

A photograph of three women in business attire standing in an industrial facility, likely a gas processing plant. They are gathered around a tablet held by the woman on the left, looking at the screen with interest. The background shows complex industrial machinery, pipes, and structural elements of the facility.

Prepared for
Northern Gas Networks Ltd

Hydrogen Village Trial Assessment - Stage 2

Prepared by PwC
29 March 2023

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Background

Hydrogen Village Trial

Both Cadent and NGN have been selected by Ofgem to take part in Stage 2 of the Hydrogen Village trial.

In line with Ofgem's request, NGN commissioned PwC to act as an independent third party to monitor and evaluate the delivery of consumer research and engagement plans over Stage 2.

The main objectives of the work are to:

1. Monitor and evaluate the delivery of consumer research and engagement plans and the robustness of engagement methodologies
2. Evaluate the robustness of generated evidence

The overall purpose is to help ensure the **engagement methodologies and generated evidence are robust**.

This document focuses on **Stage 2**.

Stage 2: Evaluate engagement activity conducted

This report outlines our findings and recommendations from Stage 2.

We undertook a high-level independent review of all customer engagement activities and assessed them against four consumer evidence strands from the DESNZ (Department for Energy Security and Net Zero, formerly BEIS) framework, as well as the PwC Research Customer & Stakeholder Engagement Framework*.

Between February and March 2023, PwC Research engaged with the core NGN stakeholder engagement and research team to gain insight into the customer engagement activities and research by the business to support the trial.

NGN shared a number of reference materials to support the assessment work (see Appendix). In addition, the team facilitated discussions with five key internal and external contacts to understand the activities undertaken in more detail (see Appendix).

The following pages contain the details of our assessment, evidencing our key findings and identifying potential areas for improvement to inform future stages. All findings are presented collectively as the customer engagement activities and research projects are often interlocking. A RAG rating legend has been provided for guidance.

Our approach is underpinned by our expertise in the industry & the PwC Customer Engagement Excellence Framework*

We have developed an innovative, comparative and proven approach to support clients move the dial to achieve customer & stakeholder engagement excellence. Our proprietary methodology draws on academic literature and cutting edge research expertise, as well as the latest regulatory thinking enabling us to set industry leading standards.

PwC Research Customer & Stakeholder Engagement Framework*

Real

Meaningfully engage with stakeholders & customers on the right topics, including longer-term issues and future views

1

Transparent

Clearly demonstrate how customer input has been used in developing the plan, both to the regulator and to stakeholders

2

Appropriate

Use a range of methods that are balanced, robust and appropriate to the audience and for the purpose intended

3

Accessible

Make participation easy and unfamiliar or complex ideas accessible. Use comparative information to make participation more meaningful

4

Inclusive

Engage with, and understand, all groups affected by decision making – including harder to reach or vulnerable customers

5

Ongoing

Engage stakeholders and customers continuously and embed into business-as-usual

6

Impact

Use behavioural and other techniques to involve and educate stakeholders and encourage desired behaviour. Demonstrate the impact on the business. Act on results

7

Governance & oversight

Keep stakeholders at the centre of business planning. Utilise challenge groups & evidence their influence

8

Underpinned by innovation and triangulation

Four consumer evidence strands from the DESNZ framework are within scope of our assessment

DESNZ have identified a number of different types of evidence that will be generated by the trial. We identified four key strands relevant to Stage 2 to provide a focus for our assessment. We have evaluated the evidence generated for each of these from the Stage 2 engagement activity. These 4 strands were selected based on their:

- level of influence on customer behaviour
- the stage of the trial journey
- ability to influence pilot participation (e.g. comms testing)
- potential impact on success for future uptake.

Consumer evidence strands in scope of our assessment:

5. Consumer attitudes to preparatory engagement

- a. Consumer understanding of trial purpose and practicalities
 - b. Gaining local support
 - c. Maximising consumer sign up to trial
 - d. News coverage to facilitate consumer understanding (HHIC)
 - e. Engagement on future environmental impact of the switch from natural gas to hydrogen gas (BSI)
 - f. Different communication and engagement methods in the preparation of trials (e.g. postal, one-to-one, community event, online, app-based, or different combinations of these)
 - g. Different communication methods used to engage commercial and industrial users
-

9. Data on effectiveness of activities pre-trial on consumer acceptance and attitudes of hydrogen system

15. Consumer attitudes on perception of hydrogen safety prior to and during the trial

- a. General perception of safety and preparedness for trial
 - b. Plans/instructions to maintain safety throughout trial, i.e. not blocking vents etc.
 - c. Plans/instructions for any hydrogen incidents, i.e. being confident in what to do
 - d. Safety perception of hydrogen vs natural gas
 - e. Effectiveness of risk communications on consumers' attitudes and perception
 - f. Commercial/industrial consumers' concerns about safety in the workplace
 - g. The impact of any negative news/media coverage on the safety or other concerns around hydrogen on consumer support'
-

34. Consumer expectations of outcomes and benefits of the trial

RAG legend

A description of our measurement criteria for the assessment

Throughout this document we assign RAG ratings as the measurement criteria to the areas that we assessed. The RAG legend below is the standard approach we take across our customer engagement assessment work and to which we have applied in this review.

RAG rating Description

5	No gaps identified
4	Minor gaps identified
3	Some gaps identified
2	Potentially significant gaps identified
1	Critical or significant gaps identified

Executive Summary

Executive summary

High level observations

- Overall, the engagement activity conducted in Stage 2 has been comprehensive:
 - Coverage is aligned to the DESNZ evidence strands, and has been shaped by customer and stakeholder feedback
 - A wide range of customers and stakeholders have been engaged throughout the process including harder to reach groups such as landlords, businesses and tenants who were specifically targeted
 - A range of engagement mechanisms have been used including innovative and deliberative approaches
 - A strong governance structure is in place, with senior stakeholder involvement and the CEG used to inform decision making
 - Engagement has been conducted throughout Stage 2, with plans to continue during Stage 2.5
- Quantitative evidence is drawn from the survey conducted. This had a high response rate for an engagement mechanism of this nature and a range of approaches were used to maximise response rate (e.g. multi-channel, incentives, specifically targeting disengaged).
 - Additional door knocking activity, use of a personalised survey link and tailored reminders, along with providing greater reassurance around collection of personal details could help increase engagement, but there is also a need to collate the wider community view from other sources.

Potential opportunities to strengthen research and engagement activities

- No significant gaps have been identified, although potential for:
 - More robust quantitative measurement of trial comprehension, perceptions of comms, and expectations post-trial (Real)
 - More clearly tracking how insights are being triangulated, tracked and acted upon (Transparent)
 - Tracking wider sentiment in the community outside of core research activity to augment understanding (Ongoing)
 - More direct engagement with vulnerable and hard-to-reach groups to inform the vulnerable strategy (Inclusive)
- An evidence map has been developed which provides evidences aligned to the DESNZ evidence strands. We understand that this is still a work in progress, and the insights drawn in this document at the time of review were quite high level.
 - There is potential for additional analysis to triangulate findings from a broader range of sources (e.g. research + operational data).
 - Gaps identified here should inform planning for Stage 2.5 and this document should be maintained on an ongoing basis going forwards.

Executive summary

PwC has taken every effort to understand the wider context surrounding decisions and activities made during Stage 2. Below, important considerations/ contextual factors have been noted which have been taken into consideration when reviewing all customer engagement activities undertaken by NGN, during Stage 2 of the Hydrogen Village Trial.

- **Ongoing analysis** - Reviews of engagement activity have been taken at a specific point in time (20th February - 20th March 2023). PwC understands that NGN are currently in the process of conducting additional analysis on data, as well as pulling together additional resources for the DESNZ submission due at the end of March 2023. Any gaps identified, where it is understood that NGN are currently addressing, have been noted in the report.
- **Planned activity for Stage 2.5** - PwC understands that NGN has a plan in place for Stage 2.5 to address areas some of the gaps identified e.g. tracking wider sentiment, and this has already started to happen (as seen with the recent door knocking activity).

