E063b

Northumbrian Water Group

Draft Drainage and Wastewater Management Plan

Research report November 2022

Executive summary

Overview of the research conducted

A formal consultation period for the draft Drainage and Wastewater Management Plan (dDWMP) of Northumbrian Water Group (NWG) began on 8 July and ended on 30 September 2022.

The documents published for consultation included a technical report, a non-technical report, and a customer summary dDWMP.

NWG ran their own consultation, which consisted of a short survey disseminated to customers and employees. This survey aimed to understand thoughts on option choices and affordability. The final part of this consultation was in-depth qualitative work with NWG customers to understand their views on the customer summary dDWMP specifically. To ensure the research was independent, Explain was commissioned to conduct a series of research groups and in-depth interviews on their behalf.

The aim of the research was to understand a range of customer views on the customer summary dDWMP. Specifically, we sought to understand:

1. Participants' views on the clarity of the customer summary dDWMP, produced by NWG.
2. Participants' preferences regarding the four options presented in the customer summary dDWMP and the reasons underpinning these preferences.

Explain worked closely alongside NWG. A multi-strand qualitative approach to the methodology was undertaken to achieve the objectives of the research. A reactive and iterative approach was taken to the research methodology and therefore, for purposes of reporting, the research can be considered as having two approaches.

First approach: In the first approach, the customer summary dDWMP document was presented to all participants. The content was read by an Explain moderator, page-by-page, word-for-word, before feedback was gathered from participants. Within the online sessions (People Panels and workshop) this information was not presented to participants as the customer document itself, but rather as a version formatted for Microsoft PowerPoint (Appendix A). Within the in-depth interviews participants were asked to read the customer summary dDWMP prior to the interview.

- 1x 2- hour Deliberative workshop 1
- 5x People Panels (dDWMP Part One: background)

- 3x People Panels (dDWMP Part Two: four options)
- 8x In-depth interviews with customers who had experienced a wastewater failure
- 9x In-depth interviews with non-household customers

A decision was made to pause the research and take a more iterative approach, as most participants in the first approach felt unable to make an informed decision regarding which option they preferred.

Second approach: After taking the decision to pause the research, the second approach adopted a more conversational approach to ensure thorough understanding of the context of the customer summary dDWMP four options, to gather participants' preference. This approach consisted of the following research sessions:

- 1x 2-hour Deliberative workshop 2
- 4x Face-to-face discussion groups

Summary of findings

First approach: Background and four options

In the first approach, a universal finding was that the customer summary dDWMP did not provide sufficient background or detail. Participants highlighted the following, in particular:

The **business problem** is not clearly stated at the beginning which limited participants' understanding of the purpose of the summary

Superfluous language, and acronyms, in places reduces accessibility and limits understanding

Some statements are made without **relevant statistics, links or information signposted** for participants to research further

Layout and presentation, such as **bullet points** and visual maps to illustrate points, would improve readability

Participants would prefer **more information on the four options**, including examples of wider benefits and long term impacts

Use **unbiased language and highlight differences between the four options** to enable readers to make an informed decision

As a consequence of these issues, participants generally felt unable to make an informed decision regarding which of the four options they preferred. Therefore, research was paused and an iterative, second approach was taken.

Second approach: Background and four options

Within the second approach, the context of the customer summary dDWMP and the issues at the core of the plan were discussed in more detail (shown in Appendix B), and a comparison table was created to aid understanding of the four options, which is below:

	Storm Overflow Reduction **Plan met in the cheapest possible way – concrete tanks**	Storm Overflow Reduction **Plan met using natural solutions where possible**	**Working with others to reduce the risk of flooding** from all sources	**Reduced risk of internal flooding** for at risk properties	**Delivered by**	**Total increase to average bills by 2030**	**Total increase to average bills by 2045**
Option 1	✓			0%	2045	£9	£49
Option 2	✓		✓	27%	2045	£12	£64
Option 3		✓	✓	75%	2045	£18	£123
Option 4		✓	✓	90%	2040	£34	£138

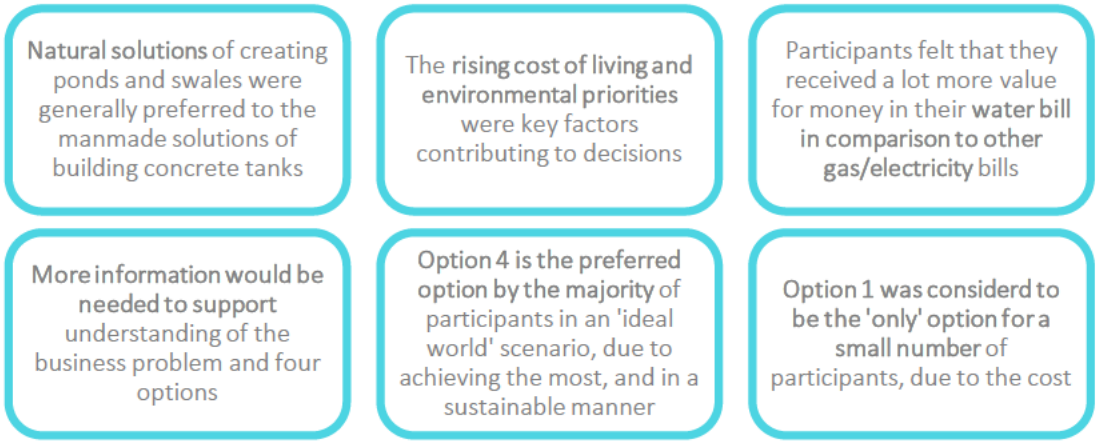
In this way, participants felt that they had the necessary depth of knowledge to report on their preferred option. Overall preferences are shown below:

Best value for money
Option 4

Affordability
Option 4

Overall preference ranking
Option 3 or 4
Deliberative workshop 2: option 3
F2F groups: options 3 or 4

These sessions also generated a lot of discussion about the factors influencing these preferences. The findings from these discussions are summarised below:



Conclusions

Participants were positive about the research process. They acknowledged both their confidence in Northumbrian Water and the emphasis placed on taking their views into account.

Findings from the first approach revealed that the customer summary dDWMP did not contain enough information and, at some points lacked clarity. Participants expressed they would like to be signposted to relevant data, statistics, and websites to support statements made in the text.

The second approach taken was successful in enabling participants to decide which of the four options they would prefer. A small number of participants stated an inability to afford current bills and questioned what support would be made available to them if any bill increases should occur. However, most participants stated they considered natural solutions worthwhile. Despite having concerns about costs, some participants felt they would prefer options 3 or 4, as they preferred to ensure future generations would not have the burden of solving a bigger problem and wanted to take a more altruistic approach.

The reasons underpinning these preferences can be grouped into two overarching themes:

(1) affordability during the current cost-of-living crisis, which is reflected in the more affordable options 1 and 2, and

(2) a moral and ethical obligation to care for the environment by making sustainable choices, to care for future generations, which is reflected in the more environmentally sound options 3 and 4

Content page

explain

“Quality is never an accident it is always the result of intelligent effort”

Introduction

An overview of the project background, objectives, and methodology.

Introduction

Project background

Northumbrian Water Group (NWG) provides water and wastewater services to 2.7 million people in the North East of England and in June 2022 published, for consultation, a draft Drainage and Wastewater Management Plan (dDWMP). This formal consultation period for this plan began on 8 July and ended on 30 September 2022.

The documents published for consultation included a technical report, a non-technical report, and a customer summary of the dDWMP.

As part of this process, NWG ran their own consultation, which consisted of a short survey disseminated to customers and employees. This survey aimed to understand thoughts on option choices and affordability. In addition, a technical summary was created for NWG stakeholders, which also linked to a Netigate survey. Stakeholders were asked further questions, including their preferred option, the cost benefit to communities and the environment, and the inclusion of topics within the dDWMP.

The final part of the consultation was in-depth qualitative work with NWG customers to understand their views on the dDWMP. This strand of work ensured that NWG employed multiple forms of engagement and therefore included as wide a range of customers in the consultation as possible. Qualitative work also enabled 'in-person' explanation of the potentially complex dDWMP documents. In order for this research to be independent, NWG commissioned Explain to undertake the work. This report outlines the findings of the research conducted.

Objectives

The aim of the research was to understand NWG customers' views on the customer summary dDWMP. Specifically, we sought to understand:

1. Participants' views on the **clarity** of the customer summary dDWMP, produced by NWG. In particular, we sought understanding of whether the customer summary of the dDWMP achieved the following:
    a. Provides confidence that existing service levels to current and future customers will be maintained in the face of increasing population; economic growth; climate change; tightening environmental standards; and rising expectations of customers;

b. Clear indication of the improvements required where the service levels are not currently good enough;
c. Clear description of the risks that remain to long-term resilience for customers and if these are acceptable to customers, as far as possible;
d. Explanation of the potential risks that can be created by customers, such as the impact of the incorrect disposal of single-use items.

2. Participants' preferences regarding the four options presented in the customer summary dDWMP. The reasons underpinning these preferences was also understood. Emphasis was placed on understanding the following:
    a. Which option offers best value;
    b. Which option is considered the most affordable;
    c. Which option is the most acceptable in terms of their priorities;
    d. Which option is the most acceptable in terms of appetite for risk.

Methodology

To achieve these objectives, participants were asked questions relating to the clarity of wording, ease of understanding, relevance of information and thoughts on the presentation of the information in both the background and four options sections, as well as their understanding of differences and similarities between the options.

A multi-strand qualitative approach to the methodology was taken to seek to achieve the objectives of the research, consisting of the following:

- Deliberative on-line workshops with NWG customers
- Face-to-face focus groups in communities with high rates of digital exclusion. Digital exclusion was defined as having never used the internet, having used the internet but not having regular access to it or, having to ask a friend/family member to help them access the internet. Participants were invited if they said that they met one of the criteria of being digitally excluded. Despite this, some digitally capable customers did attend.
- Telephone interviews with NWG customers that had experience of a wastewater failure
- Telephone interviews with NWG non-household customers.

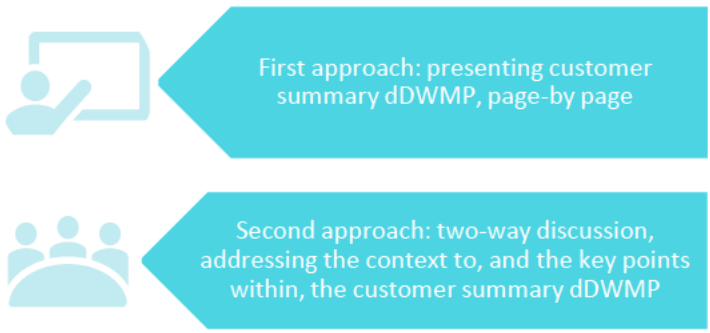
Explain worked closely alongside NWG throughout the series of research groups to ensure materials were clear and did not introduce bias towards any of the options. All workshops and focus groups were attended by a NWG representative. These included: [redacted]. This ensured they could provide information on behalf of the company and respond to any clarification questions from attendees.

A note on reporting, the 'two approaches'.

A strong finding during initial research sessions (first approach) was that the dDWMP customer summary document did not give participants sufficient information to be able to make an informed decision regarding their preferred option. Therefore, the first research objective, to gain an understanding of the clarity of the customer summary, had been met, and the conclusion was that it was not clear.

The second objective, to understand which of the four options was preferred by participants, was unable to be met, due to the customer summary dDWMP lacking clarity. Subsequently, the research was paused, and a revised approach was taken for the remaining research groups (second approach). Within these sessions, a much more detailed approach to explaining the context of the customer summary dDWMP and the issues at the core of the plan was taken. In this way, participants felt that they had the necessary depth of knowledge to decide their preferred option.

To reflect this iterative approach to the research methodology, and for clarity of reading, the research is presented as a 'First approach' and 'Second approach':



First approach: Before each discussion group or interview, all participants were asked to read the 10-page customer summary dDWMP. This included Essex & Suffolk Water panellists in People Panel groups who understood their wastewater services are taken care of by other companies (Thames Water or Anglian Water).

During the sessions, the customer summary dDWMP was read by an Explain moderator, page-by-page, word for word, before feedback was gathered from participants. The first approach consisted of the following research sessions:

- 1x 2- hour Deliberative workshop (held in September 2022)
- 5x People Panels (dDWMP Part One) (held in August 2022)
- 3x People Panels (dDWMP Part Two: four options) (held in September 2022)
- 8x In-depth interviews with customers who had experienced a wastewater failure (held in September 2022)
- 9x In-depth interviews with non-household customers (held in September 2022)

Please note, a top line report detailing the findings of the People Panel sessions has been submitted separately (Appendix C). The detailed feedback from People Panels is included within this report.

The number of attendees per session were as follows:

First approach sessions	Total no. of attendees (87)
Deliberative workshop 1 (original)	21
In depth interviews – with customers who have experienced a wastewater failure	8
In depth interview – with non-household customers	9
People Panels (either session)*	49

**Please note, the People Panels are regular, monthly online panels, conducted with customers of Northumbrian Water and Essex & Suffolk Water.*

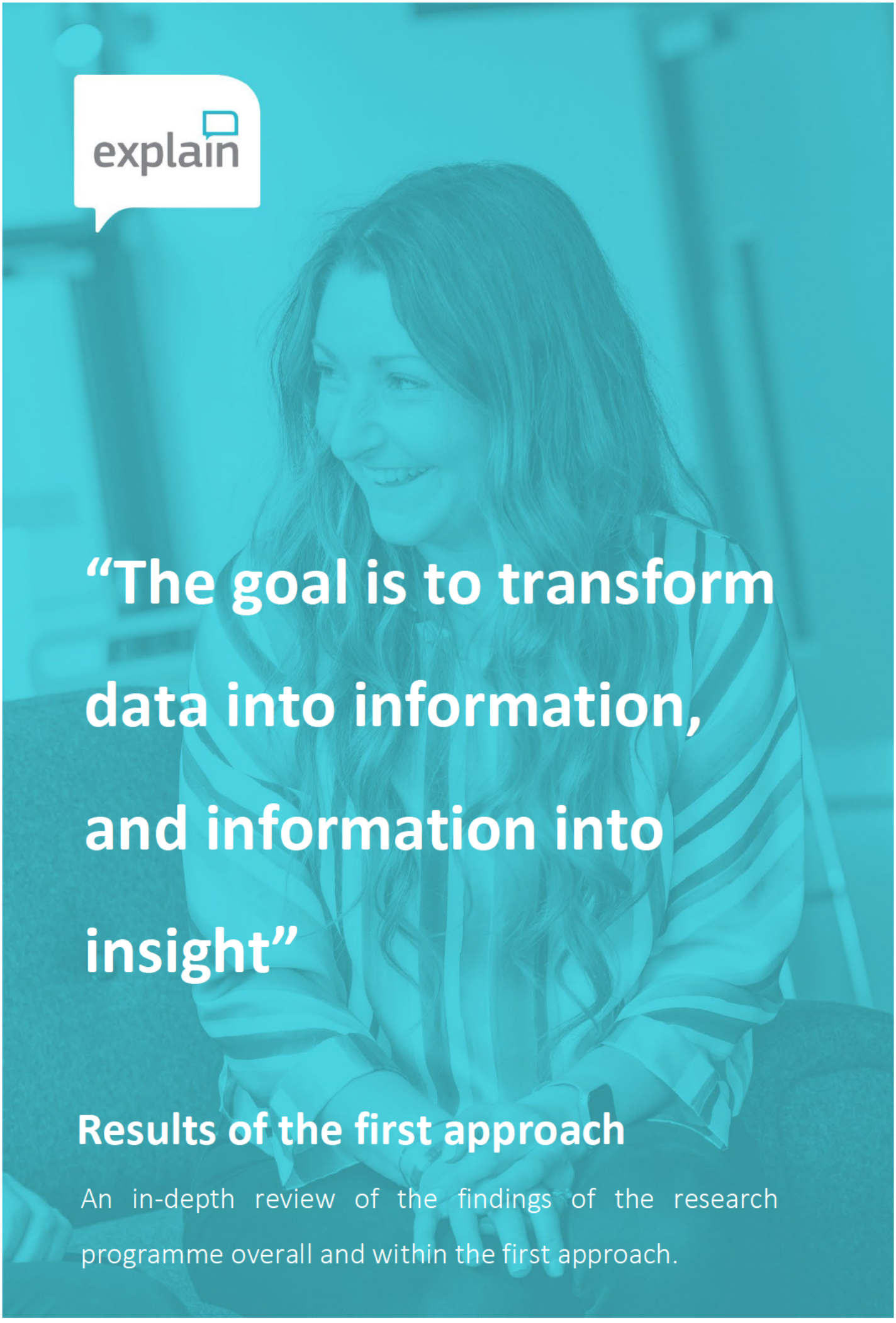
Second approach: Participants were not asked to read the customer summary dDWMP as pre-work. Rather, they were presented with detailed context and background to the dDWMP during the session, before entering into discussion about which of the four options they preferred and why. Within all groups, there was opportunity for participants to ask questions and seek clarity about any aspects of the dDWMP they were uncertain about. The second approach included:

- 1x 2-hour Deliberative workshop (Tuesday 27th September 2022),
- 4x 2-hour face-to-face focus groups (Wednesday 28th-Thursday 29th September 2022)

Face-to-face (F2F) sessions were held in Blyth, Consett, Thornaby-on-Tees and Amble. These areas had been identified as areas with a higher rate of digital exclusion, to ensure views of digitally excluded individuals were accounted for. Please note, ten participants were recruited for each of these groups and all were sent telephone reminders of the sessions. However, in Amble and Blyth there were six and five people respectively that did not attend on the day.

