

YORKSHIRE WATER SERVICES LTD

PERIODIC REVIEW 2009

**PART C1
CONSUMERS' VIEWS**

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DOCUMENT OVERVIEW

The aim of this document is to clearly show how we have obtained the views of our consumers and stakeholders, and how we have put customer and consumer needs and priorities at the heart of our Business Plan:

- o PR09 “Willingness To Pay” study
- o PR09 consultation with customers and stakeholders
- o Strategic Direction Statement consultation
- o Consumer Satisfaction Research.

They key changes in this section from that submitted in our Draft Business Plan are:

- o Response to Ofwat query on “Willingness To Pay” (paragraphs 87 – 89)
- o Section 1, Executive Overview:

New diagram included

- o Section 4, PR09 Consultation:

New paragraphs added to cover consultation since Draft Business Plan submission (153, 154, 161-167, 174, 177)

- o Section 6, Consumer Satisfaction Research:

Changed structure to improve clarity. Added margins of error at paragraphs 260 and 261

1. EXECUTIVE OVERVIEW

1. Consumers are right at the heart of our business. To build upon our achievements of recent years, our priorities going forward must be consumer-focused. We therefore place great importance on finding out what our consumers think of us, listening to their views and acting upon what they tell us.
2. Both our twenty-five year SDS (Strategic Direction Statement) and our PR09 FBP (Final Business Plan) for the period 2010-2015 are founded upon the priorities of our consumers, underpinned by our commitment to deliver an experience for them that is second-to-none whilst keeping prices as low as possible.
3. We have carried out a WTP ("Willingness To Pay") study to estimate how our bill-paying customers value our service. On their own the results of this study only provide an indication of customer priorities. It is not until the WTP value is compared to the costs that we understand whether investment is supported. Key priorities highlighted by customers include:
 - Maintaining water supply in times of drought
 - Preventing pollution incidents
 - Providing a healthy drinking water supply
 - Preventing flooding from sewers.
4. Through the extensive twenty five year SDS, we know that our consumers want the very best water and environmental services from an ethical, industry-leading company, but they are concerned about bills and price rises.
5. Our work is valued by consumers, and they believe that our key long-term priorities must continue to be:
 - Delivering a continuous supply of clean, healthy drinking water
 - Preventing flooding from sewers
 - Improving river and bathing water quality
 - Giving excellent customer service
 - Providing value-for-money.
6. Our consumers recognise that maintaining water resources and dealing with climate change are key challenges for the future. In fact, they believe that we must start taking measures now to reduce our carbon emissions.

7. Achieving all of this and keeping prices to affordable levels for our customers will be a key measure of our success.
8. Figure 1 overleaf outlines the key consumer and stakeholder consultation activities we have carried out in order to develop our FBP.

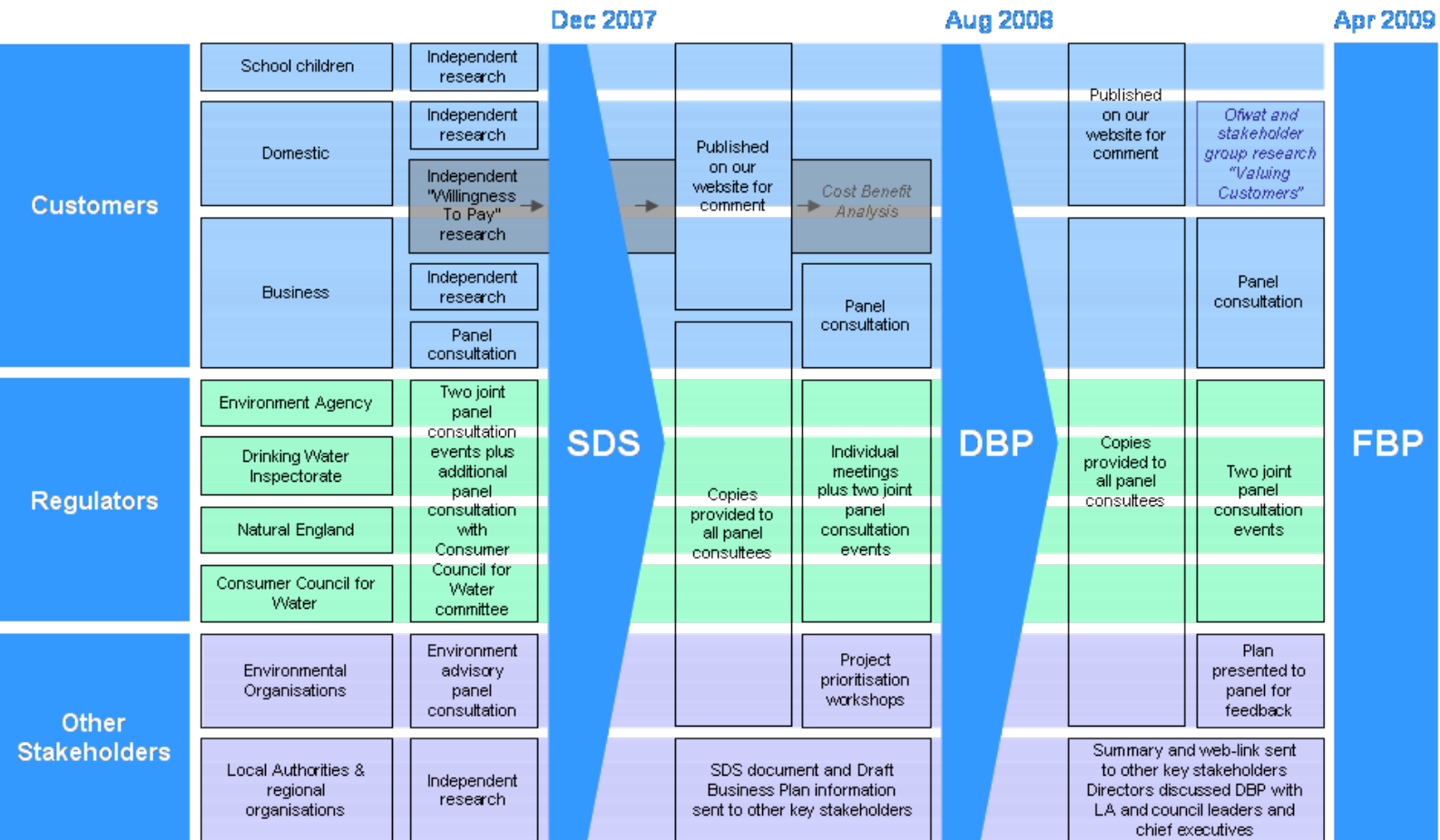


Figure 1 - Consumer and Stakeholder consultation activity timeline; Strategic Direction Statement to Final Business Plan

2. INTRODUCTION

9. Consumers are right at the heart of our business, and we are committed to delivering an experience for them that is second to none. We understand that our consumers want high quality products and service but excellent value for money too. We also appreciate that consumer requirements and expectations evolve over time. This means that we need to keep improving our products and services but we also need to keep prices as low as possible.
10. To do this effectively, we need to understand our consumers' priorities, in particular where they would like us to improve our products and services. We therefore place great importance on finding out what our consumers think of us, listening to their views and acting upon what they tell us.
11. As such, we recognise the benefits of investing resources in conducting extensive consumer research. Each year we use accredited market research agencies to help us understand consumer satisfaction, perceptions and expectations, and we track changes over time. We ask consumers what they think of the quality of our service and products, and we seek their views on our day-to-day activities and communications. In a typical year we ask more than 20,000 consumers for their opinions, and we then focus our efforts on the aspects of our products and service which they highlight need improving.
12. We take this same approach when developing our short term and longer term business plans. We carry out detailed research and consultation with our consumers, other representative organisations and key stakeholders, and we formulate our strategy and plans based upon their priorities and feedback.
13. We therefore conducted extensive research – through an accredited, independent market research agency – with consumers, schoolchildren and stakeholders, and consulted with key stakeholders to help us formulate the content of our twenty five year SDS.
14. We also carried out a robust WTP study, to help us understand our bill-paying customers' priorities and views in relation to levels of service and prices for the next five year period.
15. This research – our largest consumer research project in the last five years – was carried out by an accredited, independent market research agency mruk (Market Research UK) and leading academics in the field - Professor Ken Willis and Dr Ricardo Scarpa from the Centre for Research in Environmental Appraisal & Management. Throughout the study we took

opinion from a separate academic panel of peer reviewers, to ensure that the study outcomes would be as robust as possible.

16. The findings were a key component in our CBA (Cost Benefit Analysis) which has helped us to formulate our investment plans for 2010-2015 and our FBP.
17. The application of the WTP results within our CBA, how the results of the customer consultation have been used to inform decisions in part C8.
18. In this section we therefore provide details of our PR09 WTP study, our PR09 consultation process and the research and consultation underpinning our SDS; and – for completeness – a summary of our ongoing consumer research programme.

3. PR09 “WILLINGNESS TO PAY” STUDY

3.1. INTRODUCTION

19. Our approach is based around the LEADA+ (Leading Edge Asset Decision Assessment plus) system. LEADA+ is a series of systems that calculates the optimal level of investment to produce the best value for customers for every pound spent. The LEADA+ systems predict the risks to service levels, based on detailed information on our assets, build up detailed solutions and compare the costs and benefits of solutions over a 40 year period. One of the key inputs into this system is the customer valuation of service. These values are derived through a customer WTP study which is explained in this document.
20. This section covers how the WTP results were derived. These results allow the benefits to be calculated and enable our system LEADA+ to identify the economic level of service. This section should be read in conjunction with section C8 which describes how the WTP feeds into LEADA+ to calculate the benefits, how the costs are built up and compared. Comparing the benefits to the costs is a key factor in our decision making process.

3.2. PROCESS

21. The valuation of benefits work involves four main stages these include:
- The identification of service areas, their measures and attributes
 - Qualitative customer research work to identify broad customer preferences and prioritisation of service areas
 - Quantitative customer research work to value the benefits of service changes
 - Benefits estimation:
 - Estimation of customer WTP in terms of service provision and bill levels
 - Estimation of relative customer satisfaction in terms of severity levels
 - Aggregation of individual customer valuations to the aggregate value of service across Yorkshire
 - Calculation of the annualised benefit for optimisation in LEADA+
22. The first three stages and the first two points of stage four are discussed in this section. The last two points of the benefits estimation step are described in section C8.
23. Consultants, market research agency mruk (Market Research UK) and the CREAM (Centre for Research in Environmental Appraisal and

Management, University of Newcastle) undertook the qualitative and quantitative customer research informed by our WTP Working Group.

24. The process, methods used and results of each stage were presented to, and commented on by, three separate advisory groups:
- Academic Advisory Panel
 - Our WTP Working Group (members drawn from across the business)
 - Our senior management – PR09 Steering Group.
25. In addition, the project and methodology has been discussed with other stakeholders, such as the Consumer Council for Water (CCWater), Ofwat and the Environment Agency (EA) on an adhoc basis.

3.3. *INITIAL IDENTIFICATION OF SERVICE AREAS*

26. Initial work was undertaken to collect and identify a wide range of possible service areas and service measures by reviewing the Ofwat OPA (Overall Performance Assessment) measures, internal service indicators and solution drivers.
27. A workshop was held in September 2006 with participants drawn from across the business including the WTP Working Group and Senior Managers. Ken Willis attended from the CREAM.
28. The aim of the workshop was to add to the list of service areas and attributes developed to date and to then prioritise these in terms of importance for the business.
29. The group was asked to identify issues from a customer point of view. This was considered possible as our employees are generally customers. The list was then rationalised and the current level of service identified for each service measure.
30. The rationalised list is shown below and overleaf:
- Water Quality - Biological/Chemical
 - Water Quality - Lead
 - Water Quality - Taste and odour
 - Water Quality - Appearance/Discolouration
 - Water Supply - Security of Supply
 - Water Supply - Leakage
 - Water Supply - Interruptions to supply
 - Water Supply - Supply pipes
 - Water Supply - Pressure

- Water Supply - Maintenance of Assets
- Sewerage - Pollution
- Sewerage - Maintenance of Assets
- Sewerage - Internal Flooding
- Sewerage - River Water Quality
- Sewerage - External Flooding
- Sewerage - Odour Nuisance
- Sewerage - Sludge Recycling
- Sewerage - Fly Nuisance
- Sewerage - Noise Nuisance
- Bathing Beaches
- Customer Contacts
- Renewable Energy/Carbon Footprint
- Amenities Recreation
- Meter Reading
- Inland Bathing Waters
- Internet/e-Business.

