.

## 6.3 Diagnostics

Making the same choices repeatedly (e.g., Option A chosen nine times in a row) can be indicative of not engaging with the survey, and a large number of non-traders implies a poor-quality dataset for analysis. Figure 10 compares the sample distribution of the maximum length of runs of identical choices (e.g., same option chosen at most 5 times in a row) against the theoretical distribution that is obtained when there are equal choice probabilities for Option A and Option B in each question.

A small proportion (2.4%) chose the same option across all 10 choice occasions. The proportion of participants choosing the same option at least 5 times in a row was 30% against a theoretical expectation of 22%, the difference being highly statistically significant ( $p<0.01$ ), suggesting that non-trading is potentially more of a cause for concern in the SP3 pilot data than was the case in the SP1 data.

**Figure 19: Distribution of the maximum length of runs of identical choices (SP3)**



## 6.4 Econometric modelling

The choices were analysed using a conditional logit model with choice as the dependent variable, a {1,0} variable indicating which of the two scenarios shown was preferred by the participant on each choice occasion. Each scenario may or may not have involved a) some

service issue/environmental damage and b) a compensation payment. The model estimates the ‘utility’ of each scenario in comparison to a base scenario which involves no service issue and no compensation payment.

Separate models were estimated for the household and non-household samples. Larger negative coefficients, in absolute value, on any of the service-issue variables imply a greater impact of that service issue compared to issues that have smaller negative coefficients. The models are shown in Table 40 and Table 41 respectively.

While the models fit the data reasonably well, and none of the coefficients on the service-issue variables are positive and statistically significant, which would indicate that the relevant issues were preferred to ‘No service issue’, the majority of service-issue coefficients are not statistically significant at the 5% level. The compensation enters the models in different functional forms across columns (1) to (3): linear, log, and piecewise linear. None of these yield a statistically significant effect of the compensation on utility, i.e., overall, the participants choices are not sensitive to the compensation amounts, and the sign on the compensation variables is almost invariably negative<sup>12</sup>. These models are therefore not suitable for the purpose of deriving valuations of service issue scenarios.

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<sup>12</sup> The  $p$ -values on the compensation variables in the household models are: (1)  $p = 0.75$ ; (2)  $p = 0.24$ ; (3)  $p = 0.08$ ,  $p = 0.08$ ,  $p = 0.45$ ,  $p = 0.87$ , respectively. In the non-household models: (1)  $p = 0.44$ ; (2)  $p = 0.45$ ; (3)  $p = 0.53$ ;  $p = 0.93$ ;  $p = 0.08$ ;  $p = 0.37$ .

Table 40: SP3 household econometric models

	(1) Linear	(2) Log	(3) Piecewise linear
Compensation (£)	-4.087e-06		
Ln(1 + Compensation/400) <sup>(a)</sup>		-0.1369	
Compensation = 0 (dummy)			-0.2562
Compensation × (0 < Compensation <= 60)			-0.004898
Compensation × (60 < Compensation <= 300)			9.320e-04
Compensation × (300 < Compensation)			-2.189e-06
Unexpected water supply interruption (6 hours)	-0.3049	-0.2903	-0.4339
Unexpected water supply interruption (24 hours)	-0.3453	-0.3337	-0.5105
Planned water supply interruption (6 hours)	-0.2322	-0.2276	-0.3229
Unexpected low water pressure (6 hours)	0.1134	0.1149	-0.01803
Boil water notice (48 hours)	-0.4287	-0.4215	-0.5170
Do not drink notice (48 hours)	-0.6793*	-0.6657*	-0.7357*
Discoloured water (24 hours)	-0.5446	-0.5384	-0.6085*
Water taste and smell (24 hours)	-0.2505	-0.2516	-0.3083
Sewer flooding: inside your property (1 month)	-1.9140**	-1.5289**	-2.1723**
Sewer flooding: outside your property (1 week)	-1.1931**	-0.9934**	-1.4580**
Hosepipe ban (5 months)	-0.5364	-0.5252	-0.5893*
Emergency drought restrictions (2 months)	-0.8593**	-0.8080**	-1.1914**
Low flows in rivers nearby (2 months)	0.1004	0.1030	0.07622
Low flows in rivers elsewhere (2 months)	-0.1833	-0.1878	-0.1557
Storm overflow nearby (4 hours)	-0.2958	-0.2965	-0.2941
Minor pollution incident nearby (1 day)	0.05248	0.05465	0.02454
Significant pollution incident nearby (4 weeks)	-1.1591**	-1.1695**	-1.1594**
Storm overflow elsewhere (4 hours)	-0.2270	-0.2278	-0.2518
Minor pollution incident elsewhere (1 day)	-0.3033	-0.3107	-0.3108
Significant pollution incident elsewhere (4 weeks)	-0.8083*	-0.8104**	-0.7806*
River water nearby is not High quality	-0.08781	-0.08685	-0.1111
River water elsewhere is not High quality	0.02498	0.02405	0.01980
Coastal bathing water is not Excellent quality	-0.6375*	-0.6361*	-0.6360*
Coastal bathing water is neither Excellent nor Good quality	-0.2968	-0.2982	-0.2876
Discoloured water (6 hours)	-0.6406*	-0.6395*	-0.7141*
Water taste and smell (6 hours)	0.06519	0.06499	-0.03275
<b>No. of observations</b>	4,000	4,000	4,000
<b>No. of participants</b>	200	200	200
<b>Pseudo R<sup>2</sup></b>	0.08	0.08	0.08

Note: Conditional logit estimates on unweighted data. Dependent variable: choice. Standard errors clustered by participant in parentheses. \*\*  $p < 0.01$ , \*  $p < 0.05$ .

(a) Variable defined to show the log of percentage changes around an average household bill of £400.

Table 41: SP3 non-household econometric models

	(1) Linear	(2) Log	(3) Piecewise linear
Compensation (% of bill)	-0.005158		
Ln(1 + Compensation)		-0.1875	
Compensation = 0 (dummy)			-0.1652
Compensation × (0 < Compensation <= 40%)			-0.1247
Compensation × (40% < Compensation <= 150%)			-0.7411
Compensation × (150% < Compensation)			-0.006180
Unexpected water supply interruption (6 hours)	-0.7539	-0.7308	-0.8217
Unexpected water supply interruption (24 hours)	-0.9715	-0.9353	-1.0323
Planned water supply interruption (6 hours)	0.2315	0.2466	0.07121
Unexpected low water pressure (6 hours)	-0.7413	-0.7365	-0.9155
Boil water notice (48 hours)	-1.5505*	-1.5193*	-1.6677*
Do not drink notice (48 hours)	-1.8570*	-1.8045*	-1.9108*
Discoloured water (24 hours)	-0.9188	-0.8890	-0.9777
Water taste and smell (24 hours)	-0.8471	-0.8362	-0.9399
Sewer flooding: inside your property (1 month)	-2.5167**	-2.1173*	-2.6592**
Sewer flooding: outside your property (1 week)	-2.3589**	-2.0034**	-2.4932**
Hosepipe ban (5 months)	-1.6709*	-1.6426*	-1.7406*
Emergency drought restrictions (2 months)	-1.7318**	-1.6000**	-1.4672
Low flows in rivers nearby (2 months)	-0.9054	-0.9130	-0.9070
Low flows in rivers elsewhere (2 months)	-0.4109	-0.4198	-0.3949
Storm overflow nearby (4 hours)	-0.6019	-0.6035	-0.5820
Minor pollution incident nearby (1 day)	-0.7339	-0.7418	-0.7722
Significant pollution incident nearby (4 weeks)	-2.6888**	-2.6713**	-2.7222**
Storm overflow elsewhere (4 hours)	-0.5069	-0.5081	-0.5336
Minor pollution incident elsewhere (1 day)	-0.5810	-0.5886	-0.5741
Significant pollution incident elsewhere (4 weeks)	-1.8541**	-1.8480**	-1.8768**
River water nearby is not High quality	-0.4662	-0.4615	-0.4281
River water elsewhere is not High quality	-0.1675	-0.1692	-0.1611
Coastal bathing water is not Excellent quality	-1.3808*	-1.3780*	-1.3854*
Coastal bathing water is neither Excellent nor Good quality	-1.3559*	-1.3712*	-1.2675
Discoloured water (6 hours)	-1.1860	-1.1764	-1.3627*
Water taste and smell (6 hours)	-0.3655	-0.3488	-0.4804
No. of observations	980	980	980
No. of participants	49	49	49
Pseudo R <sup>2</sup>	0.16	0.16	0.17

Note: Conditional logit estimates on unweighted data. Dependent variable: choice. Standard errors clustered by participant in parentheses. \*\*  $p < 0.01$ , \*  $p < 0.05$ .

We investigated the sensitivity of the baseline model in column (1) to excluding:

- Participants who (strongly) disagreed or neither agreed nor disagreed on any of the feedback questions;
- Participants whose completion time for SP3 was less than the 10<sup>th</sup> percentile of the distribution of completion times (households: 60 seconds; non-households: 71 seconds);
- Participants whose completion time for SP3 was less than the 25<sup>th</sup> percentile of the distribution of completion times (households: 96 seconds; non-households: 122 seconds).

The relevant models are shown in Table 42 for households and Table 43 for non-households. None of the coefficients on the compensation variable were found to be

statistically different from zero at the 5% level<sup>13</sup>. Only in the non-household model in column (2) does the coefficient come close to being statistically significant albeit with the ‘wrong’ (negative) sign.

**Table 42: SP3 household econometric models: sensitivity analysis**

	(1) Positive feedback only	(2) Completion time > 10 <sup>th</sup> percentile	(3) Completion time > 25 <sup>th</sup> percentile
<b>Compensation (£)</b>	-6.323e-06	-3.556e-06	7.276e-07
<b>Unexpected water supply interruption (6 hours)</b>	0.4501	-0.2755	-0.4300
<b>Unexpected water supply interruption (24 hours)</b>	0.02092	-0.2916	-0.4708
<b>Planned water supply interruption (6 hours)</b>	0.1212	-0.1653	-0.4380
<b>Unexpected low water pressure (6 hours)</b>	0.3546	0.1444	0.003337
<b>Boil water notice (48 hours)</b>	-0.02355	-0.4867	-0.5605
<b>Do not drink notice (48 hours)</b>	-0.2846	-0.7156*	-1.0165**
<b>Discoloured water (24 hours)</b>	0.4478	-0.5582	-0.7428*
<b>Water taste and smell (24 hours)</b>	0.1545	-0.3347	-0.5670
<b>Sewer flooding: inside your property (1 month)</b>	-1.4443*	-1.9548**	-2.2472**
<b>Sewer flooding: outside your property (1 week)</b>	-0.6947	-1.1975**	-1.3883**
<b>Hosepipe ban (5 months)</b>	0.09853	-0.4920	-0.6322
<b>Emergency drought restrictions (2 months)</b>	-0.03161	-0.8748**	-1.1945**
<b>Low flows in rivers nearby (2 months)</b>	0.1224	0.1593	0.06038
<b>Low flows in rivers elsewhere (2 months)</b>	0.2775	-0.2248	-0.4782
<b>Storm overflow nearby (4 hours)</b>	-0.2620	-0.2241	-0.4100
<b>Minor pollution incident nearby (1 day)</b>	0.5161	0.09533	-0.2304
<b>Significant pollution incident nearby (4 weeks)</b>	-0.7420	-1.1389**	-1.2453**
<b>Storm overflow elsewhere (4 hours)</b>	0.7732	-0.1397	-0.3422
<b>Minor pollution incident elsewhere (1 day)</b>	0.07520	-0.4609	-0.8204*
<b>Significant pollution incident elsewhere (4 weeks)</b>	0.05222	-0.7621*	-1.2271**
<b>River water nearby is not High quality</b>	0.6159	-0.08742	-0.2932
<b>River water elsewhere is not High quality</b>	0.3622	0.02733	-0.2265
<b>Coastal bathing water is not Excellent quality</b>	-0.4378	-0.5838*	-0.8461**
<b>Coastal bathing water is neither Excellent nor Good quality</b>	0.5085	-0.3467	-0.7657*
<b>Discoloured water (6 hours)</b>	0.06882	-0.6257	-0.8764*
<b>Water taste and smell (6 hours)</b>	0.1469	0.1063	-0.1591
<b>No. of observations</b>	1,720	3,600	2,980
<b>No. of participants</b>	86	180	149
<b>Pseudo R<sup>2</sup></b>	0.08	0.08	0.09

Note: Conditional logit estimates on unweighted data. Dependent variable: choice. Standard errors clustered by participant in parentheses. \*\*  $p < 0.01$ , \*  $p < 0.05$ .

<sup>13</sup> The  $p$ -values on the compensation variables (1)  $p = 0.76$ ; (2)  $p = 0.80$ ; (3)  $p = 0.96$ , respectively, in the household models and (1)  $p = 0.90$ ; (2)  $p = 0.07$ ; (3)  $p = 0.39$ , respectively, in the non-household models.