Assessment Summary

Evaluated against the PwC Research Customer Engagement Framework*

Assessment criteria	Findings	RAG rating
Real - <i>Meaningfully engage with stakeholders on the right topics, including longer-term issues and future views.</i>	<ul style="list-style-type: none"> • Wide ranging engagement focussed on key topics with areas of focus shaped by customer and stakeholder feedback • Insights aligned to DESNZ evidence strands, but lack detailed evidence map to show how findings from different sources are triangulated • Longer-term issues such as exit strategy/plans have been discussed at a recent Citizens Panel • Less robust quantitative insight on customer understanding, engagement satisfaction, exit strategy, willingness to sign up - areas which may be covered in Stage 2.5 	3
Transparent - <i>Clearly demonstrate how customer input has been used in developing the plan, both to the regulator and to stakeholders.</i>	<ul style="list-style-type: none"> • Stage 1 plan has been implemented and refined based on customer and stakeholder feedback, with the team providing a number of examples of how this has occurred across Stage 2 • Engagement activity has been used to shape development of the customer offer • Potential to provide greater clarity around how insights have been tracked and acted upon throughout Stage 2 	4
Appropriate - <i>Use a range of methods that are balanced, robust and appropriate to the audience and for the purpose intended.</i>	<ul style="list-style-type: none"> • A range of engagement mechanisms used including innovative and deliberative approaches • Targeted activity to drive up response rates among the disengaged (face-to-face interviewing, in-depth interviews) • High survey response rate, but missed opportunity to track sentiment via other engagement activity • Additional door knocking activity, use of a personalised survey link and tailored reminders, along with providing greater reassurance around collection of personal details could help increase engagement 	4
Accessible - <i>Make participation easy & unfamiliar or complex ideas accessible. Use comparative information to make participation more meaningful.</i>	<ul style="list-style-type: none"> • Deliberative approaches and face-to-face engagement used to make participation easy • Developed a range of communications in different formats to aid understanding of the trial • Cognitive testing conducted ahead of survey launch, although not with a lower literacy audience and less evidence of comprehension testing 	4

Assessment Summary

Evaluated against the PwC Research Customer Engagement Framework*

Assessment criteria	Findings	RAG rating
Inclusive - Engage with, and understand, all groups affected by decision making - including harder to reach or vulnerable customers.	<ul style="list-style-type: none"> • Wide range of stakeholders affected by decision making engaged throughout Stage 2 • Targeted approaches to focus on the disengaged (face-to-face interviews - qual and quant), and harder to reach groups including landlords and businesses • Vulnerable audiences identified, but no targeted qualitative research with these groups • Additional analysis required to understand differences between groups 	3
Ongoing - Engage stakeholders and customers continuously and embed into business-as-usual.	<ul style="list-style-type: none"> • Evidence that engagement plan has been executed and refined over the course of Stage 2 • Customers and stakeholders have been regularly engaged throughout the programme, including review of the customer offer • Plans in place to continue engagement activity during Stage 2.5 to maintain momentum • Need to track sentiment outside of core research activities to strengthen understanding of the wider community who cannot be reached via surveys. This should be embedded as BAU across engagement channels going forwards. 	3
Impact - Involve & educate stakeholders. Encourage desired behaviour. Demonstrate the impact on the business. Act on results.	<ul style="list-style-type: none"> • Clear that feedback has informed development of the plan and the consumer offer • Wide range of activity to raise awareness and increase understanding of the trial • Less evidence of a formalised process or centralisation in place to record actions or outcomes and track progress 	4
Governance - Keep business stakeholders at the centre of business planning process. Utilise challenge groups & evidence their influence.	<ul style="list-style-type: none"> • CEG consulted throughout the programme to inform decision making and development of consumer offer. Potential to develop a challenge log which is tracked on an ongoing basis • Evidence of senior/key stakeholder interest in engagement activities, with attendance at customer events • Clear governance structure in place so that customer feedback can be acted on • Could demonstrate more clearly how insights from different engagement mechanisms are triangulated to inform decision making 	4

Assessment Summary

Evaluated against the DESNZ framework (consumer evidence strands)

Assessment criteria	Findings	RAG rating
Consumer attitudes to preparatory engagement	<ul style="list-style-type: none"> Research and engagement activity provides evidence aligned to each subcomponent Lack more robust measurement of customer understanding, comms effectiveness and wider community sentiment Additional analysis on Consultation Survey required to understand customer differences 	3
Data on effectiveness of activities pre-trial on consumer acceptance and attitudes of hydrogen system	<ul style="list-style-type: none"> Initial analysis conducted to assess whether engagement impacts perceptions/sign-up Anecdotal evidence from Citizens Panel suggests being more informed increases positivity Currently lacking a robust measurement and direct questioning of customer understanding and satisfaction with comms 	3
Consumer attitudes on perception of hydrogen safety prior to and during the trial	<ul style="list-style-type: none"> Safety concerns have been raised, and are largely secondary to cost, but this will need to be continually monitored Analysis of open questions provide some insight into specific safety concerns Potential to provide more clarity around how customers are reassured when safety concerns are raised More in-depth understanding of perceptions of risk communications and specifics around maintaining safety would be expected to be covered in later stages 	4
Consumer expectations of outcomes and benefits of the trial	<ul style="list-style-type: none"> Key benefits of the trial (e.g. local job creation) have been identified Consumer offer and post trial care discussed at most recent Citizens Panel Additional engagement activity should focus on longer-term exit strategy Currently lacking a robust measurement of customer expectations and preferences post trial 	3

Details of Assessment:

**PwC Research Customer & Stakeholder
Engagement Framework**

Real

Meaningfully engage with stakeholders on the right topics, including longer-term issues and future views

Overall

- In Stage 2, NGN have engaged with a wide range of customers and stakeholders on key topics with areas of focus shaped by insight and stakeholder feedback, including from the CEG.
- Evidence generated from a range of sources which largely aligns with the DESNZ consumer evidence strands.
- Some sentiment/themes have been extrapolated into an evidence map, however, detail is currently relatively light and lacks evidence in terms of how insight has been triangulated from different sources.
- Longer-term issues such as exit strategy/plans have been covered during Citizens Panel, and should remain a key area of focus in Stage 2.5.
- Less evidence of robust insight into customer understanding of the trial, satisfaction with engagement activity, and willingness to sign up if given a choice as these questions were not included in the Consultation Survey.
- Additional research among a larger base of customers will be valuable, in particular in relation to testing the customer offer and tracking sentiment.

RAG Rating:
3

Key findings:

- Wide range of customer and stakeholder engagement events covering a broad range of topics across Stage 2 e.g. Citizens Panel, Consultation Survey, Hydrogen Hub, drop in sessions, consultation session, events at Redcar College.
- Evidence of driving local support through engagement activities with wider stakeholders e.g. exploring views and buy-in from local council, community groups.
- Customer insight is being used to inform ongoing engagement strategy e.g. trial messaging adapted to align with key learnings - emphasis on local job creation, customers not being financially disadvantaged.
- Development of Citizens Panel adopting a deliberative and iterative approach to provide more meaningful ongoing feedback throughout the course of Stage 2.
- Acknowledgement from NGN that original planned number of Citizen Panel sessions unlikely to be sufficient to cover desired topics sought by customers. As a result there was an increase from 3 to 7 sessions, to enable a focus on key topics requiring further exploration.
- One-to-one sessions with key stakeholders to provide opportunities for them to raise questions and feed into the plan.
- NGN identified the need for supplementary research involving business owners and landlords, a number of depth interviews were conducted among these groups to provide more insight into perceptions and expectations of the trial.

Real

Meaningfully engage with stakeholders on the right topics, including longer-term issues and future views

Key findings (continued):

- Areas discussed with customers and key stakeholders largely aligned to DESNZ consumer evidence strands e.g. customer understanding of trial, perceptions of hydrogen safety. However, some areas lacking in terms of deriving a robust measure of perceptions/sentiment among a larger cohort of customers/stakeholders.
- Coverage of longer-term issues such as exit strategy primarily covered in most recent Citizens Panel where consumer offer was presented, but expect more development on this area in Stage 2.5.
- A deliberative approach used for Consultation Survey, recognising there is likely to be mixed levels of understanding, in order to gather meaningful feedback on the trial. This was used to test the acceptability of different elements which make up the consumer offer, which now developed is being refined through feedback from both the CEG and Citizens Panel.

Opportunities for improvement / considerations:

- Further research and engagement activity will be required to test the refined consumer offer with a larger cohort of customers, with a focus on perceptions of the exit strategy a key area of focus.
 - There is value in conducting further research including tracking sentiment among a larger base of customers/stakeholders, particularly given potential impact from negativity surrounding Cadent/Whitby trial and their public vote. We understand research plans for Stage 2.5 have been drafted which will cover this.
 - Further work should also consider addressing the gaps identified from the Consultation Survey, particularly in assessing customer understanding to identify areas of confusion which will need addressing in communications going forward.
 - The Stage 1 plan incorporated an evidence map which highlighted how evidence would be generated for each of the DESNZ evidence strands. The current iteration of the evidence map document summarises some high level themes from engagement activity, but lacks detail and robust data in places. There is also a need to draw on all available sources e.g. operational data, engagement activity, engineer visits, Hydrogen hub. We understand this is being considered as part of the Stage 2 submission. Going forward, this should also inform planning for Stage 2.5 (e.g. in identifying gaps), and be tracked on an ongoing basis.
-

Transparent

Clearly demonstrate how customer input has been used in developing the plan, both to the regulator and to stakeholders

Overall

- Structured programme of engagement developed and evidence Stage 1 plan has been implemented and refined based on customer and stakeholder feedback with the team providing numerous examples of how this has occurred across Stage 2.
- Engagement activity has been used to shape development of consumer offer. Evidence of an engagement plan being developed to cover Stage 2.5, factoring in key learnings/gaps from Stage 2.
- Potential to provide greater clarity around how insights have been tracked and acted upon throughout Stage 2.