3.4. QUALITATIVE RESEARCH

31. Qualitative work was undertaken by mruk to determine the final choice of aspects of service to include in the study and help develop easily understood customer-friendly terminology for the questionnaire. A total of eight focus groups of residential customers and eight telephone business interviews (known as depths) were held.
32. Eight focus groups were recommended by the CREAM and mruk to allow for segmentation of the groups by location, age group, SEG (Socio Economic Group) and content as shown in table 1.

Group No.	Location	Age Group	SEG
1	Sheffield	60+ yrs	C2DE
2	Sheffield	35 – 59 yrs	ABC1
3	Northallerton	16 – 34 yrs	ABC1
4	Northallerton	35 – 59 yrs	C2DE
5	Halifax	16 – 34 yrs	ABC1
6	Halifax	35 – 59 yrs	C2DE
7	Hull	60+ yrs	ABC1
8	Hull	16 – 34 yrs	C2DE

Table 1: Group Structure & Location

33. The residential groups were recruited on location by mruk. Quotas were set to ensure that the required group structures were recruited, and that

there was a mix of respondents with different levels of contact with us. The business interviews were identified by the consultants from lists that we provided and were selected to reflect a range of SIC (Standard Industrial Classification) codes and water consumption data.

34. A senior qualitative consultant from mruk moderated each group, using topic guides prepared in conjunction with our WTP Working Group. Show-cards were used to maximise attendees' understanding of the issues.
35. The groups were structured to discuss and obtain attendee views regarding:
 - Unprompted views on our business and the different types of service
 - The understanding of each aspect of service
 - Rating the importance of each service aspect (1-5)
 - Our performance on each service aspect – views were obtained prior to the current level of service being revealed
 - Prioritisation of all service areas in terms of their importance to the customer into 'essential', 'nice to have' and 'not important' categories
 - Views on how we should invest and where to focus for improvement.
36. The analysis of the groups involved the following processes:
 - Content analysis of the tapes recorded in each group
 - Content analysis of the notes made immediately following each group
 - Combination of information from each segment and cross-checks of the responses across the groups to identify trends
 - Structuring the data
 - Synthesis and preparation of the data for the presentation and/or summary report.
37. The residential and business qualitative reports produced by mruk are presented in appendix 1 and 2 of this report respectively.

3.5. *QUALITATIVE FINDINGS*

38. As mentioned above the qualitative surveys were carried out to determine the final choice of aspects of service to include in the study and help develop easily understood customer-friendly terminology for the questionnaire.
39. The qualitative findings really helped us to understand how to relate to our customers and provided us with information on how to refine our language in the quantitative stage to ensure understanding. Examples include

security of supply being interpreted as terrorism by a few customers and the lack of understanding of the phrase carbon footprint.

- 40. A key output of the survey was the prioritisation where customers were asked to categorise all the service impacts into 'essential', 'nice to have' or 'not important'. As mentioned above this occurred after full information had been provided on all areas in terms of meaning and our performance.
- 41. Figure 2 shows the results for the residential customers. The service impacts have been ranked based on the number of groups choosing the 'essential' category. For residential customers it can be seen that three areas were considered essential by all eight focus groups, five areas were allocated a mix of all categories and only one area was considered not important for by all groups.

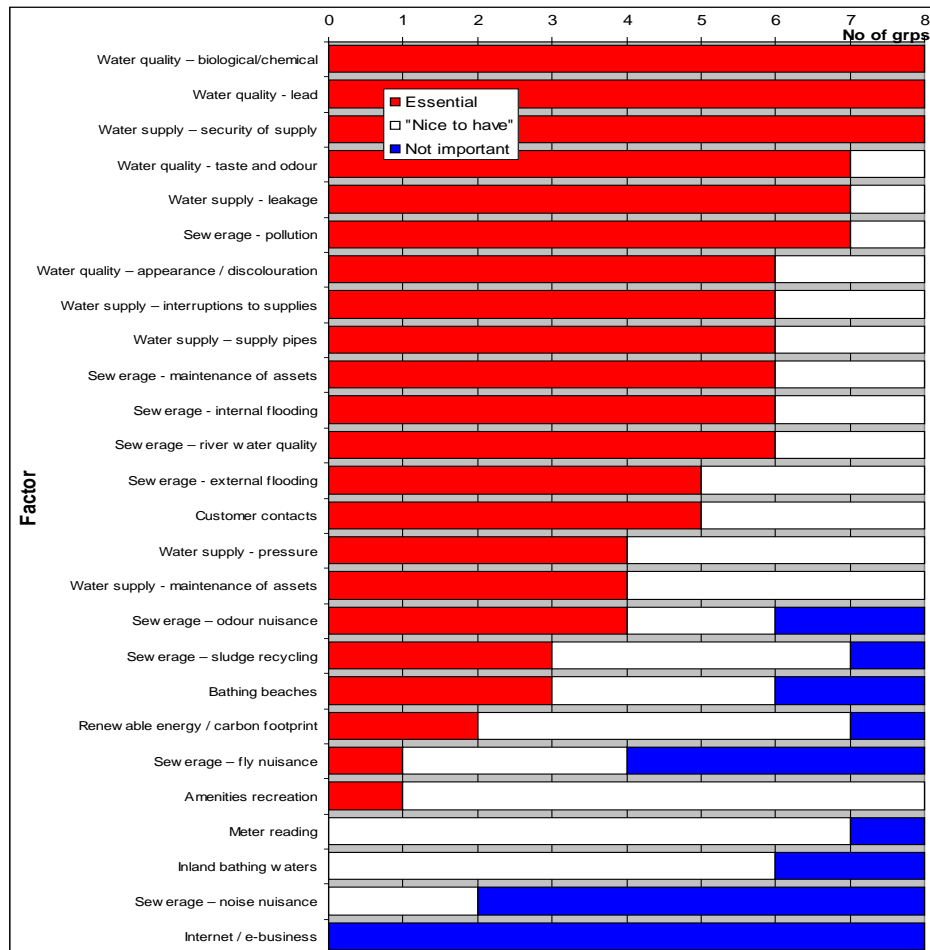


Figure 2 - Residential Customer Qualitative Priorities

- 42. The business customers' results are shown in figure 3. The business customers had two areas which all eight groups considered essential, eleven areas with all three categories and no areas where all eight groups

thought the issue was not important. The greater variety was not unexpected for businesses as there need vary much more widely depending on the nature of their business.

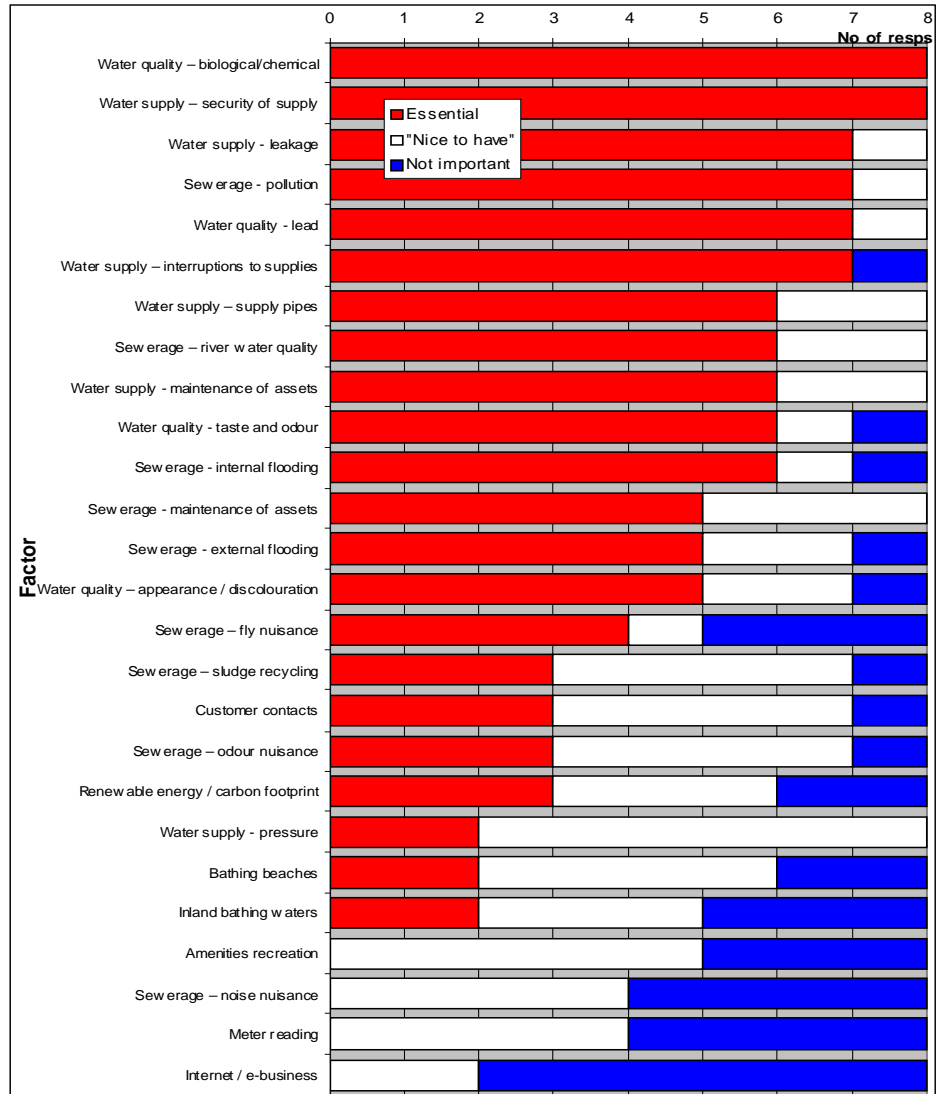


Figure 3 - Business customer qualitative priorities

- 43. Although the rankings between businesses and domestic customers were different there was a general agreement in the service areas in the top and bottom half of the table.
- 44. The results were used to assess which areas were taken forward to the quantitative phase. It was essential to reduce the number of service areas to a level that could be handled in the quantitative survey.

45. The areas not taken forward and reasons are shown in table 2 overleaf.

Service Area	Reason
Internet/e-business	Low importance
Inland bathing Waters	No inland waters currently designated in Yorkshire Region or expected in future
Meter Reading	Low importance and would only drive small amounts of investment
Amenities Recreation	Low importance and would only drive small amounts of investment. We had recently completed significant improvements to reservoir access and an advertisement campaign was due to be released.
Noise Nuisance	Low importance
Fly Nuisance	Relatively low importance. Flies are assessed through linking the odour value to flies in the severity study. See Section C1 3.7.2
Customer Contacts	Would only drive small amounts of investment as this can be improved through operational changes
Water Supply - Supply Pipes	Would only drive small amounts of investment and are the responsibility of the customer

Table 2: Service measures not taken forward into the quantitative phase

3.6. QUANTITATIVE RESEARCH – “WILLINGNESS TO PAY”

46. Within our research the type of experiments carried out to assess customers' valuations are known as stated preference surveys. A stated preference survey is designed so that customers directly state or provide information that allows the benefit they receive to be elicited. Two methods of stated preference survey were used in our study; these are described in more detail in this section and in the referenced appendices.
47. The approach taken for our WTP study is aligned with one of the suggested options for benefits assessment described in the UK Water Industry Research (UKWIR) cost benefit approach.
48. The UKWIR cost benefit guidance provides a framework for benefits assessment. Different approaches are considered and the merits discussed but no recommendation is made on the best approach to use.
49. As a result we have chosen to undertake a stated preference survey. The UKWIR methodology outlines our PR04 study as an example in this section. The study did raise four issues with our PR04 study. These issues are outlined at the end of section 3.6.4 with our views.

50. This section aims to provide an overview of the approach, however, if at any time further information is required please refer to the appendices. Full details of the quantitative methodology are included in the report by the CREAM in appendix 3.