**Table 43: SP3 non-household econometric models: sensitivity analysis**

	(1) Positive feedback only	(2) Completion time > 10 <sup>th</sup> percentile	(3) Completion time > 25 <sup>th</sup> percentile
Compensation (% of bill)	-0.001213	-0.01039	-0.005636
Unexpected water supply interruption (6 hours)	-0.1371	-1.2005*	-1.7227*
Unexpected water supply interruption (24 hours)	-0.7205	-1.3789	-2.0596*
Planned water supply interruption (6 hours)	0.9128	-0.1923	-0.5819
Unexpected low water pressure (6 hours)	-0.8894	-0.8904	-0.9544
Boil water notice (48 hours)	-1.9641*	-1.8751**	-2.3361*
Do not drink notice (48 hours)	-1.6986	-2.1872**	-2.8445**
Discoloured water (24 hours)	-0.9294	-1.1920	-1.7002
Water taste and smell (24 hours)	-0.6720	-1.2939	-1.2358
Sewer flooding: inside your property (1 month)	-2.1309*	-2.9796**	-3.8490**
Sewer flooding: outside your property (1 week)	-2.2614*	-3.0770**	-3.9541**
Hosepipe ban (5 months)	-1.6792	-2.1133**	-2.5493**
Emergency drought restrictions (2 months)	-1.6152	-2.2153**	-2.5071**
Low flows in rivers nearby (2 months)	-0.02858	-1.4360*	-1.6079
Low flows in rivers elsewhere (2 months)	0.2410	-0.7650	-0.9874
Storm overflow nearby (4 hours)	0.5038	-0.7423	-1.3725
Minor pollution incident nearby (1 day)	-0.3003	-0.8366	-1.7725
Significant pollution incident nearby (4 weeks)	-3.7877**	-3.3382**	-3.8230**
Storm overflow elsewhere (4 hours)	0.3181	-1.1274	-1.1720
Minor pollution incident elsewhere (1 day)	0.6501	-1.0728	-1.3180
Significant pollution incident elsewhere (4 weeks)	-1.5360	-2.2464**	-3.1333**
River water nearby is not High quality	0.1750	-0.9577	-1.8299
River water elsewhere is not High quality	-0.2238	-0.1935	-0.6658
Coastal bathing water is not Excellent quality	-2.0552*	-1.5205*	-2.0849**
Coastal bathing water is neither Excellent nor Good quality	-0.9470	-1.8989**	-2.5322**
Discoloured water (6 hours)	-0.7977	-1.6416*	-2.2513*
Water taste and smell (6 hours)	2.461e-04	-0.5436	-0.9666
<b>No. of observations</b>	600	880	720
<b>No. of participants</b>	30	44	36
<b>Pseudo R<sup>2</sup></b>	0.22	0.20	0.24

Note: Conditional logit estimates on unweighted data. Dependent variable: choice. Standard errors clustered by participant in parentheses. \*\*  $p < 0.01$ , \*  $p < 0.05$ .

We posit two possible explanations for the above findings showing a complete lack of sensitivity to compensation amounts.

- First, the feedback responses indicated that some participants appear to have viewed the 'one-off payment' as a fee/charge to be paid to the water company instead of as compensation. This would tend to produce a negative association between the compensation/payment under a given scenario and the probability of that scenario being chosen. It is unfortunately not possible to identify everyone who responded in this way as we only have the feedback responses from some participants to indicate that this was an issue for some subset of participants.
- Second, it is possible that some participants may have focused on the service issues involved in each option ignoring compensations, which would tend to lead to downward bias. This may have occurred because the service issue attribute was more 'prominent' in terms of layout. There is no direct evidence of this, but it is certainly a potential explanation.

## RECOMMENDATION

- Although it should be possible to improve the survey materials to try and prevent these two issues, without a further pilot, there is no guarantee that the changes would have the desired effect. On this basis, and given the lack of time available in the programme to undertake a third pilot, we would recommend abandoning the SP3 exercise in favour of the first version combining SP1 and SP2, which was found to work effectively in this 2<sup>nd</sup> pilot.

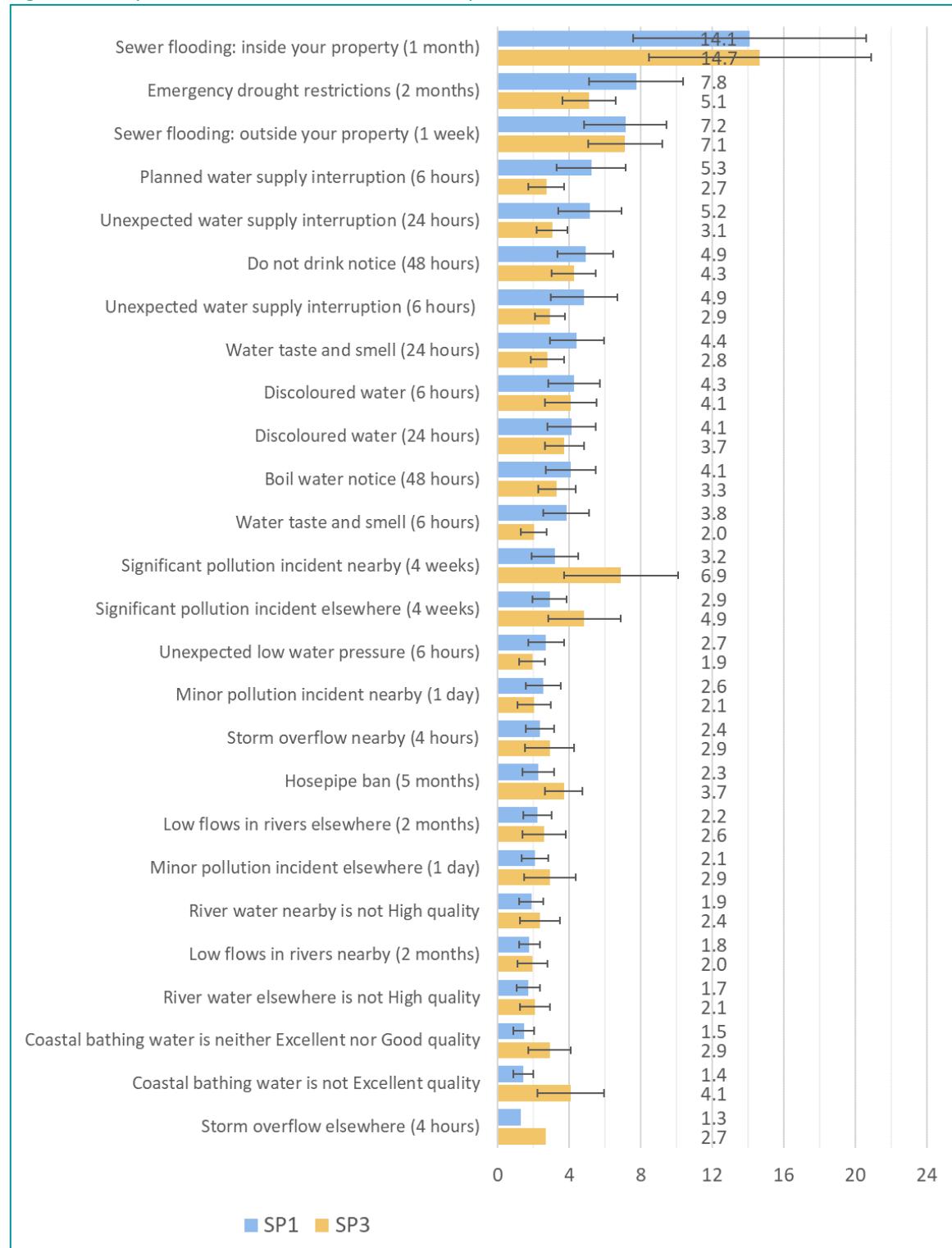
## 6.5 Impact scores

Figure 20 and Figure 21 show the SP3 impact scores for each of the 26 service issue scenarios for households and non-households, respectively, compared against impact scores obtained from the impact exercise (SP1). The SP3 impact scores were calculated as exponentials of the negatives of the coefficients in the respective baseline models (column 1) in Table 40 and Table 41, and were scaled to sum to 100 across the full set of scenarios covered in the exercise. These scores are an index representing the relative impact of each scenario.

As in SP1 we find that the impact score for internal sewer flooding is the highest of all the service issues, as expected. Confidence intervals are fairly broad for both sets of impact scores, and approximately of equal size in the case of households, where the sample sizes were equivalent. In the case of non-households, confidence intervals are extremely broad for SP3, which is consistent with the small sample size of only 49 participants in this case, which clearly appears to be too small to reliably estimate values from this design.

In general, confidence intervals overlap with one another when comparing SP1 and SP3, indicating a consistency between the designs, although sample sizes are too small for these comparisons to have any substantial power.

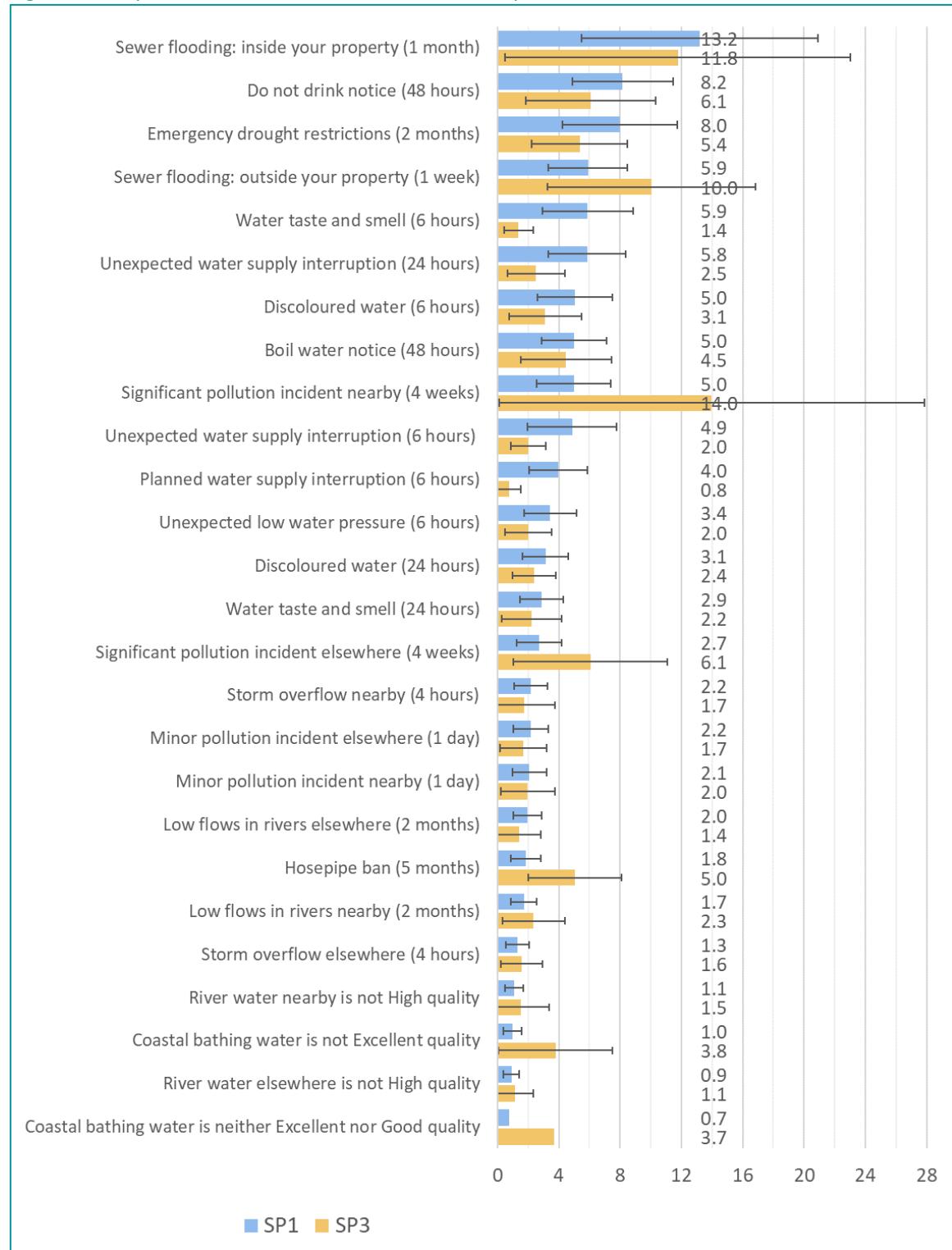
Figure 20: Impact scores for the household sample: SP3 vs SP1



Base: SP3 = 200; SP1 = 202

Note: The error bars show 95% confidence intervals calculated using the delta method.

Figure 21: Impact scores for the non-household sample: SP3 vs SP1



Base: SP3 = 49; SP1 = 102

Note: The error bars show 95% confidence intervals calculated using the delta method.

# 7 Conclusions and Recommendations

The results of the 2<sup>nd</sup> pilot have provided further mixed evidence with respect to the stated preference design approaches.

On the positive side, the key issues identified at the 1<sup>st</sup> pilot stage were both effectively resolved in Version 1 of the survey:

- At the highest compensation levels shown there were much lower proportions of participants choosing not to take the compensation offered than in the 1<sup>st</sup> pilot. Hence, mean and median valuations could be estimated for both households and non-households from the pilot survey.
- Estimates of the relative value of the two ‘pivot’ scenarios included in the compensation exercise were much more closely aligned when obtained from the compensation exercise as when obtained from the impact exercise. This indicates that participants were choosing consistently across the two exercises in line with the assumed underlying preference function.

