GAS NETWORK INNOVATION STRATEGY

STAKEHOLDER CONSULTATION FEEDBACK

Energy Networks Association

March 2018

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CONSULTATION PROCESS

The Gas Network Innovation Strategy sets out the challenges and the opportunities facing the gas transmission and distribution networks as they continue to drive efficiency and safety, and as the UK looks to decarbonise its energy system to meet climate change targets. It shows how innovation is already delivering a safer, more efficient network, and how we intend to continue that work. It sets out the role that our existing gas infrastructure can play in meeting demand for power, heat and transport in a low carbon economy and seeks views from technology providers on how they would like to see gas network companies play a role in delivering greater energy innovation in the future. The Gas Network Innovation Strategy and associated documents are available here: http://www.energynetworks.org/gas/futures/gas-innovation.html

Energy industry stakeholders had the opportunity to play a vital role in shaping the future of energy innovation in the UK by participating in the development of Energy Networks Association's Gas Network Innovation Strategy. This document summarises the process to develop the strategy, the responses ENA received to the formal consultation, and how these were reflected in the development of the final Strategy.

Industry Consultation Process

The stakeholder consultation on the draft strategy was crucial to its development, giving all interested parties an opportunity to review the draft strategy and provide feedback that has helped shape the final strategy. The consultation was open from 1st November to 22nd December of 2017 and circulated to a wide variety of stakeholder groups, hosted a number of presentations, and carried out a joint interactive session with the electricity networks at the LCNI conference, 6 – 7th December. Feedback from this session was incorporated directly into the strategy, alongside responses via the survey questionnaire and several joint response letters. We additionally accommodated stakeholders wishing to return a form response online by making a Google Forms option available. A full list of the questions asked in the consultation is provided in the appendix to this document.

The following organisations responded to the consultation either by sending a formal response or by filling out the online form:

- Anaerobic Digestion and Bioresources Association (ADBA)
- CNG Services Ltd
- Costain
- Energy Innovation Centre (EIC)
- Energy UK
- ERM
- Gnosys Global Ltd
- JRC
- Lagoni Engineering Ltd
- National Farmers Union (NFU)

- National Physical Laboratory
- Novotek UK and Ireland
- Pipeline Integrity Engineers
- Renewable Energy Association (REA)
- ROSEN
- Steer Energy
- Synthotech
- The Carbon Capture and Storage Association (CCSA)
- Vector Business Services Ltd

The Voice of the Networks

The Gas Network Innovation Strategy is structured around seven innovation "themes". These themes were developed by the gas networks, in consultation with the wider energy sector, and set out in *Innovation Problem Statements*, the last edition of which was published by ENA in March 2017.[1] The themes as set out in the Problem Statements and adopted for this Strategy are:

- Future of gas
- Safety and emergency
- Reliability and maintenance
- Repair

- Distribution mains replacement
- Environment and low carbon
- Security

Stakeholders were asked a series of questions relating to these themes, and were asked to comment on the structure of the document and the engagement process around it.

The following report will outline the content of the comments categorised under each heading and outline the action taken to address the comment or justify its exclusion.

SUMMARY

Feedback received through the consultation process was generally positive.

Stakeholders consistently agreed that the strategy identified pertinent challenges uncertainties facing the industry, and described the appropriate actions taken to address those challenges. As this document sets out, we have responded to some specific issues raised by stakeholders, for example around the potential role of gas in transport.

Feedback was generally positive about the gaps identified in addressing those challenges, but we noted that scores here were slightly lower than those related to identification of challenges and uncertainties. For the final version of the Strategy, we have significantly strengthened this, for example by setting out clear strategic aims, and greater detail on how we want to collaborate with third parties.