The number of attendees per session were as follows:

Second approach sessions	Total no. of attendees (43)
Deliberative workshop 2 (revised)	14
Face-to-face – Amble	4
Face-to-face – Blyth	5
Face-to-face – Consett	10
Face-to-face – Thornaby-on-tees	10



explain

“The goal is to transform data into information, and information into insight”

Results of the first approach

An in-depth review of the findings of the research programme overall and within the first approach.

Results of the first approach

The overarching finding of the first approach was **that the customer summary dDWMP was not understandable or clear and lacked depth** of contextual understanding.

This lack of clarity meant that participants were **unable to comment on the specific research objectives** 1a to 1d (listed on pages 8-9 of this report). Critically, it also meant that they were **unable to make a decision regarding their preferred option.**

This detailed findings from the first approach of the research are now described and have been organised in the following manner:

First impressions of the customer summary dDWMP

Some participants felt the amount of background information and context could be **better balanced by having greater focus on the options** and ensuring background information is concise.

- *"Try to make what the problem is as concise as possible and then focus more on the solution… it just seemed that this was the wrong way around" – Non-household participant (in depth interview)*
- *"I thought there would be more emphasis on what the solutions were rather than a couple of paragraphs and price at the bottom… I'd like to understand what the solutions were… [they] seemed to be quite a way on in before you came to them" – Non-household participant (in depth interview)*

Generally, it was felt the document was **too corporate** and therefore not suitable as a customer summary. Participants felt that they needed to read it more than once to digest the information. They, and some NWG employees, desired the use of **simplified language to improve accessibility**.

- *"Too many superfluous words... It could've been a bit more concise" – NWG Employee People Panel*
- *"To understand it, you'd need to read it more than once and I'm not too sure how many people would sit reading it a second, third time… it [has] got to be simpler" – Northumbrian People Panel*
- *"First thoughts on reading the one you sent us is it's very corporate" – Essex People Panel*
- *"Probably needed to read it a second time to digest it… I suppose I skim read it a bit" – Essex People Panel*
- *"Think about how accessible the language is because it's a huge factor. I've got a good level of education and I did not find that accessible" – Wastewater failure interview*
- *"I come from a construction and build environment background, so… to me, it was fairly straightforward. Some of the acronyms can be a little bit confusing" – Non-household participant (in depth interview)*
- *"Where you've got SO activity and NIDP, I don't think they're referenced earlier in the documents, it might be that people might not know what those two words mean" – Non-household participant (in depth interview)*
- *"I'm a speech and language therapist and a lot of people would find accessing that document nearly impossible… There's lots of terminology used that the regular person has no idea about, like what's a blue space? And [there were] very long sentences… Some people wouldn't know what a forum is… Even just [write] in brackets what it means" – Participant with experience of wastewater failure (in depth interview)*
- *"Is it available in all the accessible ways? Is it able to be spoken to somebody who can't read or for somebody who can't see?" - Non-household participant (in depth interview)*
- *"I will always advocate for the people who maybe aren't as literate… who struggle with their language skills, which is one in ten people. So, you have a document that less than one in ten people can understand" – Participant with experience of wastewater failure (in depth interview)*

Participants highlighted that they **did not understand the business problem**, i.e., why Northumbrian Water needed the dDWMP, and wanted to see this clearly stated at the beginning of the customer summary document. They also required more information on the solutions proposed.

- *"I was trying to get to something that told me what is the problem? What are the options for solving that problem? And how much will it cost? And a lot of it was buried. The first bit, it said, 'we have to improve our wastewater plan'. Where was the starting point, so you can then relate the options to the starting point?" – Northumbrian People Panel*
- *"What is this supposed to achieve when the customer will read and go through it? Because that will help us when we are thinking to go in line with that to that goal" – Essex People Panel*
- *"A little bit more graphic information about the problems of sewerage issues… how it affects a family… I think when you're looking towards the 34% and 38%, more people are going to be interested in the lower level of increase… because it hasn't dwelt on the environmental impact to animals, wildlife, there's the sea, rivers… it's all very much about communities and houses" – Participant with experience of wastewater failure (in depth interview)*
- *"There's a clear jump in the storytelling from section one to five, development and then storm water flows which, to me, seems like a very isolated aspect of the plan itself. There's nothing outside of that and the options are just linked to storm overflows. There are other things to consider about the way we use water and how each household or businesses can perhaps harvest and reuse rainwater. There are other things being done outside of managing storm overflows… it needs to be discussed early, that we're focusing solely on the issues of storm overflows and the problems that they present" – Non-household participant (in depth interview)*
- *"Within the introduction, there isn't really any explanation of the natural habitats and ponds that could potentially be used" – Non-household participant (in depth interview)*

Some participants in interviews stated a preference of having **relevant statistics detailed** in appropriate places, to support the text, or **signposting** to further information.

- *"I can't remember seeing any stats to the number of floods that have happened in the area or the number of incidents… no stats to back up that this is a problem" – Participant with experience of wastewater failure (in depth interview)*
- *"I like to see the statistics and it was very lacking in that area, real time information I mean… The whole stat around toilet flushes… it doesn't focus on general household or business water usage, in real terms of how many litres an average family leaked… that would be more relevant… A modern family today might consume four or five times more water than a family from the*

1950s… I think people would appreciate that in a bit more detail… because that then adds a bit more gravity to the urgency behind the plan. Why we need the plan, why we need to look forward and be proactive… to make sure that, come 2045, we've got the infrastructure in place that we need" – Non-household participant (in depth interview)

- *"Perhaps something at the end to direct people to other websites, other organisations that may have more information. That would be useful" – Non-household participant (in depth interview)*

Participants generally felt the visual information and four options section were the **parts which caught their attention** the most. It was suggested **better presentation** of information would be helpful.

- *"It had the right sort of mix… colour, photographs… some of them were a bit graphic but it attracted you first" - Northumbrian People Panel*
- *"It was illustrated well, with the words, so people could match the two up" – Essex People Panel*
- *"When you get through to the end, that's where you really want to see that's what catches your attention" – Essex People Panel*
- *"I wondered if the information could be presented differently, in a table or flowchart, so that you weren't duplicating the same sentences" - Suffolk People Panel*
- *"[Being presented] in a graph or a column would've helped because I did find it quite repetitive to the point where I couldn't differentiate between them [and] had to keep going back" – Suffolk People Panel*
- *"There was a lot of text in it… there could have been a bit more bullet points… But the information was clear" – Participant with experience of wastewater failure (in depth interview)*
- *"My qualification is in information graphics… I'm a very visual person, so I think having infographics would have been beneficial; how that impacted graphs, detail, illustrations of how those concrete tanks would be built, and stuff like that" – Non-household participant (in depth interview)*

A minority view, most prevalent in those who had been interviewed as a non-household participant, or as a participant who had experienced a wastewater failure, found the document to be a **useful overview** and clear enough to gain a **brief understanding**, though they suggested it could be more concise.

- *"It's clear. It's not a detailed plan… but it gives an outline" – Participant with experience of wastewater failure (in depth interview)*
- *"For me, it was fine, but I know that people who maybe were not as comfortable reading large documents would probably lose the plot" – Participant with experience of wastewater failure (in depth interview)*
- *"It was a useful document. It gives some good context to why they're doing it and what the factors are in terms of their development of this document; wider climate change, increasing customer usage... It wasn't too long or overly technical or anything, so it was easy enough to follow for somebody who isn't in the water industry" – Non-household participant (in depth interview)*

Overview of page-by-page feedback of customer summary dDWMP

The following infographics (overleaf) present an overview of the findings of the page-by-page feedback, focussing on the areas participants highlighted as positives and those discussed as areas for improvement in the customer summary dDWMP. Detailed results for this strand of research are shown in Appendix D. Further, a list of words and phrases that participants found inaccessible is shown in Appendix E.

Areas which were highlighted as positive points of the customer summary dDWMP are as follows:

Confidence in NWG

- **Transparency and confidence gained** (*by describing of '32 of 34' bathing waters as good or excellent*)
- Participants felt confident and **pleased that they were being included** in the consultation process
- Information presented in an **educational** manner was appreciated by participants

Visual elements

- Positive visual aspects on the PowerPoint presentation such as **highlighting key words to draw attention** to key points
- Participants provided **positive feedback of imagery, infographics** and areas where there were visuals rather than text points

Areas to improve upon were grouped as follows:

Signposting

- **Signposting** to heighten transparency (*for instance, '2 of 34' bathing waters that are not good or excellent*)
- **Signposting further information for those who are interested** (for instance, regarding what causes blockages, costs of maintenance, cost breakdown, and wider benefits)

Visual elements

- Need to **ensure the text and images are in relevant places**, (*for instance, referencing 'nine pledges' in the text, but not in infographic*)
- **Font size** too small, particularly on images
- Use **visual elements where posisble** (*for example, a map rather than list of regions*)
- Cartoon imagery and illustrations would make it more appealing
- A **comparison table** of the four options and their benefits would enhance understanding

Clear, concise language

- **Simplify language, use less jargon, and fewer acronyms** to increase accessibility
- **Glossary of definitions** for terminology which cannot be simplified (*for example, SUD's*)
- Language was considered **non-committal** for 'trying' to meet goals, and biased towards natural solutions

Thoughts on the four options

For clarity, the four options within the customer summary dDWMP can be summarised in the following points:

- Option 1: building concrete tanks underground to store excess water. This is the cheapest approach but only meets targets outlined in the Government's Storm Overflow Reduction Plan. No other benefits would be achieved. This option would incur a 13% increase to annual bills by the year 2045.

- Option 2: as option 1, but with the addition of joining up with Northumbria Drainage Partnership schemes to reduce the risk of internal sewer flooding. . This option would incur a 17% increase to annual bills by the year 2045.

- Option 3: nature based solutions would be implemented wherever possible to ensure the targets in the Storm Overflow Reduction Plan are met. Additionally, this would reduce the risk of internal sewer flooding to a greater number of properties than option 2. This option would incur a 34% increase to annual bills by the year 2045.

- Option 4: as with option 3, nature based solutions would be implemented wherever possible to ensure the targets in the Storm Overflow Reduction Plan are met faster than the Government target. In addition, partnership working would be enabled to offer the greatest reduction in the number of properties at risk of internal sewer flooding. This option would incur a 38% increase to annual bills by the year 2045.

The precise way in which the options were described in the customer summary of dDWMP is shown in the screenshots overleaf.

The four options

To help our regulators take a balanced view of the costs and benefits of our DWMP, we have set out four options. Here is a basic summary of these options but you can read more about each one in detail here.

Option one

Our plan will work to achieve the targets the Government has proposed in its Storm Overflow Discharge Reduction Plan (SODRP) in the cheapest way possible (predominantly by building concrete tanks underground to temporarily store rainwater).

No other benefits are achieved so this option includes little flood risk reduction benefits to local properties.

We estimate this option will increase the average bill by 13% (around £49 a year) by 2045. This doesn't include the rate of inflation.

Option two

Our plan will work to achieve the targets the Government has proposed in its Storm Overflow Discharge Reduction Plan (SODRP) in the cheapest way possible (predominantly by building concrete tanks underground to temporarily store rainwater).

In addition, we would join up our SO activity to Northumbria Integrated Drainage Partnership schemes – NIDP is an innovative partnership approach. It brings the North East councils, the Environment Agency and us, to work collaboratively to reduce flooding risk from all our operations together. NIDP partners jointly fund integrated flood risk studies and joint delivery schemes, to tackle flooding from sewers, rivers, and surface water, so not just our operations alone.

This option would see the risk of internal sewer flooding (during a 1 in 20-year storm) being reduced for 2,464 properties from 2025-30.

Although the exact number of properties to benefit after 2030 can't be calculated exactly, we estimate this to be between 2,200 and 2,500 every five years.

We estimate this option will increase the average bill by 17% (around £64 a year) by 2045. This doesn't include the rate of inflation.

Option three

Our plan will look at the best value way to achieve the targets the Government has proposed in its Storm Overflow Discharge Reduction Plan (SODRP) by looking at the cost against each drainage community. These are typically an area around a storm overflow, sewage pumping station or wastewater treatment works.

You can read more about drainage communities here.

Communities are more likely to enjoy the societal benefits of using natural solutions to solve problems, rather than built infrastructure (such as creating natural habitats such as swales and ponds to store water). We would also work collaboratively, as described in option two.

This option would see the risk of internal sewer flooding (during a 1 in 20-year storm) being reduced for:

- 8,084 properties in 2025-30
- 4,560 properties in 2030-35
- 9,884 properties in 2035-40
- 5,475 properties in 2040-45

We estimate this option will increase the average bill by 34% (around £123 a year) by 2045.

Option four

Our plan will look at the best value way to achieve the targets the Government has proposed in its Storm Overflow Discharge Reduction Plan (SODRP) by looking at the cost against each drainage community as described in option three.

In addition, we would include interventions to work towards our ambitious goal of having zero internal property flooding by 2040. We would deliver the targets proposed by the Government faster than in their SODRP.

Communities are more likely to enjoy the societal benefits of using natural solutions to solve problems, rather than built infrastructure (such as creating natural habitats such as swales and ponds to store water).

There would be opportunities to work collaboratively with the EA and local authorities to reduce flooding risk from all our operations, as detailed in option two.

This option would see the risk of internal sewer flooding (during a 1 in 20-year storm) being reduced for:

- 11,527 properties in 2025-30
- 10,786 properties in 2030-35
- 11,285 properties in 2035-40

Beyond 2040 we would need to consider the impact of climate change.

We estimate this option will increase the average bill by 38% (around £138 a year) by 2045. This doesn't include the rate of inflation.

Participants' thoughts about their preferences for the options, and the reasons underpinning these preferences, are now described in detail.

The presentation of the options within the customer summary dDWMP

Participants shared that their first impressions of the section detailing the four options was that it was **unclear, with little explanation regarding the differences** between the options.

- *"It should've been more balanced… I would've wanted more information on the options, rather than the introduction" – Northumbrian People Panel*
- *"The options were quite similar. And there was a difference in that when you got down to the detail, but the actual space for decision making was rather limited" – Suffolk People Panel*
- *"I didn't see much difference between three and four except time scale… To be honest, there's not much between one and two" – Participant with experience of wastewater failure (in depth interview)*
- *"I wasn't able, from their descriptions, to understand what they were going to do. Apart from option one… I understand they're going to make tanks" – Participant with experience of wastewater failure (in depth interview)*
- *"It's hard actually to say which option I would prefer because I'm really quite unclear particularly about option three and four" – Non-household participant (in depth interview)*

Some suggested the four options could have clearer distinctions by presenting the options in a **simple layout and with unbiased language**, such as **bullet points or in a comparison chart**.

- *"It comes across as dishonest… it's so unclear, I automatically felt I was being pushed towards a decision. There's very negative language used for number one and very positive language used for number four" – Participant with experience of wastewater failure (in depth interview)*
- *"It would have been good to see those four options in a grid with the cost at the bottom so that you could immediately see… then have a sort of tick box comparison. That would help people to understand it" – Participant with experience of wastewater failure (in depth interview)*
- *"Some nice things, like making key points big… but it's very wordy and is all the information necessary?... If it can be done in three bullet points, do it" – Participant with experience of wastewater failure (in depth interview)*

- *"The options were a bit text heavy in the way that they were explained. I thought that they could have just been explained more in bullet points… maybe some sort of chart that compares the options more explicitly would have been useful" – Non-household participant (in depth interview)*

Many participants felt that further information needed to be included, such as the **ways in which the increase in bill prices would occur** and how it would impact the different parts of their water bill.

- *'Is that percentage of the bills going to be the same every year, or will that increase year-on-year?' – Deliberative workshop 1*
- *"Is that based on the entire… bill or just the sewage component?" – Deliberative workshop 1*
- *"They talk about the increase in the bill, but don't talk about how much money that is… The comparative percentages are useful, but you also assume the shape of the curve of the increase is going to be the same" – Participant with experience of wastewater failure (in depth interview)*

Details of **maintenance costs from 2040 onwards**, as well as **providing further information that enables understanding of other longer-term effects,** were factors which influenced the opinion of several participants.