3.6.1. *Coverage of study*

51. The aim of our study was to estimate in monetary terms the value of service, and possible changes therein, provided by us.
52. Some aspects of our service provision are received directly by customers and some indirectly (due to altruism or enjoyment of the environment). Environmental attributes of our service provision can be seen to be local public goods.
53. The means of funding these local public goods is our bill, which is paid at an average level across the region. As such the relevant population over which to value these environmental services is the Yorkshire population.
54. The relevant values to be elicited encompass both use and non-use values.
55. Use value can be defined as a household or business's value for services received directly.
56. Non-use value can be defined as a household or business's value for services received indirectly either from the knowledge that these services will affect other customers (i.e. altruism) or by the knowledge that services are provided, regardless of if they personally are in receipt of or enjoy them (for example, cleaner bathing water on the Yorkshire coast may be valued by someone who personally does not wish to swim in it and, further, knows no one who wishes to swim in it).
57. The quantitative work is designed to capture this complete range of values.

3.6.2. *Process*

58. The study development comprised the steps shown overleaf.
59. The process has been structured to increase the probability that it will be fit for purpose and to ensure its technical and methodological appropriateness for purpose served:
- Data collection to inform the study
 - Review of relevant literature, including previous valuation estimates for clean and waste water services

- o Focus group findings and recommendations
- o Our Working Group information
- o PR04 results
- o Experimental design/pilot proposal and review by the Academic Advisory Panel
- o Revision of pilot proposal
- o Pilot testing
- o Review of pilot findings and advisory input by :
 - o Our WTP Working Group
 - o Academic Advisory Panel
- o Main survey design incorporating recommendations from review of the pilot study
- o Implementation of main survey
- o Analysis of the results
- o Review of the results and analysis by the academic panel
- o Further analysis by the CREAM based on the academic panels recommendations.

3.6.3. *Survey methodology*

60. Two surveys were undertaken by mruk, one of domestic customers and the other of business customers. The questionnaires were designed by the CREAM and drew on the information from the focus groups, the business and from previous customer research work. They were designed to have four parts. Interviews took approximately forty minutes, were conducted face to face in the respondent's premises. The survey occurred in April though to early June 2007. The survey was complete prior to the flooding in the region in June 2007.
61. The participants for both the domestic and business surveys were chosen by mruk. The domestic customer survey sampled two thousand households (bill payers) from across the region. These were selected to represent the whole of the Yorkshire region, and included urban, rural and coastal areas. The urban/rural split was based on census population data. The number of households surveyed has been increased from the one thousand surveyed in PR04 to allow for more detailed analysis.
62. Business sampling of five hundred customers was proportional to industrial groups and bill size in the Yorkshire region. To enable mruk to select our business customers, a full list was provided with detailing SIC, consumption and contact details.
63. In both cases the first part of the survey asked about the customers' previous experience of our services and included some questions to start

customers thinking about our services and their interaction with us. This also provided us with information on whether the customers had been affected by the problems we were considering. This section also asked customers about their bill and business customers were also asked about their dependency on water and sewerage services.

64. The second part of the questionnaire was concerned with the first method of valuation, the choice experiment. A choice experiment is a version of a stated preference questionnaire that allows customers to make choices between bundles of service levels related or linked to a change in bill. This change in bill chosen by the customer is used to understand how a customer values the package being offered. The customers' choices between different bundles show how they trade-off/prioritise different services levels. Analysis of these trade offs reveal their preferences or value they place on particular service levels. The change in bill should not be confused with the real cost of providing the bundle as the customers' value can be very different.
65. Details of the questions are provided in section C1 3.6.4 but to provide robust results each customer is asked to make a series of choices, and a large number of people (sample size) are required. Different customers can be presented with different sets of choices but the full range is covered by the whole sample.
66. The choice experiment section of the survey also included a series of attitudinal and validation questions to help assess if the customer is providing consistent responses. The results from this section are used in CBA in LEADA+ which are discussed in section C8. The UKWIR Cost benefit methodology provides a detailed list of references if further information is required on choice study.
67. The third part of the questionnaire employed a second method of stated preference valuation, the 'payment card contingent valuation experiment'. Contingent Valuation is a method where the respondent directly states what they are willing to pay for a change. This section focused on investment associated with the replacement rates of the distribution and sewerage networks. The results from this section will not be included in LEADA+ but are intended to provide additional information to help decision-making. The details of the question are described in section C1 3.6.5 below, which also addresses the issue of overlap with the choice experiment.
68. The fourth part of the survey collected the socio-economic data required for analysis. For domestic customers this included gender, age group,

income group, ethnic group and socio-economic group. For business customers this included industry sector categorisation.

69. The domestic and business questionnaires are included in appendices 4 and 5. An example of the show cards used in the survey are included in appendix 6

3.6.4. *Choice experiment study design*

70. The sixteen service areas (or factors) defined through the qualitative work, and used in the choice experiment study are:

- ⦿ Security of supply (SOS)
- ⦿ Interruptions to supply (ITS)
- ⦿ Drinking water quality - biological & chemical (DWB)
- ⦿ Water quality Appearance (WQA)
- ⦿ Water quality Taste and Odour (WQT)
- ⦿ Leakage (LKG)
- ⦿ Inadequate mains pressure (IMP)
- ⦿ Lead (LD)
- ⦿ Sewerage Internal Flooding (SIF)
- ⦿ Sewerage External Flooding by sewage (SEF)
- ⦿ Sewerage Odour Nuisance (SON)
- ⦿ Sewage Pollution incidents (SPI)
- ⦿ River Water Quality (RWQ)
- ⦿ Bathing Beach Quality (BB)
- ⦿ Sludge Recycling (SLG)
- ⦿ Renewable Energy (REN)

71. A choice experiment presents customers with sets of alternative combinations of service attributes. Customers are asked to choose their most and least favourite/preferred alternatives from the set to produce a ranked order of choices. Sequential choices by customers from sets of alternatives reveal the trade-offs customers are willing to make between attributes or service factors. Each set of choices presented comprised three alternatives, one of which was always the current situation (or status quo).

72. Simultaneous trading-off between sixteen service areas would have posed cognitive challenges to respondents. Cognitive effort rapidly increases with the addition of service areas. Although identification of the ideal number of areas and how this varies with training has not been agreed by the academic fraternity, it is widely considered that no more than six to

seven factors (areas in our case) should be used to ensure reliable responses by untrained respondents. As a result the choice-task could not be structured around all the service areas simultaneously, but needed to be broken down into smaller tasks. The study was broken down by creating blocks of service areas.

73. The structure comprised of one principal block covering four high priority service areas and four further blocks covering the remaining areas. The principal block was presented to all respondents together with either the two clean water blocks or the two waste water/environment blocks. Segmenting the choice experiment in this way reduced the length of the questionnaire.
74. The four service areas in the principal block were: availability of water (also known as Security of Supply, SOS), River Water Quality (RWQ), Internal Sewer Flooding (SIF) and Drinking Water Quality (DWQ). An example choice card is included in the report by the CREAM in appendix 3 and in appendix 6, the example showcards.
75. Within each of the blocks, the service areas needed to be assessed for different levels of service. To enable the number and content of the choice cards to be designed each of the areas were expressed as five levels of service:
 - Level 1 is a service reduction from the level currently experienced
 - Level 0 is the service level currently experienced
 - Level +1 is an improvement on the service level currently experienced that is achievable with AMP5;
 - Level +2 is a further improvement beyond service level +1
 - Level +3 is an aspirational level of service that in many cases removes the problem or maximises the service potential.
76. The full details of the levels used for each service area are included in the CREAM report in appendix 3. However, to aid the readers understanding an example for showing the quantities used or properties affected for an unplanned interruption to supply between 6 and 12 hours.
 - Level -1 16,000 properties
 - Level 0 2,000 properties
 - Level +1 1,000 properties
 - Level +2 500 properties
 - Level +3 100 properties.

77. One criticism of the PR04 WTP study by reporters was that the increases in service were not aspirational enough. Increasing the levels of service and introducing an extra level was one of the key changes between the PR04 study and the PR09 study. This has allowed us to undertake longer run WTP in line with our SDS.
78. The study design was based on a design that permitted the investigation of the main effect of each service area. A full factorial design to allow the estimation of all the possible interactions between the service areas would have required an impractically large sample (3,125 profiles or different combinations of factors). The design we chose only included the main effects; this produced 42 profiles for the main block (21 choice cards) and 34 profiles (17 choice cards) for each of the remaining blocks.
79. The literature in this area shows that the overwhelming majority of variation in choices is accounted for by the main effect. For further information please see J.J. Louviere, D.A. Hensher and J.D. Swait (2000). Stated choice methods: analysis and applications. Cambridge University Press.
80. Each block in the domestic customer survey included a potential contribution to bills, allowing blocks to be independently valued by customers.
81. At the start of the questionnaire customers were asked how much they paid (the size of their water bill) and increases or decreases were presented in relation to the customer's own bill.
82. The size of bill changes presented to respondents were based on a range derived with reference to our previous study from PR04, the results of the pilot study and investment cost estimates. The bill changes presented ranged between -£20 and £80.
83. The business customer survey included the bill impact in all of the blocks. However, the business bill impact was expressed as a percentage change in bill. This is because the business customers' bills vary considerably. Therefore using the percentage change allowed us to obtain the most robust results for business customers.
84. The pilot study tested several different length questionnaires. The results were analysed by the CREAM to test for customer fatigue and/or learning. No evidence was found for fatigue but learning was perceived.
85. As a result it was decided to rotate the choice cards so if two customers saw the same set of cards they would be in a different order. This approach allowed us to minimise the potential for order bias. We also altered some of the wording as a result of the pilot study. The pilot study

reports produced by the CREAM and mruk are included in appendix 7 and 8.

- 86. The UKWIR cost benefit analysis guidance is referred to at the beginning of section 3.6. In this section we mention that four issues were raised within this guidance. The four issues are presented in table 3 with our comments.

Issue	Our comment
Company wide approach means it is difficult to provide sufficient information for respondents to make proper comparison between the tangible impacts such as water at their tap and the environmental benefits. No photographs were used to help understanding.	We have covered company wide impacts as we think it is essential to produce a balanced business plan. As a result the information provided per impact type has to be limited compared to a survey that just looks at one or two impacts. We have worked with the consultants to maximise the information given without overloading our customers. For example, we have included descriptions of each type of impact. All impacts have been treated equally and as a result we have not included pictures. This is to avoid introducing further bias and is based on academic advice.
Inability of method to account for all the impacts that may become important for the WFD	Our approach refers to the percentage of river length at good status. This is not dissimilar to the National WFD approach that assesses this WTP for different water bodies.
Framing of the bathing beaches question and reference to risk of illness	We have completely changed our approach to bathing beaches from PR04
Alignment of survey with the EA Benefits Assessment Guidance (BAG). Not enough environmental categories were included and we did not cover all of the environmental drivers mentioned in EA BAG	We believe that our valuations of environmental benefits such as river water quality and bathing beaches are all encompassing values that include the environmental drivers mentioned e.g. informal recreation, angling and ecological benefits

Table 3: Issues with PR04 study in the UKWIR guidance

- 87. As a result of Ofwat’s feedback on the DBP we have been asked to explain our approach to security of supply within the survey. The approach to security of supply used both the likelihood of rota cuts and reservoir stocks within the choice cards. The data presented in the table 4 in section 3.9.1 is shown in relation to reservoir stocks.

88. We did consider including the likelihood of hosepipe bans as the measure within the choice cards. We trialled this approach, however, it did not provide reliable results. Customer focus groups have stated that the general perception in Yorkshire is that hosepipe bans are more frequent than in reality. Customers suggested this is influenced by the national media reporting hosepipe bans in other areas of the country. As a result we felt we could not include hosepipe bans as a measure within the survey.
89. The final approach uses the next severe likelihood measure for security of supply. This is the likelihood of rota cuts. As rota cuts are considerably less frequent we felt that customers required a second measure to support decision making. This measure was reservoir stocks. Reservoir levels are a visual indicator of a drought which customers related well to in focus groups.