RAG Rating:
4

Key findings:

- Wide range of customer and stakeholder engagement activity has been undertaken to-date and recognised as an important workstream in shaping the overall programme.
- Summary of key engagement activity provided in updates to CEG and DESNZ. Also includes key themes and sentiment from research and key actions/next steps.
- NGN's submission for Stage 2 will evidence in more detail how customer input has been utilised in developing the plan. In addition, from the key stakeholder interviews we have conducted, we understand customer feedback has been key in shaping the plan and consumer offer.
- Feedback from early Citizens Panels contributed to adaptation of comms strategy e.g. perceived lack of personalisation in comms resulted in NGN seeking details from Land Registry and taking on further feedback on this approach.
- Full report covering the Consultation Survey still in progress at the time of our review, but evidence interim insights have been extrapolated and are being fed into plans e.g. within consumer offer documentation reference to stats from the Consultation Survey and how this has informed design of consumer offer.
- Deliberative and iterative approach to Citizens Panel allowing NGN to react to feedback and to tailor subsequent sessions taking on board feedback from previous sessions.
- More recently engagement activity has been conducted in response to concerns about increasing negative sentiment, following events in Whitby and identified by social listening activity. Additional door knocking activity was conducted to better understanding perceptions on the ground.

Transparent

Clearly demonstrate how customer input has been used in developing the plan, both to the regulator and to stakeholders

Key findings (continued):

- Later stages of customer research (Citizens Panel) and stakeholder engagement (CEG and local stakeholders) has been used to check design and acceptability of the customer offer

Opportunities for improvement / considerations:

- While it is evident across a number of source material provided that customer input is being utilised, there doesn't appear to be a centralised view on key customer/stakeholder feedback and how insights have been triangulated/referenced on an ongoing basis.
 - An 'insight inventory' would be beneficial in showing how various engagement activities have fed into the plan, and to more clearly signpost where each engagement activity and customer insights have affected decision making throughout the process.
 - Similarly, should look to more formally log outcomes from each stakeholder meeting in a central database.
-

Appropriate

Use a range of methods that are balanced, robust and appropriate to the audience and for the purpose intended

Overall

- A range of engagement mechanisms adopted to encourage active participation among customers and stakeholders, including more innovative approaches such as iWalkers, iVans and the use of a Citizens Panel for ongoing, deliberative insights throughout Stage 2.
- Targeted activity to drive up response rates among the less engaged including a mixed methodology approach to the Consultation Survey, and in-depth interviews with landlords and businesses. Additional door knocking activity, use of a personalised survey link and tailored reminders, along with providing greater reassurance around collection of personal details could help increase engagement.
- Survey response rates were high, but opportunity to better utilise insight captured across engagement activities outside of core research in order to develop more robust tracking of customer sentiment e.g. operations data from hub, CCO visits.

RAG Rating:
4

Key findings:

- Wide range of engagement and comms channels utilised over the course of engagement plan e.g. website, stimulus (videos) social media, letters/leaflets, iVans/iWalkers, Citizens Panel, Consultation Survey (online, face-to-face, postal, telephone), Customer hub, drop in sessions, round table events.
- Evidence of a range of educational/informative material being made available to customers/stakeholders. Communications strategy informed by prior experience and communications testing.
- Mix of qualitative and quantitative research approaches and stakeholder consultations utilised.
- Consideration of engagement mechanisms to use depending on topic/audience/objectives e.g. aiming to minimise disruption to customers, reducing size of Citizens Panel to avoid oversaturation of a small population, targeted face-to-face engagement among those disengaged/vulnerable/hard-to-reach customers.
- Use of innovative approaches such as ongoing Citizens Panel, iWalkers and iVans.
- Engagement research designed to reflect the local area e.g. Consultation survey - quotas in place and data weighted to be reflective of overall target population.
- High response rate to survey (23%), with targeted face-to-face door knocking to involve those who were more disengaged (particularly tenants), however limited evidence of tracking customer sentiment across all engagement activity which could have augmented this approach and provided a more robust measurement.

Appropriate

Use a range of methods that are balanced, robust and appropriate to the audience and for the purpose intended

Key findings (continued):

- Evidence that deliberative workshops have used a range of research techniques to maximise engagement, and stimulus has been used to break down more complex issues. Citizens Panel has been co-creative in nature, bringing key stakeholders and customers together.
 - Consultation Survey adopted a deliberative approach, with a logical structure aligned to key elements of the trial.
 - There appears to be a wide mix of stakeholder engagement events which enable active participation and sufficient time is allocated to allow for discussion, debate, questions and answers e.g. drop in sessions, attendance at community events.
 - Additional research conducted where gaps and/or potential challenges have emerged e.g. social media analysis, in-depth interviews with landlords and businesses.
 - Timing of survey brought forward from the initial plan, in order to enable an earlier view of sentiment and opportunity to identify evidence gaps.
-

Opportunities for improvement / considerations:

- Citizens Panel and Consultation Survey are the two core primary research activities. However, opportunity to better utilise customer insights through other engagement activities/operational data. For example, some consumer sentiment (positive/negative) around the trial was captured during drop in sessions, Hydrogen hub visits, but limited evidence of how this additional/wider sentiment is being used to inform plan, track sentiment more broadly. No formal tracking of sentiment during home visits e.g. engineering surveys.
 - Consider potential for benchmarking activity going forward to aid evaluation of the trial (e.g. awareness, understanding, acceptance), comparing against those living outside the local area. Consultation survey included some local residents living outside the trial area and potential for further analysis of this data as a starting point.
 - Consider following to maximising response rate to the Consultation survey:
 - Additional door knocking in survey cold spots
 - Use of personalised survey link and incorporation of tailored email reminders
 - Provide greater reassurance around collection of personal details and only collect what is necessary e.g. is telephone number required
-

Accessible

Make participation easy & unfamiliar or complex ideas accessible. Use comparative information to make participation more meaningful.

Overall

- Evidence of making active efforts to ensure engagement/participation has been made easy and accessible.
- Use of a range of comms material and stimulus to help understanding of trial and more complex issues.
- While some initial comms testing and cognitive testing of survey undertaken, less evidence of pre-testing with lower literacy customers and comprehension questions among a larger cohort of customers to check understanding.

RAG Rating:
4

Key findings:

- Wide range of completion channels offered to complete Consultation Survey e.g. online, face-to-face, telephone, postal. Inclusion of expanded descriptions and video stimulus, to cut through complexity.
- Face-to-face approach undertaken for Consultation Survey to target vulnerable/hard-to-reach/more disengaged customers e.g. tenants.
- Adopted a deliberative approach to both qualitative and quantitative research to inform understanding.
- Inclusion of case studies as stimulus during Citizens Panel to aid understanding of elements of trial.
- Qualitative communications testing to inform communications approach ahead of Stage 2, and these were also discussed with the Citizens Panel once Stage 2 was underway.
- Implementation of Customer Care Officers (CCOs) into engagement strategy.
- Cognitive testing undertaken to review Consultation Survey to feed into comms/survey refinement and understanding.
- Ability to request certain comms in large print/braille, and provision of video/stimulus to aid understanding.
- High street presence with Hydrogen Hub and conducting drop in sessions at multiple locations across the trial area to increase accessibility.

Opportunities for improvement / considerations:

- Inclusion of comprehension test in the Consultation Survey would have been useful to test understanding and identify any gaps.
- Cognitive interviews could have targeted those with lower literacy levels in order to provide greater confidence in universal understanding.

Inclusive

Engage with, and understand, all groups affected by decision making - including harder to reach or vulnerable customers

Overall

- Wide range of stakeholders affected by decision making engaged throughout Stage 2.
- Lower coverage among some stakeholder groups e.g. small sample of landlords and businesses in Citizens Panel and Consultation Survey, but additional engagement activity undertaken.
- Clear efforts to maximise participation in the Consultation Survey, and potentially vulnerable audiences identified here. However, less evidence of attempts to gather qualitative feedback from these groups.
- Additional analysis required to understand sub-group differences, and how this feeds into the customer offer.