We also received useful feedback on the process of developing the strategy and the consultation, which we will refer to when we review progress and revise the strategy in 2020.
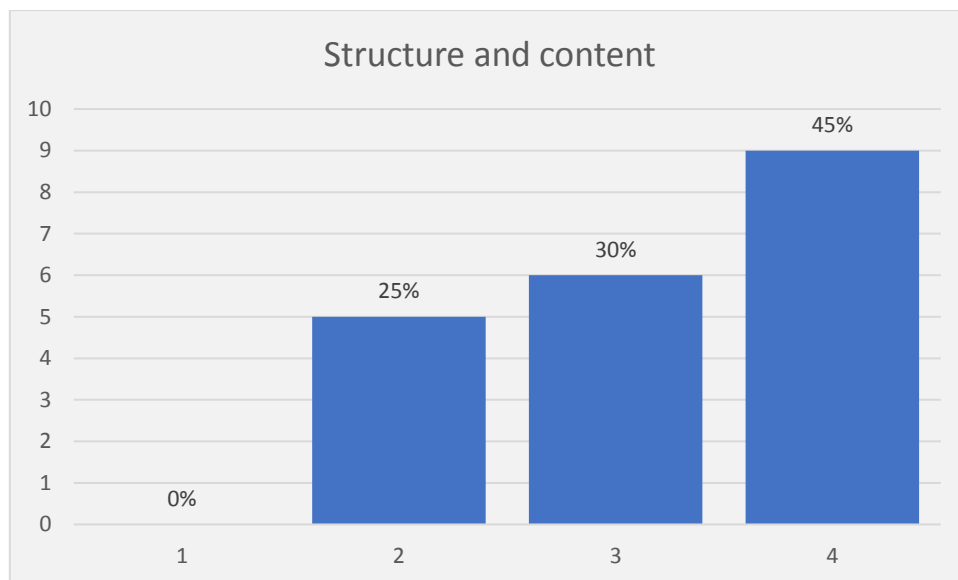
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[1] Gas Network Innovation Problem Statements, Energy Networks Association, March 2017

STRUCTURE AND CONTENT

We are keen to ensure that the structure and content of the document is accessible and engaging to its audience. 75% of consultees agreed that it was easy or relatively easy to follow.

Scores

Respondents were asked to score whether or not they found the structure and content easy to understand, from 1 (difficult) to 4 (easy).

Comments received

Response	Action taken
Stakeholders indicated that the document was quite dry, and that some chapters, particularly Security, read as generic comments rather than a specific strategy for innovation. They requested a development/implementation timeline and that the networks work to share past and current projects. Stakeholders also indicated a desire to review case studies related to each theme.	We reviewed the content of each chapter and worked with our communications partner to produce an engaging and accessible final Strategy. We provided a summary of innovation projects to date, added some specific project examples, and provided links to individual networks' annual summaries, which have further details of individual projects. The Security chapter was updated to reflect its position as a new focus for innovation.
Multiple stakeholders requested an executive summary.	An executive summary of the strategy itself has been published, and new introductions for each chapter summarise the content in each section.

SCOPE

To determine stakeholders' satisfaction with the scope of the document, they were asked to assign a score to three aspects of the themes laid out in the strategy:

- whether they felt the strategy sufficiently described the challenges and uncertainties facing the gas networks,
- whether they perceived that there were gaps in networks' efforts to responding to challenges and uncertainties for each theme identified, and
- whether the strategy identified existing innovative initiatives or projects to address challenges and uncertainties facing the networks.

The responses in each of these areas are explored in the following sections. Stakeholders also made some general comments about the scope of the Strategy, which are summarised here.

Comments received

| Response	Action taken
Multiple stakeholders questioned the timescales involved, noting that long term forecasting needs to address increasing levels of uncertainty. Another enquired about the regulatory implications of the document. Some stakeholders suggested that the GNIS provided a roadmap but does not necessarily constitute a strategy.	Addressed timescales, highlighting impact of increasing uncertainty over time. Ensured that strategic priorities more clearly brought out. We expect that future regulation will take account of the vision for network innovation that the Strategy sets out.
Stakeholders indicated that a standardised measurement for innovation and additional information on how networks are developing around innovation initiatives was also suggested.	Work on innovation benefits reporting is being undertaken through different channels, and this is now referred to in the Strategy.

LCNI Feedback

At the LCNI Conference on 6-7 December 2017 we presented the draft Gas and Electricity Network Innovation Strategies and asked for audience feedback. Of the seven themes in the Gas Network Innovation Strategy, the overwhelming majority of attendees (76%) considered that Future of Gas had the most "significant potential to meet our customer and stakeholder needs over the next decade through gas network innovation". We have strengthened the section on this theme and added a number of strategic aims to ensure that its importance is reflected in the final strategy.