3.6.5. *Contingent valuation experimental design*

90. As mentioned previously the third part of the questionnaire employed a second method of stated preference valuation, the payment card contingent valuation experiment. Contingent Valuation is a method where the respondent directly states what they are willing to pay for a change.
91. The two service areas (or factors) defined through the qualitative work, and used in the contingent valuation study were:
- Long run replacement rate for water mains in kilometres
 - Long run replacement rate for sewers in kilometres.
92. The contingent valuation study presents customers with a scenario that outlines current situation and a change. The customers' WTP is assessed using a payment ladder mechanism; an example of this is included in appendix 6. The payment ladder covers a range of values from £0 through to £100. A category was also included for 'more than £100'.
93. Respondents are asked to start at the top of the list and state the amounts they are happy to pay, are unsure about and would definitely not pay.
94. Before respondents made their choice it was stated that they should consider other household bills and expenditure and that the amount they choose should be additional to any of the choices they made in the choice experiments.
95. This section of the survey covered three levels of service through two separate payment ladder decisions. These are:
- Level 0 is the current level of infrastructure replacement

- Level +1 is half the level of replacement if assets are replaced with the expected lifespan
 - Level +2 represents the level of replacement if assets are replaced with the expected lifespan
- 96. The current level of replacement was based on the average annual replacement length in AMP4. Level 2 is the average annual replacement length if we replaced our assets inline with current average replacement age.
- 97. Figure 4 represents one of the choice cards for water mains from this part of the questionnaire. The level of increased investment is calculated by dividing the current length of water mains by the current average replacement age of water mains. This average replacement age is not the same as the manufacturers design life and is based on the historical requirement for asset replacement.
- 98. This question was introduced because the Company has an ageing asset base, and our current replacement rate is not aligned with the historical requirement for asset replacement.

Renewal rate of water mains with increased investment	250km (just over 155miles) every year
Total water mains	30,000km (18,630 miles)
Renewal rate to replace all water mains within their expected lifespan	250km (just over 155 miles) every year
Current rate of renewal of water mains	44km (just over 27 miles) every year

Figure 4 - Information in a contingent valuation choice card

- 99. The question that the customers were asked outlined the discrepancy between the current situation and the historical requirement for investment and explained that whilst this was not impacting on service in the short run that it would cause an ever increasing likelihood of problems in the future.
- 100. The question spoke about starting this investment early and any WTP should be considered in addition to the choice experiments. Therefore the results can be considered to be ‘as well as’ the benefits derived through the choice experiments. However, we do recognise that these results are likely to be less robust than the choice experiment results.

3.6.6. “Willingness To Pay” economic analysis

- 101. The survey data has been analysed by the CREAM and their models used to estimate the WTP values where customer satisfaction (also known as

utility) is explained in terms of our service levels, water bill size and relevant socio-economic factors. A range of plausible models were used to obtain estimates. Details of the models the CREAM used are included in their report in appendix 3. The results produced by the CREAM have been reviewed by our academic panel. As well as comments the academic panel provided suggestions on further analysis.

102. The results of all models were assessed on the basis of the following criteria:
- Conformity to economic and theoretical expectations (for example, appropriate sign or co-efficient)
 - Statistical significance (for example, the significance of the coefficient and the explanatory power of the model)
 - Behavioural consistency. That is, conformity to expectations about how decisions are made
103. The criteria above were used to understand the results and were not mechanistically applied as a filter for the best model.
104. The only service factor where some of the models did not conform to the expected outcome was River Water Quality (RWQ). Closer investigation showed that this is likely to be due to the level 0, +1 and +2 being too close or not different enough to influence customers' choices. As a result the CREAM used the effect coded results for the extreme levels to infer a linear relationship.
105. The results showed that there was no single model which outperformed all other models. Therefore, instead of selecting a specific model upon which to base WTP for a particular service measure, all of the available robust models have been used. The choice for using a model was based statistical significance. Based on this the results taken forward for use in the LEADA+ system are an average of the statistically significant models. This approach was commended by the academic panel.

'I particularly like the fact that the authors pulled all the estimates together into a table that gives their most likely WTP value for each service factor. Often researchers will feel that one model has to be chosen as the "best" and use the estimates from that one model for all relevant parameters. I like the fact that the CREAM did not fall back to this narrow approach'

Professor Kenneth Train

106. Further to this analysis the CREAM analysed the data to assess affordability issues and differences between customers with and without meters. Based on the recommendations of the academic panel the

CREAM also carried out some additional analysis on random price coefficients. The details of this additional analysis can be found in the main report from the CREAM shown in appendix 3a and 3b. The results are summarised in section C1 3.9.1

3.7. QUANTITATIVE RESEARCH – CUSTOMERS’ VIEWS ON SEVERITY CHANGES

107. Section C1 3.2 which outlines the WTP process mentions a second stage of quantitative research that assesses the differences in customer satisfaction as the severity of the incident changes. This section provides an overview of a quantitative survey that we undertook with customers on severity and how this relates to the WTP survey.
108. The WTP study described in section 3.6 assesses customers’ monetary valuation of the benefits as the level (or quantity) of service changes. This feeds into the cost-benefit analysis described in section C8. Our cost-benefit approach is a risk based approach that integrates differences in risk as well as quantity. One of the key components of risk is severity or the significance of the impact of any failure. Details of this approach as covered in parts C8 and B3.
109. The approach we have developed allows us to assess the severity of the failure and adjust the WTP value to account for whether the problem is more or less significant than the failure valued through the WTP work. This approach aligns with best practice as outlined in the UKWIR 2007 CBA framework (the role and application of CBA; report ref; 07/RG/07/9) that the differences in severity should be assessed based on customer opinions on differences of various types of service failure. To do this we have undertaken a further survey to understand how WTP varies as severity changes.

3.7.1. Survey methodology

110. The survey was undertaken by mruk and the questionnaires were designed by the CREAM and drew on the information from the business and from previous customer research work. They were designed to have two parts. Interviews took approximately twenty-five minutes and were conducted face to face in the respondent’s premises.
111. 400 customers were surveyed and were chosen by mruk to be representative of the region using the same criteria as for the WTP quantitative survey. A majority of the respondents were recruited through the first survey which included a question asking if they were interested in being involved in further research.

112. The WTP results provided monetary values of the changes in the quantity of service provided. This second survey assesses the relative importance (or weighting) between different levels of service failure.
113. The severity study was a stated preference choice experiment study, following a similar format as that used for estimating the WTP value of the change in the quantity of service provision outlined above. This choice experiment formed the first part of the survey and is described in more detail in section C1 3.7.2 below. The second stage of the questionnaire collected socio-economic data.
114. The report by the CREAM, the questionnaire and a set of example showcards are included in appendices 9, 10 and 11 respectively.

3.7.2. *Severity experimental design*

115. The 12 service areas (or factors) were assessed in the severity choice experiment study are:
- ⦿ Interruptions to supply (ITS)
 - ⦿ Drinking water quality - biological & chemical (DWB)
 - ⦿ Water quality Appearance (WQA)
 - ⦿ Water quality Taste and Odour (WQT)
 - ⦿ Inadequate mains pressure (IMP)
 - ⦿ Sewerage Internal Flooding (SIF)
 - ⦿ Sewerage External Flooding by sewage (SEF)
 - ⦿ Sewerage Odour Nuisance (SON)
 - ⦿ Sewage Pollution incidents (SPI)
 - ⦿ River Water Quality (RWQ)
 - ⦿ Bathing Beach Quality (BB)
 - ⦿ Sewerage Flies Nuisance (SFN).
116. Eleven of the twelve service factors listed above were included in the WTP choice experiment study and one service area (SFN) is new. The reason why five service factors are included in the WTP choice experiment and not included in the severity experiment is because there is no differentiation between our severity scale and quantity scale. The only exception to this is the lead scale which is assumed to be the same as the drinking water quality.
117. The additional factor assessed is Sewerage Flies Nuisance. This is a factor that was considered in the qualitative focus groups and although not a significant investment driver is an issue for the public in some areas of

Yorkshire. This experiment was used to assess how customers view flies in relation to odour nuisance.

118. For each service impact we have five categories of severity. The severities included in the survey and the levels tested are shown in the report by the CREAM in appendix 9.

119. An example of our severity scale is shown in figure 5.

	Description	VL = 1	L = 2	M = 3	H = 4	VH = 5
ACCEPTABILITY OF WATER TO CUSTOMERS (discolouration)	Discoloured water: 4 in every 1000 customers per year complain:	of slight tap water discolouration, noticed in bath water	of floating material visible in clear tap water	that tap water that is discoloured but that you can see through, resembling orange squash	that tap water that is discoloured and cannot be seen through, resembling weak milky tea	that tap water that is highly discoloured resembling dark beer or stout
INTERNAL FLOODING (overloaded sewer & other causes)	72 customers properties affected by sewer flooding from the mains sewer causing:	Damp patch in an unused cellar, caused by sewage & / or occasional restricted toilet use due to backing up of drains	Damp patch in a cellar used for storage caused by sewage & / or restricted toilet use a few or more times per year due to backing up of drains	Standing water from sewage in an unused cellar	Standing water from sewage within property in storage cellars, under floorboards & integral garages	Standing water from sewage within living accommodation, including converted cellars

Figure 5 - Example of severity scale used in defining impact of failure

120. A considerable amount of time was spent translating the internal severity wording into customer-friendly language. Where appropriate the wording was informed by scripts used at our customer contact centres and previous customer research.

121. The choice experiment fixes the quantity in relation to our medium severity category and offers choices showing the same quantity for different severities. The quantity is shown on the choice card to allow the customer to differentiate between impacts. There is no status quo or current situation choice and no bill effect is included in the choice card. Customers are asked to choose the worse or least favourite/preferred alternatives from two choices. An example of the choice cards is included in appendix 11. Sequential choices by customers from sets of alternatives reveal the trade-offs that customers are willing to make between different degrees of impact for each type of service failure.

122. The questionnaire was separated into blocks or groups of service area, similar to the WTP choice experiment. Four blocks were used with three service measures in each block. This simplified the experiment so that the customers could be presented with a manageable amount of information.

3.7.3. *Severity economic analysis*

123. The severity results were analysed using a similar approach to the WTP analysis. The models analyse the customers' choices to assess the trade off between the individual severities for each type of severity. The methodology employed by the CREAM produces a scale of customer satisfaction which shows the relative importance of each impact. The results of this analysis are shown in appendix 7 and an example is given in section C1 3.9.2 which details the quantitative findings.

"We believe the research team did a great job in tackling the complexity of the task in hand. Notably, the authors further advanced and updated the procedures adopted in their pioneering 2002 stated preference study of service improvements for Yorkshire Water, in the light of the most recent developments in the literature. Overall, we find this to be an excellent piece of research, reflective of a profound knowledge of the state-of-the-art in stated preference valuation and also of extensive of background research, thought and discussion."

124. Section C8 describes how these results are interpreted and included with our systems to complete our CBA.

3.8. *QUALITY ASSURANCE*

125. To ensure that the work undertaken was technically and academically robust and appropriate for purpose, a continuous process of review was undertaken throughout all stages of the work. A key component of this was peer review by an Academic Advisory Panel (AAP).

126. The panel was composed of three independent acknowledged academic experts in the field of stated preference analysis. The panel were:

- Professor Kenneth Train, University of California, Berkeley, and Vice President of NERA Economic Consulting, Inc
- Professor Mark Wardman, University of Leeds
- Dr Susana Mourato, Imperial College, London.

127. The panel reviewed the proposals and analysis and made recommendations, which were taken on board at all stages of the project. The Panel's final report is attached as appendix 12 to part C1. They conclude:

128. The academic panels report covers the WTP experiment. The peer review of internal application of the results is covered in section C8. The main areas where the panel made an impact were:

- Questionnaire structure and design

- Refinement of the wording and removing
- Inclusion of questions to assess validity and the potential for altruism
- Testing potential for fatigue, order bias and customer learning at the pilot stage
- Suggesting potential analysis or further research.

3.9. QUANTITATIVE FINDINGS

3.9.1. "Willingness To Pay" results

129. The quantitative research was designed to capture the complete range of values that households and businesses may have in relation to the services provided. The WTP estimates derived, therefore, include benefits in relation to directly received services, such as drinking water quality; indirectly received benefits such as altruism; and local public goods such as enjoyment of the environment.
130. The key results from the quantitative WTP research are given in table 4, which presents the total WTP across our region for one-unit changes in each of the service areas. The unit changes represent one unit change in the level of service presented to customers. The unit change is listed in the second column of table 4. The WTP estimates per unit change are regional values p.a. and are applicable to both potential improvements and reductions in service. The uncertainty associated with each value is shown in the final column.