- *"It gives an outline, [but] it doesn't say what happens after the end of these periods… say 'from 2040 we'd expect to have to keep on the same spend', or 'then the maintenance will 1% extra per year' or… that's just not mentioned at all" – Participant with experience of wastewater failure (in depth interview)*
- *"I don't just want to see what the bills for construction look like, I want to see what they look like for maintenance and operation" – Participant with experience of wastewater failure (in depth interview)*
- *"I would like to understand about significantly the long-term effects, we've done this, and these houses are no longer at risk, what are the costs of running it? What are the costs of maintaining it? What does happen if the sea level rises by half a metre?" – Participant with experience of wastewater failure (in depth interview)*
- *"I was thinking of the infrastructure behind [option one] … How big are the tanks, how are they going to work, where are they going to be, what are they going to be cutting up? Is it into residential areas? Is it into fields… countryside'?" – Non-household participant (in depth interview)*

Societal, environmental, and economic benefits were not fully elaborated on, which several participants felt limited their decision-making ability.

- *"I would like to know more. It talks about the different options but doesn't go into any of the details of what the societal benefits are. I can't really weigh up pros and cons and do a cost benefit analysis to answer the question, without the right information … they might be doing that to try and not confuse the customer, but this is confusing because I don't know what any of the plans are" – Participant with experience of wastewater failure (in depth interview)*
- *"If there was a bit more information about the environment, rather than residential… this would be a way of them being prepared to help pay for protecting the environment… Something more about wildlife and plants and flooding" – Participant with experience of wastewater failure (in depth interview)*
- *"In terms of the environmental impact if they do go for swales and ponds, etc, and improve, say end up creating sort of 15 areas with some elements of nature protection. Why doesn't the plan say that as well because that would be a great selling point" – Deliberative workshop 1*
- *"Simply digging as massive hole, filling it with a concrete tank and then covering it over… there's other things to consider, as part of that type of option, around sustainability… It focuses more on the cost impact to us, as businesses, and the general public, as opposed to what are the other benefits" – Non-household participant (in depth interview)*
- *"It doesn't talk about any of the economic factors. It might create jobs to do this. It doesn't talk about some of the positives or negative implications on each option" – Non-household participant (in depth interview)*
- *"Clearly stating what the benefits are of all these things because in my head, all of this is just technical right for the customer rather than 'why should I pay you more? Choosing to go to the cheapest option over time, rather than looking at which would benefit us the most… the summary is not clear cut enough" – Deliberative workshop 1*

A small number of participants wished to have more information on which options would enable Northumbrian Water to **achieve their corporate goals**.

- *"It would be useful to say how you're achieving your corporate goals by each of the options. If everybody went for option two, you're not actually going to achieve your environmental goal, are you?" – Deliberative workshop 1*

Overall preferences in the options

Overall, most participants shared that they **felt unable to state their most and least preferred options due to the unclear layout, information and language used** in the section detailing the four options.

- *"I found real difficulty being able to explain and differentiate between certainly options two, three and four, and yet you're wanting some detailed feedback on that… I would automatically fall back on the cheapest option, and that's not helpful to you" – Deliberative workshop 1*
- *"I wasn't able, from their descriptions, to understand what they were going to do. Apart from option one… I understand they're going to make tanks" – Participant with experience of wastewater failure (in depth interview)*
- *"I think it's hard actually to say which option I would prefer because I'm really quite unclear particularly about option three and four" – Non-household participant (in depth interview)*
- *"[Option 3] says that there might be more infrastructures like ponds and natural habitat, but I don't understand why that has a much bigger impact and why it would be 34% more expensive because I can't figure out what the main difference is… I'm really struggling to see what else would be done and why it's going to cost so much more" - Non-household participant (in depth interview)*

Specific information was felt to be missing, some participants highlighted, as there was no elaboration on assumed benefits within the customer summary dDWMP. This includes, for instance, no detail on the logistics of building the concrete tanks in option one, no elaboration of why joint partnership in option two would be a benefit, and no mention of biodiversity benefits in options three or four, which focussed on natural solutions.

- *"If there was just more detail to how those concrete tanks… you try to envision them in your mind of how big they're going to be; to store rainwater, they must be a decent size. Where are they going to be? Where will they be placed? How is that going to impact wildlife, residential estates, roads, etc.? How long will it take?" – Non-household participant (in depth interview)*
- *"They would join up with the NIDP Scheme… but what would be the action that would come out of joining up? [It] says they would look at joint delivery, but doesn't say why that would cost more and why that would have a bigger impact" – Non-household participant (in depth interview)*
- *"The whole reason why we don't want to pollute the water courses is biodiversity… [it] isn't even mentioned [or] highlighted as a major benefit. Being able to control that water in a more natural*

methodology would increase opportunity for biodiversity" – Non-household participant (in depth interview)

- *"[Option four states] 'we'd include interventions to work towards our goal' but it doesn't say what those interventions are" – Non-household participant (in depth interview)*
- *"I would want a bit more information or insight in order to make a decision… would option four take longer to implement? … Why [is it] three times more expensive to do option four than one? … I would want more of a breakdown" - Non-household participant (in depth interview)*
- *"It would be really helpful if we could have, at the end of each one, pros and cons… we're all talking about what are the practical advantages of options three and four? Yes, we get a pond, but what are the pros and cons? … Unless they can see quite clearly 'this is what the benefits are, these are the drawbacks' then they can make informed decisions rather than saying 'I can't afford the bill, I'll go for option one'" - Deliberative workshop 1*
- *"It'd be nice if they could clarify which areas it was benefitting for the next ten or twenty years… you're paying all that money and not getting any benefits possibly" - Deliberative workshop 1*
- *"If the plan was more about, we're going to stop pumping sewage onto the beaches. Everyone benefits from that… from clean beaches and clean rivers, but their focus is on the sewers. If they were to refocus the plan and point out the wider benefits to everybody, and of course, there are wider benefit to everyone. That might be helpful"' - Deliberative workshop 1*

A culmination of all these thoughts was that there was a clear need to highlight the benefits of each option, as **an understanding of these factors would likely influence their thoughts** about their most preferred option.

- *"[Option] one, because I understand it. I know what they're spending the money on" – Participant with experience of wastewater failure (in depth interview)*
- *"I think three as well, four is a bit sort of nebulous. It's like wrestling with jelly, you don't quite know what you're getting" - Deliberative workshop 1*
- *"I have a fairly healthy, stable income… I'm better equipped to absorb an increase in the monthly water bill, whereas for a young family who are getting started, they will probably be less. It will be more difficult for them to absorb that extra cost every month. But if you can show them the benefit of… taking kids out to walk in the countryside or go to the beach [in options 3 or 4], then that's worth them investing in" – Participant with experience of wastewater failure (in depth interview)*

- *"Looking at that 38% [Option 4], if it creates the future for children and their children that we want them to have, it's worth the price that they're outlining but they need to sell those benefits in a clearer way, I think, because digging holes and filling them with concrete tanks, is very brutalist and it's the old world, isn't it?" – Non-household participant (in depth interview)*
- *"Number four [is least preferable] because it combines parts I don't understand what they're doing. There's a big difference between 13% [option 2] and 38% [option 4] … I'd only be happy with a jump like that in my bills if I felt there was benefit to me" – Participant with experience of wastewater failure (in depth interview)*
- *"Option four [is least preferable] because it's more expensive and I can't say what we would get extra to solve any of the problems… Even though it's not that much of a jump from option three it certainly will be for a lot of people, and I can't really see the benefit" – Non-household participant (in depth interview)*
- *"Before when I read the document, I would probably have gone for, as I said, for option one, because it was the cheapest, but having listened to other people, I've changed my opinion and gone for three because of the environment and also when it was explained that… [the price rise] was going to be gradual, so I've had a re-think" Deliberative workshop 1*

Despite feeling as though there was not enough information in the customer summary dDWMP to make a decision, many participants did go on to state their **preferred option based on the information they had been given** up to this point.

- *"Option 1, because it's the cheapest option" – Non-household participant (in depth interview)*
- *"I'm only going to choose the cheapest. I wouldn't choose any of them, to be honest. I'm not going to choose to have my bills increased for any reason" - Deliberative workshop 1*
- *"The cheapest because I don't have much money... I don't believe that all this money [will] go to the right places... It'd be the cheapest and I would pay less if I could" – Deliberative workshop 1*
- *"I was thinking which one is the cheapest, because I'm ill health and not working, but I would prefer to have three or four because I want to do what I can for the environment, nature etc. But I didn't feel I had a choice but to put number one" -Deliberative workshop 1*
- *"[Option 2] 13% but realistically, to get the outcome that we want it would be the 34% [option 3]" – Participant with experience of wastewater failure (in depth interview)*
- *"I think people are going to be struggling so much that 34% [option 4] is going to be way out of their bracket" – Participant with experience of wastewater failure (in depth interview)*

- *"[The] benefits wouldn't affect the area that I live in. It's never going to flood, and all this green wildlife, there's nothing like that anywhere near me. At this moment in time, I can't even see past next month [financially]…so the way it's going, my fear would be I'll pick number one… one would be, not just preferred, but my only option" - Deliberative workshop 1*

Alongside highlighting the costs, the other key theme mentioned by most participants was the recognition of the **importance of the environment** and a desire to choose more environmentally friendly options [3 or 4] where possible.

- *"I would pay a little bit more on my bills. I'd be happy if I could afford it, but I'd always go for the environmentally friendly option [and option 1 and 2 are not]" – Participant with experience of wastewater failure (in depth interview)*
- *"If I was just looking at the money side overall, then it would be one or two, but… I think that there's an obligation to protect wildlife and look after the environment, so for me the only option would be either three or four, and I couldn't see much difference between three and four. I just think [option] one or two was not something considered to be honest… because of the environment"- Deliberative workshop 1*
- *"I wouldn't consider anything that's not good, in terms of the environment so that's why I put option three, and I know it is more expensive than other options for other people, but I just don't think it's right to do something that's not going to put something back" - Deliberative workshop 1*
- *"I think it's the environmental benefits from number four, because what price do you put on saving the world?" - Deliberative workshop 1*
- *"I'm trying to think of future generations, and what we want our children or our grandchildren to grow up with. It would be much nicer if they had solutions that involved ponds and areas rather than bunkers under the ground" - Deliberative workshop 1*
- *"Value in the wider sense, not what we pay, but environmental benefits. Less concrete, more reliance on natural solutions. Sounds the most sustainable to me" - Deliberative workshop 1*
- *"As a company, Northumbrian Water have a moral and ethical obligation to make sure that they are putting something back into the environment" - Deliberative workshop 1*
- *"It's going to be a bit of a hard sell, but personally, I think environmental improvements have to be paid for. I wouldn't be that adverse to going for option four. It's quite a slow burn in terms of the price increase over many years and there are tangible benefits" - Deliberative workshop 1*

- *"More drawn to option three… because it talks about using natural solutions rather than built infrastructures. So, I've made the assumption that it means it would have more reservoir like facilities… it appeals to me because I'm a fan of nature and natural habitat, and I think we need that for wildlife as well" – Non-household participant (in depth interview)*
- *"Option three… at the end of the day, we need the environment to be safe and sound for us… it seems a bit expensive, but I care about the environment so much that I went for option three" - Deliberative workshop 1*

Subsequently, participants highlighted the struggle between **balancing what is affordable in the rising cost-of-living crisis, alongside the desire to help the environment**, leading many to state they would choose option four in an ideal world but, at the moment this would be out of reach.

- *"Option two, because I think there's not a great deal of difference in the cost of one and two. And two, gives a better result. In the perfect world, I would go for option four. But in the climate of rising costs for everybody, and everyone worrying about the fuel bills… I might think differently if I had suffered with storm overflow issues, but I haven't" – Participant with experience of wastewater failure (in depth interview)*
- *"If I were thinking with my more ethical side of my brain and with a longer-term viewpoint, trying to switch-off the concerns around the cost of living, option four is the most comprehensive … If I had to pick one, I'd have to go for option one because of the short-term financial pressures" – Non-household participant (in depth interview)*
- *"Option two is probably where you're aiming for. Option four is probably a bit excessive to try to achieve at the moment… I think that that's the ultimate goal, but it's probably unachievable in a short term" – Non-household participant (in depth interview)*
- *"[For] the wider public, I think option two is going to be an easier ask"- Deliberative workshop 1*
- *"At the moment, [option] two would probably be more affordable for me than three… [but] three, if the problems weren't going on… with all household bills going up" - Deliberative workshop 1*
- *"It really would be a huge risk to go with option four this year or next year… we've got to be very careful… [option] four... It'd be unattainable for so many" - Deliberative workshop 1*
- *"I think people are going to be struggling so much that 34% [option 4] is going to be way out of their bracket" – Participant with experience of wastewater failure (in depth interview)*
- *"I'm quite fortunate in that I would be able to afford any one of them. I would personally be looking at number three, maybe. In terms of affordability, there's the cost-of-living crisis the way*

it is. A lot of people wouldn't be able to do that. I would imagine a lot of people would go for the first or second options, purely because of the circumstances" - Deliberative workshop 1

Many participants felt they were seeking to gain the **best value for money** when considering their preferred options, **due to the minimal increase in cost between some options in exchange for what they perceived to be greater benefits**.

- *"Options one and three to me are non-starters, so option two or four. Option two works out at £1 per year more than option one, but you're getting a lot more" - Deliberative workshop 1*
- *"They're very close, [option 3] £123 a year, versus £138 [option 4]… when you look at the amount of properties [that] they're looking to reduce the risk of flooding for, that £15 a year more… it's seeming to reach a heck of a lot more" - Wastewater failure interview*
- *"I did the maths and it's a no brainer, you do option four… You're talking 32,000-33,000 houses, with the likely increase in bills, it's way less than the cost of the houses even doing it with four. And four is said to be long term environmentally sensitive option" – Participant with experience of wastewater failure (in depth interview)*
- *"Looking at the numbers, looking at the natural habitats… I think it's worth it. It doubles the [number] of properties from option three, so I would go for option four … Looking at it a completely different way, it's about saving costs and not knowing the detail of how those concrete store tanks would work, and how much that would impact" – Non-household participant (in depth interview)*
- *"I went for option four and it's just because the difference between three and four is very minimal so you might as well go for four" - Deliberative workshop 1*
- *"Probably three [would be least preferable] … there's not a great deal of difference in cost between three and four" – Participant with experience of wastewater failure (in depth interview)*
- *"Option three… Certainly I could afford that, because it's only £10pcm, but I would really like to see what they're doing to equally match my £10pcm" – Participant with experience of wastewater failure (in depth interview)*
- *"I would probably choose [option 3], because there's quite a significant increase, percentage wise, in terms of the cost… I would still want to try and understand what that would look like in X number of years" – Non-household participant (in depth interview)*
- *"I went for two because there was a bit more collaboration and it wasn't that much more. If I was going for three, I'd go for four, but then you've got to look at the cost" - Deliberative workshop 1*

Significantly, a finding amongst **participants who had experienced a wastewater failure** was their willingness to pay for more **expensive options to have peace of mind**.

- *"I would go for [option 4] because that, to me, sounds like everything's going to be getting done. Yes, it's going to cost a little bit more on your bill but it's worth it... [it's] a good feeling that things are going to be in place so them horrible things don't happen, basically… That gives me peace of mind, for now and the future" – Participant with experience of wastewater failure (in depth interview)*
- *"[Option 3]. When you see the flooding on the news, water getting into my home is my absolute worst nightmare. For me, anything that can be done for flooding for people would be the one I would pick" – Participant with experience of wastewater failure (in depth interview)*
- *"Option one, doesn't really give us peace of mind. Yes, my bill might stay cheaper but it doesn't give us peace of mind" – Participant with experience of wastewater failure (in depth interview)*

Several participants noted that they would be **least likely to prefer option one** as they perceived it to have **few benefits, no great impact**, little consideration to the environment, and appearing to be a short-term fix.

- *"Number one was probably the [least] flood risk reduction, [fewest] benefits to lots of properties, but still your bill's on about going up" – Participant with experience of wastewater failure (in depth interview)*
- *"Option one was quite written quite negatively, which made me instantly think well, this isn't a good option" – Non-household participant (in depth interview)*
- *"Option one… Because, in my opinion, it doesn't change much" – Participant with experience of wastewater failure (in depth interview)*
- *"[Option] one… doesn't do anything to support the communities or wider societal goal… The other ones have got ambition but no detail" – Participant with experience of wastewater failure (in depth interview)*
- *"[Option one] goes back to that 1950s time and era, very little consideration towards the environment… [it] comes across 'we just need an immediate solution" – Non-household participant (in depth interview)*
- *"If those concrete tanks were going to cause major problems, then option one would be the one I'd least go for" – Non-household participant (in depth interview)*

The overarching view of participants in the first approach focussed on the need to balance affordability alongside the environment. Therefore, it was suggested that some participants would **prefer a more affordable option for now**, such as option 2, but they would be **open to revisiting options in future**.