Furthermore, feedback from participants remained equally strong in Version 1 as in the 1<sup>st</sup> pilot.

However, the 2<sup>nd</sup> pilot impact exercise choice data appeared to be substantially more random than that of the 1<sup>st</sup> pilot, leading to impact scores that were much less spread apart. Consequently, values for internal sewer flooding were substantially lower than expected. This appears to be a consequence of the change in panel data provider (1<sup>st</sup> pilot=Kantar; 2<sup>nd</sup> pilot=Dynata), rather than any change to the survey design, as there were no substantive changes to the impact exercise design between 1<sup>st</sup> and 2<sup>nd</sup> pilots, while the stated preference exercise completion times were much shorter in the 2<sup>nd</sup> pilot than in the 1<sup>st</sup> pilot.

The main stage is expected to include a combination of PAF data and a mix of online panels for households, and so we would expect the main stage data to conform more closely to the 1<sup>st</sup> pilot than to the 2<sup>nd</sup> pilot. This therefore mitigates against the need to make any change to the design on account of the issue uncovered.

A further issue identified with respect to Version 1 concerns the use the term ‘One-off payment’ in place of ‘Compensation’ in the compensation choice exercise. This appears to have caused some participants to believe that they would have to make a payment, rather than them receiving the payment, despite the fact that the questionnaire text should have made this clear.

Given that there will always be some participants that skim through the survey quickly, it is important that there is no cause for misinterpretation over this fundamental point. Consequently, we recommend reverting back to the use of the term 'Compensation' instead of 'One-off payment'.

This is the only change we recommend making with respect to Version 1 of the survey. In other respects, the survey design appears to have performed well, and we have confidence that it should return valid and reliable estimates of customers' values for avoiding each of the different types of service issues included in the design.

The findings with respect to Version 2 are substantially less positive.

The key issue concerns the finding of a complete lack of sensitivity of choices, on average, with respect to the compensation level shown. The consequence of this is that it has been impossible to estimate the values of avoiding any of the service issues shown. A number of different models were estimated, including on different sensitivity samples, but this result stayed the same.

We posit two possible explanations for this finding:

- First, the feedback responses indicated that some participants appear to have viewed the 'one-off payment' as a fee/charge to be paid to the water company instead of as compensation. This would tend to produce a negative association between the compensation/payment under a given scenario and the probability of that scenario being chosen.
- Second, it is possible that some participants may have focused on the service issues involved in each option ignoring compensations, which would tend to lead to downward bias. This may have occurred because the service issue attribute was more 'prominent' in terms of layout. There is no direct evidence of this, but it is certainly a potential explanation.

Although it should be possible to improve the survey materials to try and prevent these two issues, without a further pilot, there is no guarantee that the changes would have the desired effect. On this basis, and given the lack of time available in the programme to undertake a third pilot, we recommend abandoning the SP3 exercise in favour of the first version combining SP1 and SP2, which was found to work effectively in this 2<sup>nd</sup> pilot.

# Appendix A

Version 1 and Version 2 Questionnaires





# Water Company Research V1

This survey is designed to get your views on water and sewerage services. It is being undertaken on behalf of Ofwat, the regulator, and Consumer Council for Water (CCW), the consumer organisation which represents the interests of water and sewerage customers in England and Wales.

The research will be used to help water companies plan investment in their service from 2025, and will influence your future water services and bills.

This research is being conducted by Accent, an independent research agency on behalf of Ofwat and CCW.

**NOT PANEL:** Anyone completing the survey will be eligible for a £10 voucher (either an Amazon voucher, an M&S voucher, Love2Shop voucher). Alternatively we can donate your incentive to WaterAid. Details on how claim your voucher are given at the end of the survey.

The questionnaire will take about 15 minutes to complete.

Any answer you give will be treated in confidence in accordance with the Code of Conduct of the Market Research Society. If you would like to confirm Accent's credentials type Accent in the search box at: <https://www.mrs.org.uk/researchbuyersguide>.

- Q1.** Any data collected over the course of this interview that could be used to identify you, such as your name, address, or other contact details, will be held securely and will not be shared with any third party, including your water company, unless you give permission (or unless we are legally required to do so). Our privacy statement is available at <https://www.accent-mr.com/privacy-policy/>.

Do you agree to proceeding with the interview on this basis?

Yes

No **THANK AND CLOSE IF ONLINE**

- Q2.** **ASK HH ONLY:** Do you or any of your close family work in market research or for a water company?

Yes **THANK & CLOSE**

No

- Q3.** **IF NHH ASK:** Are you solely or jointly responsible as the decision maker for paying your organisation's water and wastewater bill?

Yes

No **THANK AND CLOSE**

- Q4. IF POSTCODE DATA NOT AVAILABLE FROM SAMPLE** Please tell us the first half of your postcode.  
 So if your full postcode is ME1 3BN please just tell us ME1 3. (This will be used to check who supplies your water and wastewater services) **NHH ONLY If your organisation operates across multiple sites, please answer for the site you typically work from**

**IF HH AND REFUSE GO TO Q6**

**IF NHH AND REFUSE THANK AND CLOSE**

- Q5. IF HH AND DIFFERENT WATER AND WASTEWATER:** Based on your postcode area, we believe your clean water service company should be #WATER COMPANY# and your wastewater service company should be #WASTEWATER COMPANY#. You may receive separate bills from each organisation or one combined bill. Is that correct?  
**IF SAME WATER AND WASTEWATER:** Based on your postcode area, we believe your clean water service and wastewater service company should be #WATER COMPANY#. Is that correct?

Yes **GO TO Q8**

No **GO TO Q6**

Don't know **GO TO Q8**

- Q6. IF HH:** Which water company supplies clean water to your home?  
**IF NHH:** Which of the following companies bill you for clean water services at your premises?

- Affinity Water
- Anglian Water
- Bournemouth Water
- Bristol Water
- Cambridge Water
- Essex & Suffolk Water
- Hafren Dyfrdwy
- Hartlepool Water
- Northumbrian Water
- Portsmouth Water
- Severn Trent Water
- South East Water
- Southern Water
- South Staffs Water
- South West Water
- Sutton & East Surrey (SES) Water
- Thames Water
- United Utilities
- Welsh Water/Dŵr Cymru
- Wessex Water
- Yorkshire Water

**IF NHH SHOW FOLLOWING TITLE AND LIST: Retailers**

- ADSM
- Berendsen UK Limited
- Blackpool Borough Council
- BT
- Business Stream
- Castle Water
- Clear Business Water
- ConservAqua Ltd
- Everflow
- First Business Water

Greene King Brewing & Retailing  
 Heineken UK Limited  
 Independent Water Networks  
 J Sainsbury  
 John Lewis PLC  
 Kellogg Company of Great Britain Limited  
 LEEP Utilities  
 Marston's PLC  
 Nottingham City Council  
 Pennon Water Services  
 Regent Water  
 Sefton Council  
 SES Business Water  
 Smarta Water  
 Stonegate Pub Company  
 The Water Retail Company  
 Veolia Water Projects  
 Veolia Water Retail (UK) Limited  
 Water Plus  
 Wave  
 Wave 2 Business  
 Whitbread Group  
 YU Water

Other (Please specify) **THEN THANK AND CLOSE**

Don't know **THANK AND CLOSE**

None **THANK AND CLOSE**

**Q6B IF NHH:** Do these bills include wastewater services or do you receive separate bills for wastewater?

Include wastewater services  
 Receive separate bill for wastewater

**Q7. IF HH:** Which company provides wastewater (sewerage) services to your home?

**IF NHH AND Q6B=2:** Which of the following companies bill you for wastewater services at your premises?

Anglian Water  
 Hafren Dyfrdwy  
 Northumbrian Water  
 Severn Trent Water  
 Southern Water  
 South West Water  
 Thames Water  
 United Utilities  
 Welsh Water/Dŵr Cymru  
 Wessex Water  
 Yorkshire Water

**IF NHH SHOW FOLLOWING TITLE AND LIST: Retailers**

ADSM  
 Berendsen UK Limited  
 Blackpool Borough Council  
 BT  
 Business Stream  
 Castle Water  
 Clear Business Water  
 ConservAqua Ltd

Everflow  
 First Business Water  
 Greene King Brewing & Retailing  
 Heineken UK Limited  
 Independent Water Networks  
 J Sainsbury  
 John Lewis PLC  
 Kellogg Company of Great Britain Limited  
 LEEP Utilities  
 Marston's PLC  
 Nottingham City Council  
 Pennon Water Services  
 Regent Water  
 Sefton Council  
 SES Business Water  
 Smarta Water  
 Stonegate Pub Company  
 The Water Retail Company  
 Veolia Water Projects  
 Veolia Water Retail (UK) Limited  
 Water Plus  
 Wave  
 Wave 2 Business  
 Whitbread Group  
 YU Water

Other (please specify) THEN THANK AND CLOSE

Don't know THANK AND CLOSE

None THANK AND CLOSE

- Q8.** **IF HH:** Are you the person in your household who is responsible, either solely or jointly, for paying for your water services bill?

I have complete responsibility for payment  
 I share responsibility for payment with others in my household  
 I have no responsibility  
 Don't know

**BILLPAYER: = CODE 1 OR 2**

**NONBILLPAYER: = CODE 3-4**

- Q9.** **IF HH** Which of the following age groups do you fall into?

Under 18 THANK AND CLOSE  
 18-29  
 30-64  
 65 or older  
 Prefer not to say  
**USE HH QUOTA IF PANEL**

- Q10.** **IF HH** What is your sex? (A question about gender identity will follow)

Male  
 Female  
**USE HH QUOTA IF PANEL**

**Q10a IF HH:** Is the gender you identify with the same as your sex registered at birth? **We would like to collect this to ensure that people of all backgrounds are represented in the study, but you do not have to answer if you do not wish to. This information will not be shared with any third party and will be destroyed within 12 months of project completion.**

Yes

No (type in gender identity)

Prefer not to say

**Q11. IF ONE SUPPLIER FOR WATER AND WASTEWATER DON'T ASK (BUT CODE AS ONE BILL FOR BOTH SERVICES) IF HH & BILLPAYER:** Do you receive separate bills for water and sewerage services or one bill for both services?

Separate bills

One bill for both services

Don't know

**Q12b IF HH & BILLPAYER:** How often do you make payment for water and sewerage services?

Annually

Every six months

Every month, over eight months of the year

Every month

Other (please specify)

Don't know **GO TO Q14**

**Q13 IF HH & BILLPAYER AND Q12B=1, 4-5 ASK:** How much, roughly, do you pay for water and sewerage services each month, or in total for a year? The month amounts assume that the bills are paid evenly over a 12-month period, but some customers pay over a different number of months.

**IF HH & BILLPAYER AND Q12B=3 ASK:** How much, roughly, do you pay for water and sewerage services for each of the eight months, or in total for a year?

**IF HH & BILLPAYER AND Q12B=2 ASK:** How much, roughly, do you pay for water and sewerage services every 6 months, or in total for a year?

**IF NHH:** Which of the following bands do you estimate that your organisation's annual total water bill at your premises falls into – that's the amount for both water and sewerage services.

**IF HH and 12B=1, 4 or 5:** Less than £10 per month/Less than £120 per year

**IF HH and 12B=1, 4 or 5:** £10 - £19.99 per month/£120 - £239.99 per year

**IF HH and 12B=1, 4 or 5:** £20 - £29.99 per month/£240 - £359.99 per year

**IF HH and 12B=1, 4 or 5:** £30 - £39.99 per month/£360 - £479.99 per year

**IF HH and 12B=1, 4 or 5:** £40 - £59.99 per month/£480 - £719.99 per year

**IF HH and 12B=1, 4 or 5:** £60 - £79.99 per month/£720 - £959.99 per year

**IF HH and 12B=1, 4 or 5:** £80 or more per month /£960 or more per year

**IF HH and 12B=3:** Less than £15 per month/Less than £120 per year

**IF HH and 12B=3:** £15 - £29.99 per month/£120 - £239.99 per year

**IF HH and 12B=3:** £30 - £39.99 per month/£240 - £359.99 per year

**IF HH and 12B=3:** £40 - £59.99 per month/£360 - £479.99 per year

**IF HH and 12B=3:** £60 - £89.99 per month/£480 - £719.99 per year

**IF HH and 12B=3:** £90 - £199.99 per month/£720 - £959.99 per year

**IF HH and 12B=3:** £120 or more per month /£960 or more per year

**IF HH and 12B=2:** Less than £60 every 6 months/Less than £120 per year

**IF HH and 12B=2:** £60 - £119.99 every 6 months /£120 - £239.99 per year

**IF HH and 12B=2:** £120 - £179.99 every 6 months /£240 - £359.99 per year

**IF HH and 12B=2:** £180 - £239.99 every 6 months /£360 - £479.99 per year

**IF HH and 12B=2:** £240 - £359.99 every 6 months /£480 - £719.99 per year

**IF HH and 12B=2:** £360- £479.99 every 6 months /£720 - £959.99 per year

IF HH and 12B=2: £480 or more every 6 months /£960 or more per year  
 IF NHH: Less than £1,000 per year  
 IF NHH: £1,000 to £5,000 per year  
 IF NHH: £5,000 to £25,000 per year  
 IF NHH: More than £25,000 per year  
 I'm not sure

## Service issues

Q14 Have you ever experienced any of the following? ***ROTATE***

**Please tick one or more**

Unexpected water supply interruption

Planned water supply interruption

Unexpected low pressure

Boil water notice

Do not drink notice

**Discolouration of water coming out of your tap**

**A change to the taste and/or smell of your tap water**

Sewer flooding: inside your property

Sewer flooding: outside your property

Hosepipe ban

Emergency drought restrictions (e.g. tap water being cut off on a rota basis to conserve supplies)

**Pollution in a river**

**Pollution in the sea near a beach**

**Other (please specify)**

I haven't experienced any of these **GO TO Q15**

Q14b **IF ONE BELOW IN Q14 ASK:** Have you experienced the following in the last 12 months?