Area	Per unit	Residential (£)	Business (£)	Total (£)	75% Confidence % +/-
Security of Supply	% Reservoir Stock	£137,340	£691,366	£828,705	13.3%
Drinking Water Biological	Sample failing test	£6,949	£25,749	£32,698	7.5%
Internal Sewer Flooding	Property	£41,789	£56,875	£98,664	5.0%
River Water Quality	% change in RWQ length meeting good ecological status	£207,860	£149,026	£356,886	37.6%
Sludge Recycling	% recycled	£83,413	£155,031	£238,443	22.3%
Renewable Energy	% of energy renewable	£93,537	£114,429	£207,966	22.7%
Bathing Beach Quality	Bathing beach as excellent quality	£1,346,824	£235,659	£1,582,483	9.7%
Pollution Incidents	Number of incidents	£229,214	£16,978	£246,191	8.4%
External Sewer	Location	£5,304	£2,924	£8,228	12.4%

Flooding					
Sewage Odour Nuisance	Property affected	£4,755	£755	£5,510	11.2%
Interruptions to Supply	Household without water	£177	£1,572	£1,749	11.3%
Leakage	% decrease in leakage	£318,875	£1,250,796	£1,569,671	6.9%
Inadequate Pressure	Household with inadequate pressure	£11,638	£12,859	£24,496	7.1%
Lead	Sample failing test	£27,924	£85,234	£113,158	10.1%
Water Quality Taste and Odour	Complaint per thousand	£2,129	£2,481	£4,609,742	16.8%
Water Quality Appearance	Complaint per thousand	£791	£1,413	£2,204,007	5.4%

Table 4: Total “Willingness To Pay” per annum – residential and business customers

131. It is important to note that the results in the above table can not be used for a simple cost-benefit calculation. Section C8 explains how cost-benefit analysis has been undertaken. However, in summary the approach used is to assess all the costs and benefits over a 40 year period. For benefits, the values in table 5 are annual values are adjusted for risk and a calibration factor before being projected over time.
132. The presence of altruism was revealed by the study. For example the average household WTP to resolve the problem of a property suffering from internal sewer flooding was an additional 2.2 pence per year on their bill. This average household WTP is then multiplied by the 1.9 million households in our region to give total residential benefits of resolving the one problem property of £41,789 per annum. Yet given the low numbers of properties affected most customers will never have, and are unlikely ever to, experience this problem.
133. The results presented in Table 4 above can be used to produce graphs showing the regional annual WTP for changes in service. An example for bathing beaches is shown in figure 6 potential improvements go from the current standard of 4 beaches meeting excellent to 7, 13 or an even higher level of 21. Total annual WTP by business and residential customers across the region for these improvements is £4.7m, £14.2m and £26.9m respectively.

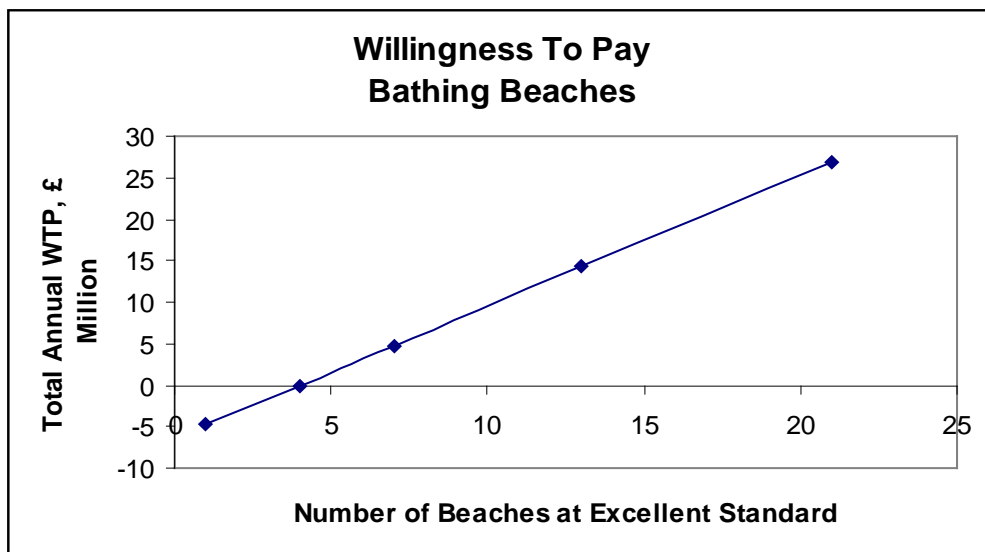


Figure 6 - WTP for Bathing Beaches

134. The survey included questions on the customers' perceived importance of service areas. The results of these questions are included in mruk's report in appendix 13.
135. Key priorities included:
- Maintaining water supply in times of drought
 - Preventing pollution incidents
 - Providing a healthy drinking water supply
 - Preventing flooding from sewers
136. Previous research by Equifax as part of some national research into water consumer debt has shown that 36% of our bill payers live in areas where average household income is under £10,000 compared to 19.1% of the UK population. This does not mean that all 36% of households have an income under £10,000 but the average in the postcode area is under £10,000. The comparison demonstrates that our customer base is significantly less affluent than the UK population as a whole, as well as that a significant percentage of our customers live in relative 'poverty'.
137. Recognising that affordability is a potential issue the sample results were segmented to examine the difference between low income and higher income groups. Lower income groups were those who indicated that their household income was less than £10,000. In general, the lower income households were willing to pay less than the higher income households but no significant statistical difference was found.

138. The statistical analysis was undertaken by the CREAM for each service measure with a series of models. For two of the service measures (inadequate pressure and bathing beaches) a statistical difference was found in some but not all of the models where lower income households were willing to pay less than the rest of the customers. This difference has been included in the sensitivity analysis that has been completed as part of the cost-benefit analysis. Please refer to part C8 section 6.1 and 6.4.2 for further details.
139. The results were also segmented to allow the WTP for customers with and without a meter to be compared. The analysis showed there was very little difference between customers with and without a meter, and any differences were found not to be statistically significant.
140. The CREAM has also analysed the WTP results to assess the potential for non-linear relationships. This analysis has identified some non-linear relationships but these tend to be a flattening of the WTP relationship at high levels of service. This means that after certain levels of service customers' WTP diminishes.
141. The analysis is less robust than the linear results, which are good relationships, and the CREAM has recommended that we base our analysis on the linear results but be aware of the levels where customer WTP diminishes. As a result the linear results have been used in the LEADA+ system but investment has not been included in our business plan for any area where this WTP analysis suggests customer benefits are reduced.

3.9.2. *Contingent Valuation Results*

142. The results from the contingent valuation WTP research are given in figures 7 and 8, which presents the total WTP across our region as the replacement rates change. For further details on these results please refer to appendix 3.

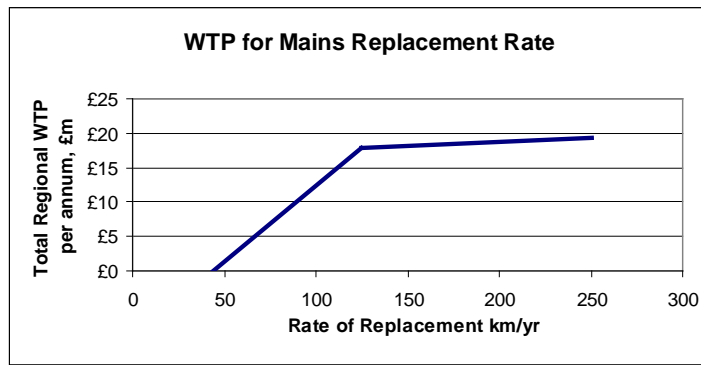


Figure 7 - WTP for mains replacement rate

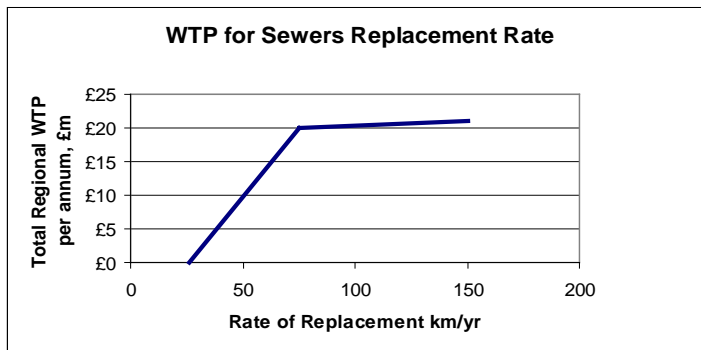


Figure 8 - WTP for sewers replacement rate

3.9.3. *Severity results*

- 143. The severity report produced by the CREAM in appendix 9 includes customer satisfaction (also known in economics as utility) values showing the relationship between the different severities. Table 6 shows the results for one of the service areas tested, internal sewer flooding. The severity scale which is assessed is included in figure 4 in C1 section 3.7.2 and the five categories are included in the first column of the table. The results in the second column are utility values.
- 144. The results show that customers do not perceive any difference between the very low and low categories but do perceive a difference between the other categories. These results do not mean much in their current form. However, part C8 explains how they are applied and provides an example.
- 145. In summary the results are scaled between one and zero to provide a relative scale which allows relative weights to be calculated for the severities.

Severity category	Result
Very Low	-0.2380
Low	-0.2380
Medium	-0.0493
High	0.1687
Very High	0.3565

Table 5: Severity results for internal sewer flooding

4. PR09 CONSULTATION

4.1. INTRODUCTION

146. In order to develop our business plan for the next five years, we obtained the views and priorities of our bill-paying customers through our WTP study. To ensure that we had taken into account a wide range of views, we then carried out a detailed consultation exercise with some of our key stakeholders (see figure 1, paragraph 8 and appendix 15).

4.2. LARGE COMMERCIAL CONSUMERS

147. We invited a panel representing our largest commercial consumers – both water and trade effluent users - to attend a consultation event in January 2008.

148. We presented our SDS and our WTP study. We then asked them to compare their own priorities with those of the domestic and business customers in the study and to highlight key areas of support or concern.

149. Several of those in attendance had taken part in the consultation process for our SDS and they reiterated the views that they had given us at that time (see section 5.3.2).

150. They expressed concern about rising prices and the fact that prices had increased above inflation in previous years. They asked us to ensure that achieving our aspirations for consumers would not impact unduly on prices; they encouraged us to continue to influence forthcoming environmental legislation, in order to mitigate the impact on prices of improvements to the environment which would not benefit their businesses; and they supported our plans for increased research and development in the short term which could lead to greater efficiency in the long term.

151. The panel advised us that they had no desire to meet again prior to our DBP being produced, as they had articulated their views clearly and

believed that we understood them in relation to price, service enhancements and environmental improvements.

152. After the submission of our DBP we published the part A document on our website, and sent the link to all panel members so that they could see the summary of our plan.
153. We invited the panel to reconvene in November 2008 to obtain their feedback on our DBP. We presented to them the key messages from our plan and the bill impacts for businesses of our proposals. They were invited to discuss any of the issues arising from our DBP and provide feedback.
154. The panel felt that the way price changes were shown in the DBP was misleading, as it disregards the inflation figure which could drive further price increases. They were interested to know more about areas of uncertainty, such as private sewer adoption and the Humber Estuary infraction proceedings. They reiterated their view that Yorkshire Water should not go beyond compliance with environmental legislation if price increases to businesses would be needed to fund this. They also felt it would be important to make sure our assets are resilient to flooding in the future, since weather events are becoming less predictable.