RAG Rating:
3

Key findings:

- Strong consideration of customers and stakeholders to engage with evident at the engagement planning stage in Stage 1. Evidence that this has largely been executed during Stage 2.
- NGN engaging with and understanding a wide variety of stakeholder groups and adopting a partnership approach, in particular with local community partners who are trusted and have strong working knowledge of the local area e.g. Government, Health & Emergency Services Providers, Resilience Forums, Charity and third sector agencies, Community, Faith and Local Interest Groups, Skills, Research & Accreditation institutions.
- Engagement strategy/activity inclusive of vulnerable, hard-to-reach, more disengaged customers. Evidence a range of sources have been used to develop thinking on vulnerability and hard-to-reach groups. Also plans to introduce vulnerability Leads into stage 3-5 team structure to provide additional support.
- Key stakeholders including National Energy Action, Footprints in the Community, the Council and RCVDA have been used to shape the Vulnerability Strategy.
- Conducted a variety of customer engagement events to build understanding of hard-to-reach groups. Also employed a targeted face-to-face approach to reach this audience, as well as aiming at tenants.
- Additional work undertaken to identify landlords via Land Registry, with additional research with both this and a business audience.
- Development of Citizens Panel focused on establishing a 'representative profile' of panel members.
- Broadly representative sample profile captured in Consultation Survey and data weighting applied to ensure sample is reflective of wider trial population.
- While customer vulnerability discussed at Citizens Panel, no targeted qualitative activity undertaken with these groups.

Inclusive

Engage with, and understand, all groups affected by decision making - including harder to reach or vulnerable customers

Opportunities for improvement / considerations:

- Potential for more targeted qualitative research with vulnerable groups to understand needs and reactions to the consumer offer in Stage 2.5.
 - Within the Consultation Survey profiling questions provide an indication of some vulnerabilities, taking this into consideration and the inclusion of a recontact question, there is the potential to recruit some customers that fit a vulnerability profile to participate in additional research.
 - Additional analysis on the Consultation Survey data may identify differences in perceptions and needs e.g. among lower income and/or other vulnerable groups.
 - Additional analysis on the Consultation Survey to show how aligned to the wider population in terms of engagement, as well as demographics.
 - Development of Citizens Panel is a positive initiative in engaging customers, in particular, for deliberative, co-creation sessions, but need to be mindful this is an informed group, so will need wider testing of the updated consumer offer with those who are less engaged.
 - While evidence that activity has targeted those who are more disengaged, consideration required as to how to track sentiment of those not engaging in core research activities going forwards. We understand a series of engagement activity is currently being developed for Stage 2.5 which will address this.
-

Ongoing

Engage stakeholders and customers continuously and embed into business-as-usual

Overall

- Evidence that stakeholder engagement plan has been executed and refined over the course of Stage 2.
- Customers and stakeholders have been engaged throughout the programme, with updates on engagement activity and development of customer offer provided to key stakeholders such as the CEG and DESNZ.
- Need to consider how to track customer sentiment across all engagement activity (not just in research) to provide a more complete view, and demonstrate acting on all insights generated. We understand plans in place to continue engagement activity during Stage 2.5 to address this and to maintain momentum and this should be embedded into business-as-usual.

RAG Rating:
3

Key findings:

- Structured programme of customer and stakeholder engagement has been undertaken, as well as ongoing engagement with CEG throughout the trial.
- Door knocking activity undertaken in response to recent events in Whitby, with sentiment being logged.
- Engagement activities with customers planned during Stage 2.5, as recognise the need to embed into business-as-usual e.g. plans to engage local community via door knocking, promotion of NEA partnership, additional customer research.
- Ongoing and iterative approach to engagement activities and design of consumer offer e.g. via the Citizens Panel.
- Regular engagement with key stakeholders throughout the course of the trial (e.g. Council/local MP), which has been used to identify and discuss emerging questions and issues.
- Feedback from drop-ins at the hub and the Consultation Survey have been shared on an iterative basis, in order to inform understanding of wider customer sentiment, and social media engagement has also been monitored.
- However, opportunity missed to track sentiment as part of wider range of engagement activities (e.g. home visits, engineering surveys), which could have augmented data collected from the core survey.
- Meetings with key stakeholders across the course of Stage 2 have been logged.

Ongoing

Engage stakeholders and customers continuously and embed into business-as-usual

Opportunities for improvement / considerations:

- Consider how research can be most effectively used beyond Stage 2 to ensure customer and stakeholder views continue to be represented. Important to reference the role of Citizens Panel in doing so, but need to be mindful of the limitations of using this approach for feedback alone.
 - Limited visibility on aggregated sentiment across wider Redcar community outside of Consultation Survey and Citizens Panel e.g. sentiment tracking from drop in sessions, CCO visits, engineering survey. Draft plans for engagement activity in Stage 2.5 looking to address this.
 - The development of a customer database would have helped to build a stronger understanding of all customers who have been engaged e.g. tracking sentiment over time, across different engagement activities per 'unique customer'.
-

Impact

Involve & educate stakeholders. Encourage desired behaviour. Demonstrate the impact on the business. Act on results.

Overall

- Evidence that customers and stakeholders are involved and feedback has impacted on engagement plan and design of consumer offer.
- Wide range of activity at a community level including engagement with local groups to raise awareness of the trial.
- While actions are taken in response to stakeholder feedback, lack of evidence that there is a formalised process or centralisation in place to record actions or outcomes and track progress.

RAG Rating:
4

Key findings:

- A broad range of customer and stakeholder engagement activity has been conducted, enabling the local community to have a voice in the direction of the programme.
- A range of approaches developed to raise awareness and increase understanding of the trial, including through direct communications, door knocking, the hub on the high street, and visits to show homes with hydrogen appliances.
- NGN have developed a strong community presence, not only on the high street, but via social value fund, and stalls in Morrisons.
- Messaging has been tailored to reflect insights identified in Stage 1 or 2, e.g. focusing on the local benefits (job creation), and highlighting that no one will be financially disadvantaged by the trial.
- Evidence that customer feedback is being utilised e.g. additional data sought from the Land Registry to create more personalised communications, face-to-face quickly identified as a more effective engagement channel than telephone, additional drop in sessions put in place to provide opportunities for customers to ask questions throughout the trial.

Impact

Involve & educate stakeholders. Encourage desired behaviour. Demonstrate the impact on the business. Act on results.

Opportunities for improvement / considerations:

- Consider developing an internal mechanism for measuring the impact of stakeholder engagement activities. This would help evidence impact and success of the programme and support the triangulation process.
 - Additional analysis required to better understand the impact of different activities, most effective messaging to change views, engage the disengaged. We understand this may be covered by the final Consultation Survey report, and should also be considered for inclusion in any research conducted in Stage 2.5.
-

Governance

Keep business stakeholders at the centre of business planning process. Utilise challenge groups & evidence their influence.

Overall

- Evidence that CEG, senior NGN stakeholders and DESNZ are consulted and heavily involved in stakeholder engagement planning/execution and development of consumer offer.
- Evidence of NGN's response to CEG/key stakeholder feedback.
- Evidence of senior/key stakeholder interest in engagement activities, with attendance at customer events.
- Clear governance structure in place to make sure that research/engagement workstream feeds into the wider programme.
- Potential to more clearly demonstrate how insights from different engagement mechanisms are triangulated to inform decision making and feed into engagement strategy and development of consumer offer.

RAG Rating:
4

Key findings:

- Clear governance structure in place involving all key business stakeholders. Interviews with key NGN stakeholders highlight that this structure has been executed over the course of Stage 2.
- Evidence that CEG and internal NGN stakeholders are consulted and involved in stakeholder engagement, planning and insight development e.g. integrating a Citizens Panel into plans.
- Recognition of need for representation from NGN, CEG and other key stakeholders at key engagement events to provide visibility, transparency and reassurance.
- Evidence of senior stakeholder involvement at customer engagement events and from interviews understand there is significant buy-in from board level stakeholders within NGN.
- Provision of updates and meetings with the CEG and DESNZ.
- Evidence of risk register in place, that has evolved over time.
- It is less clear that there is a central hub logging all customer and stakeholder engagement activity, including insights and actions that could inform and track key decisions made over time.
- October CEG progress update, provided key project figures to inform decision making, but not updated on a regular basis.

Governance

Keep business stakeholders at the centre of business planning process. Utilise challenge groups & evidence their influence.