**IF BOTH BELOW IN Q14 ASK:** Have you experienced any of the following in the last 12 months?

**IF TICKED IN Q14:** Discolouration of water coming out of your tap

**IF TICKED IN Q14:** A change to the taste and/or smell of your tap water

## Use of rivers and beaches in the UK

IF HH: We would like to now find out a bit more about your use of rivers and beaches in the UK.

Q15 **IF HH:** How often do you, or anyone in your household, use rivers in the UK for any of the following activities?

	Often (more than six times a year)	Sometimes (between one and five times a year)	Rarely (less than once a year)	Never
Water contact activities (e.g. canoeing, rowing, rafting, paddleboarding, swimming, paddling)				
Fishing				
Walking, running, cycling or sitting nearby or other activities on or around the water (e.g. narrowboating, other types of boating)				

Q16 **IF HH:** How often do you, or anyone in your household, use the beach or sea in the UK for any of the following activities?

	Often (more than six times a year)	Sometimes (between one and five times a year)	Rarely (less than once a year)	Never
Water contact activities (e.g. surfing, windsurfing, dinghy sailing, canoeing, paddleboarding, swimming, paddling)				
Fishing				
Walking, running, cycling or sitting or playing nearby or other activities on or around the water (e.g. other types of boating)				

## Use of hosepipe or sprinkler

Q16a How often does your [IF HH] household [IF NHH] premises use a hosepipe or sprinkler for any purpose (e.g. washing/cleaning, or watering plants)?

Often (more than six times a year);  
 Sometimes (between one and five times a year)  
 Rarely (less than once a year)  
 Never

## Impact of service issues

You are now going to be shown a series of ten short questions where you will be asked to choose between two different scenarios for your water or wastewater service.

Please consider, and then compare the scenarios carefully, and then **choose the one which would have the most impact** on your IF HH: household IF NHH: organisation if it were to happen

Some of the scenarios would affect your own property whereas others would affect your local area. When comparing the impact that each would have, please:

- **do** consider any concerns you may have for the local area or natural environment,
- **don't** consider any impacts on other people outside your IF HH: household IF NHH: organisation - other people will answer for themselves!

On some of the options you will see an ⓘ . Please click on this to see some more information about the option.

Q17 Which of these would have the most impact on your IF HH: household IF NHH: organisation?

PLANNED water supply interruption (24 hours)	Discoloured water (24 hours)
<ul style="list-style-type: none"> <li>▶ Your water company sends you a notice that in 2 days' time your tap water supply will stop for 24 hours</li> <li>▶ This is due to planned maintenance in your local area</li> <li>▶ As planned, it then stops from a Wednesday morning to a Thursday morning</li> </ul>  	<ul style="list-style-type: none"> <li>▶ Your tap water starts running light brown, without warning</li> <li>▶ This is due to traces of sediment from pipes being disturbed</li> <li>▶ The water is safe to drink, but you shouldn't use a dishwasher or washing machine until the water runs clear again</li> <li>▶ This happens for 24 hours from a Wednesday morning</li> </ul>



Q18 Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q19 Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q20 Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q21 Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q22 Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q23 Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q24 Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q24b Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q24c Which of these would have the most impact on your IF HH: household IF NHH: organisation?

Q25 We would now like to ask you a few questions about the choices you have just made. How strongly do you agree or disagree with the following statements about the choices you have just made?

	Strongly disagree	Disagree	Neither	Agree	Strongly agree
I was able to understand the choices					
I found the options believable					
My choices were based on how much impact I thought each option would have on my [IF HH] household [IF NHH] organisation.					
I found it easy to choose between the options					

**Q26 ASK IF Q25.1 = 1 OR 2. OTHERS GO TO Q27:** Why were you unable to understand the choices?

**Q27 ASK IF Q25.2 = 1 OR 2. OTHERS GO TO Q28:** What was not believable about the options shown?

**Q28 ASK IF Q25.3 = 1 OR 2. OTHERS GO TO Q29:** What were the main factors driving your choices if not the impact that each would have on your [IF HH] household [IF NHH] organisation?

**Q29 ASK IF Q25.4 = 1 OR 2. OTHERS GO TO NEXT SECTION:** Why was it difficult choosing between the options?

## One-off payments for service issues

The following questions will each present you with a choice between:

- a) experiencing a service issue and receiving a one-off payment from your water company,
- or
- b) not experiencing the issue and not receiving any payment.

In each question, the type of service issue and the one-off payment amount will vary. The amounts will not necessarily reflect current compensation entitlements and may exceed these levels - substantially in some cases.

The purpose of these questions is to see if the amounts shown are enough to make up for the impact on your [IF HH] household [IF NHH] organisation from the service issue shown. It is important to consider each amount at face value, even if it seems higher than you would imagine might be offered.

RANDOMISE ORDER OF SERVICE ISSUES SHOWN IN Q30-Q31.

**Q30 Which option would you prefer?**

Option A	Option B
<p><b>UNEXPECTED water supply interruption (6 hours)</b></p> <ul style="list-style-type: none"> <li>▶ Your tap water supply stops working without warning</li> <li>▶ This is due to a burst pipe in your local area</li> <li>▶ It stops for 6 hours, between 12:00 and 18:00 on a Wednesday afternoon</li> </ul>   <p><b>One-off payment amount *: £100</b></p>	<p>No unexpected water supply interruption</p>

**IF BILLPAYER OR NHH:** \* one-off payments would be paid automatically, and within 7 days, by crediting your bank account, if you have a direct debit set up, or by sending you a cheque otherwise

**IF NON-BILLPAYER:** \* one-off payments would be paid automatically, and within 7 days, by sending a cheque to your household.

If Option A one-off payments level=50% of Q30 value

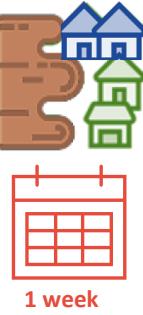
If Option B one-off payments level =2\*Q30 value

Then add in follow up question (Q30a) containing new compensation amounts.

### Q30a Which option would you prefer?

### Q30d [IF Q30=B AND Q30a=B] Why did you choose this option?

### Q31 Which option would you prefer?

Option A	Option B
<p>Sewer flooding: OUTSIDE your property (1 week)</p> <ul style="list-style-type: none"> <li>▶ Flooding from the sewer affects access to your front door / entrance</li> <li>▶ This results from prolonged heavy rainfall in your local area</li> <li>▶ It gives off a foul smell, and could cause damage</li> <li>▶ It takes 1 week for <b>access to</b> your property to get back to normal</li> </ul> 	<p>NO Sewer flooding: OUTSIDE your property</p>

One-off payment amount \*: £200

**IF BILLPAYER OR NHH:** \* one-off payments would be paid automatically, and within 7 days, by crediting your bank account, if you have a direct debit set up, or by sending you a cheque otherwise

**[IF NON-BILLPAYER]** \* one-off payments would be paid automatically, and within 7 days, by sending a cheque to your household.

If Option A one-off payments level=50% of Q31 value

If Option B one-off payments level =2\*Q31 value

Then add in follow up question (Q31a) containing new compensation amounts.

### Q31A Which option would you prefer?

### Q31B [IF Q31=B AND Q31A=B] Why did you choose this option?

Q32 We would now like to ask you a few questions about the choices you have just made. How strongly do you agree or disagree with the following statements about the choices you have just made?

	Strongly disagree	Disagree	Neither	Agree	Strongly agree
I was able to understand the choices					
I found the options believable					
My choices were based on how much impact I thought each option would have on my [IF HH] household [IF NHH] organisation and whether the amount of money shown					
I found it easy to choose between the options					

Q33 ASK IF Q32.1 = 1 OR 2. OTHERS GO TO Q34: Why were you unable to understand the choices?

Q34 ASK IF Q32.2 = 1 OR 2. OTHERS GO TO Q35: What was not believable about the options shown?

Q35 ASK IF Q32.3 = 1 OR 2. OTHERS GO TO Q36: What were the main factors driving your choices?

Q36 ASK IF Q32.4 = 1 OR 2. OTHERS GO TO NEXT SECTION: Why was it difficult choosing between the options?

## Attitudes to environmental costs

Q37 IF HH: Please look at the following five statements about pollution control and the costs of pollution control. Which one do you agree with most? **SINGLE CHOICE**

The environment should be protected from pollution and improved, **regardless of cost**

The environment should be protected from pollution and improved, **provided costs are not excessive**

The environment should be protected from pollution and improved, **but at no additional cost**

Further protection and improvements to the environment are not needed, and the costs for this should fall

Standards for protection and improvement to the environment are already too high and should be relaxed, and costs should fall

Don't know

Q38 Please use this box to leave any further comments about this topic or this survey. Please note, your water company will be unable to respond to individuals.

## Classification Questions

We will now ask you a few questions about you and your IF HH household IF NHH organisation. These will only be used to ensure we have spoken to a wide range of customers. All responses you give will be kept strictly confidential.

Q39 IF HH: How would you describe the occupation type of the main income earner in your household?

**Higher managerial/ professional/ administrative** (e.g. Established doctor, Solicitor, Board Director in a large organisation (200+ employees, top level civil servant/public service employee))

**Intermediate managerial/ professional/ administrative** (e.g. Newly qualified (under 3 years) doctor, Solicitor, Board director small organisation, middle manager in large organisation, principle officer in civil service/local government)

**Supervisory or clerical/ junior managerial/ professional/ administrative** (e.g. Office worker, Student Doctor, Foreman with 25+ employees, salesperson, etc)

**Skilled manual worker** (e.g. Skilled Bricklayer, Carpenter, Plumber, Painter, Bus/ Ambulance Driver, HGV driver, AA patrolman, pub/bar worker, etc)

**Semi or unskilled manual work.** (e.g. Manual workers, all apprentices to be skilled trades, Caretaker, Park keeper, non-HGV driver, shop assistant)

Unemployed

Retired

Student

Prefer not to say **GO TO Q44**

**Q40 IF Q39=7 (RETIRED) ASK:** Does the main income earner have a state pension, a private pension or both?

State only

Private only

Both

Prefer not to say **GO TO Q44**

**Q41 IF Q40= PRIVATE OR BOTH ASK:** How would you describe the main income earner's occupation type before retirement?

**Higher managerial/ professional/ administrative** (e.g. Established doctor, Solicitor, Board Director in a large organisation (200+ employees, top level civil servant/public service employee))

**Intermediate managerial/ professional/ administrative** (e.g. Newly qualified (under 3 years) doctor, Solicitor, Board director small organisation, middle manager in large organisation, principle officer in civil service/local government)

**Supervisory or clerical/ junior managerial/ professional/ administrative** (e.g. Office worker, Student Doctor, Foreman with 25+ employees, salesperson, etc)

**Skilled manual worker** (e.g. Skilled Bricklayer, Carpenter, Plumber, Painter, Bus/ Ambulance Driver, HGV driver, AA patrolman, pub/bar worker, etc)

**Semi or unskilled manual work.** (e.g. Manual workers, all apprentices to be skilled trades, Caretaker, Park keeper, non-HGV driver, shop assistant)

None of these

Prefer not to say

**Q44 IF HH:** To which of these ethnic groups do you consider you belong to? **We would like to collect this to ensure that people of all backgrounds are represented in the study, but you do not have to answer if you do not wish to. This information will not be shared with any third party and will be destroyed within 12 months of project completion.**

#### **WHITE**

English, Welsh, Scottish, Northern Irish or British

Irish

Gypsy or Irish Traveller

Any other White background

#### **MIXED**

White and Black Caribbean

White and Black African

White and Asian

Any other Mixed background

#### **ASIAN OR ASIAN BRITISH**

Indian

Pakistani

Bangladeshi

Chinese

Any other Asian background

**BLACK OR BLACK BRITISH**

Caribbean  
African  
Any other Black background

**OTHER ETHNIC GROUP**

Arab  
Any other ethnic group  
Prefer not to say

**Q45** **IF HH:** Thinking about all the people in your household, including yourself, how many people live here?

- 1 or 2
- 3 or 4
- 5 or more
- Prefer not to say

**Q46** Please let us know if any of the following apply to you. **RANDOMISE ROWS**

**We would like to collect this to ensure that with a variety of particular needs are represented in the study, but you do not have to answer if you do not wish to. This information will not be shared with any third party and will be destroyed within 12 months of project completion.**

- I or another member of my household is disabled or suffer(s) from a debilitating illness
- I or another member of my household have/has a learning difficulty
- I or another member of my household relies on water for medical reasons
- I or another member of my household is visually impaired (i.e. struggles to read even with glasses)
- I or another member of my household am/is over the age of 75 years old
- I or another member of my household speaks English as a second language
- I or another member of my household is deaf or hard of hearing
- I or another member of my household is a new parent
- None of these apply to me
- Prefer not to say

**Q47** **IF HH:** Which of the following statements do you most agree with? Please remember, this research is entirely confidential and that it is only by understanding the views of people who are struggling to pay their household bills (eg gas, electricity, telephone etc) that change can be made.