- *"I'd go for option two now, revisit this in ten years' time and then see" – Deliberative workshop 1*
- *"It's not the right time to be trying to think of option four. For me, probably option two, but I would be open to option four later on if that was available to us" - Deliberative workshop 1*
- *"Between 2030 and 2035, I would revisit this and maybe look at option four again… [option] two, and then later on, four" - Deliberative workshop 1*
- *"We could revisit it… to see if people were maybe in a better position financially, whether they would be able to upgrade that work" - Deliberative workshop 1*

Level of confidence in Northumbrian Water

In their in-depth interviews, non-household participants were asked about their level of confidence in Northumbrian Water. Most participants stated they **had confidence in Northumbrian Water**, referring to their expertise, good intentions, and awareness of this document accounting for participants' opinions.

- *"You would trust them to deliver what they needed to do, and they are the experts in this area so you would hope they know what they're doing. And I would expect in an area which is regulated, like the utilities, that they wouldn't be able to put something forward that wouldn't meet the requirements of a regulator" – Non-household participant (in depth interview)*
- *"Yes… it's quite clear that the information gathered from this will be used to hopefully plan their business plan moving forward and they're getting their customer's information to gain that" – Non-household participant (in depth interview)*
- *"It's great that they've done this, that they're getting peoples' opinions on it, so, yes. I suppose I should have confidence that they're doing it" – Non-household participant (in depth interview)*
- *"Yes. In terms of the fact that they've even put a document together to send out to people, to tell them what they're doing, I suppose that's a positive thing" – Non-household participant (in depth interview)*
- *"I have faith in them as an organisation… I believe their intentions are good… The document itself if I didn't know Northumbrian water no, I'm not sure it would if I wasn't aware of them already… I think there's so much bad press around, at the moment, maybe they could just directly tackle*

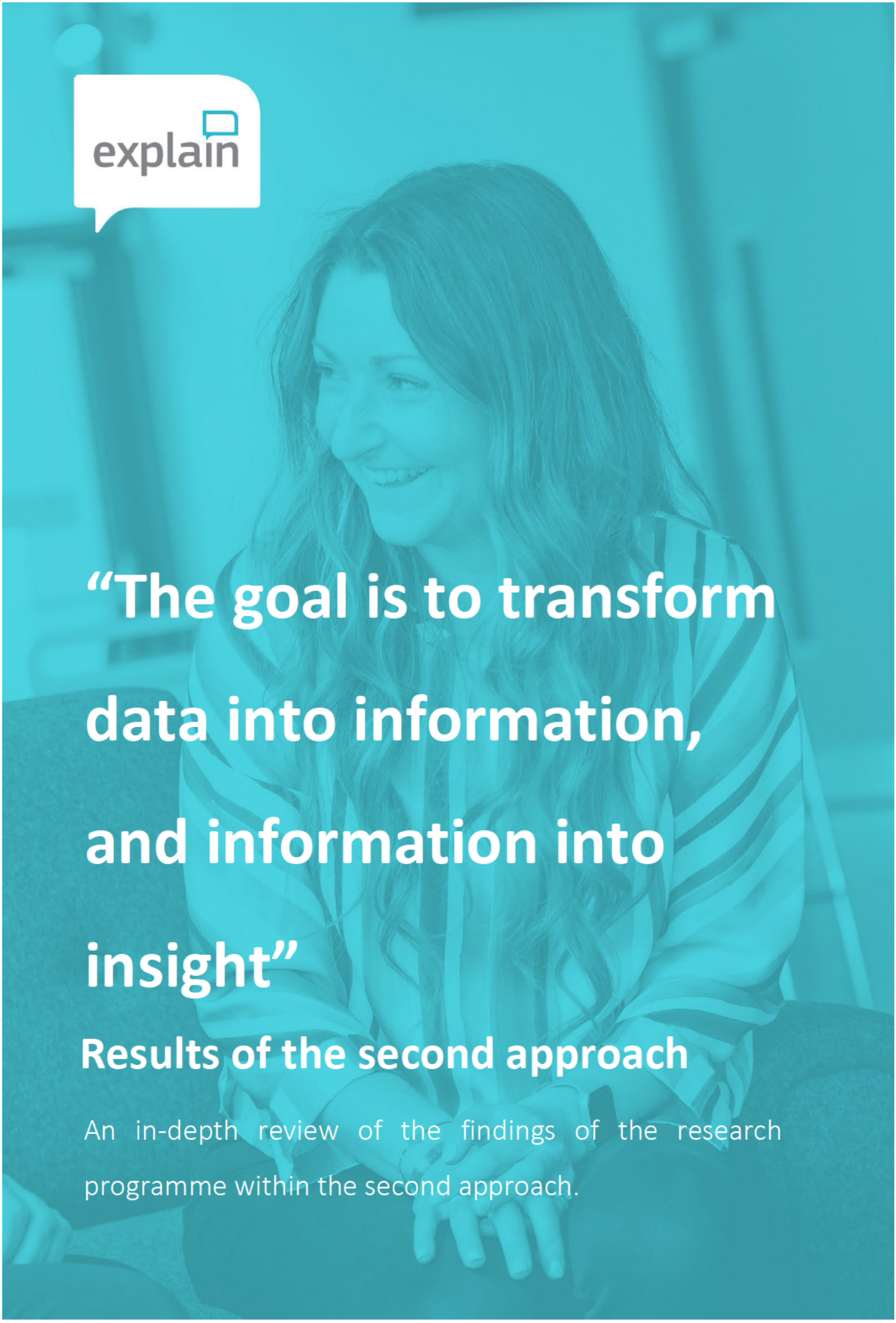
that. And maybe talk about what they're doing to avoid that" – Non-household participant (in depth interview)

Of the participants who were **unsure on their level of confidence**, they generally referred to having trust in Northumbrian Water as an organisation but were unsure if the customer summary dDWMP, as it currently is, provided them with confidence in delivery. However, these participants generally agreed they felt Northumbrian Water was **heading in the right direction by sharing its customer summary dDWMP with customers, but that further work was needed to ensure full confidence**.

- *"It gives me confidence that they're heading in the right direction. It perhaps doesn't give me confidence that they've got all the answers, at the current time" – Non-household participant (in depth interview)*
- *"As an organisation they're well established, but if results were published every six months, every year, that would give myself and others a bit more confidence" – Non-household participant (in depth interview)*
- *"If I knew nothing else about Northumbrian Water, I'm not sure that this document specifically would necessarily give me confidence in them to deliver on these plans. It feels more like an introduction to the subject and what the potential plans are" – Non-household participant (in depth interview)*
- *"The fact that I've come to the meeting today, not really knowing what you were going to discuss, but feeling that you are pro-active in doing something as a company to protect the environment, to protect future generations" - Amble*

First approach summary

Throughout the first approach, there was a consensus that the customer summary dDWMP lacked both clarity and sufficient information, in a simplified manner, which would enable participants to make an informed decision about the four options.



explain

“The goal is to transform data into information, and information into insight”

Results of the second approach

An in-depth review of the findings of the research programme within the second approach.

Results of the second approach

The overarching findings of the second approach were that **option 3 and 4 were favoured** by participants.

Participants valued the **environmental and societal benefits** these options offered.

The second approach to the research consisted of one online deliberative workshop and four face-to-face focus groups. These sessions were designed to be more conversational and offered participants the opportunity to ask questions directly to NWG representatives to clarify the background to and the content of the dDWMP as the sessions progressed. A comparison table was also created to aid understanding of the four options. The materials used during this second approach are shown in Appendix B. For ease, the comparison table of the four options is shown below.

	Storm Overflow Reduction **Plan met in the cheapest possible way – concrete tanks**	Storm Overflow Reduction **Plan met using natural solutions where possible**	**Working with others to reduce the risk of flooding** from all sources	**Reduced risk of internal flooding** for at risk properties	**Delivered by**	**Total increase to average bills by 2030**	**Total increase to average bills by 2045**
Option 1	✓			0%	2045	£9	£49
Option 2	✓		✓	27%	2045	£12	£64
Option 3		✓	✓	75%	2045	£18	£123
Option 4		✓	✓	90%	2040	£34	£138

In deliberative workshop 2 (which was held online), group discussions took place as a whole room as well as breakout rooms. Participants were allocated to breakout groups for some of the discussion, based on the answers they provided, regarding their financial situation, in the screening questionnaire. There were four breakouts: two breakouts, with a total of eight participants, who 'never struggle' with household bills, one breakout with three participants who 'sometimes struggle' with household bills, and one breakout with three participants; two of whom were 'behind on bills', and one who 'always struggles' with household bills. The voting results of deliberative workshop 2 are presented in charts where a poll was launched. In contrast, in the face-to-face groups, discussions took place regarding preferences in options, but no formal voting took place.

The detailed findings of the second approach are reported as follows:

Queries on the implementation of the DWMP

Not necessarily related to the customer summary dDWMP, but highlighted by participants, were common queries related to how the DWMP would be implemented. These are noted for reference and some examples are shown below.

- *"Even if we say we're going for the cheap option... And option three is probably the best... would you still go ahead and chose option three and put our bills up anyway?' – Thornaby-on-Tees*
- *"What would happen if we all said we can't afford it?" Thornaby-on-Tees*

Preferences in the four options

Preferences in ranking across the groups are shown below. However, please note the qualitative nature of this research and the **very** low base sizes. Within this research, ranking is more appropriately understood as prompts for in-depth discussions about the options.

Deliberative workshop 2

Best value for money

Option 4 (7 votes)

Option 3 (3 votes)
Option 2 (3 votes)
None of the above (1 vote)
Option 1 (no votes)

Affordability

Option 4 (4 votes)

Option 3 (3 votes)
Option 1 (3 votes)
None of the above (2 votes)
Option 2 (1 vote)

Overall preference ranking

Option 3

Across four breakout groups:
1st place - option 3
2nd place - option 4
3rd place - option 2
4th place - option 1

Participants felt that option 4 was both the most affordable and offered the best value for money. However, when ranking the overall preference, and considering all aspects discussed in relation to the dDWMP, there was an overall preference for option 3.

When considering their overall preference, the groups within the deliberative workshop ranked their preferences as shown in the table below. Overall, options 3 and 4, focussing on natural solutions, were favoured far more than options 1 and 2 in terms of best value for money, affordability, and when giving an overall preference.

Breakout Groups in deliberative workshop 2	Order of preference ranked
Always struggle/ behind on bills (Base 3)	option 3 > option 4 > option 2 > option 1
Sometimes struggle with bills (Base 3)	option 4 > option 3 > option 2 > option 1
Never struggle with bills #1 (Base 4)	option 2 > option 3 > option 1 > option 4
Never struggle with bills #2 (Base 4)	option 3 > option 4 > option 2 > option 1
Overall preference of all groups (Base 14)	**option 3 > option 4 > option 2 > option 1**

Face-to-face groups

Amble (Base 4)

Option 4:

Altruism and caring for future generations

Blyth (Base 5)

Option 1 or 4:

Split view of environmental benefits being worth the increase, but unable to afford

Consett (Base 10)

Option 3:

A pragmatic approach of thinking option 4 is ideal, but not vital

Thornaby-on-Tees (Base 10)

Option 4:

In an ideal world, due to environmental benefits. In the current situation, there were concerns about costs

Reasons underpinning the preferences

Overall, most participants in the second approach stated a **preference for the more natural solutions**, of options 3 or 4, as the focal point was on the environment, caring for future generations, and becoming part of the solution.

- *"The environmental solution is better than just building some more tanks underground and in years to come, we're looking at these Victorian ones saying they're really old, and in years and years to come our future generations are just going to look at them and deal with them as we did the Victorians" – Deliberative workshop 2*
- *"We have to do more to protect the environment for everybody else. We've got to enjoy it beyond our years, and that does bear some responsibility for us to look at how we use that and our impact on the storms and water systems... we've taken for granted for so long and have become part of the problem... we've got to become part of the solution" – Deliberative workshop 2*
- *"I just went from four, three, two to one... the prices are not too unrealistic, ranging from four to one, so I based on that. The bigger, the better, and the more help to the environment and the bigger impact it'll have in stopping what we need to stop first time around, rather than having to paper over the cracks" – Deliberative workshop 2*
- *"I'd go for option four... It's for the environment really you know?" - Blyth*
- *"The environmental thing's drummed into us now on the news and everything and it's like we're trying to do it for our children" – Thornaby-on-tees*
- *"When I was brought up in Amble, it was a community, and even if you disliked someone, you would go to their aid, if they were in need, and that's the world I would like to see for my grandchildren; that people cared for each other" – Amble*

Some participants stated a **preference for options 1 and 2,** highlighting that they recognised option 4 would be preferred in an ideal world but due to their **personal financial situation**, consideration of their lifestyle and rising cost-of-living, they would **favour more affordable options.**

- *"In an ideal world it would be four, but cost driven, it's option one" – Deliberative workshop 2*
- *"Option four would be wonderful, wouldn't it, but it's just not an affordable option so it would have to be option two. You're going to get the most return for your money thinking in terms of that kind of thing" – Deliberative workshop 2*
- *"Just number one. I mean I'm 78 and we're in a little house, tiny, it's one bedroom… you'd think you wouldn't have to pay that much for your water. We have a shower, and we don't go to the toilet that much, not like when you've got kids, and I'm frightened to leave the tap on for rinses. I think our generation think of the cost, and the kids nowadays don't… Once you've reached a certain age, you should be given a discount… what I'm really saying is, why don't they look after the people who have worked all their lives?" – Blyth*
- *"For the moment it's [option] one of for me because it's a quick fix. If I was younger, I would say option four. If I had a better job with more pay that would be better. More money" - Blyth*

Reasons provided for **options 3 and 4 ranking lower** amongst some participants included **affordability** having an impact on their vote, due to hesitancy to increase their bills.

- *"A year ago, I probably would've been thinking more about the environment, but with this year with everything that's happened, I think more people will be more hesitant to spend any more money" – Deliberative workshop 2*
- *"I just couldn't afford it because we're struggling, we just couldn't afford to pay more… and your money doesn't go up every year, but all the bills do" – Blyth*

For one participant, the **lack of detail on the natural solutions** in options 3 and 4 influenced their decision; given concerns about food insecurity and the impact these options may have on this.

- *"I ranked option three and four lowest partly because they cost more money and, if you have a big underground tank… you can be certain of the amount of water you're going to store. I'm not sure how you can be certain with the other environmental options. Our food security is very poor in this country. Will we be taking out good agricultural lands to make wetlands? If that's the case I'm not sure it's a good idea" – Deliberative workshop 2*

Some participants in the face-to-face groups had an **altruistic view**, and mentioned preferring the more natural solutions, despite knowing **they may struggle financially, but considered it worthwhile**.

- *"I would say go for option four, because I think you're paying the money now, before... if you do one of the other two, it's going to have to change later. Why not put the money in now, and make a better job of it, and look after people who need looking after?" - Amble*
- *"I think option four takes care of what 'old Amble' was, caring for the future generations to come, and not just thinking of your own needs, and looking forward to the future. You might be long dead, but you know that you've done the best for the generations to come" - Amble*
- *"I look at those figures, and I think well, yeah, it's going to be hard, and I'm not a millionaire, but I would pay for it just to be able to flush the toilet" – Amble*

Options 1 and 2 generally ranked lower in order of preference, due to participants' recognising the **minimal impact** they would have, the missing information surrounding the logistics of the tanks, as well as **considering value for money** for the future.

- *"Option one I don't see much point in… at a push, I would rather probably have option four than option one" – Deliberative workshop 2*
- *"How many [tanks] would there be?" – Deliberative workshop 2*
- *"And how big would they [tanks] have to be?" – Deliberative workshop 2*
- *"And what would be the [tanks] impact on nature and environment?" – Deliberative workshop 2*
- *"Value for money and value for the future, because I've always believed in one thing, an allegory I've used all my life; you pay nuts, and you get monkeys" - Blyth*

Thoughts about affordability

Within the deliberative workshop, participants across the groups that 'never struggle' voted across all five response options, which included 'unsure' in addition to the four options. Those who 'sometimes struggle' had an equally split opinion on option 3 and 4 being most affordable, which is similar to those who are 'behind on bills'. Importantly, only one participant from this group considered option 1 to be the most affordable.

Several participants **preferred options one and two**, viewing these options as the ones that they could **personally afford** in their current financial situation.

- *"For me, option one is probably the most affordable at the moment" – Deliberative workshop 2*
- *"Well, I was none of the above. I didn't see the point in option one purely because it's going to cost me extra money, and not going to actually improve or decrease the amount of waste… I thought, what am I going to see from it? And I just couldn't justify any kind of increase at the moment" (none) – Deliberative workshop 2*
- *"I chose option two in this instance and the reason for this is the economic situation globally, as the cost of living is going up in the UK… If not for the changes in the economy and inflation, I probably would have been able to do three or four but it will be more comfortable for me to adjust and have that increase at option two for me" – Deliberative workshop 2*

Despite this, in discussions around the affordability, there was a **preference for options three or four due to the greater benefits described** in those options, in comparison to the limited benefits described in options one and two. Most participants considered it **worthwhile to look for a longer-term solution, the natural solutions** of three or four, to avoid passing the problems onto future generations.