4.3. *REGULATORS*

155. We carried out a number of consultation events with our regulators – namely the CCWater (Consumer Council for Water), the Drinking Water Inspectorate (DWI), the Environment Agency (EA) and Natural England (NE).
156. We met them both individually and together, in order to provide opportunities for both private discussions and open debate.
157. During the early part of 2008 we met each regulator separately to understand better their priorities for investment. Using the same service factors which were tested by both domestic and business customers in our WTP study, we asked each regulator to consider whether we should maintain, improve or reduce the level of service for each aspect of service in the study for the next five year period. We asked them to take into account the likely impact on customers' bills when coming to a view. We also asked them to tell us if they felt that any other aspect of service which was not included in the study was a key priority for them.
158. In May 2008 we met all of the regulators in a joint session and outlined our DBP, as it was foreseen at that time. We provided information about our CBA and how that was determining the plan, as well as giving a

breakdown of each element of the plan, showing the potential scale of investment and corresponding impact upon prices. Following this joint consultation event, we met the regulators individually once again to hear their views, concerns and suggestions about the plan at that stage.

159. The EA and NE told us that they strongly supported our proposals for catchment management work. NE also felt that we should plan to act sooner to reduce our impact on climate change. The DWI informed us that many schemes had already been approved, but that they were still considering some proposals, such as those to deal with lead, discolouration and cryptosporidium. The CCWater felt that customers would want to pay for cryptosporidium to be eradicated. The CCWater also encouraged our proposed investment in renewable energy generation. However, they also felt we should have included in our plan an amount for possible investment in Hull to manage the flood risk.
160. As the body responsible for representing consumer interests, we also held additional meetings with the CCWater Northern. Meetings took place in May and June 2008 with members of the committee, and we provided additional information on specific areas of interest, for example discoloured water, sewer flooding, bathing waters and pollution.
161. After the submission of our DBP in August 2008, we sent copies of part A to all the regulators, and invited them to meet in October 2008 to discuss our submission. At this meeting we presented the key messages from our DBP and asked the regulators to provide their feedback.
162. The CCWater told us they supported many areas of our plan, including automated meter reading, water main rehabilitation and the reduction of sewer flooding. They felt they still needed more information about our proposals for bathing beaches. They also felt that the way possible price changes were communicated could be misleading to customers, since this did not include any amount for inflation.
163. NE commended the science-based approach we had taken, and especially supported our proposals for catchment management to improve raw water quality. However, they still found the plan 'lean' in terms of the natural environment and would like to see Yorkshire Water work closely with other organisations in order to realise multiple benefits from the proposed investment.
164. The EA told us they had no major concerns with the DBP, and supported all the schemes. However, they asked us to work more closely with them to improve our understanding of flood risks. They encouraged us to take a risk based approach towards capital maintenance and offered their support with this.

165. We met with our regulators once again in January 2009 to obtain their views prior to finalising our FBP. We presented to them the Ofwat's Capital Incentive Scheme (CIS) and updated them with the latest changes from our DBP as we worked towards the FBP. We also shared the results of the joint stakeholder research into customers' views of companies' plans, "Valuing Customers".
166. The DWI felt that we should challenge Ofwat's CIS position, where 85% of our proposed programme would be funded. They felt this could seriously undermine Yorkshire Water's ability to work towards its SDS aspirations. NE also expressed concern that reduced funding could compromise improvements for the natural environment. It still strongly supported catchment management, and again encouraged us to aim to achieve multiple benefits from this investment. The EA felt that investigations for the Water Framework Directive (WFD) should be included in AMP5 funding. It also pointed out that whatever funding is agreed, it should be targeted to areas of greatest need.
167. In addition, we met separately with the CCWater in January 2009 on a technical visit to Scarborough town and the Waste Water Treatment Works. We provided the CCWater with the additional information they needed about our proposals for bathing beaches.
168. The formal consultation events outlined above were in addition to the more detailed discussions about our investment plans, which took place at a working level with representatives of the DWI and the EA
169. Our objective in these working sessions was to ensure that all the drinking water quality aspects of our AMP5 programme were agreed with the DWI and all the environmental aspects of our AMP5 programme were agreed with the EA prior to submission of the DBP.

4.4. *THE KELDA ENVIRONMENT ADVISORY PANEL*

170. We attended a specially convened meeting of the EAP (Kelda Environment Advisory Panel) in March 2008.
171. We presented our SDS and our WTP study. We then asked them to compare their own priorities with those of the domestic and business customers in the study and to highlight key areas of support or concern.
172. Several of those in attendance had taken part in the consultation process for our SDS (see section 5.3.4).
173. During the event, we held a 'workshop' session where panel members worked in groups to discuss areas of interest for their organisations. They

prioritised our proposed environmental projects for each of their key areas, and provided additional feedback on these projects.

174. After the submission of our DBP in August 2008, we provided panel members with a copy of the part A summary document, as well as of part B11, the section relating specifically to sustainability. We attended the panel's meeting in September 2008 to present the key messages from our DBP.

4.5. *OTHER REGIONAL STAKEHOLDERS*

175. In addition to the consultation process with our largest commercial consumers, our regulators and the EAP, we have also consulted other key organisations in the region.

176. For example, we have made presentations to the Local Government Association, Yorkshire Forward and the Government Office for Yorkshire and the Humber. We explained our long-term direction as presented in our SDS and explained the process for preparing and submitting our DBP.

177. After the submission of our DBP we published the part A document on our website and sent a summary postcard with link to this document to all our other key regional stakeholders. Our directors have also discussed our business plan with all regional local authority and council leaders and chief executives.

4.6. *DOMESTIC CUSTOMERS*

178. After Companies submitted their DBPs, Ofwat carried out its own research into what customers thought about Companies' proposals. This research was carried out by independent consultants MVA Consultancy with BMG Research on behalf Ofwat and a group of water industry stakeholders which included the Department for Environment and Rural Affairs, the Welsh Assembly Government, the CCWater, the EA, the DWI, NE and Water UK.

179. Face-to-face interviews were carried out with customers, including 315 Yorkshire Water customers, during September and November 2008. The aims of the research were:

- To obtain views on water issues in the wider context of other social issues and household bills
- To determine customers' understanding of water and sewerage services
- To understand customers' priorities for maintaining or improving service, with reference to the proposed bill impacts

- To obtain customers' views on their company's DBPs, including service levels, bill impacts, phasing of increases and any omissions

180. The results of this research showed strong customer support for our DBP proposals, with 97% of customers reporting that they found our plan and the proposed impact on their bill either 'acceptable' or 'very acceptable' and 91% feeling the plan offered either 'fairly good' or 'very good' value for money, after going through our service proposals and bill impacts in detail with the researcher.
181. Customers were asked whether they felt our DBP offered good value for money in each of fourteen key service areas. Our plan was well received, with at least 80% of customers feeling our proposals represented either 'fairly good' or 'very good' value for money in every service area (see figure 9).

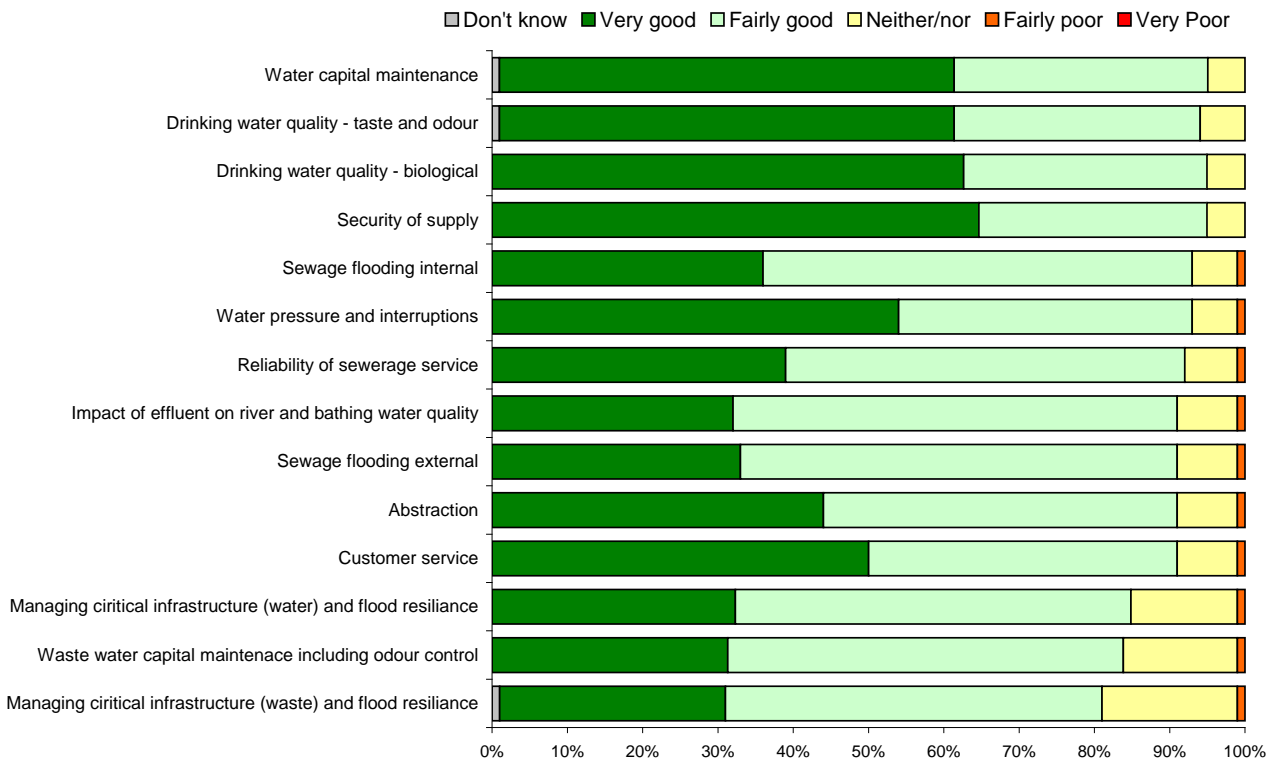


Figure 9 – Customer views of value for money for service levels and bill impact proposed in our DBP by service area

5. STRATEGIC DIRECTION STATEMENT

5.1. OUR APPROACH

182. In order to develop our SDS for the next twenty-five years, we carried out a comprehensive consultation exercise (see figure 9) to seek the views of consumers and other stakeholders on where our long-term focus and investment priorities should be over that period.
183. We used a combination of market research and consultation events to obtain their views. We also commissioned market research with our future bill-paying customers – primary and secondary schoolchildren – in order that we might produce a SDS that not only considers the expectations of today's bill-paying customers, but tomorrow's too.
184. Once we had published our SDS, we again invited comments and feedback from our consumers and other stakeholders.

5.2. MARKET RESEARCH

5.2.1. Introduction

185. We commissioned two independent market research agencies to carry out in-depth telephone surveys. The first, mruk research, surveyed 1,000 domestic consumers and 300 small to medium sized business consumers, and the second, Ipsos MORI, surveyed 41 other key stakeholders, including 7 MPs/MEPs, 10 Local Authority chief executives, 9 council leaders and representatives of other local or regional strategic bodies.
186. In order for our research to be truly inclusive, we also commissioned mruk to carry out research with some primary and secondary schoolchildren in the Yorkshire region – our future bill-paying customers. Four schools from across our region took part, namely Pope Pius Catholic High School in Rotherham; Buttershaw High School in Bradford; Millthorpe School in York and George Pindar School in Scarborough. 400 questionnaires were issued to pupils at these schools (100 per school), and two focus groups were also set up to capture children's comments.
187. A synopsis of the findings from the research follows in sections 5.2.2 and 5.2.3, and we have included the full research reports in the appendices (section 7.1).

5.2.2. Summary findings

SUMMARY OF CONSUMER AND STAKEHOLDER PRIORITIES

Domestic and business customers:

- Providing high quality drinking water (99%).
- Ensuring a continuous, uninterrupted water supply (99%).
- Providing value for money (97%).
- Delivering excellent all-round customer service (97%).
- Improving the quality of the region's rivers and watercourses (97%).
- Preventing sewer internal flooding to homes (95%).

(The above percentages refer to the proportion of domestic consumers in our consumer research that identified this aspect of our service as being important)

Other stakeholders including MPs, MEPs, regulators, local authority chief executives, council leaders and environmental groups:

- Protecting drinking water quality
- Addressing environmental considerations
- Reducing leaks
- Maintaining and improving our pipes, sewers, pumping stations and treatment works

Schoolchildren:

- Making sure the water supply is safe to drink
- Ensuring there is plenty of water for future generations
- Tackling climate change.