- I can always afford to pay my household bills
- I can usually afford to pay my household bills
- I sometimes struggle to pay my household bills
- I usually struggle to pay my household bills
- I always struggle to pay for my household bills
- Prefer not to say

**Q47a.** **IF HH:** Thinking about your household finances, do you expect your household to be better off, worse off or about the same in 12 months' time?

- Better off
- The same
- Worse off
- Don't know

**Q47b** **IF NHH:** How does your organisation mainly use water? **You can choose more than one answer**

The manufacturing process which is essential to the running of your organisation (e.g. to power machinery, agricultural production etc.)

The supply of services your organisation provides (e.g. cleaning services etc.)  
 An ingredient or part of the product or service your organisation provides (e.g. food or drink, chemical, cosmetics manufacturer etc.)  
 Normal domestic use for your organisation's customers and employees (e.g. customer toilets, supply of drinking water)  
 None of the above  
 Don't Know

**Q48 IF NHH:** How many sites does your organisation operate from?

1  
 2  
 3  
 4+  
 Prefer not to say

**Q49 IF NHH:** How many employees does your organisation have in the UK?

None, sole trader  
 Fewer than 4 employees  
 4 to 49 employees  
 50 to 249 employees  
 250+ employees  
 Prefer not to say

**Q50 IF NHH:** Which of the following best defines the core activity of your organisation?

Agriculture, forestry and fishing  
 Mining and quarrying  
 Energy or water service & supply  
 Manufacturing  
 Construction  
 Wholesale and retail trade (including motor vehicles repair)  
 Transport and storage  
 Hotels & catering  
 IT and Communication  
 Finance and insurance activities  
 Real estate activities  
 Professional, scientific and technical activities  
 Administrative and Support Service Activities  
 Public administration and defence  
 Education  
 Human health and social work activities  
 Arts, entertainment and recreation  
 Other service activities  
 Other (please specify)  
 Prefer not to say

**Q52 IF HH:** Do you have a water meter?

**IF NHH:** Does your premises have a water meter?

Yes  
 No  
 Don't Know  
 Prefer not to say

**Q53 IF Q52=1 ASK:** Did you ask to have a water meter fitted for your household?

Yes  
No  
Prefer not to say

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**Q54 IF HH AND POSTAL:** Which of these best describes you?

I have never used the internet  
I have used the internet but do not have regular access to it  
I have regular access to the internet  
Prefer not to say

---

**Q55 IF HH NON PANEL:** We mentioned that there would be a £10 incentive for completing this survey. This incentive will be administered by Accent, within 4 weeks.

This can be sent as an Amazon, Marks & Spencer or Love2Shop voucher by email or by post. Alternatively we can donate your incentive to WaterAid. Which would you prefer?

Amazon voucher by email [COLLECT EMAIL ADDRESS](#)  
M&S Voucher by email [COLLECT EMAIL ADDRESS](#)  
Love2Shop by email [COLLECT EMAIL ADDRESS](#)  
Amazon voucher by post [COLLECT ADDRESS](#)  
M&S voucher by post [COLLECT ADDRESS](#)  
Love2Shop by post [COLLECT ADDRESS](#)  
Donation to Water Aid

If you have any queries about your incentive, please contact us on 0131 220 8770.

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**Q56 Thank you. Would you be willing to be contacted again if we need to clarify any of the answers you have given today?**

Yes  
No

Thank you. This research was conducted under the terms of the MRS code of conduct and is completely confidential.



# Water Company Research V2

This survey is designed to get your views on water and sewerage services. It is being undertaken on behalf of Ofwat, the regulator, and Consumer Council for Water (CCW), the consumer organisation which represents the interests of water and sewerage customers in England and Wales.

The research will be used to help water companies plan investment in their service from 2025, and will influence your future water services and bills.

This research is being conducted by Accent, an independent research agency on behalf of Ofwat and CCW.

**NOT PANEL:** Anyone completing the survey will be eligible for a £10 voucher (either an Amazon voucher, an M&S voucher, Love2Shop voucher). Alternatively we can donate your incentive to WaterAid. Details on how claim your voucher are given at the end of the survey.

The questionnaire will take about 15 minutes to complete.

Any answer you give will be treated in confidence in accordance with the Code of Conduct of the Market Research Society. If you would like to confirm Accent's credentials type Accent in the search box at: <https://www.mrs.org.uk/researchbuyersguide>.

- 
- Q1** Any data collected over the course of this interview that could be used to identify you, such as your name, address, or other contact details, will be held securely and will not be shared with any third party, including your water company, unless you give permission (or unless we are legally required to do so). Our privacy statement is available at <https://www.accent-mr.com/privacy-policy/>.

Do you agree to proceeding with the interview on this basis?

Yes

No **THANK AND CLOSE IF ONLINE**

- 
- Q2** **ASK HH ONLY:** Do you or any of your close family work in market research or for a water company?

Yes **THANK & CLOSE**

No

- 
- Q3** **IF NHH ASK:** Are you solely or jointly responsible as the decision maker for paying your organisation's water and wastewater bill?

Yes

No THANK AND CLOSE

- 
- Q4 **IF POSTCODE DATA NOT AVAILABLE FROM SAMPLE** Please tell us the first half of your postcode. So if your full postcode is ME1 3BN please just tell us ME1 3. (This will be used to check who supplies your water and wastewater services) **NHH ONLY If your organisation operates across multiple sites, please answer for the site you typically work from**

**IF HH AND REFUSE GO TO Q6**

**IF NHH AND REFUSE THANK AND CLOSE**

- 
- Q5 **IF HH AND DIFFERENT WATER AND WASTEWATER:** Based on your postcode area, we believe your clean water service company should be #WATER COMPANY# and your wastewater service company should be #WASTEWATER COMPANY#. You may receive separate bills from each organisation or one combined bill. Is that correct?  
**IF SAME WATER AND WASTEWATER:** Based on your postcode area, we believe your clean water service and wastewater service company should be #WATER COMPANY#. Is that correct?
- Yes **GO TO Q8**  
 No **GO TO Q6**  
 Don't know **GO TO Q8**

- 
- Q6 **IF HH:** Which water company supplies clean water to your home?  
**IF NHH:** Which of the following companies bill you for clean water services at your premises?

- Affinity Water
- Anglian Water
- Bournemouth Water
- Bristol Water
- Cambridge Water
- Essex & Suffolk Water
- Hafren Dyfrdwy
- Hartlepool Water
- Northumbrian Water
- Portsmouth Water
- Severn Trent Water
- South East Water
- Southern Water
- South Staffs Water
- South West Water
- Sutton & East Surrey (SES) Water
- Thames Water
- United Utilities
- Welsh Water/Dŵr Cymru
- Wessex Water
- Yorkshire Water

**IF NHH SHOW FOLLOWING TITLE AND LIST: Retailers**

- ADSM
- Berendsen UK Limited
- Blackpool Borough Council
- BT
- Business Stream
- Castle Water
- Clear Business Water
- ConservAqua Ltd
- Everflow

First Business Water  
 Greene King Brewing & Retailing  
 Heineken UK Limited  
 Independent Water Networks  
 J Sainsbury  
 John Lewis PLC  
 Kellogg Company of Great Britain Limited  
 LEEP Utilities  
 Marston's PLC  
 Nottingham City Council  
 Pennon Water Services  
 Regent Water  
 Sefton Council  
 SES Business Water  
 Smarta Water  
 Stonegate Pub Company  
 The Water Retail Company  
 Veolia Water Projects  
 Veolia Water Retail (UK) Limited  
 Water Plus  
 Wave  
 Wave 2 Business  
 Whitbread Group  
 YU Water

Other (Please specify) THEN THANK AND CLOSE

Don't know THANK AND CLOSE

None THANK AND CLOSE

**Q6B** **IF NHH:** Do these bills include wastewater services or do you receive separate bills for wastewater?

Include wastewater services  
 Receive separate bill for wastewater

**Q7** **IF HH:** Which company provides wastewater (sewerage) services to your home?

**IF NHH AND Q6B=2:** Which of the following companies bill you for wastewater services at your premises?

Anglian Water  
 Hafren Dyfrdwy  
 Northumbrian Water  
 Severn Trent Water  
 Southern Water  
 South West Water  
 Thames Water  
 United Utilities  
 Welsh Water/Dŵr Cymru  
 Wessex Water  
 Yorkshire Water

**IF NHH SHOW FOLLOWING TITLE AND LIST: Retailers**

ADSM  
 Berendsen UK Limited  
 Blackpool Borough Council  
 BT  
 Business Stream  
 Castle Water  
 Clear Business Water

ConservAqua Ltd  
 Everflow  
 First Business Water  
 Greene King Brewing & Retailing  
 Heineken UK Limited  
 Independent Water Networks  
 J Sainsbury  
 John Lewis PLC  
 Kellogg Company of Great Britain Limited  
 LEEP Utilities  
 Marston's PLC  
 Nottingham City Council  
 Pennon Water Services  
 Regent Water  
 Sefton Council  
 SES Business Water  
 Smarta Water  
 Stonegate Pub Company  
 The Water Retail Company  
 Veolia Water Projects  
 Veolia Water Retail (UK) Limited  
 Water Plus  
 Wave  
 Wave 2 Business  
 Whitbread Group  
 YU Water

Other (please specify) **THEN THANK AND CLOSE**

Don't know **THANK AND CLOSE**

None **THANK AND CLOSE**

**Q8 IF HH:** Are you the person in your household who is responsible, either solely or jointly, for paying for your water services bill?

- I have complete responsibility for payment
- I share responsibility for payment with others in my household
- I have no responsibility
- Don't know

**BILLPAYER:** = CODE 1 OR 2

**NONBILLPAYER:** = CODE 3-4

**Q9 IF HH** Which of the following age groups do you fall into?

- Under 18 **THANK AND CLOSE**
  - 18-29
  - 30-64
  - 65 or older
  - Prefer not to say
- USE HH QUOTA IF PANEL**

**Q10 IF HH** What is your sex? (A question about gender identity will follow)

- Male
  - Female
- USE HH QUOTA IF PANEL**

**Q10a IF HH:** Is the gender you identify with the same as your sex registered at birth? **We would like to collect this to ensure that people of all backgrounds are represented in the study, but you do not have to answer if you do not wish to. This information will not be shared with any third party and will be destroyed within 12 months of project completion.**

Yes

No (type in gender identity)

Prefer not to say

**Q11 IF ONE SUPPLIER FOR WATER AND WASTEWATER DON'T ASK (BUT CODE AS ONE BILL FOR BOTH SERVICES) IF HH & BILLPAYER:** Do you receive separate bills for water and sewerage services or one bill for both services?

Separate bills

One bill for both services

Don't know

**Q12b IF HH & BILLPAYER:** How often do you make payment for water and sewerage services?

Annually

Every six months

Every month, over eight months of the year

Every month

Other (please specify)

Don't know **GO TO Q14**

**Q13 IF HH & BILLPAYER AND Q12B=1, 4-5 ASK:** How much, roughly, do you pay for water and sewerage services each month, or in total for a year? The month amounts assume that the bills are paid evenly over a 12-month period, but some customers pay over a different number of months.

**IF HH & BILLPAYER AND Q12B=3 ASK:** How much, roughly, do you pay for water and sewerage services for each of the eight months, or in total for a year?

**IF HH & BILLPAYER AND Q12B=2 ASK:** How much, roughly, do you pay for water and sewerage services every 6 months, or in total for a year?

**IF NHH:** Which of the following bands do you estimate that your organisation's annual total water bill at your premises falls into – that's the amount for both water and sewerage services.