- *"For the sake of around £15 between them, if there's going to be a 90% reduced risk as opposed to a 75%, morally I'd want to put in a little bit more to try and help make more of an impact" – Deliberative workshop 2*
- *"Instantly, when I read these, I didn't even entertain options one and two… it was the thought that it didn't include everybody else, and that it wasn't trying to tackle the Storm Overflow Reduction Plan using a natural solution, because I think the reason we're in this problem is because of the industrialised nature of the north-east. And the amount of industrial pollution that we've probably put in over the decades. Straightaway for me, option three and four jumped out, and when you knock down the average increase over the year, it's absolutely nowhere near what we've been paying, increases to our energy bills" – Deliberative workshop 2*
- *"We've got to look for a longer-term solution now… otherwise we're just passing the problem onto the next generation, essentially a bigger problem, because there's going to be more people and more houses, and it's only going to get worse if we don't take drastic action now, with an option three or an option four" – Deliberative workshop 2*

Further, one of the participants who 'never struggles' to pay their bills highlighted that their view of option four being most affordable included taking into consideration the **longer-term result of having fewer homes backed up with sewage**.

> *"I could afford to pay the highest [so] think that this [option 4] is affordable… I think it's going to be most affordable for all those people who aren't going to have their homes backed up with sewage. And I think in the long run, that is the better option" – Deliberative workshop*

One participant additionally highlighted they wished for **more information on how people on benefits will be financially supported** in paying their bills, suggesting this would be an influential factor in decision making for participants who would require support.

> *"I feel like there's been no mention of how anyone expects people on benefits to pay this, how they're going to afford it… People forget that there are younger people having families now and they get forgotten about because they can't get full benefit… some people also get deductions from their benefits… How will you help people like me?" – Deliberative workshop 2*

Thoughts about value for money

Most participants in the deliberative workshop felt option 4 offered the best value for money, with six votes in total, followed by jointly favoured options 2 and 3, with three votes, respectively. One participant thought 'none of the above' options provided best value for money. Significantly, no participants thought option 1 offered the best value for money.

When discussing ideas around value for money, as with affordability, the personal financial position of participants did not appear to stongly influence their thoughts on the options. Those who were 'behind on bills' or 'always struggle' favoured options 3 and 4, whilst participants who 'sometimes struggle' financially favoured option 4. Notably, **option 2 was thought to offer the best value for money only by those who 'never struggle'** financially themselves.

Across all groups, numerous participants highlighted that a sense that **option one did not offer a solution** to all the issues that the dDWMP needs to address.

> *"I think if you're going ahead with option one you might as well do option two and whilst you're digging and doing all of them tanks, or whatever you're building, I just think you should be going straight to do two" – Thornaby-on-Tees*

- *"I'm just looking at option one … it's not having a lot of impact. I don't think that option one would be very good at all" – Deliberative workshop 2*
- *"[Option 1] feels like a short-term fix… one that is going to have any impact. We're just going to find ourselves back in the same situation in five years where we're discussing even more drastic action that can be taken, and potentially more increased costs. Because now we've got giant concrete underground containers that we've built" – Deliberative workshop 2*
- *"[For option one] spending a little bit of money is a stop gap… overall for the cost based on how much it would affect it, rather than papering over the cracks" – Deliberative workshop 2*
- *"Option one was a good price, but it was doing very little to solve the problem, so really that's just a no-go, isn't it?" – Deliberative workshop 2*
- *"[Option 1 or 2] it doesn't offer any benefits really on the big scale of it" – Thornaby-on-tees*
- *"I've always believed in one thing, an allegory I've used all my life; you pay nuts, and you get monkeys" – Blyth*

Working collaboratively was highlighted as a reason for some participants favouring option two. Shared responsibility, including shareholders and the government to provide financial aid, was similarly mentioned by few participants.

- *"I found option two attractive… it said Northumbrian Water will work with other agencies… It's joined up thinking and that is why option two is so much better than option one" – Deliberative workshop 2*
- *"I voted for option two and, despite the fact I think option three and four may be better results… I also feel the customer shouldn't bear the brunt of these costs and I think these costs should be shared, not just the companies, the shareholders and the government especially. So, that's why I've gone for option two" – Deliberative workshop 2*
- *"Option two is a good plan, I like how it joins forces with other organisations, so that's spread the cost… there's financial help there for Northumbrian Water. And I'm hoping that would create more workers as well… but it's still not going to help as many properties over a five-year period. … The cost to the customer is fair [but I'd choose option 3 overall]" – Deliberative workshop 2*

Reasons for preferring more natural solutions, of options three or four, centred on participants' awareness of **longer-term factors, such as climate change and population growth**, due to consideration of **future generations**.

- *"We're much more aware of the population growth and climate change, and it's all going to impact us all eventually. But [we] definitely wouldn't have been as aware a couple of years ago as we are now" – Deliberative workshop 2*
- *"I went for three. I had already chosen my option before any other information was shared. I don't think that building the tanks is a good idea and, because we're all looking at sustainability and a more natural environment, I thought that swell ponds to store the water and create a more natural habitat. If we're going to spend money, then we might as well go that way… [Northumbrian Water] are going to work with the councils and other bodies to do the jobs so they'll have more input on it and there's going to be a bigger reduction in the flooding from the sewage etc. It was a more affordable option to get the job done" – Deliberative workshop 2*
- *"Option three. I think it's fantastic that communities would benefit… that there would be no need to intervene with natural habitats… or the wildlife. I feel that it's just as important to family, friends and ourselves even. The price, I think, is fair with the price of living, it is a realistic price for customers. Option four is a little too costly" – Deliberative workshop 2*
- *"If that's over the year, I would be more inclined to go for options three or four. Looking at it from a point of children and grandchildren, because unless something is done now, not just with yourselves [but also] with the environment, there's not going to be much of a future for them. So, in the scheme of things, £18 to £34 a year isn't that much" – Deliberative workshop 2*
- *"Is it the value for money or is it more the fact that it's going to benefit the future generations that's really swaying you?" – Moderator, "The future", "I think it would probably be the cheapest one in the long run as well" - Amble*

Whilst options three and four were thought of as being the **ideal solutions**, some participants felt they were **unable to view these as affordable** due to the current rising cost-of-living.

- *"Option three and four in terms of environmental solutions would be ideal but, it's an affordability thing and personally as things stand, and assuming things get worse or nothing changes, any extra outgoings on any of my bills it's not doable. So, it would be option two as opposed to any of the others" – Deliberative workshop 2*
- *"Option three or four ideally, in practice. What's affordable, you know, it's the price that is probably too much for me" – Deliberative workshop 2*
- *"I just feel like with everything going up, it's just getting really hard for everybody, and we need to come to a price that's going to meet everybody's needs" – Deliberative workshop 2*

Some participants considered **affordability alongside their preference of environmental options**, leading them to prefer option three to ensure that lower-income families would be able to afford this.

- *"I think option four was the best [but] option three was good for the environment too and that was about the right sort of price for me" – Deliberative workshop 2*
- *"Option three seems to be like the middle ground…Option four gives the best results but then it's the costliest for the customer, so It's like a trade-off and option three seems like a sweet spot. If money and finances weren't a challenge and money wasn't an issue, then I think most people would go for option three or option four" – Deliberative workshop 2*
- *"[Option 3] … the reason why I didn't choose four is because I think four is exactly the same as three, but you're doing it quicker… low-income families, they can't afford it" – Consett*
- *"I just thought they would be cheaper long-term because you wouldn't have to maintain them as much" – Consett*
- *"I quite like nature, so I like option three I'm leaning towards just because of the costs… [with] that long-term maintenance… It's probably going to be more cost-effective" - Consett*

Gaining best value for money was a factor discussed by many participants, who viewed the cost difference between options three and four being minimal, in exchange for more benefits, therefore would prefer option four overall.

- *"I would've probably gone for option four, but I thought well [option 3] it's nearly option four. And I was thinking of value for money really" – Deliberative workshop 2*
- *"Probably four, to say that figure over the years isn't too bad" – Deliberative workshop 2*
- *"I'd prefer option four because it's water, the most important thing" – Deliberative workshop 2*
- *"Probably option four, because it's making a bit of a difference" – Deliberative workshop 2*
- *"It's only a tenner a year difference [between options 3 and 4]" – Consett*

Other face to face groups valued having a water system in the first place, as they recalled having to collect water from a well when they were younger, therefore **felt they were already getting good value for money from their water bill and would therefore be happy to pay more**.

- *"It sounds as though you're willing to look at an increase in your water bill, because you feel like you're going to get good value for money from it, but you don't have the same level of trust in*

other bills. Is that right?" – Moderator, "Yes" – Amble Okay; how about the rest of you? Do you think the same, or…? "Yeah", "Yeah" – Amble

- *"When I was little, I used to live out down in the country, and we had to walk down the hill and we had a bucket; we had to take this bucket with, like, a hook on, and reach down from the well" – Amble*
- *"There was a lot of people in Amble who used the well at the top of the Wynd. I mean, my dad had to go there. He had to carry all the water for the horses and everything" - Amble*

“Research should never be just for knowledge – it should be for progress”

Conclusions

A holistic review of the actionable insights.

Conclusions

Importantly, the **customer summary dDWMP was found to lack clarity and detail,** leaving participants' feeling too un-informed to make decisions regarding their option preferences.

The second approach to the research adopted a different way to explain the context to the dDWMP, not relying on the customer summary. This enabled participants to feel that they could make judgements regarding their preferred options. An **overall preference for option 3 and 4 was revealed,** with environmental concerns and a sense of altruism outweighing concerns about costs.

First approach learnings

Throughout the first approach, participants across all groups **generally referred to the same points** during the word-for-word, page-by-page review. This included their **uncertainty** around some words, phrases, and acronyms, which were felt to be corporate and had **opportunity to be simplified** to improve accessibility. Whilst information was generally understood following explanation, participants expressed they would like to be **signposted to relevant data**, statistics, and websites to support statements made in the text.

Following consideration of the four options in the first approach, most participants felt **unable to make an informed decision** on their preferred option. Reasons for this included not having all information provided for each option, such as the **logistics** of costs, **maintenance**, and **wider societal benefits**. It was suggested that clearer presentation, or a **comparison table** to provide an overview, would be beneficial. Participants' inability to decide demonstrates the need to simplify the information in a clear, concise manner, in the background section of the customer summary dDWMP.

Second approach learnings

The second approach was successful in enabling participants to decide which of the four options they would prefer. This included taking a **more conversational** approach, with **explanations provided**, rather than reading the customer summary dDWMP word-for-word, page-by-page, as well as providing a **comparison table of the four options**.

The two overarching themes discussed by participants mirrored the discussions in the first approach: **affordability** during the current cost-of-living climate, alongside a moral and ethical obligation to **care for the environment** by making sustainable choices, to care for future generations. Respectively, these

key themes reflected the more affordable options, 1 and 2, as well as the more environmentally sound options, 3 and 4.

Whilst a small number of participants stated an inability to afford bills and questioned what support would be made available to them, most participants stated they considered natural solutions worthwhile. Despite having concerns about costs, some participants felt they would prefer options 3 or 4, as they preferred to ensure future generations would not have the burden of solving a bigger problem and wanted to take a more altruistic approach.

“Quality is not an act; it is a habit”

Appendices

Supporting documentation can be found in this section.

Appendices

Appendix A: PowerPoint used in First approach

WE PROVIDE WASTEWATER SERVICES...
REMINDER OF NW'S ROLE

- In addition to being responsible for getting clean, clear drinking water that tastes good to your tap…
- In the North, we also take away wastewater through our sewer network, treat it to make it safe and clean enough to release into the environment and then feed the cleaned water back into rivers and the sea.
- We are developing a plan to outline how we will manage and deliver our wastewater services in the future…

This is our Drainage and Wastewater Management Plan (known as DWMP).

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
AN INTRODUCTION

- The **DWMP** is a critical document as we aim to make sure we can continue to deliver your wastewater (sewerage) services in the future.
- In sharing these plans in draft form, we hope to get views from as many of our customers as possible.
- In our DWMP we are proposing some big **changes** to the ways in which the sewerage system operates to allow us to better cope with **future challenges** such as **climate change** and **population growth**, and to protect the **environment**.
- These changes will require some **investment** and we must now try to understand which decisions will provide the **best balance** between **environmental** protection and lessening **flood** risk, with maintaining **affordable** bills for customers.

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
AN INTRODUCTION

- **The water industry cannot solve these issues alone**. Work towards this plan has therefore been carried out in collaboration with a range of partners to seek multiple benefits for our communities.
- A huge amount of work has gone into these plans so far, and groups of our customers, stakeholders, and our customer challenge group, known as The Water Forum, have all been involved in shaping this draft DWMP.
- It's therefore **important that you share your thoughts** on the different options, laid out in the summary we will share today, to **have your say** on what wastewater services you want from us.

Your views will help us to take the right decisions and shape the final DWMP, which we need to submit to our regulator, Ofwat, in March 2023.

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
WHAT WE NEED TO KNOW FROM YOU

On the draft plan summary:	Is the information in the draft plan **clear**?	Does the draft plan give you **confidence** in NW to deliver the improvements needed?	
On the four options:	Of the four, which do you think NW should choose?	Which option(s) do you consider affordable?	Which option(s) do you consider to deliver best value?

For today, we'll mostly be focusing on the questions in pink, but keep the blue ones in mind as we will be asking for your thoughts on these in due course!

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
THINGS TO KEEP IN MIND

- When we look at the four DWMP options, alongside each we will tell you the expected **impact** of that option on the **average NW water bill**
- We'll look at these more closely in the next session
- When considering these options, do **keep in mind**…

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OUR ENVIRONMENTAL RESPONSIBILITIES

- The role we have in providing you with such an essential service is one we take very seriously.
- We rely on the **environment** around us for our raw material (water) and we work hard to make sure it's clean, clear, and great tasting.
- **We're proud of our environmental track record**. In the North East, 32 out of 34 bathing waters are classed as excellent or good.
- The Environment Agency (EA) rates us as four star (its highest assessment), and we've been industry leading in **reducing pollution** in the last few years, something our customers tell us is very important to them.

Environment Agency

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OUR ENVIRONMENTAL RESPONSIBILITIES

- Earlier this year, we published **A Vision For Our Coasts and Rivers**, containing nine ambitious pledges to contribute to further improvement of our water environment to benefit local communities.
- We are only one of many organisations that are responsible for drainage, preventing flooding and protecting the environment and whose operations can influence river water quality.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
WORKING WITH OTHERS

- We are **specifically responsible for the wastewater system**, which includes things like

Drains	Manholes	Pumping stations	Storm overflows	Treatment works	Sustainable urban drainage (SUDs)

- We recognise **there are others who can have an impact**, often a greater impact than we can, on the quality of rivers and beaches.
- With this in mind, **we lead and support partnership activity** that can collaboratively develop the best and most innovative solutions.
- We all need to work together to make sure everyone can continue to enjoy the natural environment for years to come.

Our care and respect for our natural environment goes far beyond any legal requirements. We work constantly to protect and enhance your local coasts, rivers, and watercourses.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
NEED FOR LONG TERM RESILIENCE

- **Population growth** and changes to our **climate** are presenting big challenges for the water industry.
- We want to make sure our drainage and wastewater system will be able to cope in the future.
- We call this **long-term resilience**.
- A resilient system will continue to treat and dispose of wastewater effectively despite the pressures the next decades bring.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN (DWMP)
WHAT IS A DRAFT DWMP?

- The Government requires us to plan for the next 25 years.
  - **We've chosen to look ahead 40 years**, which is the same long term planning period we consider for the rest of our business operations, for example, our Water Resources Management Plan (which looks at how we can make sure there will be enough water in the future).
- **Our DWMP outlines the level of investment (money) needed** to make sure the drainage and wastewater system can cope in the future.
- We must be careful to work at a pace that is **affordable** to our customers, and **fair** to our communities, while seeking the **highest environmental performance**.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN (DWMP)
WHY IS A DWMP USEFUL?

- While we can't predict the future, we can plan for certain **scenarios**.
- Our long-term plan will show how we plan to **manage the risks** to our network from a range of different or uncertain future pressures.
- These include:

Flooding

Our ambitious goal is to eradicate sewer flooding in the home as a result of our assets and operations.

Environment

Our ambitious goals are to demonstrate leadership in catchment management to enhance natural capital and deliver net gain for biodiversity, and to have the best rivers and beaches in the country.

Compliance

Our ambitious goal is to have zero pollutions as a result of our assets and operations.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN (DWMP)
HOW WE DEVELOPED OUR DRAFT DWMP

- Our Drainage and Wastewater Management Plan covers:

Northumberland | Tyneside | Wearside | Rural Tyne | Wear | Teesdale | Teesside

- We have spent the last year investigating:
  - The scale of the problems
  - The timing of the problems
  - The costs and benefits.
- We analyse data along with modelling and surveys to find the potential challenges and risks to identify which area is most at risk.