Opportunities for improvement / considerations:

- Potential to demonstrate more clearly how insights are triangulated and feed into the business planning process on an ongoing basis.
 - More formalised tracking and review of stakeholder engagement e.g. stakeholder engagement tracker/log, key actions.
 - Evidence of NGN's response to CEG/key stakeholder feedback provided in consumer offer documentation. However, unclear whether there is ongoing logging and tracking of this e.g. rolling challenge and question logs.
 - Develop a monthly management pack with key project data (similar to that shared at October CEG), to inform decision making on an ongoing basis.
-

Details of Assessment:

DESNZ framework (consumer evidence strands)

5. Consumer attitudes to preparatory engagement (1/7)

Overall

- Research and engagement activity has been conducted which provides evidence around each subcomponent of this strand.
- However, this could be more comprehensive, particularly in providing a robust measurement of customer understanding, assessing effectiveness of different communication mechanisms, and in tracking wider community sentiment.
- Additional analysis as part of the final Consultation Survey should provide further insights on audience differences, and highlight the particular concerns of those who feel more negatively/indifferent towards the trial so that NGN can look to address these.

RAG Rating:
3

a. Consumer understanding of trial purpose and practicalities

Key Source/Mechanism: Qualitative comms testing report (Accent), Citizens Panel, Consultation Survey, interim engagement & comms report, Customer Hub iog, NEA engagement log, Drop in session, CCO booked visits, Redcar Hydrogen Community Consultation and Research Final report

Key Insights:

- Some initial qualitative research was undertaken early on in Stage 2 (March 2022), which covered areas including consumer offer, customer journey, comms approach, comms material, key messages.
- The Consultation Survey measured awareness of the trial, but did not include a robust measurement of customer understanding. An open question to understand what was known about the trial was included, additional analysis may be included in the final report to identify any areas which appear to be less understood..
- Further research should include comprehension tests to assess what is known, unknown or misunderstood.
- NGN established a Customer Care Officer operated customer hub to act as a central drop-in centre where customers could ask questions on all aspects of the trial and feedback from customer conversations here. In addition partnership with NEA to provide independent advice.
- The Citizens Panel also identified areas where customers feel they lack information including areas such as personal costs, appliance quality/range and what will happen at the end of the trial.
- Engagement & comms report concluded that from the Citizens Panel sessions, resident's baseline understanding of the role of hydrogen is low.
- Outside of the core survey and Citizens Panel, NGN has also captured some customer feedback on sentiment/understanding across a number of mechanisms illustrated in the following documentation: Customer Hub iog, NEA engagement log, Drop in session, CCO booked visits. However, there is limited evidence of NGN collating an aggregated view of customer understanding through these channels and tracking any changes over the course of Stage 2.

5. Consumer attitudes to preparatory engagement (2/7)

Key Insights (continued):

- Some respondents questioned how the success of the trial would be measured. They thought that if the area reverts to natural gas at the project end, then it has been unsuccessful. Consideration should be given to how this is presented to customers, as we understand the plan is to revert back to natural gas at the end of the trial.
-

b. Gaining local support

Key Source/Mechanism: Citizens Panel, Consultation Survey, interim engagement & comms report, CCO booked visits, Charity & Third sector roundtable, Hydrogen week tracker, Additional survey data report, Engagement data (interactions with stakeholder groups), Redcar Hydrogen Community Consultation and Research Final report

Key Insights:

- Customer sentiment has been captured via the Consultation Survey, with feedback provided on an iterative basis. The response rate (23%) was high for a survey of this nature, and efforts were made to engage harder to reach communities via door knocking and incentivising involvement.
- This was augmented with a range of other sources including the Citizens Panel, Drop in Centre visits and social media monitoring.
- Engagement with key stakeholders, particularly the Council and local MP maintained throughout the trial.
- There was a missed opportunity to track sentiment via wider engagement activity e.g. door knocking, engineer surveys, which would have provided a more robust base for assessing overall sentiment in the community.
- Overall, the evidence has shown that support in the community for the project is strong, however this will need to be continually monitored in Stage 2.5 given how perceptions have developed in Whitby.
- At the start of the Consultation Survey 66% of respondents reported feeling positive/very positive about the proposed trial. This question was asked again towards the end of the survey after respondents had been given more information about the trial and consumer offer. The level of positivity increased to 76%.
- In addition, 79% of business owners in the Consultation Survey said they felt quite/very positive about the trial.
- Some concerns presented at early Citizens Panel sessions have been acknowledged by NGN, with subsequent engagement activities tailored to address these e.g. personalisation of comms, considering impact of trial on vulnerable/hard-to-reach groups, more targeted engagement with key community stakeholders (Redcar & Cleveland College, Community Partnership Fund, Charity & third sector roundtable).

5. Consumer attitudes to preparatory engagement (3/7)

Key Insights (continued):

- Limited evidence of NGN collating an aggregated view of local support and tracking any changes over the course of Stage 2.
 - The additional survey data report that recorded the responses from 162 homeowners, tenants and landlords located outside of the proposed project area was released to examine external sentiments towards the project and found that 116 respondents (72%) was positive or very positive about the project prior to completing the survey.
-

c. Maximising consumer sign up to trial

Key Source/Mechanism: Consultation Survey, Citizen Panel, Consultation meeting summary, Hydrogen community leaflet, Customer protection plan, Interim engagement & comms report, Draft consumer offer, Customer Hub log, NEA engagement log, Drop in session, CCO booked visits, Redcar Hydrogen Community Consultation and Research Final report

Key Insights:

- The Consultation Survey has shown that the majority of participants would choose hydrogen as their choice for appliances and heating.
- The Consultation Survey has also identified the main concerns that customers have about the trial with cost, disruption and devaluation of properties emerging as particularly key. While the potential investment and jobs the project could provide being a key driver of support.
- Additional analysis may be included in the final Consultation Survey report to further understand differences across customer groups (e.g. interim data shows concerns are higher among homeowners) and/or more likely to opt out of hydrogen (although it is recognised there may be small base sizes for the latter groups in particular).
- The consumer offer has been designed to consider the customer feedback from research conducted and further testing of this in Stage 2.5 will provide further insights here.
- The Consultation Survey noted that those who felt less positively about the project felt they needed to know more information - something which may be addressed as the consumer offer and exit strategy takes shape.
- Similarly, further research with landlords showed that some were undecided in terms of whether they would opt for hydrogen and that further information was needed in terms of cost and safety.
- Landlords also felt that the way in which the trial is framed around benefits to tenants is key to securing their engagement and access to properties. Key here was to ensure that tenants did not feel forced to participate in the project, but meaningfully involved and adequately rewarded instead.

5. Consumer attitudes to preparatory engagement (4/7)

Key Insights (continued):

- NGN emphasised key messaging across comms and stakeholder engagement that residents would not be financially disadvantaged by being part of the trial.
 - Citizens Panel has been key in providing deliberative and iterative insights on key challenges, questions etc. and how NGN could address these to maximise sign-up and drive more positive sentiment of the trial e.g, suggestions on how to engage hard to reach groups through formal support networks.
 - Feedback has been captured on an ongoing basis via all engagement mechanisms, although less clear how this has been collated centrally.
-

d. News coverage to facilitate consumer understanding (HHIC)

Key Source/Mechanism: Launch media coverage reports, interim engagement & comms report, Outputs and outcomes of engagement report, Consultation Survey, Brunswick Review of digital conversation around hydrogen for NGN, RHC - Heavenly Ad Campaign Summary

Key Insights:

- The launch media coverage reports tracked engagement with national and local broadcasters/news outlets, alongside measuring social media sentiment on an iterative basis.
- Data from the outputs and outcomes of engagement report highlighted that NGN's advertising/promotion via its social media channels (Facebook, Twitter and LinkedIn) garnered a total of 124,913 impressions and 6488 engagements.
- Media coverage report measured NGN's engagement with national broadcasters such as the BBC and ITV, alongside a strong focus on local media outlets such as Cleveland, a local council run magazine. Proactively linked coverage to key milestones such as the opening of the drop-in centre and launch event and participated in interviews for local radio stations such as TFM radio, Metro Radio and Magic Radio covering the project to explain the ideas and benefits behind the trial. Media coverage report (May 9th - 16th) noted that three bulletins from both the BBC and Tyne Tees News garnered a total reach of 802K and 310K respectively.
- Insights from the Consultation Survey show that 82.4% of respondents were aware of the project prior to completing the survey. In addition 14.6% of survey respondents said they had heard about the Redcar Hydrogen Community Project through local media (newspaper, radio or TV).
- From October 22nd - December 10th 2022, NGN rolled out an ad campaign in the Redcar area comprising of iWalkers, iVans, social media ads and audio commercials to bolster engagement and encourage sign ups which reached 353,100 people online/offline. NGN executed moves to maximise CIVs sign up and engagement through Customer Care Officer visits to CIVs homes and partnered with the NEA to send out leaflets and hold events for CIVs.
- Brunswick also conducted a review of digital conversation around hydrogen for NGN, to understand resident concerns and influence of Facebook groups.