IF HH and 12B=1, 4 or 5: Less than £10 per month/Less than £120 per year

IF HH and 12B=1, 4 or 5: £10 - £19.99 per month/£120 - £239.99 per year

IF HH and 12B=1, 4 or 5: £20 - £29.99 per month/£240 - £359.99 per year

IF HH and 12B=1, 4 or 5: £30 - £39.99 per month/£360 - £479.99 per year

IF HH and 12B=1, 4 or 5: £40 - £59.99 per month/£480 - £719.99 per year

IF HH and 12B=1, 4 or 5: £60 - £79.99 per month/£720 - £959.99 per year

IF HH and 12B=1, 4 or 5: £80 or more per month /£960 or more per year

IF HH and 12B=3: Less than £15 per month/Less than £120 per year

IF HH and 12B=3: £15 - £29.99 per month/£120 - £239.99 per year

IF HH and 12B=3: £30 - £39.99 per month/£240 - £359.99 per year

IF HH and 12B=3: £40 - £59.99 per month/£360 - £479.99 per year

IF HH and 12B=3: £60 - £89.99 per month/£480 - £719.99 per year

IF HH and 12B=3: £90 - £199.99 per month/£720 - £959.99 per year

IF HH and 12B=3: £120 or more per month /£960 or more per year

IF HH and 12B=2: Less than £60 every 6 months/Less than £120 per year

IF HH and 12B=2: £60 - £119.99 every 6 months /£120 - £239.99 per year

IF HH and 12B=2: £120 - £179.99 every 6 months /£240 - £359.99 per year

IF HH and 12B=2: £180 - £239.99 every 6 months /£360 - £479.99 per year

IF HH and 12B=2: £240 - £359.99 every 6 months /£480 - £719.99 per year

IF HH and 12B=2: £360- £479.99 every 6 months /£720 - £959.99 per year  
 IF HH and 12B=2: £480 or more every 6 months /£960 or more per year  
**IF NHH:** Less than £1,000 per year  
**IF NHH:** £1,000 to £5,000 per year  
**IF NHH:** £5,000 to £25,000 per year  
**IF NHH:** More than £25,000 per year  
 I'm not sure

## Service issues

**Q14** Have you ever experienced any of the following? **ROTATE**  
**Please tick one or more**

Unexpected water supply interruption  
 Planned water supply interruption  
 Unexpected low pressure  
 Boil water notice  
 Do not drink notice  
**Discolouration of water coming out of your tap**  
**A change to the taste and/or smell of your tap water**  
 Sewer flooding: inside your property  
 Sewer flooding: outside your property  
 Hosepipe ban  
 Emergency drought restrictions (**e.g. tap water being cut off on a rota basis to conserve supplies**)  
**Pollution in a river**  
**Pollution in the sea near a beach**  
**Other (please specify)**  
 I haven't experienced any of these **GO TO Q15**

**Q14b** **IF ONE BELOW IN Q14ASK:** Have you experienced the following in the last 12 months?  
**IF BOTH BELOW IN Q14 ASK:** Have you experienced any of the following in the last 12 months?  
**IF TICKED IN Q14:** Discolouration of water coming out of your tap  
**IF TICKED IN Q14:** A change to the taste and/or smell of your tap water

## Use of rivers and beaches in the UK

IF HH: We would like to now find out a bit more about your use of rivers and beaches in the UK.

**Q15** **IF HH:** How often do you, or anyone in your household, use rivers in the UK for any of the following activities?

	Often (more than six times a year)	Sometimes (between one and five times a year)	Rarely (less than once a year)	Never
Water contact activities (e.g. canoeing, rowing, rafting, paddleboarding, swimming, paddling)				
Fishing				
Walking, running, cycling or sitting nearby or other activities on or around the water (e.g. narrowboating, other types of boating)				

Q16 **IF HH:** How often do you, or anyone in your household, use the beach or sea in the UK for any of the following activities?

	<b>Often (more than six times a year)</b>	<b>Sometimes (between one and five times a year)</b>	<b>Rarely (less than once a year)</b>	<b>Never</b>
Water contact activities (e.g. surfing, windsurfing, dinghy sailing, canoeing, paddleboarding, swimming, paddling)				
Fishing				
Walking, running, cycling or sitting or playing nearby or other activities on or around the water (e.g. other types of boating)				

## Use of hosepipe or sprinkler

Q16a How often does your **[IF HH]** household **[IF NHH]** premises use a hosepipe or sprinkler for any purpose (e.g. washing/cleaning, or watering plants)?

- Often (more than six times a year);
- Sometimes (between one and five times a year)
- Rarely (less than once a year)
- Never

## Service Scenario Choices

You are now going to be shown a series of ten short questions where you will be asked to choose between two different scenarios for your water or wastewater service. **Please read the following instructions carefully.**

Each scenario will show a different type of service issue that could happen to your **IF HH:** household **IF NHH:** premises.

Some of the scenarios would affect your own **IF HH:** property **IF NHH:** premises whereas others would affect your local area. When comparing the impact that each would have, please:

- **do** consider any concerns you may have for the local area or natural environment,
- **don't** consider any impacts on other people outside your **IF HH:** household **IF NHH:** organisation - other people will answer for themselves!

On some of the options you will see an **i**. Please click on this to see some more information about the option.

### NEW SCREEN

Additionally, some of these scenarios will involve your water and/or wastewater provider making a one-off payment to your **IF HH:** household **IF NHH:** organisation.

The amounts will not necessarily reflect current compensation entitlements and may exceed these levels – substantially in some cases.

The purpose of these questions is to see if the amounts shown are enough to make up for the impact on your IF HH: household IF NHH: organisation from the service issue shown. It is important that you consider each amount at face value, even if it seems higher than you would imagine might be offered.

For each question, please state which option you prefer. If neither of the options is appealing, please still choose the better of the two.

**Q17 Which option would you prefer? If neither is appealing, please still choose the better of the two**

Option A	Option B
<p><b>PLANNED water supply interruption (24 hours)</b></p> <ul style="list-style-type: none"> <li>▶ Your water company sends you a notice that in 2 days' time your tap water supply will stop for 24 hours</li> <li>▶ This is due to planned maintenance in your local area</li> <li>▶ As planned, it then stops from a Wednesday morning to a Thursday morning</li> </ul>  <div style="text-align: center; margin-top: 10px;">  <p>Planned, 24 hours</p> </div>	<p><b>UNEXPECTED water supply interruption (6 hours)</b></p> <ul style="list-style-type: none"> <li>▶ Your tap water supply stops working without warning</li> <li>▶ This is due to a burst pipe in your local area</li> <li>▶ It stops for 6 hours, between 12:00 and 18:00 on a Wednesday afternoon</li> </ul>  <div style="text-align: center; margin-top: 10px;">  <p>6 hours</p> </div>

One-off payment amount\*: £50



One-off payment amount\*: £100



IF BILLPAYER OR NHH: \* one-off payments would be paid automatically, and within 7 days, by crediting your bank account, if you have a direct debit set up, or by sending you a cheque otherwise

IF NON-BILLPAYER: \* one-off payments would be paid automatically, and within 7 days, by sending a cheque to your household.

**Q18 Which option would you prefer? If neither is appealing, please still choose the better of the two**

**Q19 Which option would you prefer? If neither is appealing, please still choose the better of the two**

**Q20 Which option would you prefer? If neither is appealing, please still choose the better of the two**

**Q21 Which option would you prefer? If neither is appealing, please still choose the better of the two**

**Q22 Which option would you prefer? If neither is appealing, please still choose the better of the two**

**Q23 Which option would you prefer? If neither is appealing, please still choose the better of the two**

**Q24 Which option would you prefer? If neither is appealing, please still choose the better of the two**

**Q24b Which option would you prefer? If neither is appealing, please still choose the better of the two**

**Q24c Which option would you prefer? If neither is appealing, please still choose the better of the two**

- Q25 We would now like to ask you a few questions about the choices you have just made. How strongly do you agree or disagree with the following statements about the choices you have just made?

	Strongly disagree	Disagree	Neither	Agree	Strongly agree
I was able to understand the choices					
I found the options believable					
My choices were based on how much impact I thought each option would have on my [IF HH] household [IF NHH] organisation and the amount of money shown					
I found it easy to choose between the options					

- Q26 ASK IF Q25.1 = 1 OR 2. OTHERS GO TO Q27: Why were you unable to understand the choices?

- Q27 ASK IF Q25.2 = 1 OR 2. OTHERS GO TO Q28: What was not believable about the options shown?

- Q28 ASK IF Q25.3 = 1 OR 2. OTHERS GO TO Q29: What were the main factors driving your choices?

- Q29 ASK IF Q25.4 = 1 OR 2. OTHERS GO TO NEXT SECTION: Why was it difficult choosing between the options?

## Attitudes to environmental costs

- Q37 IF HH: Please look at the following five statements about pollution control and the costs of pollution control. Which one do you agree with most? SINGLE CHOICE

The environment should be protected from pollution and improved, **regardless of cost**  
 The environment should be protected from pollution and improved, **provided costs are not excessive**  
 The environment should be protected from pollution and improved, **but at no additional cost**  
 Further protection and improvements to the environment are not needed, and the costs for this should fall  
 Standards for protection and improvement to the environment are already too high and should be relaxed, and costs should fall  
 Don't know

- Q38 Please use this box to leave any further comments about this topic or this survey. Please note, your water company will be unable to respond to individuals.

## Classification Questions

We will now ask you a few questions about you and your IF HH household IF NHH organisation. These will only be used to ensure we have spoken to a wide range of customers. All responses you give will be kept strictly confidential.

- Q39 IF HH: How would you describe the occupation type of the main income earner in your household?

**Higher managerial/ professional/ administrative** (e.g. Established doctor, Solicitor, Board Director in a large organisation (200+ employees, top level civil servant/public service employee))

**Intermediate managerial/ professional/ administrative** (e.g. Newly qualified (under 3 years) doctor, Solicitor, Board director small organisation, middle manager in large organisation, principle officer in civil service/local government)

**Supervisory or clerical/ junior managerial/ professional/ administrative** (e.g. Office worker, Student Doctor, Foreman with 25+ employees, salesperson, etc)

**Skilled manual worker** (e.g. Skilled Bricklayer, Carpenter, Plumber, Painter, Bus/ Ambulance Driver, HGV driver, AA patrolman, pub/bar worker, etc)

**Semi or unskilled manual work.** (e.g. Manual workers, all apprentices to be skilled trades, Caretaker, Park keeper, non-HGV driver, shop assistant)

Unemployed

Retired

Student

Prefer not to say **GO TO Q44**

**Q40 IF Q39=7 (RETIRED) ASK:** Does the main income earner have a state pension, a private pension or both?

State only

Private only

Both

Prefer not to say **GO TO Q44**

**Q41 IF Q40= PRIVATE OR BOTH ASK:** How would you describe the main income earner's occupation type before retirement?

**Higher managerial/ professional/ administrative** (e.g. Established doctor, Solicitor, Board Director in a large organisation (200+ employees, top level civil servant/public service employee))

**Intermediate managerial/ professional/ administrative** (e.g. Newly qualified (under 3 years) doctor, Solicitor, Board director small organisation, middle manager in large organisation, principle officer in civil service/local government)

**Supervisory or clerical/ junior managerial/ professional/ administrative** (e.g. Office worker, Student Doctor, Foreman with 25+ employees, salesperson, etc)

**Skilled manual worker** (e.g. Skilled Bricklayer, Carpenter, Plumber, Painter, Bus/ Ambulance Driver, HGV driver, AA patrolman, pub/bar worker, etc)

**Semi or unskilled manual work.** (e.g. Manual workers, all apprentices to be skilled trades, Caretaker, Park keeper, non-HGV driver, shop assistant)

None of these

Prefer not to say

**Q44 IF HH:** To which of these ethnic groups do you consider you belong to? **We would like to collect this to ensure that people of all backgrounds are represented in the study, but you do not have to answer if you do not wish to. This information will not be shared with any third party and will be destroyed within 12 months of project completion.**

**WHITE**

English, Welsh, Scottish, Northern Irish or British

Irish

Gypsy or Irish Traveller

Any other White background

**MIXED**

White and Black Caribbean

White and Black African

White and Asian

Any other Mixed background

**ASIAN OR ASIAN BRITISH**

Indian

Pakistani

Bangladeshi

Chinese  
Any other Asian background

**BLACK OR BLACK BRITISH**

Caribbean  
African  
Any other Black background

**OTHER ETHNIC GROUP**

Arab  
Any other ethnic group  
Prefer not to say

**Q45** **IF HH:** Thinking about all the people in your household, including yourself, how many people live here?

- 1 or 2
- 3 or 4
- 5 or more
- Prefer not to say

**Q46** Please let us know if any of the following apply to you. **RANDOMISE ROWS**

**We would like to collect this to ensure that with a variety of particular needs are represented in the study, but you do not have to answer if you do not wish to. This information will not be shared with any third party and will be destroyed within 12 months of project completion.**

- I or another member of my household is disabled or suffer(s) from a debilitating illness
- I or another member of my household have/has a learning difficulty
- I or another member of my household relies on water for medical reasons
- I or another member of my household is visually impaired (i.e. struggles to read even with glasses)
- I or another member of my household am/is over the age of 75 years old
- I or another member of my household speaks English as a second language
- I or another member of my household is deaf or hard of hearing
- I or another member of my household is a new parent
- None of these apply to me
- Prefer not to say

**Q47** **IF HH:** Which of the following statements do you most agree with? **Please remember, this research is entirely confidential and that it is only by understanding the views of people who are struggling to pay their household bills (eg gas, electricity, telephone etc) that change can be made.**

- I can always afford to pay my household bills
- I can usually afford to pay my household bills
- I sometimes struggle to pay my household bills
- I usually struggle to pay my household bills
- I always struggle to pay for my household bills
- Prefer not to say

**Q47a.** **IF HH:** Thinking about your household finances, do you expect your household to be better off, worse off or about the same in 12 months' time?