Pre-warning – unpleasant imagery on next slide!

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
STORM OVERFLOWS – WHAT ARE THEY AND WHY ARE THEY IMPORTANT?

- At times of **heavy rainfall**, our pipes can reach full capacity and there's a risk that rainwater, wastewater and other items incorrectly flushed into our network can be forced back into customers' homes.
- **Sewer flooding** is the worst service failure our customers can experience.

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
STORM OVERFLOWS – WHAT ARE THEY AND WHY ARE THEY IMPORTANT?

- **Storm overflows (SOs) act as a relief valve**, releasing this heavily diluted mix (mostly rainwater) back into the environment, protecting homes from sewer flooding.
- **The EA permits how and when we can use SOs.**
- The Government is currently consulting on its Storm Overflows Discharge Reduction Plan (SODRP).
  - The plan from Defra sets out targets for water companies to reduce the harm caused by pollution from SOs.

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
STORM OVERFLOWS – WHAT ARE THEY AND WHY ARE THEY IMPORTANT?

- The frequency of discharges from SOs has increased over time because of **climate change**, **population growth** and **changes in customer behaviours**, i.e. increased use of plastics being put into the system and causing blockages.
- We share the views of Government and the public that we need to address the issues with SOs, made greater by climate change and population growth, as a priority.
- Our draft DWMP does this, while recognising that to **tackle** an issue of such a large scale as this, we would need a **significant amount of financial investment** in the future.
- We have taken account of the SODRP within our draft plan, however, it remains a live consultation and we are keen to hear customer views on the options in this plan.

Has anyone seen a Storm Overflow before? What do you think one looks like?

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DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
STORM OVERFLOWS – EXAMPLES

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OPTION ONE – WHAT WILL WE DO AND HOW MUCH WILL IT COST?

1

Our plan will work to achieve the targets the Government has proposed in its Storm Overflow Discharge Reduction Plan (SODRP) in the cheapest way possible.

This is predominantly by building concrete tanks underground to temporarily store rainwater.

We estimate this option will increase the average bill by 13% (around £49 a year) by 2045. This doesn't include the rate of inflation.

No other benefits are achieved so this option includes little flood risk reduction benefits to local properties.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OPTION TWO – WHAT WILL WE DO?

2

As in option 1…

Our plan will work to achieve the targets the Government has proposed in its Storm Overflow Discharge Reduction Plan (SODRP) in the cheapest way possible.

This is predominantly by building concrete tanks underground to temporarily store rainwater.

+

In addition…

We would join up our SO activity to Northumbria Integrated Drainage Partnership schemes.

NIDP is an innovative partnership approach. It brings the North East councils, the Environment Agency and us, to work collaboratively to reduce flooding risk from our operations together.

NIDP partners jointly fund integrated flood risk studies and joint delivery schemes, to tackle flooding from sewers, rivers, and surface water, so not just our operations alone.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OPTION TWO – WHAT IMPACT WILL THIS HAVE?

2

This option would see the risk of internal sewer flooding (during a 1 in 20-year storm) being reduced for 2,464 properties from 2025-2030.

Although the exact number of properties to benefit after 2030 can't be calculated exactly, we estimate this to be between 2,200 and 2,500 every five years.

We estimate this option will increase the average bill by 17% (around £64 a year) by 2045. This doesn't include the rate of inflation.

17%

(around £64 a year)

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OPTION THREE – WHAT WILL WE DO?

3

Our plan will look at the best value way to achieve the targets the Government has proposed in its Storm Overflow Discharge Reduction Plan (SODRP) by looking at the cost against each drainage community.

These are typically an area around a storm overflow, sewage pumping station or wastewater treatment works.

Communities are more likely to enjoy the societal benefits of using natural solutions to solve problems, rather than built infrastructure (such as creating natural habitats such as swales and ponds to store water).

+

As in option 2…

We would also work collaboratively.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OPTION THREE – WHAT IMPACT WILL THIS OPTION HAVE?

3

This option would see the risk of internal sewer flooding (during a 1 in 20-year storm) being reduced for:

- 8,084 properties in 2025-30
- 4,560 properties in 2030-35
- 9,884 properties in 2035-40
- 5,475 properties in 2040-45

We estimate this option will increase the average bill by 34% (around £123 a year) by 2045.

34%

(around £123 a year)

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OPTION FOUR – WHAT WILL WE DO?

4

As in option 3…

Our plan will look at the best value way to achieve the targets the Government has proposed in its Storm Overflow Discharge Reduction Plan (SODRP) by looking at the cost against each drainage community.

In addition…

We would include interventions to work towards our ambitious goal of having zero internal property flooding by 2040.

We would deliver the targets proposed by the Government faster than in their SODRP.

As in option 2…

There would be opportunities to work collaboratively with the EA and local authorities to reduce flooding risk from all our operations.

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
OPTION FOUR – WHAT IMPACT WILL THIS OPTION HAVE?

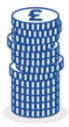
4

This option would see the risk of internal sewer flooding (during a 1 in 20-year storm) being reduced for:

- 11,527 properties in 2025-30
- 10,786 properties in 2030-35
- 11,285 properties in 2035-40

Beyond 2040, we would need to consider the impact of climate change.

We estimate this option will increase the average bill by 38% (around £138 a year) by 2045. This doesn't include the rate of inflation.



38%

(around £138 a year)

DRAFT DRAINAGE AND WASTEWATER MANAGEMENT PLAN
NORTHUMBRIAN WATER WOULD LIKE YOUR VIEWS ON...

Which of the four options do you think is the most acceptable to you?

Would you support an increase in your water and wastewater bill to reduce the risk of flooding and enhance your local environment?

How much extra would you be willing to pay for each of the options?

DWMP CONSULTATION
NEXT STEPS

Consultation closes in September 2022. We will then reflect on customer and stakeholder feedback on the draft DWMP before publishing our final DWMP in March 2023.

- This will involve some detailed work, including comparing with plans from other organisations, and reviewing the latest climate change data.
- We will also want to consider if customers think our plan is affordable and how to get ready to start such a large programme of construction work.

Every five years we write a Business Plan and submit it to our regulator, Ofwat. They decide what charges we can collect from customer bills and what level of service we must provide customers with, in return.

The DWMP forms part of our Business Plan for 2025-30 and we need to submit this to Ofwat in October 2023.

Ofwat reviews our plans and gives us its final determination in December 2024.

We begin carrying out the plans we set out in the DWMP in April 2025.

Appendix B: PowerPoint used in Second approach

WHAT IS A DRAINAGE AND WASTEWATER MANAGEMENT PLAN?

We worked with the Environment Agency, Local Authorities, Lead Local Flood Authorities and rivers trusts to draft our plan.

The plan sets out how we will make sure the north east's drainage and wastewater systems will work as we face challenges from climate change, population growth and more land being built on.

We will deliver our plan in a way that looks after and improves the environment.

There are four options in our plan, which we'd like to hear your views on.

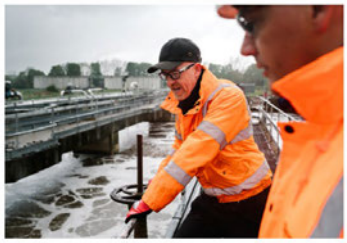
7

WHAT DOES A DRAINAGE AND WASTEWATER MANAGEMENT PLAN COVER?

DRAINAGE WASTEWATER MANAGEMENT PLAN?
OUR PRIORITIES FOR INVESTMENT

The two areas of our DWMP where we have choices to make about what we do, and how quickly we work.

- The government's national targets to reduce spills from storm overflows by 2050.
- Reducing the risk of sewer flooding to the inside of properties



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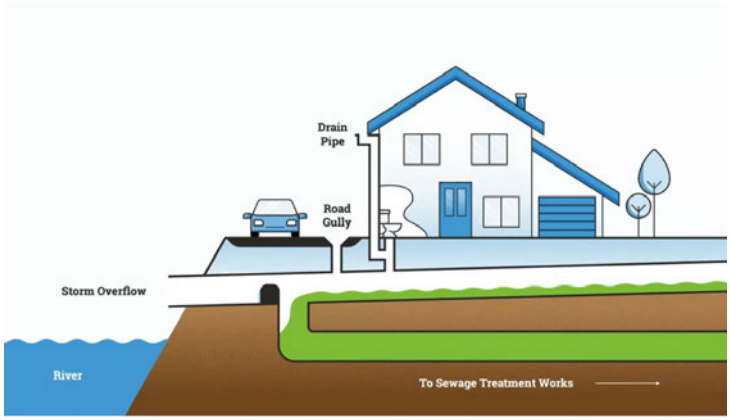
DRAINAGE: STORM OVERFLOWS
PROTECTING HOMES FROM FLOODING



WHAT DOES A SPILL FROM A STORM OVERFLOW CONTAIN?

A spill from a storm overflow

99% water

1% sewage

When a storm overflow discharges the spill contains sewage and rainwater.

Not every spill has an environmental impact.

Bacteria contained in a spill is likely to die very quickly after entering river or sea water, and the concentration of bacteria will be diluted.

Bathers and other water users in England are impacted by 8% of storm overflows that discharge near a designated bathing water.

DRAINAGE: THE INTRODUCTION OF STORM OVERFLOWS
LONDON AND THE 1800S

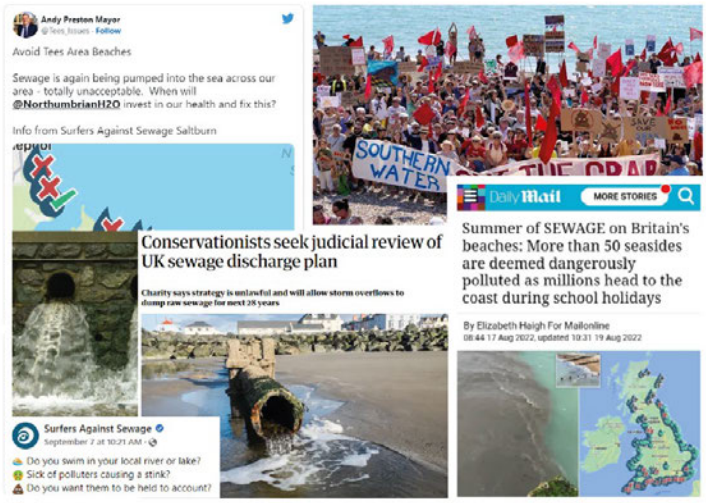
The UK's wastewater system dates back to the 1850s, when the Victorians built the first sewer network in London. This new system revolutionised drainage, improving hygiene and the environment.

Storm overflows were an important part of the Victorian's design, to prevent overwhelmed sewers from spilling into homes, businesses, roads and the land during times of heavy rainfall.

We still use storm overflows. Today they are operated within permits set by the Environment Agency, which is part of the UK government.

WHAT YOU MIGHT SEE WHEN YOU'RE OUT AND ABOUT
STORM OVERFLOWS

DRAINAGE: THE NEWS
NATIONAL FOCUS ON STORM OVERFLOWS



WHAT IS INTERNAL SEWER FLOODING?

At times of heavy rainfall sewers can reach full capacity and there's a risk that rainwater and wastewater can be forced back into customers' homes.

Storm overflows act as a release valve, releasing this heavily diluted mix back into the environment, protecting homes from flooding.

The government has asked all water companies to reduce the use of storm overflows, because of the environmental damage they can cause. We agree that we need to address this issue.

DRAINAGE: HOW MANY PROPERTIES ARE AT RISK OF FLOODING? IN HEAVY RAINFALL

We provide wastewater services to around 1 million properties in the North East.

Our modelling shows that 36,500 (3.5%) of these properties are at risk of internal flooding during **very heavy** rainfall

There is a 5% chance that we will experience rainfall heavy enough to flood these properties in any given year.

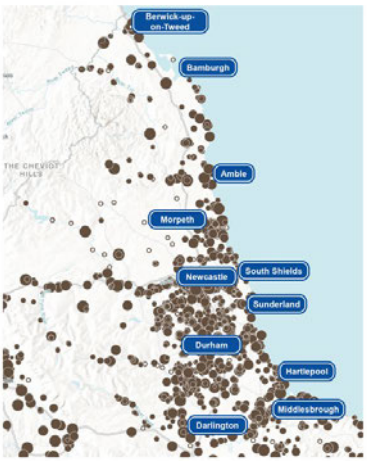
PROPERTIES WHICH HAVE EXPERIENCED SEWER FLOODING

- In 2021/22 **238** properties in the north east were flooded internally with water containing sewage.
- This is equivalent to 0.0002% of all properties in the north east.
- This is around 50% fewer properties than were flooded internally in 2019/20 (**472**).

IMPROVING STORM OVERFLOWS MEETING THE GOVERNMENT'S REQUIREMENTS

There are around 15,000 storm overflows in England. They discharge at different rates depending on local conditions including climate, rainfall and the type of sewerage system.

THE NORTH EAST PICTURE
STORM OVERFLOWS - 2021



- There are over 1,500 storm overflows in our region which have the potential to cause harm to the natural environment when they spill.
- Northumbrian Water storm overflows spilled an average of 25 times each in 2021. This is lower than the England average of 29.
- **Government requirements are that we must reduce the average number of spills per storm overflow to:**
  - **20 by 2025**
  - **10 by 2045**

OPTION 1

The cheapest way to reduce the use of storm overflows

- We will build concrete tanks underground to temporarily store rainwater.
- Rainwater held in the tanks will be slowly released into the wastewater network where it will make its way to the sewage treatment works.
- In a small number of places rainwater will be diverted straight into watercourses.

No reduction to the risk of sewer flooding

- This option does not reduce the number of properties at risk of internal sewer flooding by 2045.

OPTION 1
COSTS

To fund Option 1 we would have to gradually increase all customers bills over time:

- 2% by 2030
- Leading to a total of 13% by 2045

This will add :

- £9 to the average bill by 2030
- £49 to the average bill by 2045

Other things you may like to keep in mind:

- These figures do not include **inflation**
- **This won't be the only increase to your Northumbrian Water bill.** We're consulting on other improvements (such as to your water services)
- Your **other household bills** may increase, decrease or stay the same

OPTION 2

The cheapest way to reduce the use of storm overflows

- We will build concrete tanks underground to temporarily store rainwater.
- Rainwater held in the tanks will be slowly released into the wastewater network where it will make its way to the sewage treatment works.
- In a small number of places rainwater will be diverted straight into watercourses.

Reducing the risk of sewer flooding

- We will work with local authorities and the Environment Agency to reduce the risk of flooding from all sources.
- This option reduces the risk of internal sewer flooding for up to 27% (10,000) of the properties which are currently at risk by 2045.

OPTION 2
COSTS

To fund Option 2 we would have to gradually increase all customers bills over time:

- 3% by 2030
- 17% by 2045

This will add:

- £12 to the average bill by 2030
- £64 to the average bill by 2045

Other things you may like to keep in mind:

- These figures do not include **inflation**
- **This won't be the only increase to your Northumbrian Water bill.** We're consulting on other improvements (such as to your water services)
- Your **other household bills** may increase, decrease or stay the same

OPTION 3

A nature based-way to end the use of storm overflows

- We will use natural solutions, where possible, to store rainfall. This will include things like ponds, wetlands, swales and planters.

Reducing the risk of sewer flooding

- As in Option 2, we will work with local authorities and the Environment Agency to reduce the risk of flooding from all sources.
- This option reduces the risk of internal sewer flooding for around 75% (28,000) of the properties which are currently at risk by 2045.

OPTION 3
COSTS

To fund Option 3 we would have to gradually increase all customers bills over time:

- 5% by 2030
- 34% by 2045

This will add:

- £18 to the average bill by 2030
- £123 to the average bill by 2045

Other things you may like to keep in mind:

- These figures do not include **inflation**
- **This won't be the only increase to your Northumbrian Water bill.** We're consulting on other improvements (such as to your water services)
- Your **other household bills** may increase, decrease or stay the same

OPTION 4

A nature based-way to end the use of storm overflows

- We will use natural solutions, where possible, to store rainfall. This will include things like ponds, wetlands, swales and planters.

Reducing the risk of sewer flooding

- As in Option 2, we will work with local authorities and the Environment Agency to reduce the risk of flooding from all sources.
- This option reduces the risk of internal sewer flooding for over 90% (33,600) of the properties which are currently at risk by 2040, five years quicker than the government's target.