5. Consumer attitudes to preparatory engagement (5/7)

e. Engagement on future environmental impact of the switch from natural gas to hydrogen gas (BSI)

Key Source/Mechanism: Consultation Survey, Citizens Panel, NGN animation, Hydrogen community leaflet

Key Insights:

- Engagement activity has shown that local benefits (e.g. job creation), are typically more top of mind than the environmental impact.
 - Building on research from Stage 1, NGN tackled the lack of knowledge around hydrogen by releasing advertising material tailored for both educational and promotional purposes e.g. animations and leaflets to fit this requirement.
 - A theme that emerged from the Citizens Panels was that members had a unanimous agreement that emissions needed to be reduced through alternative fuel sources, but questioned whether hydrogen was the right approach to take. A highlighted potential contributor to this apprehension that was reported in the interim engagement and comms report is that there is a lack of understanding of hydrogen.
 - Consultation Survey feedback also illustrates customer sentiment around reducing carbon emissions, provision of data to support the UK move to net zero. Along with positivity being influenced by potential environmental benefits of switching to hydrogen.
-

Consumer attitudes to preparatory engagement (6/7)

f. Different communication and engagement methods in the preparation of trials (e.g. postal, one-to-one, community event, online, app-based, or different combinations of these)

Key Source/Mechanism: Outputs and outcomes of engagement report, Interim engagement & comms report, Customer hub log, Hydrogen week schedule, Hydrogen community leaflet, Launch media coverage reports

Key Insights:

- NGN employed multiple communication mediums (post, door-to-door 1230 properties visited, proactive telephone calls, general enquiries 932 received, customer hub 324 visits, drop-ins 11 drop-ins held, website 11,647 visitors).
 - Data from the Consultation Survey showed that the three biggest communication channels through which respondents (incl. homeowners, business owners, renters etc.) had initially heard about the project were: receiving a letter or leaflet through the door (62.5%), door knock by British Gas engineers or NGN representative (28.9%) and local media including radio, TV and newspaper (14.6%).
 - Further analysis of Consultation Survey data may help to determine impact of trial comms/engagement activity on perceptions of the trial.
 - Customers reported desire for more personalised letters, in an early Citizens Panel meeting and this was addressed by seeking more data from the Land Registry.
 - The Redcar Hydrogen Community Roundtable - Sept 22 report found that approximately 20% of Redcar citizens are digitally disengaged, need face-to-face or physical comms. Working with Redcar county council to determine how best to reach these customers e.g. sending written communications, door knocking and contacting by telephone.
 - NGN re-trained engineer and customer facing personnel to ensure unbiased information was being distributed after a customer complaint.
 - NGN found proactive telephone calls to be inefficient and decided to terminate this communication channel and focus on door-to-door through Customer Care Officers.
 - Responding to customer feedback NGN launched additional community engagement activities e.g. stall at local market, community partners roundtable, Community Partnership Fund.
-

Consumer attitudes to preparatory engagement (7/7)

g. Different communication methods used to engage commercial and industrial users

Key Source/Mechanism: Outputs and outcomes of engagement report, Interim engagement & comms reports, Consultation Survey, Citizens Panel

Key Insights:

- Output and outcomes of engagement report highlighted the under-representation of businesses and landlords within their engagement efforts, as such additional engagement activity (depth interviews) have been undertaken to gather more insight to help develop the offer for these audiences.
 - The Consultation Survey does split out these types of customer, but base sizes are small for businesses in particular (14).
 - Businesses and landlords were both included in the Citizens Panel and have been used to shape the overall consumer offer - as part of this plans to design more bespoke offer for all business stakeholders.
 - Set up a landlords permission page on their website including landlord's details, sign off consent and property details and sent out letters emphasising the financial incentives of participating in the trial to landlords.
-

9. Data on effectiveness of activities pre-trial on consumer acceptance and attitudes of hydrogen system

Overall

- Data on awareness and overall engagement with the hydrogen trial is available, initial analysis conducted shows correlation between engagement in activities and more positive sentiment.
- Anecdotal evidence from the Citizens Panel suggests that being more informed, increases positivity about the trial.
- Currently lacking a robust measurement and direct questioning of customer understanding and satisfaction with comms.

RAG Rating:
3

Key Source/Mechanism: Citizens Panel, Consultation Survey, Consultation meeting, Outputs and outcomes of engagement report, Redcar Hydrogen Community Consultation and Research Final report

Key Insights:

- The Consultation Survey reported that the majority of respondents said they had heard of the project via letters/leaflets, engineer door-to-doors and interacting with the NGN team in the community. The majority of respondents also felt positively about the project and the prospect of using hydrogen.
- Initial analysis of the Consultation Survey shows that there is a link between engagement in activities and acceptability and sentiment towards the trial e.g. 91% of respondents who visited the Redcar Hydrogen Community website felt positive about the project.
- Less evidence of robust insight into customer understanding of the trial, satisfaction with engagement/comms activity, and willingness to sign up if given a choice as these questions were not included in the Consultation Survey.
- Survey also measured acceptability of different elements of the potential consumer offer, although this will require further testing now that it has been finalised.
- Citizens Panel reported initial scepticism and hesitancy to accept the hydrogen system due to a lack of information and understanding, but as each session progressed, members grew more positive until the majority of the panel said they would switch to a hydrogen system if they had to choose now. Where members had engaged in an activity, such as spoken to a representative from NGN at a drop-in session or a British Gas engineer who carried out an engineering survey at their property, this engagement made a positive difference to how people felt about their personal involvement in the project.
- The Outputs and outcomes of engagement reported that there was positive sentiment and engagement from NGN's broader stakeholder engagement initiatives including bespoke presentations and meetings. These stakeholders include local government, charities and third party agencies, community/faith groups and schools and accreditation institution where talks have been held.

15. Consumer attitudes on perception of hydrogen safety prior to and during the trial (1/4)

Overall

- Safety concerns have emerged as a major issue for customers, second only to cost. This will need to be monitored through Stage 2.5, given potential impact of negative stories available online and other external factors.
- Analysis of open questions provides insight into specific customer concerns.
- Potential to provide more clarity around how customers are reassured when safety concerns are raised.
- Consider triangulating feedback from research with that received by engineers.
- More in-depth understanding of perceptions of risk communications and specifics around maintaining safety would be expected to be covered in later stages.

RAG Rating:
4

a. General perception of safety and preparedness for trial

Key Source/Mechanism: Consultation Survey, Consultation meeting summary, Citizens Panel, Stakeholder insights report, Redcar Hydrogen Community Consultation and Research Final report

Key Insights:

- Some scepticism over hydrogen safety during initial phases, with some respondents expressing concerns as questions. Those who raised questions of hydrogen safety usually did so from a lack of information and clarity on the topics as reported in the Consultation Survey and Consultation meeting.
- Where respondents were able to ask questions to an expert and receive on-the-spot answers, this allayed concerns and people felt more informed and, therefore, more positive about hydrogen safety.
- Consultation Survey feedback showed key reason for booking an engineering visit was due to safety reasons. Also a key concern around switching to hydrogen appliances was the issue of safety, in particular surrounding leakage, storage and combustibility.
- Perceptions of hydrogen safety are now largely positive with safety being trumped by concerns such as cost and post-trial care. Citizens Panel highlighted confusion over the levels of NOx produced during the hydrogen combustion process. NGN addressed concerns over NOx production and allayed fears.
- The stakeholder insights report generated during Stage 1 also identified a common thread of safety concerns towards hydrogen, the system, production and risk involved from customers. It was highlighted that these concerns should be mitigated and clearly addressed moving forward.
- In additional research on perceptions of safety was also conducted in Stage 1 e.g. Willingness to take part in hydrogen trials report.

Consumer attitudes on perception of hydrogen safety prior to and during the trial (2/4)

b. Plans/instructions to maintain safety throughout trial, i.e. not blocking vents etc.