- Better off
- The same
- Worse off
- Don't know

**Q47b** **IF NHH:** How does your organisation mainly use water? **You can choose more than one answer**

- The manufacturing process which is essential to the running of your organisation (e.g. to power machinery, agricultural production etc.)
- The supply of services your organisation provides (e.g. cleaning services etc.)
- An ingredient or part of the product or service your organisation provides (e.g. food or drink, chemical, cosmetics manufacturer etc.)
- Normal domestic use for your organisation's customers and employees (e.g. customer toilets, supply of drinking water)
- None of the above
- Don't Know

**Q48 IF NHH: How many sites does your organisation operate from?**

- 1
- 2
- 3
- 4+
- Prefer not to say

**Q49 IF NHH: How many employees does your organisation have in the UK?**

- None, sole trader
- Fewer than 4 employees
- 4 to 49 employees
- 50 to 249 employees
- 250+ employees
- Prefer not to say

**Q50 IF NHH: Which of the following best defines the core activity of your organisation?**

- Agriculture, forestry and fishing
- Mining and quarrying
- Energy or water service & supply
- Manufacturing
- Construction
- Wholesale and retail trade (including motor vehicles repair)
- Transport and storage
- Hotels & catering
- IT and Communication
- Finance and insurance activities
- Real estate activities
- Professional, scientific and technical activities
- Administrative and Support Service Activities
- Public administration and defence
- Education
- Human health and social work activities
- Arts, entertainment and recreation
- Other service activities
- Other (please specify)
- Prefer not to say

**Q52 IF HH: Do you have a water meter?**

**IF NHH: Does your premises have a water meter?**

- Yes
- No
- Don't Know
- Prefer not to say

---

Q53 **IF Q52=1 ASK:** Did you ask to have a water meter fitted for your household?

- Yes
- No
- Prefer not to say

---

Q54 **IF HH AND POSTAL:** Which of these best describes you?

- I have never used the internet
- I have used the internet but do not have regular access to it
- I have regular access to the internet
- Prefer not to say

---

Q55 **IF HH NON PANEL:** We mentioned that there would be a £10 incentive for completing this survey. This incentive will be administered by Accent, within 4 weeks.

This can be sent as an Amazon, Marks & Spencer or Love2Shop voucher by email or by post. Alternatively we can donate your incentive to WaterAid. Which would you prefer?

- Amazon voucher by email [COLLECT EMAIL ADDRESS](#)
- M&S Voucher by email [COLLECT EMAIL ADDRESS](#)
- Love2Shop by email [COLLECT EMAIL ADDRESS](#)
- Amazon voucher by post [COLLECT ADDRESS](#)
- M&S voucher by post [COLLECT ADDRESS](#)
- Love2Shop by post [COLLECT ADDRESS](#)
- Donation to Water Aid

If you have any queries about your incentive, please contact us on 0131 220 8770.

---

Q56 Thank you. Would you be willing to be contacted again if we need to clarify any of the answers you have given today?

- Yes
- No

Thank you. This research was conducted under the terms of the MRS code of conduct and is completely confidential.

# Appendix B

## Attributes

## UNEXPECTED water supply interruption (6 hours)

- ▶ Your water supply stops working without warning, affecting taps, toilets, dishwasher, etc
- ▶ This is due to a burst pipe in your local area
- ▶ It stops for 6 hours, between 12:00 and 18:00 on a Wednesday afternoon



## PLANNED water supply interruption (6 hours)

- ▶ Your water company sends you a notice in the post that in 2 days' time your water supply will stop for 6 hours, affecting all taps, toilets, dishwasher, etc
- ▶ This is due to planned maintenance in your local area
- ▶ As planned, it then stops between 12:00 and 18:00 on a Wednesday afternoon



## UNEXPECTED water supply interruption (24 hours)

- ▶ Your water supply stops working without warning, affecting all taps, toilets, dishwasher, etc
- ▶ This is due to a burst pipe in your local area
- ▶ Water would be made available nearby to collect in buckets or bottles and vulnerable people would be delivered water directly
- ▶ It stops for 24 hours, from a Wednesday morning to a Thursday morning



## UNEXPECTED low water pressure (6 hours)

- ▶ Your tap water supply starts running with a low pressure, without warning
- ▶ This is due to a burst pipe in your local area
- ▶ It takes longer to fill a kettle, sink or bath and a shower would be weak. Some appliances like dishwashers and washing machines may not work properly
- ▶ This happens for 6 hours, between 12:00 and 18:00 on a Wednesday afternoon



## Boil water notice (48 hours)

- ▶ Your water company sends you a notice saying you need to boil tap water before drinking, cooking or preparing food to avoid the risk of becoming ill
- ▶ This is due to traces of e-coli being found in the water supply in your area
- ▶ You can still safely use tap water for washing and cleaning
- ▶ Bottled water would be delivered to vulnerable customers that need it
- ▶ You can still safely use tap water for washing and cleaning. The notice arrives on a Wednesday. After two days the water will be safe to drink again and your water company will notify you



## Do not drink notice (48 hours)

- ▶ Your water company sends you a notice saying not to drink your tap water, or use it for cooking or preparing food, to avoid the risk of becoming ill
- ▶ This is due to traces of a harmful chemical being found in the water supply in your area
- ▶ You can still safely use tap water for washing and cleaning
- ▶ Water would be made available nearby to collect in your own buckets or bottles and vulnerable people would be delivered bottled water directly
- ▶ The notice arrives on a Wednesday. After two days the water will be safe to drink again and your water company will notify you



## Discoloured water (6 hours)

- ▶ Your tap water starts running light brown, without warning
- ▶ This is due to traces of sediment from pipes being disturbed
- ▶ The water is safe to drink, but you shouldn't use a dishwasher or washing machine until the water runs clear again
- ▶ This happens for 6 hours, between 12:00 and 18:00 on a Wednesday afternoon



### Discoloured water (24 hours)

- ▶ Your tap water starts running light brown, without warning
- ▶ This is due to traces of sediment from pipes being disturbed
- ▶ The water is safe to drink, but you shouldn't use a dishwasher or washing machine until the water runs clear again
- ▶ This happens for 24 hours from a Wednesday morning



### Water taste and smell (6 hours)

- ▶ Your tap water starts tasting or smelling different, without warning
- ▶ This is due to chlorine, and the taste and smell is like a swimming pool
- ▶ The water is safe to drink, and for use in the dishwasher or washing machine
- ▶ This happens for 6 hours, between 12:00 and 18:00 on a Wednesday afternoon



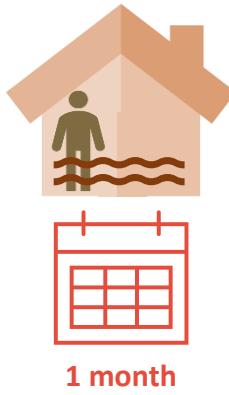
### Water taste and smell (24 hours)

- ▶ Your tap water starts tasting or smelling different, without warning
- ▶ This is due to chlorine, and the taste and smell is like a swimming pool
- ▶ The water is safe to drink, and for use in the dishwasher or washing machine
- ▶ This happens for 24 hours from a Wednesday morning



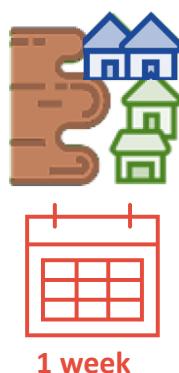
## Sewer flooding: INSIDE your property (1 month)

- ▶ Flooding from the sewer gets inside your property, affecting your living areas
- ▶ This results from prolonged heavy rainfall in your local area
- ▶ It gives off a foul smell, and damages floors, walls and furniture
- ▶ It takes 1 month for your property to get back to normal



## Sewer flooding: OUTSIDE your property (1 week)

- ▶ Flooding from the sewer affects access to your front door / entrance
- ▶ This results from prolonged heavy rainfall in your local area
- ▶ It gives off a foul smell, and could cause damage
- ▶ It takes 1 week for access to your property to get back to normal



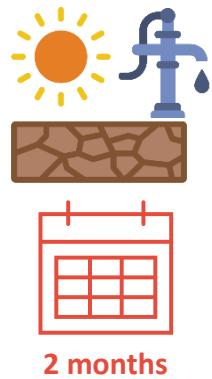
## Hosepipe ban (5 months)

- ▶ Your water company sends you a notice saying you must not use a hosepipe or sprinkler
- ▶ This is due to an extended period of dry weather leading to a water shortage
- ▶ The hosepipe ban begins in May and lasts for 5 months



## Emergency drought restrictions (2 months)

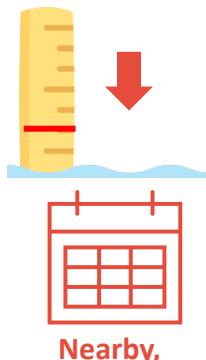
- ▶ Your water company cuts off the tap water supply from 2pm to 7am every day
- ▶ This is due to a severe drought leading to an extreme water shortage in your area
- ▶ Standpipes would be available nearby to collect water in your own buckets or bottles and vulnerable people would be delivered bottled water directly
- ▶ The restrictions begin in July and last for 2 months



**2 months**

## Low flows in rivers NEARBY (2 months)

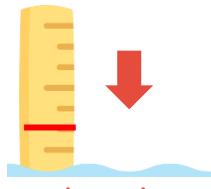
- ▶ The water level in a nearby stretch of river (less than 5 miles away) has a flow that is lower than the minimum it should be naturally
- ▶ This could affect habitats and harm the wildlife living in and by the river
- ▶ This is due to a combination of extended dry weather and water being taken from it for public water supply
- ▶ This happens from July and lasts for 2 months



**Nearby,  
2 months**

## Low flows in rivers ELSEWHERE (2 months)

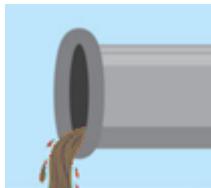
- ▶ The water level in a stretch of river somewhere in your region, but not nearby, has a flow that is lower than the minimum it should be naturally
- ▶ This could harm the wildlife living in and by the river
- ▶ This is due to a combination of extended dry weather and water being taken from it for public water supply
- ▶ This happens from July and lasts for 2 months



**Elsewhere,  
2 months**

## Storm overflow NEARBY (4 hours)

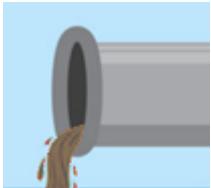
- ▶ Rainwater mixed with untreated sewage regularly spills into a nearby stretch of river (less than 5 miles away)
- ▶ This is due to prolonged heavy rainfall and is allowed by the regulator to reduce the risk of sewer flooding
- ▶ There is no damage to the river and visible pollution is minor



**Nearby,  
4 hours**

## Minor pollution incident NEARBY (1 day)

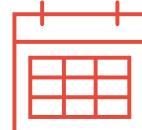
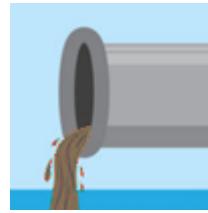
- ▶ Untreated sewage spills into a nearby stretch of river (less than 5 miles away)
- ▶ This is due to sewerage equipment failure
- ▶ The damage to the river and visible pollution would be minor
- ▶ The spill begins on a Wednesday and lasts for 4 hours. The river is then back to normal after 1 day



**Nearby,  
1 day**

## Significant pollution incident NEARBY (4 weeks)

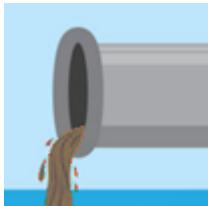
- ▶ Untreated sewage spills into a nearby stretch of river (less than 5 miles away)
- ▶ This is due to sewerage equipment failure
- ▶ The damage to the river and would be significant, including possible harm to wildlife and health risks to river users, plus visible sewage litter
- ▶ The spill begins on a Wednesday and lasts for 2 days. The river is then back to normal after 4 weeks



Nearby,  
4 weeks

## Storm overflow ELSEWHERE (4 hours)

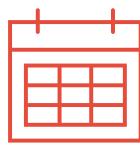
- ▶ Rainwater mixed with untreated sewage regularly spills into a stretch of river somewhere in your region, but not nearby
- ▶ This is due to prolonged heavy rainfall and is allowed by the regulator to reduce the risk of sewer flooding
- ▶ There is no damage to the river and visible pollution is minor



Elsewhere,  
4 hours

## Minor pollution incident ELSEWHERE (1 day)

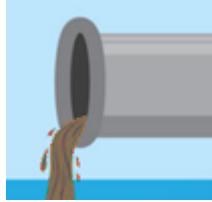
- ▶ Untreated sewage spills into a stretch of river somewhere in your region, but not nearby
- ▶ This is due to sewerage equipment failure
- ▶ The damage to the river and visible pollution would be minor
- ▶ The spill begins on a Wednesday and lasts for 4 hours. The river is then back to normal after 1 day