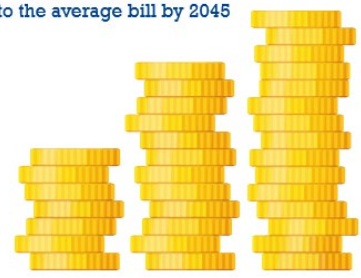
OPTION 4
COSTS

To fund Option 4 we would have to gradually increase all customers bills over time:

- 9% by 2030
- 38% by 2045

This will add:

- £34 to the average bill by 2030
- £138 to the average bill by 2045



Other things you may like to keep in mind:

- These figures do not include **inflation**
- **This won't be the only increase to your Northumbrian Water bill.** We're consulting on other improvements (such as to your water services)
- Your **other household bills** may increase, decrease or stay the same

COMPARE THE OPTIONS

	Storm Overflow Reduction Plan met in the cheapest possible way – concrete tanks	Storm Overflow Reduction Plan met using natural solutions where possible	Working with others to reduce the risk of flooding from all sources	Reduced risk of internal flooding for at risk properties	Delivered by	Total increase to average bills by 2030	Total increase to average bills by 2045
Option 1	✓			0%	2045	£9	£49
Option 2	✓		✓	27%	2045	£12	£64
Option 3		✓	✓	75%	2045	£18	£123
Option 4		✓	✓	90%	2040	£34	£138

DWMP CONSULTATION
NEXT STEPS

Consultation closes in September 2022. We will then reflect on customer and stakeholder feedback on the draft DWMP before publishing our final DWMP in March 2023.

- This will involve some detailed work, including comparing with plans from other organisations, and reviewing the latest climate change data.
- We will also want to consider if customers think our plan is affordable and how to get ready to start such a large programme of construction work.

Every five years we write a Business Plan and submit it to our regulator, Ofwat. They decide what charges we can collect from customer bills and what level of service we must provide customers with, in return.

The DWMP forms part of our Business Plan for 2025-30 and we need to submit this to Ofwat in October 2023.

Ofwat reviews our plans and gives us its final determination in December 2024.

We begin carrying out the plans we set out in the DWMP in April 2025.

As the cost of living and utility bills rise, we understand it's a difficult time for many.

Flexible payment plan

Set up a payment plan with payments you can afford. You can also choose when to pay

Set up a payment plan

Water Direct - using benefit payments

Water Direct can help you pay your bill direct from your benefits

Apply now

Payment breaks

A payment break can you help if you've lost your job or had an unexpected change in income

Apply now

Bill cap scheme - WaterSure

If you have a water meter, receive benefits, and either have a large family or someone has a medical condition and use lots of water, we'll cap your water bill

Apply now

Appendix C: Topline People Panel report

People Panel Topline results – dDWMP Topics

Overview of sessions

The draft Drainage Wastewater Management Plan (dDWMP) is a large project which aims to explore views to inform PR24 planning. The dDWMP sessions comprised two deliberative workshop discussions, People Panel online groups, four face to face discussion groups, as well as in depth interviews with nine non-household customers and eight customers who had experience of a wastewater failure, however these findings will be reported in a separate dDWMP report. The dDWMP was also discussed as a topic, across two parts, for the five groups of People Panels. This report provides a topline overview of the findings across the People Panels sessions only.

People Panel session dates

Sessions were conducted with each of the People Panels for **dDWMP Part 1 of 2** on the following dates:

- **Monday 1st August: Employees**
- **Monday 1st August: Northumbrian**
- **Wednesday 3rd August: Essex**
- **Monday 8th August: Suffolk**
- **Wednesday 10th August: Young**

Sessions were conducted for the seventh round with three of the five People Panels for **dDWMP Part 2 of 2** on the following dates:

- **Monday 5th September: Employees**
- **Monday 5th September: Northumbrian**
- **Wednesday 7th September: Essex**

Attendee profile

The number of attendees per session were as follows:

People Panel #6 (Part 1)	Total no. of attendees	'Defining the Future'
Employee	4	n/a
Northumbrian	13	2
Essex	14	3
Suffolk	12	2
Young	8	2
PP dDWMP Part 1 total:	**51**	9
People Panel #7 (Part 2)	Total no. of attendees	'Defining the Future'
Employee	5	n/a
Northumbrian	13	2
Essex	10	2
PP dDWMP Part 2 total:	**28**	4

Session	Total no. of attendees
Deliberative workshop (original)	21
Deliberative workshop (revised)	14
F2F – Thornaby, Amble, Blyth, Consett	29
In depth interviews – with customers who have experienced a wastewater failure	8
In depth interview – with non-household customers	9
dDWMP Part 2 total:	**81**

People Panel: dDWMP Part 1 of 2 – Page by page review

Upon **first impression**, across all groups, panellists generally felt the document was corporate and may need to be read more than once to digest the information. Some panellists highlighted that they **did not understand the business problem** of why Northumbrian Water needed to make this plan and wanted to see this at the beginning of the document.

Regarding the first page of '**our environmental responsibility**', panellists generally wanted to have **information signposted** when reading about '32 of 34' bathing waters to heighten transparency. Some panellists suggested that clearer wording to clarify some points, such as referencing 'coastal' bathing waters to prevent confusion.

On the second page of '**our environmental responsibility**', all panels felt confused as to why the **text references nine pledges, but the image does not**. Visual elements, such as a small **font size** of the graphic, was also highlighted, as well as wording of 'only' which implies NWG underplaying their role.

In the '**working with others**' section, some employee panellists **questioned whether some information presented was factually correct**. Readers generally felt that some phrases, such as SUDs and manholes, could be confusing for some, therefore suggested a **glossary of definitions** or box with explanations to ensure accessibility.

Thinking about '**long term resilience**', panellists held the view that some words, such as 'collaboratively' and 'resilience' were difficult for some readers. One panellist highlighted that, at this point, they would want **more information projecting number of flushes** in 25 years' time. Similarly, more information such as economical flushes and surface water separation weren't mentioned, which employee panellists suggested was **misleading**.

The pages asking '**what is a draft DWMP**' led panellists to question why a 40 year plan is needed if the Government requirement is 25 years. Some panellists felt the **language could be clearer and more concise**. The statement about **fairness to communities also generated confusion** about its meaning.

When considering '**why a draft DWMP is useful**', most panellists agreed that **too much jargon** was used, and suggested language needed to be kept clearer. The page explaining '**how we developed out draft DWMP**' was thought to use words where, rather, **visualising the areas on maps** would make the page more appealing.

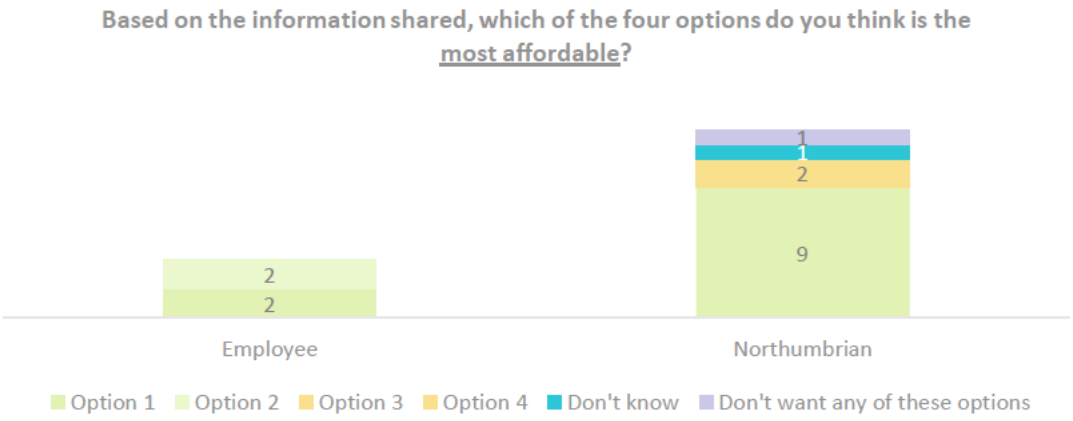
The section about '**storm overflows**' was an area where numerous panellists felt they would have wanted to have **more information presented as an educational guide**, with **illustrations** (rather than actual images) of items which are incorrectly flushed and the consequences, as well as information on how this happens and **data on how often**. Some wording was considered **inaccurate** by employee panellists, whilst non-employee panellists highlighted the page had too many **acronyms**.

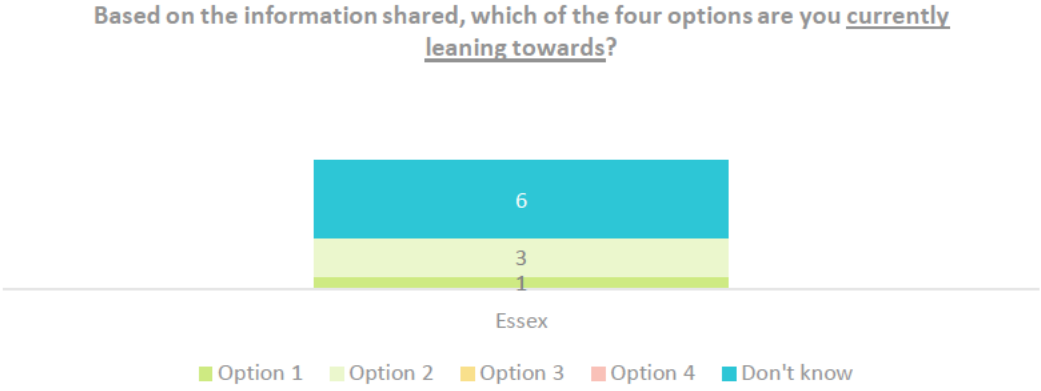
People Panel: dDWMP Part 2 – Four options

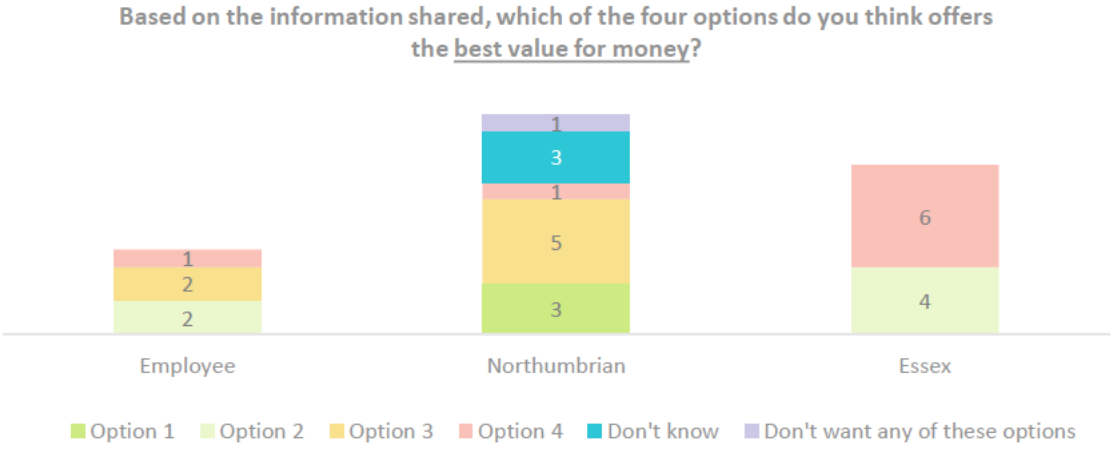
Overall, panellists generally felt that there was **not enough information on the four options** to make an informed decision. Feedback referred to **unclear distinctions** between the four options, and a **preference to have an overview of the information** presented visually or in a summarised format.

At this point, the decision was made not to continue with the 'Part 2 – Four options' topic for the People Panels of Suffolk and Young. The People Panel sessions therefore form part of **phase one [first approach]** of the DWMP project.

Results of four options preference:







Appendix D: Page-by-page feedback of the customer summary dDWMP

Our environmental responsibility

Regarding the first page of '**our environmental responsibility**', when reading about '32 of 34' bathing waters, participants generally wanted to have **information signposted** about the '2 of 34' that were not good or excellent, to heighten **transparency**.

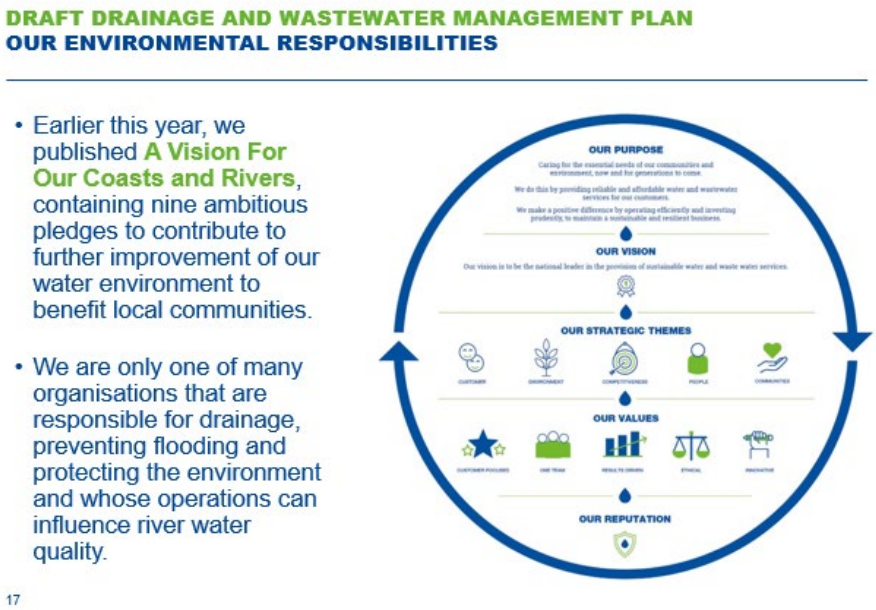
> *"What are we doing about the two out of the 34 that are not currently excellent or good? I would be expecting that to be signposted at this point and acknowledging that we are doing something about it even if we're not getting given the detail" – NWG Employee People Panel*

Some participants suggested that **clearer wording to clarify meaning** of some points, such as specifying 'coastal' bathing waters to prevent confusion.

- *"If you include the word coastal before the word bathing that should clarify, shouldn't it?" - Northumbrian People Panel*
- *"I think the highlighted bits are good - the bits in blue, 'environments', 'proud of the environment' and 'reducing pollution', you've tried to get bullet point" - Northumbrian People Panel*

The **positive, visual aspects** mentioned by participants included the highlighted words, though one participant felt the visual presentation could be further improved by being **more concise**.

- *"The words that are highlighted helps the reader to go through the document much easier… if we have these key words, [it] will make it easier for everyone to find the information that they are interested in" - Essex People Panel*
- *"Less is more… you really need to summarise some of these things [and] be a bit more snappy… that should be your headline 'we're proud of our track record', and then bang, bang, bang, three or four great statistics… 32 out of 34 bathing waters is a really good statistic but it should be highlighted shorter and louder and prouder and nice… big images right the way through" - Essex People Panel*



On the second page of '**our environmental responsibility**', most participants felt confused about why the **text references nine pledges, but the image does not**.

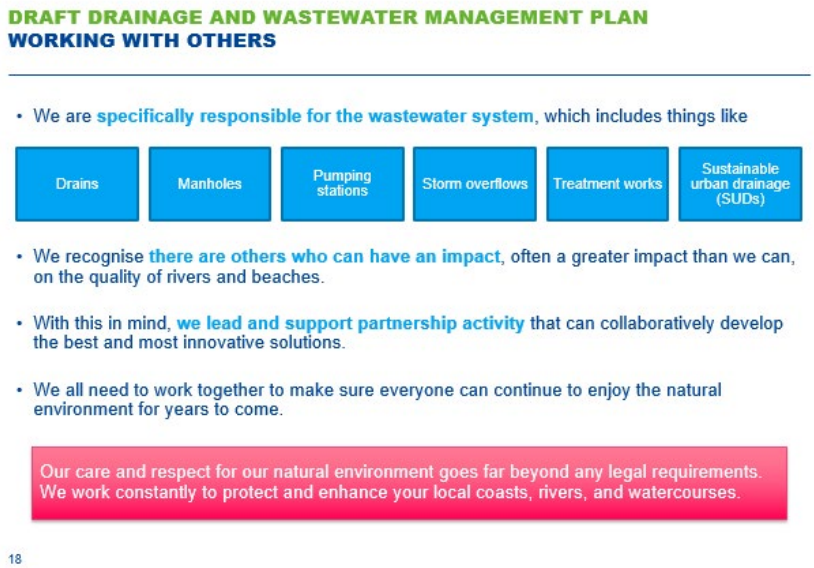
- *"I thought the nine ambitious pledges were going to be in that circle and they're not. So, it was almost like you're throwing too much mission statement, values, etc. with this whereas those nine ambitious pledges would've been more relevant" – Deliberative workshop 1*

- *"You've said contains nine ambitious pledges. You've referenced the nine, where are the nine? I didn't see them in this document, I'd quite like to see them" – NWG Employee People Panel*
- *"Why is that visual where it is when we're referencing nine ambitious pledges [and] then not telling anybody what they are? … We either need to not tell them … or we need to somehow include that information if we're saying it's relevant" – NWG Employee People Panel*
- *"It tells me that I've got nine ambitious pledges, I'd want to see what the nine pledges are… that image really for me would need changing to show what the nine pledges are" – Northumbrian People Panel*

Some visual elements, such as a small **font size** of the graphic, across the '**environmental responsibility**' pages was highlighted, as well as wording of 'only' which implies NWG underplaying their role.