Key Source/Mechanism: TBC

Key Insights:

- Not a focus at this stage, as more relevant for the implementation phase.
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c. Plans/instructions for any hydrogen incidents, i.e. being confident in what to do

Key Source/Mechanism: TBC

Key Insights:

- Not a focus at this stage, as more relevant for the implementation phase.
-

d. Safety perception of hydrogen vs natural gas

Key Source/Mechanism: Outputs and outcomes of engagement report, Citizens Panel, Consultation Survey, Customer hub, Brunswick Review of digital conversation around hydrogen

Key Insights:

- Outputs and outcomes of engagement report summaries stakeholder engagement activity including briefings with health and emergency services providers, resilience forums, where the main queries were around the safety and flammability of hydrogen compared to natural gas.
 - Elements of safety were also discussed during Citizens Panel sessions (e.g. level of NOx produced and **nascency of hydrogen for heating**), customer hub visits and safety was also noted as a concern in the Consultation Survey and was referenced in the Brunswick review.
-

Consumer attitudes on perception of hydrogen safety prior to and during the trial (3/4)

e. Effectiveness of risk communications on consumers' attitudes and perception

Key Source/Mechanism: TBC

Key Insights:

- Not a focus at this stage, as more relevant for the implementation phase.
 - However, potential to assess what messaging reassures customers based on engagement activity conducted to-date.
-

f. Commercial / industrial consumers' concerns about safety in the workplace

Key Source/Mechanism: Consultation Survey, Citizens Panel, Redcar Hydrogen Community Consultation and Research Final report, RCBC Buildings stakeholder log

Key Insights:

- No noticeable reported concerns over workplace safety using hydrogen. Any reference to safety was in relation to general perceptions of the safety of hydrogen, for example, its combustibility and leakage, rather than any specific concerns about workplace safety.
 - Workplace disruption emerged as a more pressing concern in the RCBC Buildings stakeholder log, specifically around compensations for businesses who need to close for installation, day to day checks that need to be required, increase in maintenance inspections and level of disruption with current systems and appliances.
 - When safety was raised by business owners during in-depth interviews, it was in relation to the properties of hydrogen more generally (its combustibility and propensity to leak) rather than any concern about safety specifically in relation to commercial use.
-

Consumer attitudes on perception of hydrogen safety prior to and during the trial (4/4)

g. The impact of any negative news / media coverage on the safety or other concerns around hydrogen on consumer support

Key Source/Mechanism: Citizens Panel, Consultation meeting, Brunswick Review of digital conversation around hydrogen for NGN, Launch media coverage reports, Redcar Hydrogen Community Consultation and Research Final report

Key Insights:

- Negative news coverage specifically about the trial in Redcar has been a more recent occurrence. In response NGN has undertaken additional door knocking activity to provide reassurance and to capture customer sentiment.
 - Reports of negative social media content creating doubts and resulting in decreased positive engagement within the Citizens Panel.
 - Consultation meeting findings highlighted how some members were turning to Facebook and the internet to find information on hydrogen safety as they felt the information provided by NGN wasn't clear or direct enough.
 - NGN conducted social media listening and local Facebook group monitoring, tracking these sentiments via the Brunswick review and the Launch media coverage reports to identify negative social media traffic and determine its level of negativity and influence on consumers. Both enquiries concluded that social media sentiment was neutral and negative influence from local Facebook groups was minimal.
 - During in-depth interviews with landlords, some reflected on how reading an anti-hydrogen leaflet they received through the door had changed their perception of the project.
-

34. Consumer expectations of outcomes and benefits of the trial (1/2)

Overall

- Engagement activity has identified that local job creation and investment is seen as a key benefit of the trial, with environmental benefits recognised but typically seen as secondary.
- A number of insights have been derived from the Consultation Survey and Citizens Panel which have been used to shape the consumer offer.
- Insights captured from Exit strategy report and during most recent Citizens Panel where the consumer offer was shared.
- Currently lacking a robust measurement of customer expectations and preferences post trial.
- This evidence strand should remain a key area of focus in Stage 2.5. in particular once specific details confirmed with DESNZ and other key stakeholders.

RAG Rating:
3

Key Source/Mechanism: Exit strategy report, Consultation Survey, Citizens Panel, CEG Feedback on RHV session covering customer proposition, Redcar Hydrogen Community Consultation and Research Final report

Key Insights:

- Findings from the Consultation Survey show that when asked about what potential benefits are most important to consumers within the project area, the top three most important benefits were local job creation, attracting investment and boosting the economy of the local Redcar area, and bringing total carbon emissions in the area down.
- In addition, analysis of an open question on expected benefits of the trial, 58% cited the importance of the trial in tackling climate change and delivering environmental benefits, 22% referenced local job creation is expected to happen and deliver benefit to the community.
- Citizens Panel sessions have also been used to understand expectations of the trial, which included delivering benefits to local people and upskilling, as well as including identifying concerns. Off the back of this NGN conducted a literature review to determine if the trial would have an impact on property prices of converted homes. It concluded that there would be no impact.

Consumer expectations of outcomes and benefits of the trial

(2/2)

Key Insights (continued):

- The Exit strategy report sets out post trial expectations specified by stakeholders. These expectations are those such as ensuring residents will not be worse off financially by participating in the trial, allowing residents the option to revert back to natural gas if the trial doesn't perform well and include residents in the exit decision making process by actively taking their opinions on board and evidencing clearly how their feedback has shaped the exit plan.
 - Latest CEG feedback on the consumer offer flags 'exit strategy' as the weakest element of the consumer offer. Additional minutes outline that DESNZ's default position is to return everyone to natural gas. Any additional running costs would have to be met by shareholders (with production costs for hydrogen unclear this could be expensive and would need to be time limited). Evidence that some customer questions on longer term exit strategy are still unanswered and as such further engagement with customers on this area is important.
 - Citizens Panel members frequently called for free servicing and maintenance of their hydrogen appliances post trial. Data from the Consultation Survey also showed that 60.4% of respondents thought the offer of free annual boiler service and maintenance was very acceptable.
 - Citizens Panel members want assurance that the hydrogen used would be 100% green/renewable.
 - Citizens Panel members want legal representation to ensure they will not be disadvantaged by being in the project area and will have protections against government and policy changes.
 - A common theme from the Consultation Survey was respondents wanting satisfactory "like for like" alternatives that meet their current appliances specifications/functionality and would cause the least amount of disruption.
 - Additional research with business owners showed some support for the trial and willingness to be involved linked to awareness that the energy system needs to be decarbonised to achieve net zero, as well as a desire to bolster the UK's energy security.
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Appendix

**Materials provided & key contacts
engaged**

Client reference materials provided *(page 1 of 10)*

Document	Purpose
1. Citizens Panel 1 October Report	Presents the findings from NGN's first two Redcar Citizens Panels held on September 29th 2022 and October 13th 2022
2. Citizens Panel 2 October Report	Presents findings from NGN's second Citizens Panel that took place on 20th October 2022
3. Citizens Panel 3 November Report	Presents the findings from the third Citizens Panel took place on 24th November 2022
4. Citizens Panel 4 December Report	Presents the findings for the fourth Citizens Panel took place on 1st December 2022
5. Citizens Panel 5 January Report	Presents findings from the fifth Citizens Panel that took place on 12th January 2023
6. Citizens Panel 6 January Report	Presents the findings from the sixth Citizens Panel that took place on 26th January 2023
7. Stakeholder Engagement CEG feedback form	Presents CEG feedback on a meeting that took place on February 13th 2023 between a small group of members from the Citizens Panel and a representative from DESNZ

Client reference materials provided *(page 2 of 10)*

Document	Purpose
8. Launch - media coverage report week 1	A brief report pooling together all of the media coverage around the hydrogen project from May 9th to May 16th 2022
9. Launch - media coverage report week 2	A brief report pooling together all of the media coverage around the hydrogen project from May 16th to May 22nd 2022
10. Launch - media coverage report week 3	A brief report pooling together all of the media coverage around the hydrogen project from May 23rd to May 30th 2022
11. Launch - media coverage report week 4 and 5 30th May to 12th June	A brief report pooling together all of the media coverage around the hydrogen project from May 30th to June 12th 2022
12. RHC - Heavenly Ad Campaign Summary	Summarises each phase of the advertising campaign that took place from October 22nd to December 10th 2022
13. CCO booked visits	Contains the information and project sentiments of customers who NGN visited via door-to-door or spoke to via telephone
14. PwC Phase 1 Recommendations	Contains the stage 1 assessment criteria and PwC's recommendations for stage 2