,  
1 day

## Significant pollution incident ELSEWHERE (4 weeks)

- ▶ Untreated sewage spills into a stretch of river somewhere in your region, but not nearby
- ▶ This is due to sewerage equipment failure
- ▶ The damage to the river would be significant, including possible harm to wildlife and health risks to river users, plus visible sewage litter
- ▶ The spill begins on a Wednesday and lasts for 2 days. The river is then back to normal after 4 weeks




**Elsewhere**,  
**4 weeks**

## River water NEARBY is not High quality

- ▶ A nearby stretch of river (less than 5 miles away) meets Medium rather than High quality standards, as defined by the government ①
- ▶ This is due to a variety of factors, including the quality of treated wastewater, the river flow level, and the run-off from the surrounding area
- ▶ This has some effect on habitats for fish and wildlife, and can lead to algae (green slime) in the water



**Local**

River water ELSEWHERE is not High quality

- ▶ A stretch of river **in your region, but** not nearby, meets Medium rather than High quality standards, as defined by the government ①
- ▶ This is due to a variety of factors, including the quality of treated wastewater, the river flow level, and the run-off from the surrounding area
- ▶ This has some effect on habitats for fish and wildlife, and can lead to algae (green slime) in the water



**Elsewhere**

① button show card:

River water quality level	Definition
High	<ul style="list-style-type: none"> <li>▪ There will be a diverse and natural range of plants, insects, fish, birds and other animals.</li> <li>▪ Water will generally have the right degree of clarity and there will be no noticeable pollution.</li> <li>▪ Water will generally be suitable for contact activities, such as rowing or swimming</li> </ul>
Medium	<ul style="list-style-type: none"> <li>▪ There will be plants, insects, fish, birds and other animals, but there will be some fish and other wildlife missing.</li> <li>▪ Water will be slightly murky or discoloured in parts, and there will sometimes be visible pollution in some places, and some algal blooms.</li> <li>▪ Water may be suitable for contact activities in some areas but not others.</li> </ul>
Low	<ul style="list-style-type: none"> <li>▪ There may be limited or no plants or wildlife, or the water may be dominated by a single plant species.</li> <li>▪ Water will generally be murky or discoloured, and may sometimes be bad-smelling in some places. There may also regularly be visible pollution in some places, and frequent algal blooms.</li> <li>▪ Water will be unsuitable for contact activities.</li> </ul>

**Coastal bathing water is not Excellent quality**

- ▶ The sea water at the beach you would be most likely to visit meets Good rather than Excellent quality standards, as defined by the government ①
- ▶ This is due to the quality of treated wastewater entering the water nearby
- ▶ You could still swim in the sea, but there would be a small increase in the chance that you might get ill if you swallowed some water



**Water not Excellent**

① button show card:

Bathing water quality level	Definition
Excellent	The highest standard which means the bathing water is consistently very clean, <b>with less than a 3%, or 3 in 100, chance of a stomach upset.</b>
Good	Between 'Sufficient' and 'Excellent'. This means there is <b>between a 3% and a 5% chance of a stomach upset.</b>
Sufficient	The minimum standard required for bathing water which means there is <b>between a 5% and an 8% chance of a stomach upset.</b>

**Coastal bathing water is neither Excellent nor Good quality**

- ▶ The sea water at the beach you would be most likely to visit meets Sufficient rather than Good or Excellent quality standards, as defined by the government ①
- ▶ This is due to the quality of treated wastewater entering the water nearby
- ▶ You could still swim in the sea, but there would be a small increase in the chance that you might get ill if you swallowed some water



**Water not Excellent**

① button show card:

(Same as for previous bathing water quality card)

# Appendix C

Verbatim responses to feedback follow-up questions

## SP1 Impact Exercise

**Table 44: Feedback follow-up questions: impact exercise**

Sample	Why were you unable to understand the choices?
HH	Because they were explained simply, but in great detail.
HH	I don't know
HH	Nothing
HH	They were not really clear
HH	Very little made any sense and whoever designed it I perceive did a bad job of it
HH	i wasnt
HH	the choices alternated between bad and worse
HH	they didnt make total sense
HH	wasnt sure
NHH	Easy to understand buttons
NHH	I did understand
NHH	Some would have been difficult to actually happen here
NHH	The text was confusing
NHH	fhghf hfg hfghfgh fghf

**Table 45: Feedback follow-up questions: impact exercise**

Sample	What was not believable about the options shown?
HH	?
HH	Never had any of these problems in the past
HH	Non seemed relevant to us
HH	None
HH	Not truth
HH	Well comparing sea to home is stupid in terms of impact they are not comparable
HH	i just dont believe them
HH	seems bad
HH	taste of drinking water
HH	too cheap
HH	uhyb hbu h gvct gft hyv y uv
NHH	It's not realistic
NHH	that the two, seemingly independent, events could be part of a comparison. I'm not sure I have the skills to choose which would be the more disruptive

**Table 46: Feedback follow-up questions: impact exercise**

Sample	What were the main factors driving your choices if not the impact that each would have on your household/premises?
HH	No
HH	Price
HH	i have three young kids
NHH	Keeping business running smoothly

**Table 47: Feedback follow-up questions: impact exercise**

Sample	Why was it difficult choosing between the options?
HH	Because most options would have an impact, hard to assess which would cause most impact
HH	Because some would have more acute effect on my household but others were probably worse from an environmental point of view
HH	Both options were not happening or unlikely to happen
HH	I don't know
HH	Most were important
HH	Some of the situations applied to me equally.

Sample	Why was it difficult choosing between the options?
HH	asda
HH	is really hard choice
HH	neither were desirable
HH	some had no effect
HH	some were equally disruptive to me
NHH	Depends on which option was available. No water for a time between 2pm to 7am is period that is manageable. Pollution in nearby rivers does not directly effect us but can be detrimental to our area.
NHH	It was difficult to quantify the impact as for some of the examples the impact would be very similar
NHH	It wasn't always clear how either of the choices would affect my company more.
NHH	Regardless whether issue was nearby or far away, the implications were very high
NHH	Some of the options had consequences that were roughly comparable and choosing the one with the greater effect wasn't obvious
NHH	Sometimes it was a close call and neither would have a big impact. The personal scenarios were easier than the river ones.
NHH	Sort of
NHH	Trying to pick the better of two evils
NHH	VERY DIFFICULT ALIENATING MY FEELINGS FOR THE WILD LIFE AND YHE LOCALS FROM MY OWN INTERESTS

## SP2 Compensation exercise

Table 48: Feedback follow-up questions: compensation exercise

Sample	Why were you unable to understand the choices?
HH	Don't know not straight forward
HH	Hi we're cuddles and kisses to you but I think I can do to help you to know that I have to do the same thing that has been able to see if I can do it now if I can do it for the crawl space in your colleagues anyway I hope that you have a good d
HH	I am not too sure
HH	I didn't quite understand the other option
HH	I didn't understand what it meant but a one off payment
HH	I misunderstood the first two questions
HH	Its obvious to most I would imagine
HH	Maybe it was my screen layout but i couldn't tell for sure if it meant the cost would prevent the problem.
HH	No comments
HH	Nothing
HH	The layout wasn't clear.
HH	did not make any sense
HH	i undersrod then
HH	n\o
NHH	Not trusted
NHH	baised tricky survey want to give the oiytcome you want

Table 49: Feedback follow-up questions: compensation exercise

Sample	What was not believable about the options shown?
HH	Can't see them paying that much
HH	Don't know
HH	I cannot believe that there would be a charge to be notified about these issues. Surely this would never be accepted
HH	I do not know why
HH	I don't believe the compensation would be that amount ,

Sample	What was not believable about the options shown?
HH	I doubt so much would be paid out
HH	I have never faced nor can i foresee facing the issues
HH	No comments
HH	Not applicable to us
HH	"did not make any sense"
HH	giving the compensation
HH	hasnt happened in the past
HH	i had never had problem like this
NHH	All of them
NHH	I DON'T THINK THAT THEY WILL PAY THAT LEVEL OF COMPENSATION
NHH	THE AMOUNTS WOULD NEVER BE PAID
NHH	The amount of compensation was far higher than would be expected for short delays when generally we don't even receive any notification of planned drops
NHH	The compensation levels
NHH	The level of compensation was too high to be believable. I don't think the level of outages would result in such generous compensation
NHH	The percentage of payment to be made in first option. Too much money.
NHH	They would not offer a free year or two

Table 50: Feedback follow-up questions: compensation exercise

Sample	What were the main factors driving your choices?
HH	The money. I'm not greedy; it would go to my mum.
HH	confusion
HH	n\o
NHH	fgy hfgh fgh
NHH	rather not say thank you
NHH	to get it dont as quick as possible

Table 51: Feedback follow-up questions: compensation exercise

Sample	Why was it difficult choosing between the options?
HH	Because neither were good choices
HH	Both options were very similar in some cases.
HH	Both to me didn't make sense
HH	Did not understand
HH	Domt know
HH	Ensure of the implications of no notice given. How would I know to boil the water?
HH	Most were unlikely
HH	The layout wasn't clear
HH	Well it's hard to know how much money would be needed to take the extra steps. Such as boiling water for drinkable use.
HH	asda
HH	confusion
NHH	It felt unrealistic to choose between an event not happening vs. 'choosing' an event to happen for the sake of compensation.
NHH	Na
NHH	On one side you consider the side effects of the issue. On the other you consider how much credit you could receive
NHH	Planned is better obviously the payments required were too much for this option.
NHH	The layouts are not consistent
NHH	Time
NHH	When the payment reduced I wasn't sure it would counter balance the inconvenience and it might depend on what was happening that day

## SP3 Combined impact-compensation exercise

Table 52: Feedback follow-up questions: combined impact-compensation exercise

Sample	Why were you unable to understand the choices?
HH	Because the choices are complicated and there's lots of errors
HH	Hard to work out the effect it would have on me and my family
HH	I based my decisions on price
HH	I was able to understand the choices
HH	I wasn't
HH	ITS QAS A BIT DIFFICULT
HH	I'm not sure
HH	Loaded questions that were unfairly canvassed. Do you really need to justify your existence or substantiate an additional charge this way?
HH	Na
HH	Too much choice
HH	Yes
HH	don't know
HH	none
HH	noo

Table 53: Feedback follow-up questions: combined impact-compensation exercise

Sample	What was not believable about the options shown?
HH	By the astronomical charges for something that the customer has not done
HH	How the questionnaire was written!
HH	I do not expect to pay an additional sum for many of these events.
HH	I don't understand
HH	N/A
HH	Nothing really
HH	Southern Water are capable of much mal practice but even some of those scenarios could probably not happen near my property
HH	The amount of compensation offered would only be paid by household bills going up in price to cover the compensation costs. The timescale of each event was too specific and the choice was a case of the lesser of the two evils
HH	They wrote believable
HH	Unrealistic charges
HH	i doubt that any of these situations would arise
HH	non
HH	none
HH	nothing in particular but combinations did not correspond
HH	some of the amounts being asked to pay for. also the drought period would be too long here
HH	that water companies would actually compensate anybody
HH	the cost
HH	the fear factor made the options unbelievable
HH	unlikely scenarios
NHH	Extreme scenario
NHH	I'm still, struggling to envisage sewage water everywhere and we're not near a beach so proximity to a beach.

Table 54: Feedback follow-up questions: combined impact-compensation exercise

Sample	What were the main factors driving your choices?
HH	Mdj dj knxkdkdkdk kckdkdk
HH	Putting myself in that situation and which one would I'd rather deal with out of the choices
HH	Saving and maintaining water supplies.
HH	The overall impact on my environment

Sample	What were the main factors driving your choices?
HH	Whatever grabbed my attention first
HH	Which would impact my life less
HH	none
HH	simplicity

Table 55: Feedback follow-up questions: combined impact-compensation exercise

Sample	Why was it difficult choosing between the options?
HH	Because both options were not nice if happen
HH	Because it is difficult choosing between interruption and compensation
HH	Cos they were bad either way to have to deal with
HH	I found the choices dealt with very different scenarios
HH	None of them were really palatable
HH	Not sure
HH	Nothing
HH	Plenty to read and take in
HH	Some of the choice grouping were difficult to prioritise.
HH	Some were equally as bad
HH	Some were more difficult than others as it's a hard choice
HH	Sometimes both were equally awful
HH	Sometimes it's hard to imagine how our lives would be affected
HH	TOO MANY CHOICES
HH	The money situation that i would be placed in made it difficult
HH	They didn't seem relevant to me.
HH	They were all so awful!
HH	Too much choice
HH	Trying to put yourself in that situation
HH	Various factors
HH	We'll ask your Mother or Father to complete it and you'll get your response.
HH	Working out what would be best for the family
HH	hard to know which would be more likely and/or disruptive
HH	i didnt like any
HH	in some cases the damage was bad in both
HH	just so
HH	none
HH	not difficult
HH	"not fully understand the implications. And these questions require more time to fully consider."
HH	the options were either local or would affect more people. difficulty was trying not to be a nimby
HH	yes
HH	you were choosing between options that should never happen if the companies spent more on maintenance and invested money instead of paying shareholders
NHH	Both not ideal
NHH	We've had so few problems with our water supply and sewerage and it's difficult to assess the actual impact if something like that happens.
NHH	Weighing up time, financial and environmental factors.
NHH	because the options were both bad scenarios