- *"I wear glasses. I found it really difficult to read the small print [on the graphic]" – Northumbrian People Panel*
- *"We are only one of many organisations… I would remove the word only" – NWG Employee People Panel*

Working with others



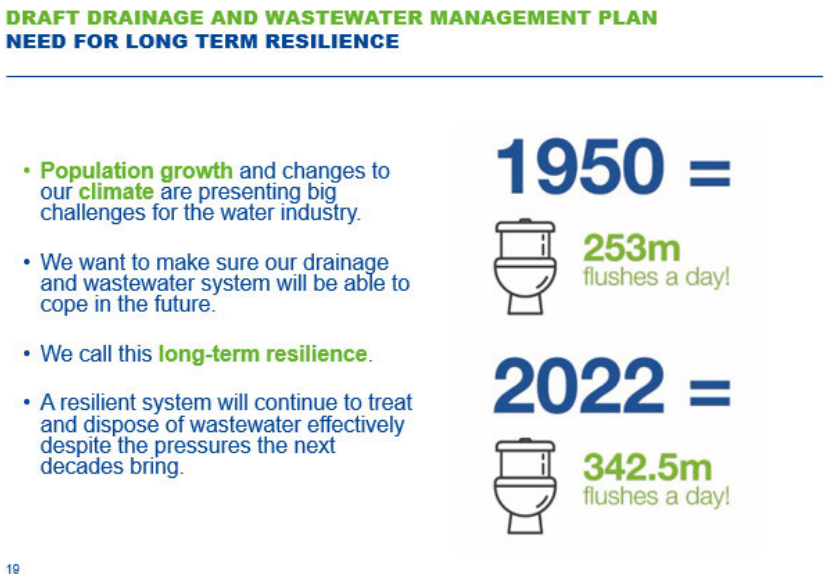
In the '**working with others**' section, one NWG employee People Panellists **questioned whether some information presented was factually correct**.

- *"I don't agree that other things 'often' have a greater impact in Northumbrian Water in terms of discharges… they can, and, in some instances, it can be more significant… I don't think I know enough to say that it's factually incorrect… I would think Northumbrian Water is quite a big contributor to a water course in terms of a discharge" – NWG Employee People Panel*

Participants felt that some phrases, such as SUDs and manholes, could be confusing for some, therefore suggested a **glossary of definitions** or box with explanations to ensure accessibility.

- *"I know what a drain a manhole, a pumping station, probably an overflow and what treatment work is. The last one just says sustainable urban drainage" – Northumbrian People Panel*
- *"Different words like SUDs, manholes, drains, I would have that little glossary as well. So, people are all what's the suds are there so that they could just have a quick look at it not saying have it on this page, but maybe just a little section?" – Essex People Panel*

Long-term resilience



Thinking about '**long term resilience**', some words, such as 'collaboratively' and 'resilience', were difficult and considered inaccessible to some participants.

- *"I wonder whether anybody had done a reading age assessment on this… there's some long, big words in the whole document. I don't know what the target audiences for this but 'reducing' 'pollution', 'enhance', 'collaboratively', 'resilience' 'effectively'… you might be excluding quite a high proportion of readership on the use of the words" – Northumbrian People Panel*

Participants also felt that in some instances, **information was missing** in the customer summary dDWMP, and viewed the fact presented around toilet flushes was misleading. As such, they feared that this brought the accuracy of the document into question.

- *"We had one of those, what I call the old-fashioned toilets with the chain, and I think they used to use so much water whereas nowadays you have the short [flush projection] on a lot of toilets, and I wondered how that's probably stacked up here cause actually we might be using less water in more flushes than we were in 1950" – Deliberative workshop 1*
- *"It is a far more effective and efficient system these days than what we had in the past" – Deliberative workshop 1*
- *"If your toilet is more economical now, that statistic doesn't necessarily mean that more waste is going to treatment because that won't take into account the fact that we've got surface water separation now that we probably wouldn't have had in 1950" – NWG Employee People Panel*

What is a draft DWMP?

The pages asking '**what is a draft DWMP**' led participants to question why a 40-year plan is needed if the Government requirement is 25 years, as well as asking how often Northumbrian Water would revisit this dDWMP plan until 2045 to address changes.

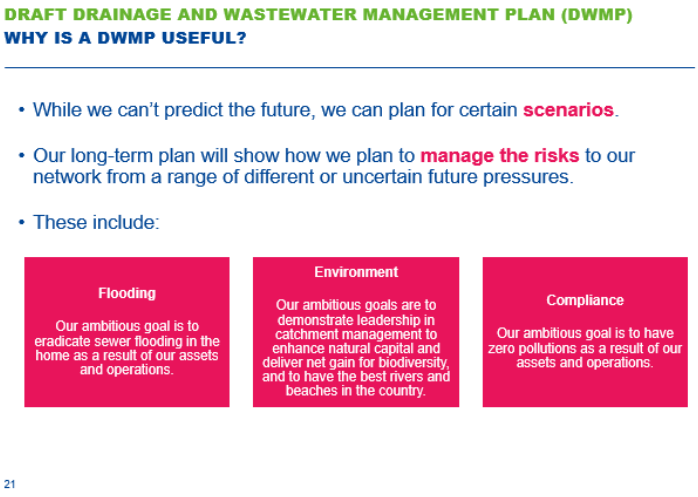
- *"Are we presuming that every so many years they re-evaluate things? Because things change so quickly now… there's a lot can happen in that time [40 years]" - Deliberative workshop 1*

- *"I guess our justification for doing 40 on the wastewater side is it drops us in line with water. But why do we do forty on water? … Is that also 25 from a regulatory perspective, but we've picked an arbitrary number that's bigger than 25?" – NWG Employee People Panel*
- *"Well, the wording, we have chosen to look ahead for 40 years, if you use this word, then I believe, some kind of explanation must be given why you have chosen that" - Essex People Panel*

Participants felt the **language could be more concise and committed**, as some phrases were felt to cast an element of doubt. Further, one participant was **unable to understand some of the language used**, such as what was meant by the statement about fairness to communities.

- *"You're saying, 'we recognise that this is a risk' but you're not going as far as to say, 'we are going to', 'we will do'… there's an element of doubt you've created purely by the words you've chosen to use" – NWG Employee People Panel*
- *"I don't understand the bit about being fair to our communities" - Northumbrian People Panel*

Why is a draft DWMP useful?



When considering '**why a draft DWMP is useful**', most participants agreed that **too much jargon** was used within the customer summary dDWMP, and suggested language needed to be kept clearer. In particular, the words or phrases highlighted as problematic were: (1) Demonstrate leadership in catchment management, (2) Enhance natural capital, (3) Deliver net gain for biodiversity, (4) Compliance, and (5) Assets and operations. A full list of words and phrases deemed inaccessible has been provided in Appendix E.

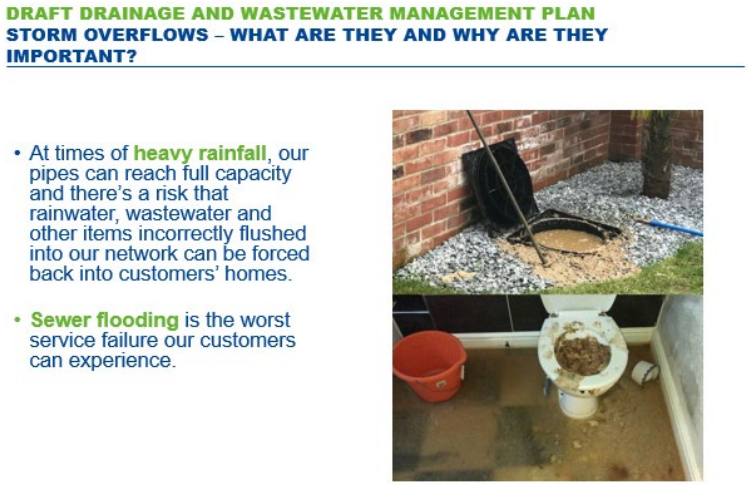
- *"'Leadership in catchment management to enhance natural capital and deliver net gain for biodiversity'… that's real AGM speak" - Essex People Panel*
- *"I don't really understand what any of it means, to demonstrate leadership in catchment management, to enhance natural capital and deliver net gain for biodiversity… I like to think I'm reasonably well-educated, but I didn't understand a word of that"- Deliberative workshop 1*
- *"I'm not sure… what those terms are, I'd be hazarding a guess" - Northumbrian People Panel*
- *"Net gain seems to be a bit wishy washy and difficult to understand" - Deliberative workshop 1*
- *"I don't really understand what it means by 'natural capital' or 'net gain for biodiversity'. So, I would be relatively confident that lots of our customers won't either" – NWG Employee People Panel*
- *"'Catchment management' and 'natural capital'. I've heard of 'net gain for biodiversity'. I'm not sure exactly on what those terms are, I would be hazarding a guess" - Northumbrian People Panel*
- *"It was obviously an online document… I would like it to have a link so you could click into that and gain access to what 'natural capital' was and what 'assets and operations' were, because not everyone would really be aware of [that]" – Northumbrian People Panel*
- *"Compliance, again, feels maybe a little bit not a term that would resonate with a lot of customers…" - Deliberative workshop 1*

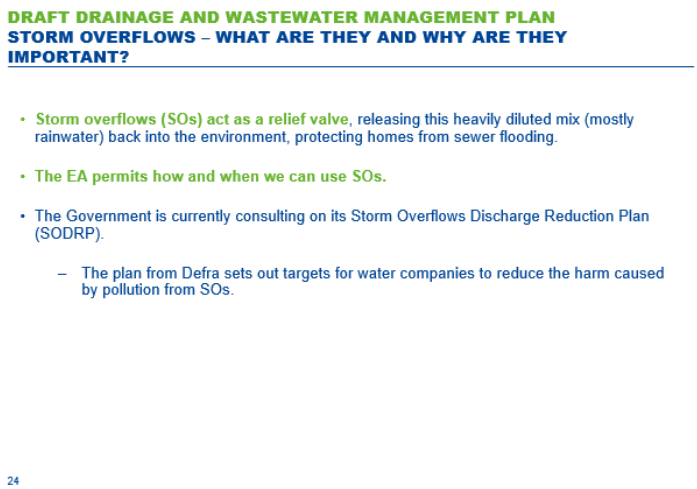
How we developed our draft DWMP

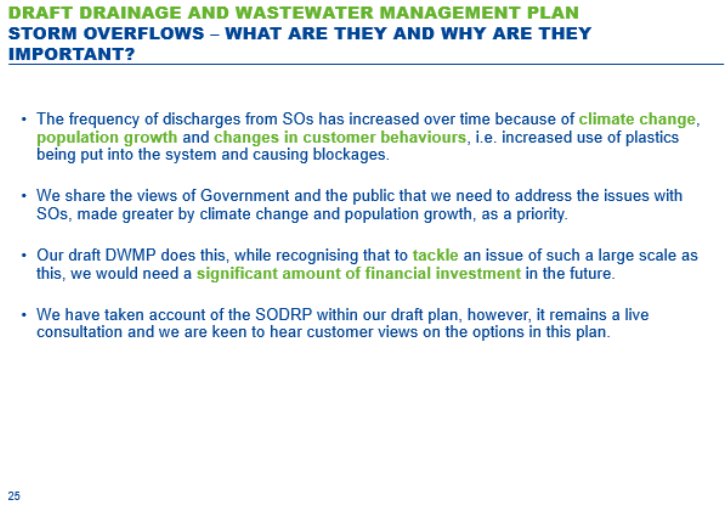
The page explaining '**how we developed out draft DWMP**' was thought to use words where, rather, **visualising the areas on maps** would make the page more appealing.

> *"It's basically our entire northern operating area, isn't it? I would have just put a map [instead of words]. And you could add on the area splits" – NWG Employee People Panel*

Storm overflows







The section about '**storm overflows**' was an area where numerous participants felt as though they understood the importance of storm overflows but **did not fully understand what a storm overflow is** and felt they would benefit from examples.

- *"I certainly understand why they are important, but I'm not sure it specifically tells me what a storm overflow is… Are they on domestic properties? A couple of examples of storm overflows would have been helpful" – Deliberative workshop 1*
- *"I didn't really understand what a storm overflow was, are these just examples of some storm overflows? Or do storm overflows find themselves in main streets as well? Or is it all connected around the domestic buildings? I thought maybe the drains in the street were storm overflows" – Deliberative workshop 1*
- *"Where do they actually come from? Do they come from the treatment works or do they come from the sewers themselves? – Deliberative workshop 1*
- *"If there was a storm and lots of water, what happens for it to be sent somewhere else? You know the practicalities of it, I didn't understand that" – Deliberative workshop 1*

Participants generally expressed an interest in having **information presented in an educational manner** to them. For example, what items cannot be flushed down the toilet and the consequences of this. They also stated a preference for **data about how often** this occurs.

- *"[It] says 'increased use of plastics being put into the system and causing blockages' what actually does that mean? I understand about the plastics… but where is it actually going to cause blockages?" – Deliberative workshop 1*

- *"Just to give people an idea of what the negative is of releasing the mix into the environment. Because people might not realise what the effect that has on the environment" – Northumbrian People Panel*
- *"Be more specific about the things that are incorrectly flushed… have images or drawings of the main things that are causing this… or even the names of them, because people might not be aware of what they are" - Essex People Panel*

Some participants found the actual image of the overflowing toilet to be distasteful, though recognised the **emotive impact**, therefore suggested having **images presented as cartoons**.

- *"The picture speaks louder than words. But I think I would maybe have that in a cartoon way. So, it's not quite so distasteful" - Essex People Panel*
- *"Have [cartoon] pictures of them instead, which lead to some blockage" - Essex People Panel*

Participants also highlighted a feeling that this page had **too many acronyms.**

- *'You've got DWMP and then SODRP. What is that?' – Deliberative workshop 1*
- *"I don't think environment agency should be shortened to EA… there's a couple of acronyms in there that you could really remove the put the full titles in" - Northumbrian People Panel*
- *"Too many acronyms on this page" - Essex People Panel*

As with other sections of the customer summary, participants in the NWG employee **panel felt some of the wording used could be more appealing** when referring to storm overflows.

- *"'How and when we can use SO's' implies that there is a conscious decision at a particular point in time by us as a business to operate that SO and that isn't what happens" – NWG Employee People Panel*
- *"I don't personally like the use of the term 'heavily diluted mix" – NWG Employee People Panel*
- *"Just saying it's a mixture of mostly rainwater… that's probably something that a company would want to put in there" – NWG Employee People Panel*

Importantly, it was at this point in the customer summary dDWMP that participants in all People Panel groups, who had been given pre-work task to read the customer summary dDWMP in advance of the

session, stated that they felt they **had not been given enough data or information to rank their preferences for the four options** in the next section.

- *[Having more information] starts to contextualise it when you get to the options" – Northumbrian*
- *"[If] this is only happening to one in every 100,000 homes, then spending an extra £130 a year is quite a lot. If it was happening to one in 100 people, then yeah, give an extra £100" – Northumbrian People Panel*
- *"I'd like to see some data to just back on what's been said… Frequency of discharges may be in single digits, but if you say I don't know it's in the hundreds or the hundreds of 1,000s for example, then again that that resonates and impacts people a lot more I think that bigger number" – Northumbrian People Panel*
- *"I can't make the link between climate change and frequency discharges and that's the one thing which stood out" – Northumbrian People Panel*
- *"I'm surprised that we would include population growth because development shouldn't make the risk of flooding any worse. So, whatever the current risk is now… to build some more houses, that development shouldn't increase that risk" – NWG Employee People Panel*
- *"I would have expected this to say something about infrastructure here… we've got housing developments, for example, more people moving in, more people contributing to that catchment area in terms of sewage… is the infrastructure capable of handling it? So maybe population growth needs to be related to the infrastructure that needs to be changed… give us an example of how population growth has led to increase your storm overflows" – NWG Employee People Panel*

Some participants highlighted that, rather than benefits of the options, they felt that the increase of costs and **financial investment required for the options were focal points**.

- *"What stands out is significant financial investment" – Essex People Panel*
- *"It isn't the right time when we have so many other things going on with electricity supply companies, they increase their prices and to hear of such investment, at this sensitive time, I'm not sure is the best" - Essex People Panel*

Appendix E: Inaccessible words and phrases

Assets (‘assets and operations’)

Biodiversity (‘Deliver net gain for biodiversity’)

Catchment management (‘demonstrate leadership in catchment management)

Collaboratively (‘working collaboratively’)

Compliance

Demonstrate

Effectively

Enhance

Eradicate (‘eradicate sewer flooding’)

Forum

Innovative (‘most innovative solutions’)

Investment (‘level of investment’)

Natural capital (‘enhance natural capital’)

Net gain (‘deliver net gain for biodiversity’)

Operations (‘assets and operations’)

Pollution

Reducing

Resilience

Sustainable Urban Drainage (SUD’s)

explain
market research

Author: [redacted]

Report check: [redacted]