Client reference materials provided *(page 3 of 10)*

Document	Purpose
15. Drop in session	Details the names and information of citizens who attended the drop-in sessions in May and September 2022
16. Customer Hub Interactions	A sheet describing the interactions with customers who visited the customer hub from November 2022 - February 2023, noting customer questions, sentiments and result of the engagement
17. NEA engagement log	Contains a visit and engagement log for NEA interactions. Notes names of contacts, dates, and comments
18. Data collected	Contains the catchment area property list. Notes house numbers and street names
19. NGN RHyc consultation questionnaire - interim report	An interim report in fulfillment with DESNZ requirements. Presents survey findings from customer research conducted in Redcar
20. Hydrogen week tracker	Details the schedule for Hydrogen Week, noting speaking visits, hydrogen events, hydrogen car displays and promotional pieces to be filmed
21. October 2022 CEG - Progress Update	A progress report covering advancements made on key milestones, customer journey, customer response, interim deliverables, NEA partnership and engagement updates

Client reference materials provided *(page 4 of 10)*

Document	Purpose
22. Exit Options - Consumer Research Project Summary - White Space Strategy	Provides a high level summary of the consumer research, covering its purpose, process, inputs, methodology, outputs and recommendations moving forward
23. Hydrogen Village Literature Review	Examines the potential impact the Hydrogen Village Trial could have on property prices of converted homes
24. Jan 23 HVT Deep dive	Contains information on a meeting held on Jan 30th 2023, detailing key points, questions and reminders
25. NGN Interim deliverables_ Redcar Hydrogen Community Stage 2 Engagement Plan	Contains a full breakdown of the Redcar community communications and engagement plan for stage 2, from engagement strategy, scope, customer journey and monitoring quality/reporting information
26. Draft Commercial Email	An email draft template used to contact relevant parties in relation to switching the gas supply on their property
27. Stakeholder Log - R & C Housing Supported Housing	Logs the engagement between NGN and the stakeholder (R&C Supported Housing) held on January 16th 2023

Client reference materials provided *(page 5 of 10)*

Document	Purpose
28. Stakeholder Log - RCBC Buildings	Logs the engagement between NGN and the stakeholder (RCBC Buildings) held on January 20th 2023
29. Brunswick Review of digital conversation around hydrogen for NGN	A report issued by Brunswick Group investigating the local resident Facebook groups of Redcar and Whitby to determine the levels of negative influence on the project and potential contagion from one area to the other
30. Redcar Hydrogen Community - Interim Engagement and Comms Report	Outlines NGN's stakeholder engagement in Stage 2 of the Redcar Hydrogen Community Project (RH ₂ C), summarising the approach, what has been heard so far and plans for the rest of Stage 2
31. 54363R H2 Village Trials Evidence Study DRAFT	This study documents the differences between the trials, Whitby by Cadent and Redcar by NGN, segmented into the key areas of: local demographic and environment; overarching practices; and, hydrogen system
32. Accent 3537 NGN Hydrogen Trial Qualitative Insights V2 25 March	A qualitative insights document examining customer response to NGN's models of information distribution (i.e, leaflet, letter, logo, films etc.) Provides recommendations for improvement

Client reference materials provided *(page 6 of 10)*

Document	Purpose
33. CEG Feedback on RHV session covering customer proposition	An email copy from CEG chair, Jenny Saunders providing feedback on the meeting between NGN and CEG covering the customer proposition
34. ENGAGEMENT DATA MARCH 2023	A data sheet listing engagement information of various stakeholder groups interacted with during March 2023. Stakeholder groups are categorised by sector/service
35. Governance structure	Snapshot of the RHC governance structure showing the risk/issues escalation process
36. HVT Local Economic Impact Analysis January 2023	A sheet containing the financial/logistical information of the project ranging from economic impact, cost breakdowns and job ratios
37. Hydrogen Community Leaflet	A hydrogen community information leaflet sent to citizens affected by the trial
38. NGN Redcar Hydrogen Community Lessons Learned - Public Consultation	A document designed to reflect on the objectives, activities, results, and lessons learned during the customer consultation and research stage of the Redcar Hydrogen Community project
39. Redcar Hydrogen Community Stage 2 Engagement Plan	A document outlining the stage 2 engagement plan

Client reference materials provided *(page 7 of 10)*

Document	Purpose
40. NGN Additional survey data	This document reports on a specific set of data from the Northern Gas Networks Redcar Hydrogen consultation questionnaire. The data was collected from homeowners, tenants, landlords, and business owners in verified Redcar addresses that were located outside of the proposed project area
41. DRAFT Consumer Offer	A draft document of the working consumer offer.
42. DRAFT Protection Plan	A draft document detailing protective measures for consumers throughout the trial period
43. Charity and Third Sector Roundtable	Presentation slides for a roundtable meeting with local charity and community partners
44. Charity and Third Sector Roundtable (2)	Presentation slides for a roundtable meeting with local charity and community partners
45. Charity and Third Sector Roundtable minutes	Minutes from the charity and community partner roundtable
46. Redcar Hydrogen Community Roundtable - Sept 22 (feedback report)	A feedback report on the community roundtable

Client reference materials provided *(page 8 of 10)*

Document	Purpose
47. NGN Consultation Meeting Summary Nov 22	This report details the findings from the consultation session that was set-up to give residents, landlords, and business owners in the area the opportunity to ask questions and provide feedback on their perceptions of the project
48. DESNZ NGN Steering 23/2/23	A document covering updates within various aspects of the project such as end user updates, production and storage, public engagement and consumer strategy and QRA/safety case/evidence plan
49. Evidence Collection	A document noting the DESNZ evidence strand requirements, evidence sources that satisfy these requirements
50. RHyC Risk and issues Log	A log recording potential issues that could arise during each stage of the project, issues that have arose, severity ranking, decisions made or to be made and escalation of issues
51. RHyC Weekly report 2 (03/03/23)	A brief weekly report, highlighting advancements in key areas of the project
52. RHyC Weekly report (24/02/23)	A brief weekly report, highlighting advancements in key areas of the project

Client reference materials provided *(page 9 of 10)*

Document	Purpose
53. 15.2 Outputs and Outcomes of Engagement	Summarises the outputs and outcomes of engagement in Stage 2 with local partners, local representatives, consumer groups and other interested parties, including stakeholders that support consumers with additional needs and consumers in vulnerable situations
54. Outputs and Outcomes of Engagement Report - Final - Stakeholder Review	Summarises the outputs and outcomes of engagement in Stage 2 with residents, landlords, local partners, local representatives, consumer groups and other interested parties, including stakeholders that support consumers with additional needs and consumers in vulnerable situations.
55. Draft consumer offer 2	A draft document of the working consumer offer.
56. Doorstep Engagement Weekly Summary (w/c: 06/03/23)	Door knocking engagement log detailing interactions, questions asked and outcomes.
57. Explain & NGN 2.5 and Beyond Consumer Engagement Report Draft	Created to identify possible opportunity for consumer engagement between Explain and NGN moving forward into Stage 2.5 and beyond for the Hydrogen Village Trial.

Client reference materials provided *(page 10 of 10)*

Document	Purpose
58. Citizens Panel 7 January Report	Presents the findings from the 7th Citizens Panel session held on March 7th 2023. Involved presenting the proposed consumer offer to members and collecting their feedback, enabling any refinements to be made before it is incorporated into Northern Gas Networks' final submissions to DESNZ.
59. NGN RHC Final Report v2	Synthesises the analysis from multiple research activities carried out during the customer consultation and research stage of the Redcar Hydrogen Community project, organised according to the relevant evidence requirements set by the Department for Energy Security and Net Zero (DESNZ).
60. Table of Additional Evidence Signposting	A table showing the location of relevant pieces of evidence that supports categories/criterias.
61. Table of Additional Evidence	A table of additional relevant evidence documents and their purpose.
62. Redcar Hydrogen Community - Evidence Mapping & Collection Against Evidence Framework	An evidence document cataloguing all captured material that satisfies the DESNZ evidence strands.

Key contacts engaged

NGN facilitated set-up of discussions with key individuals to further explore research and engagement activities

Contact	Discussion topics
1. Fergal O'Donovan , NGN, Hydrogen Village Trial Programme Manager	Project governance, overall programme strategy/progress
2. Darren Cushen , Wales & West Utilities, Net Zero (Hydrogen Village Trial) Project Manager	Project governance, overall programme strategy/progress
3. Jane Herbert , NGN, Communications Manager	Community/stakeholder communications strategy and execution
4. Rachel Gordon , Explain Research, Associate Director	Research engagement activities
5. Rebecca Crinson , Explain Research, Partner & Insight Director	Research engagement activities

A man in a dark suit, white shirt, and dark tie is wearing a blue hard hat. He is smiling and shaking hands with a construction worker. The construction worker is wearing a white hard hat, a grey t-shirt, and a high-visibility yellow vest. They are standing on a construction site with scaffolding and other workers in the background. The text "Thank you" is overlaid on the left side of the image.

Thank you

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