188. In general, our consumers – both domestic and business – expressed a clear desire that we should operate in an ethical and responsible manner.
189. They indicated a high level of satisfaction with the current quality of our core products and services, such that a significant proportion could not suggest any areas for improvement.
190. Looking forward, our consumers continued to place great value and importance upon our core products and services, but also saw new priorities coming to the fore, especially those relating to 'green' issues and

the changing climate. Additionally, new technologies and innovation were seen as important factors in improving our core service offering.

191. Consumers did not, however, show a strong propensity to pay for improvements, whether to service or to the environment, and were generally looking for price reductions through efficiencies and savings or for price increases to be in line with inflation.
192. The local schoolchildren who took part in our research echoed the views of our older consumers. They told us that we perform well and that their main priority going forward was clean, healthy water from the tap. They were keen for us to prevent pollution to rivers and beaches and felt that the changing climate would be a key challenge for the future, even though water conservation was not a priority for Yorkshire. They also considered that price would continue to be an important factor and that they did not believe that bill-paying customers should be expected to fund improvements to service or the environment.
193. Our other key stakeholders largely shared consumers' views about our core products and services, and about the new priorities which were developing. They also clearly indicated that we should operate in an ethical and responsible manner. In a key difference to our consumers, however, the stakeholders indicated a propensity for customers to pay for improvements to both service and the environment.
194. In producing our SDS and in determining our key aspirations for the future, we therefore listened very carefully to the views of our consumers and stakeholders, in order to ensure that consumers were at the heart of our business strategy - in relation to both service and price; and therefore in relation to our delivering value for money.

5.2.3. Detailed results

5.2.3.1. Current Performance

195. 90% of domestic consumers and 82% of business consumers expressed satisfaction with the current products and services that we provide. One in five domestic consumers indicated that there was nothing about our current service offering that we need to improve – a view shared by 14% of business consumers. The top concern for business consumers was price (22%) – a view supported by one in six domestic consumers.
196. Our other key stakeholders scored our current performance highest in respect of drinking water quality and environmental responsibility, and lowest in respect of keeping prices low and tackling climate change issues.

5.2.3.2. *Key challenges*

197. When our consumers were asked (again unprompted) what they thought would be our biggest challenges for the long term, both domestic and business consumers indicated water shortages followed by climate change.

5.2.3.3. *Investment priorities*

198. When asked (unprompted) about future investment priorities, the respondents in our stakeholder research prioritised environmental considerations, leakage reduction and investment in our assets or infrastructure.

5.2.3.4. *Core service priorities*

199. Consumers and our other key stakeholders were unanimous in the view that our top core service priority over the next twenty-five years should be a continuous, uninterrupted supply of top quality drinking water (see table 6). Furthermore, they agreed that this should be part of a high quality, value-for-money service offering.
200. Other elements of our core service provision scored highly too, namely preventing sewer flooding to property and land and ensuring appropriate levels of water pressure to consumers' properties.
201. Environmental improvements relating to the quality of the water in the county's rivers, watercourses and coastal waters, and water conservation were also ranked highly, although typically less so by our business consumers.

Aspect of service (prompted & rotated)	Important domestic consumers	to Important business consumers	to Important stakeholders
Ensuring a continuous, uninterrupted supply of tap water	99%	99%	100%
Providing high quality drinking water	99%	97%	100%
Delivering excellent overall customer service	97%	97%	100%
Providing value for money	97%	96%	100%
Improving the quality of the water in Yorkshire's rivers and other watercourses	97%	91%	95%
Resolving complaints	96%	94%	95%

quickly and fully			
Preventing sewer flooding to homes and gardens/buildings and land	95%	93%	96%
Improving the quality of water around Yorkshire's coastline and bathing beaches	95%	88%	95%

Table 6: Consumer and stakeholder priorities for the next 25 years

5.2.3.5. *New service development priorities*

202. The highest priority for new service development for both our domestic and business consumers related to climate change, namely how we reduce its potential impact upon our operations (see table 7).
203. This was a view strongly supported by the other key stakeholders in our research; their top priority was to see that we are doing our utmost to reduce the harmful emissions and minimise any environmental damage caused by our operations.
204. Consumers and our other key stakeholders also indicated a desire for 'greener' practices in relation to sludge disposal and electricity consumption, as well as for measures to be in place to protect the water supply from the threat of terrorism.
205. Additionally, all groups indicated that they want to see their water company operating in a socially responsible and ethical way, and that we should make the most of new technology and innovation to improve our service to consumers.

Aspect of service (prompted & rotated)	Important domestic consumers	to Important business consumers	to Important to stakeholders
Yorkshire Water finds ways to reduce the potential impact of climate change on its operations, for example maintaining water socks and preventing flooding	96%	89%	96%
Yorkshire Water operates in a socially responsible and ethical way	96%	88%	91%
Yorkshire Water uses technology and innovations so that it knows of potential			

problems with its pipes and equipment before the problem impacts on consumers	95%	89%	68%
Yorkshire Water does its utmost to reduce harmful emissions and minimise environmental damage caused by its activities	93%	86%	100%
Yorkshire Water protects the water supply from the risk of terrorism	93%	78%	83%

Table 7: Developing service priorities (for consumers and stakeholders)

5.2.3.6. *Aspirational services*

206. Almost two-thirds of the respondents in our stakeholder research said they wanted to see us moving forward, modernising and enhancing our service to consumers.
207. Interest in the idea of being able to choose a 'green' water supply, along the lines of purchasing 'green electricity' was very high amongst our other key stakeholders – almost nine in ten; this view was also supported by around six in ten domestic and business consumers.
208. Three quarters of our other key stakeholders also expressed an interest in variable tariff options, such as seasonal or peak tariffs. More than half of domestic and business consumers also shared this view.
209. Around six out of ten domestic consumers also showed an interest in being able to choose a localised water supply and choose the hardness of their water supply, as well as receiving 'health-check' visits and calls from their water company. More than half of the respondents in our stakeholder research also indicated that 'health-check' visits and calls sounded an interesting idea.
210. Consumers and our other stakeholders want us to ensure that our resources are secure from terrorism. The security of our supply is paramount. We currently work very closely with Government Security Services and the police to provide cost effective security, and this will continue into the long term.

5.2.3.7. *Competition*

211. Consumers and our other key stakeholders agreed that the biggest factor in switching supplier in the future would be price (see table 8).

212. All three groups perceived that customer service might also be a significant consideration, whilst domestic consumers and respondents in our stakeholder research also considered environmental factors and water quality to be potentially important drivers.

Reasons for switching supplier (unprompted)	Perceived by domestic consumers	Perceived by business consumers	Perceived by stakeholders
Price	51%	63%	65%
Environmental factors	14%	9%	35%
Customer service	12%	33%	43%
Water quality	12%	4%	20%

Table 8: Survey results of reasons for switching supplier

213. When asked whether – based upon current views of our business – they would consider switching if price was not a differentiator, around nine out of ten domestic consumers and eight out of ten business consumers indicated that they would not opt for another water company.

5.2.3.8. *Carbon emissions*

214. Around 80% domestic and business consumers indicated that we should put in measures and take action now to reduce our carbon emissions. On the contrary, our other key stakeholders saw this work being slightly longer-term, with 30% indicating this should happen within five years and 45% within ten years.
215. One third of respondents in our stakeholder research indicated that we should aim to reduce carbon emissions by between 16% and 30% and almost a quarter by between 31% and 50%.
216. When asked about how these reductions should be financed, domestic consumers prioritised government funding and shareholder profits in that order, whilst business consumers prioritised the same but in reverse order. The respondents in our stakeholder research, however, strongly supported the funding being achieved through efficiencies and reduced wastage, together with funding from shareholder profits.

5.2.3.9. *Prices*

217. The majority of those participating in our stakeholder research (55%) wanted to see stable prices over the next twenty five years, but there was some support for increases (38%) given the need for future investment.
218. Around six in ten of these stakeholders indicated that prices should rise to pay for environmental improvements and/or improvements to service.

Four in ten also indicated that prices should rise to help us reduce our carbon emissions.

219. By comparison, there was a much lower propensity to pay for enhancements amongst consumers.
220. A quarter of business consumers did support price rises for environmental improvements. Almost three quarters of business consumers and around half of domestic consumers indicated, however, that prices should reduce as we become increasingly efficient. Around four in ten business consumers thought prices should only rise in line with inflation, a view shared by almost three in ten domestic consumers.
221. Less than one in five domestic consumers supported the notion of price rises to pay for environmental improvements, reductions in carbon emissions or improvements to service. Similarly, less than one in five business consumers supported price rises to pay for reductions in carbon emissions or improvements to service.

5.3. CONSULTATION

5.3.1. Introduction

222. In addition to our extensive consumer and stakeholder research, we arranged special consultation events, in order to obtain qualitative feedback from a number of other key stakeholders which we would use in determining our SDS.
223. These consultation events were designed to help us understand the priorities and views of three representative groups of key stakeholders, which were not included in the research: firstly, our largest commercial consumers; secondly, our regulators (the EA, DWI, NE and the CCWater); and thirdly, a wide range of environmental organisations through the EAP. We arranged two events with these groups in May and July 2007.
224. We attended an event already arranged by the EAP in June 2007 In addition to meeting representatives of the regulators in quadripartite sessions; we also met the Yorkshire committee of the CCWater, in order to hear in more depth the views of the water industry's consumer representative body.
225. A synopsis of the findings from the consultation events follows, and we have included the full reports from these events in the appendices (section 7.3).

5.3.2. Large commercial consumers

226. In common with the findings of our consumer research, our largest commercial consumers told us that in general they are happy with our services and that they wish to see stable prices in the long-term.
227. Additionally, they indicated that:
- ⦿ We should have separate strategies for business consumers
 - ⦿ They would be happy to see further improvements to service, provided that they would benefit their businesses and not drive up prices
 - ⦿ They would welcome initiatives specifically designed to improve the services that we provide to commercial users
 - ⦿ They see a potential conflict between our promoting water conservation and our looking to increase water consumption by supporting inward investment and business growth in the region
 - ⦿ They have concerns about the fairness of pricing
 - ⦿ They are concerned about environmental legislation which does not deliver benefits for their businesses but drives up the prices that they have to pay
228. Our commercial consumers were represented by senior managers from companies across a range of industries including Agfa, BP Amoco, Carlsberg UK, Ciba Speciality Chemicals, Kodak, A H Marks, Rentokil Initial, Syngenta and Thomas Chadwick.

5.3.3. *Regulators*

229. Our regulators (the EA, NE, the DWI and the CCWater) told us that we need to:
- ⦿ Consider carefully how we can manage our water resources in order to provide an uninterrupted water supply for consumers but without any detrimental effect on the environment
 - ⦿ Maintain or improve the quality of our drinking water, ensuring compliance with regulations, public health and consumer confidence
 - ⦿ Develop the way that we manage our catchments by employing integrated catchment management, which could improve water supply, benefit the environment, reduce flooding risk and add value
 - ⦿ Plan carefully how we will maintain our assets in the long term, in order to ensure that the improvements we have achieved through investment over recent years is sustainable
 - ⦿ Carry out high quality research to develop our understanding of how our operations impact on the environment (both aquatic and atmospheric) and how best to reduce these impacts in the long term

- ⦿ Provide stability for both our bill-paying customers and our investors and ensure that any price increases should be both controlled and affordable
- ⦿ Acknowledge that metering is the fairest method of charging and explain to our consumers about the obstacles that currently exist which make a substantial increase in metering unaffordable
- ⦿ Develop strategies to help and support those who are most vulnerable
- ⦿ Understand the needs and priorities of both our domestic and business consumers and communicate clearly with them about the issues that we are tackling
- ⦿ Work closely with our regulators and other key stakeholders in order to deal with issues that affect the region and/or the nation as a whole

230. Additionally, the CCWater in our region told us that we need to:

- ⦿ Consider our priorities in the context of what consumers want and are willing to pay for, and take care not to 'gold-plate' our aspirations to a level beyond that which consumers would choose
- ⦿ Take account of concerns about affordability, in particular how low-income households will afford to pay for water and sewerage charges in the future, if prices continue to rise
- ⦿ Keep prices stable or, if increases are necessary, ensure that they are minimal and spread equally over each five-year period
- ⦿ Ensure that the benefits are made visible or tangible to consumers, if prices rise to pay for further environmental improvements, for example river water quality
- ⦿ Place greater emphasis on our waste water services, especially in publicising what we do for consumers in this respect
- ⦿ Continue to listen to our consumers, have an ongoing debate and review our priorities and aspirations as we move forward over the next twenty-five years

5.3.4. *The Kelda Environment Advisory Panel*

231. The EAP highlighted a number of priority areas relating to the environment, including:

- ⦿ Delivering the benefits of integrated catchment management
- ⦿ Climate change mitigation and adaptation
- ⦿ Biodiversity enhancements, such as river bank enhancement, on land that we own

232. The EAP event was attended by representatives of British Waterways, the Campaign to Protect Rural England, the Country Land and Business

Association, the Ramblers Association and the RSPB, as well as groups working to protect local rivers and both the EA and Natural England.

5.3.5. *Post-publication consultation*

233. At the same time as submitting our SDS to Ofwat, we published it on our website.
234. A stakeholder summary, together with our full submission to Ofwat and a special 'children's submission' relating to the research we carried out with local schoolchildren, were all made available. We gave consumers and other visitors to the website the opportunity to comment on what they had read and to ask questions.
235. We also sent copies of our SDS to our stakeholders including those who had participated in our pre-publication consultation process and invited their comments.
236. We received formal responses from the CCWater, the DWI, the EA and Yorkshire Forward.

6. CONSUMER SATISFACTION RESEARCH

6.1. INTRODUCTION

237. We have conducted our WTP study for the specific purpose of identifying those aspects of our service offering which customers wish to see improved or maintained in the context of the prices that they pay. The outcomes of this research are used in our PR09 CBA and in determining our investment programme
238. In addition to this research, we also have a programme of ongoing consumer research, which provides a means of obtaining consumers' views and feedback on an ongoing basis. Additionally, it has provided the intelligence which we have used to shape and measure the success of our strategic service initiatives. This research is not, however, a study of consumer priorities in relation to service and price.
239. We recognise the benefits of investing both time and resources in conducting extensive consumer research. We therefore use accredited, independent market research agencies to help us understand levels of consumer satisfaction, perceptions and expectations.
240. Within the programme we conduct three forms of research, namely our 'domestic tracker', our 'event based' surveys and our 'DG9 replica' survey. We ask consumers what they think of the quality of our service and our products. We seek their views on our day-to-day activities, our communications and our call handling.
241. In a typical year we obtain views from more than 20,000 consumers through the programme. We analyse the feedback that we receive and use the data both to measure and improve our performance.
242. Consumer satisfaction is just one of a number of key performance indicators which we derive directly from consumer research data. The findings are reported right across our business - from Board level downwards. At the end of each month our contact centre, our water and waste water business units and our contracted service partners receive survey data relevant to their activities. Formal reports, for each business activity, are also presented on a quarterly and yearly basis.
243. We track the results of our consumer research over time to help us understand whether we are keeping up with changing consumer expectations and requirements, and we focus our efforts on improving those aspects of our products and service where levels of consumer satisfaction are low or falling.

244. Additionally, we conduct an ongoing online survey with our largest commercial consumers each year and periodically survey other medium and large business consumers.
245. As well as our ongoing consumer research programme, we also engage the services of market researchers to carry out ad hoc consumer research projects. These tend to focus on a particular aspect of our service or activities, and usually combine quantitative and qualitative research techniques.
246. The projects can therefore cover a wide range of topics, for example water conservation; our leaflets, bills, letters and website; our automated telephone services; our publicity campaigns; and our recreational sites.

6.2. *DOMESTIC TRACKER*

247. Our domestic tracker is quantitative customer research. A contracted independent market research agency conducts this research by telephoning a random sample of 900 domestic customers each quarter.

248. This particular form of research is designed to cover:

- ⦿ Perceptions of our Company in general
- ⦿ Overall satisfaction levels
- ⦿ Expectations met or exceeded
- ⦿ Our service experience statements
- ⦿ Benchmarking our service with other utilities namely, gas, electricity and telephone companies
- ⦿ Water quality
- ⦿ Value for money
- ⦿ Our role with the environment
- ⦿ Our role in the community
- ⦿ Water meters
- ⦿ Communications
- ⦿ Publicity

249. Most respondents taking part in this survey indicate that they have had no 'direct' contact with us in the months prior to the survey.

6.3. *EVENT-BASED SURVEYS*

250. Our event-based Surveys provide us with continuous quantitative and qualitative information from consumers who have experienced some form of direct contact with us at or near their homes.

251. They are 'self-completion' survey forms which we post to the consumers to complete and return. Each year we send out up to 60,000 forms and we receive back around 1 in 4 completed forms.
252. These surveys cover:
- ⦿ Our contact centre (both billing and operations)
 - ⦿ Domestic meter installations
 - ⦿ Domestic meter reading
 - ⦿ Domestic supply pipe repairs
 - ⦿ New water supplies
 - ⦿ The performance of our water and waste water field technicians
 - ⦿ The performance of our contracted water and waste water service partners in respect of repair and maintenance work
 - ⦿ The performance of our contracted water and waste water service partners in respect of mains rehabilitation or capital works
253. Through these surveys we seek to understand consumers' opinions on a variety of measures, including:
- ⦿ Overall satisfaction levels
 - ⦿ Expectations met or exceeded
 - ⦿ Our service experience statements
 - ⦿ Value for money
 - ⦿ Benchmarking our service with other utilities
 - ⦿ Satisfaction with the specific works in question
 - ⦿ Communications
 - ⦿ The behaviours of our people and our contracted service partners' people

6.4. *DG9 REPLICA SURVEY*

254. Our DG9 replica survey provides us with continuous quantitative feedback on the quality of call handling in our Loop contact centre. An independent market research agency surveys consumers who have telephoned our contact centre. The survey mirrors the research which is carried out for Ofwat for the DG9 measure of customer service.
255. Each quarter 100 of our consumers are surveyed by Ofwat's appointed market researcher. We survey 150 consumers each month in our supplementary survey.
256. The survey covers:

- Ease of contact
- Whether reason for call was understood
- Politeness, manner and helpfulness of call handling staff
- Satisfaction with final resolution of call.

6.5. RESULTS

257. Consumer satisfaction is just one of a number of key performance indicators which we derive directly from consumer research data. The findings are reported right across our business - from Board level downwards.
258. Table 9 provides a high-level summary of the key findings from our domestic tracker and event-based surveys. We consider that the measures included below are our key performance indicators.
259. The percentages shown represent the proportion of consumers surveyed who have indicated that they either strongly agreed or agreed with a particular service statement, or that they were either very satisfied or satisfied with our service or performance.
260. The margin of error for our domestic tracker (quarterly sample) is up to 3.27%. The specific margin of error at 90% satisfaction is 1.96%. This means that a quarterly change from 90.00% to over 91.96% would be significant.
261. The margin of error for our event based surveys (quarterly sample) is up to 1.6%. The specific margin of error at 80% satisfaction is 1.28%. This means that a change from 80.00% to over 81.28% in one quarter would be significant.

Domestic Tracker	03/04 %	04/05 %	05/06 %	06/07 %	07/08 %	Event-Based Surveys	03/04 %	04/05 %	05/06 %	06/07 %	07/08 %
Overall Satisfaction	87	91	93	93	92	Overall Satisfaction	87	85	84	83	84
Expectations Exceeded	7	3	3	3	5	Expectations Exceeded	24	22	23	20	22
Expectations Met	90	94	94	94	91	Expectations Met	65	65	65	67	64
Reliability	91	91	93	91	93	Reliability	85	84	84	82	83
Value for money	70	78	77	73	71	Value for money	70	72	70	69	69
Trust	85	85	87	85	88	Trust	72	75	76	74	75
Responsive-ness	74	71	76	75	76	Responsive-ness	65	68	69	70	71
Resolution	n/a	67	74	73	74	Resolution	n/a	n/a	62	60	67
Knowledge	n/a	76	80	80	82	Knowledge	n/a	n/a	73	71	75
Assured	86	81	81	82	83	Assured	67	65	64	60	64
Caring	n/a	68	76	73	76	Caring	58	58	55	52	57
Responsible	n/a	75	78	75	78	Responsible	n/a	n/a	59	55	55
Valued/Special	72	69	69	69	70	Valued/Special	64	64	65	63	69
Enjoyable	67	63	73	73	76	Enjoyable	56	58	57	54	59
Empathy	n/a	n/a	71	70	71	Empathy	n/a	n/a	50	48	52

Table 9: Summary of key findings from Domestic Tracker and Event-Based Surveys

DG9 Survey Score (Max. = 5)	Replica 08	Jan 08	Feb 08	Mar 08	Apr 08	Jun 08	Jul 08	Aug 08	Sep 08	Oct 08	Nov 08	Dec 08	Jan 08
	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score
Overall Satisfaction	4.7	4.8	4.7	4.8	4.8	4.8	4.7	4.8	4.7	4.7	4.9	4.7	4.8
Manner of call handling	4.5	4.5	4.6	4.5	4.6	4.6	4.5	4.5	4.5	4.4	4.6	4.7	4.7
Resolution of call	4.2	4.4	4.2	4.2	4.4	4.4	4.3	4.3	4.1	4.1	4.4	4.3	4.4

Table 10: Summary of key findings from DG9 Replica Surveys

- 262. We publish Domestic Tracker and Event Based Research results on a quarterly basis on our website.
- 263. We track the results of our consumer research over time to help us understand whether we are keeping up with changing consumer expectations and requirements, and we listen to what our consumers are telling us in order to focus our efforts on improving those aspects of our products and services which matter the most to them.

7. APPENDICES

7.1. PR09 “WILLINGNESS TO PAY” STUDY

- 1) Qualitative consumer research report (mruk) – domestic customers
{25 pages}
- 2) Qualitative consumer research report (mruk) – business customers
{15 pages}
- 3) Part A Final report (Centre for Research in Environmental Appraisal & Management)
{37 pages}
- Part B Tables (Centre for Research in Environmental Appraisal & Management)
{119 pages}
- 4) Domestic Questionnaire (mruk)
{19 pages}
- 5) Business Questionnaire (mruk)
{19 pages}
- 6) Example Showcards (mruk)
{40 pages}
- 7) Quantitative pilot report (Centre for Research in Environmental Appraisal & Management)
{3 pages}
- 8) Quantitative pilot (mruk)
{3 pages}
- 9) Severity study report (Centre for Research in Environmental Appraisal & Management)
{16 pages}
- 10) Severity questionnaire (mruk)
{10 pages}
- 11) Example Severity Showcards (mruk)
{18 pages}
- 12) Academic panel report
{9 pages}
- 13) Quantitative study report (mruk)
{47 pages}
- 14) Severity study report (mruk)
{16 pages}

7.2. PR09 CONSULTATION

- 15) Consultation timeline
{1 page}
- 16) Large commercial consumers meeting report (January 2008)
meeting report (January 2008)
meeting report (November 2008)

{6 pages & 3 pages}

17) Regulators – quadripartite meeting report (May 2008)
meeting report (October 2008)
meeting report (January 2009)

{4 pages & 9 pages & 5 pages}

18) Regulators summary of private sessions
(January 2008)

{1 page}

19) CCWater – additional information papers

{13 pages}

20) Kelda Environment Advisory Panel meeting report (March 2008)
list of members

{3 pages & 1 page}

21) Ofwat and joint stakeholder group quantitative research
“Valuing Customers”

{274 pages}

7.3. STRATEGIC DIRECTION STATEMENT

22) Consumers and schoolchildren research - report (mruk)

{47 pages}

23) Stakeholders research – topline report (Ipsos MORI)

{7 pages}

24) Stakeholders research - questionnaire

{10 pages}

25) Large commercial consumers - meeting reports

{10 pages}

26) Regulators – meeting reports

{6 pages}

27) CCWater – meeting reports

{5 pages}

28) Kelda Environment Advisory Panel – meeting report

{4 pages}

7.4. CONSUMER SATISFACTION RESEARCH

29) Domestic tracker questionnaire (Maven)

{16 pages}

30) Event-Based Survey questionnaires (McCallum Layton)

{24 pages}

31) DG9 replica survey (Maven)

{8 pages}