CHALLENGES AND UNCERTAINTIES

The Gas Network Innovation Strategy seeks to describe the challenges and uncertainties which the gas networks face, and which innovation could help to address.

Scores

Respondents were asked to review each theme and score whether they agreed that it addressed the challenges and uncertainties that the gas networks face in this area, from 1 (strongly disagree) to 4 (strongly agree). The average scores in each area were as follows:
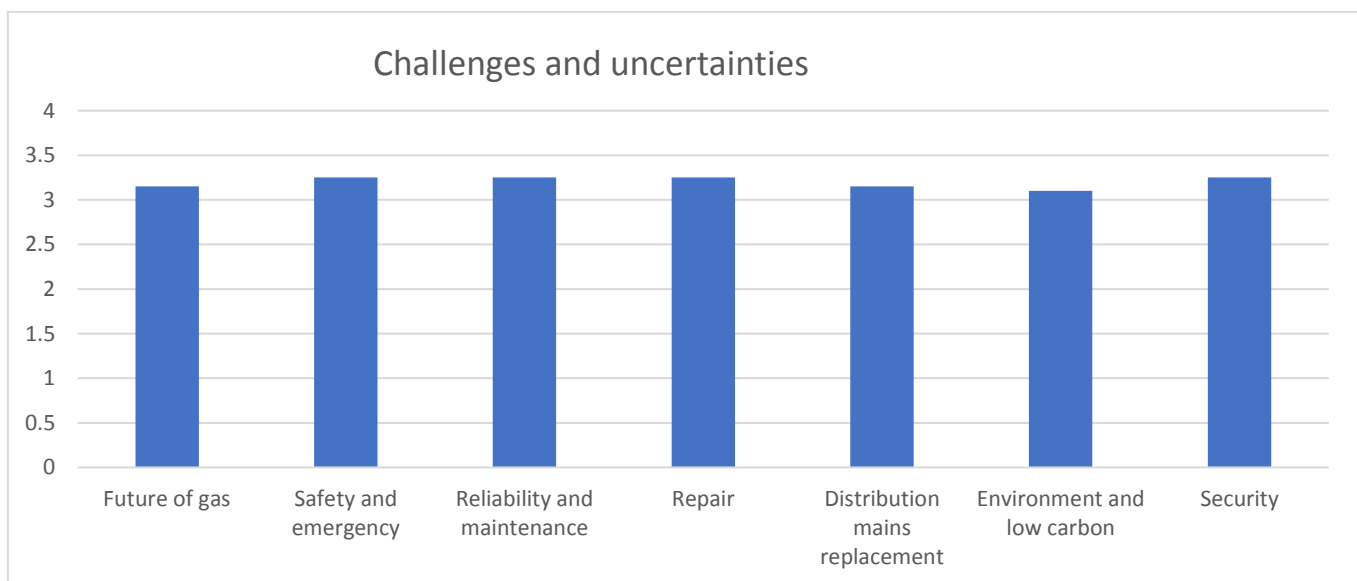
We are satisfied that these scores show stakeholders generally felt the challenges, uncertainties and opportunities were well described, but have continued to strengthen our analysis in the development of the final Strategy.

Comments received

Response	**Action taken**
Stakeholders suggested identifying challenges by adding new themes, including *new materials*, *simplification and process improvement*, *big data/data security/data analytics*, *enhanced communications*, and *people*, i.e., future workforce. One stakeholder wished to emphasise the importance of skills and development, another asked that CO be included in the *Safety* chapter. One stakeholder expressed concern that the language regarding the development of CCS was insufficient in outlining the challenges faced.	All suggestions were reviewed; we concluded that the existing structure could bring in the substantive issues in all of the suggested themes. We added CO to the Safety chapter and Energy Efficiency to the Environment and Low Carbon chapter. Importance of CCS has been reiterated, while noting that wider challenges to the development of CCS are likely to be outside the scope of network innovation.

IDENTIFYING GAPS

The Gas Network Innovation Strategy seeks to identify gaps where new innovation projects could help address the challenges it identifies.

Scores

Respondents were asked to review each theme and score whether they agreed that it identified the gaps for further innovation in that area, from 1 (strongly disagree) to 4 (strongly agree). The average scores in each area were as follows:
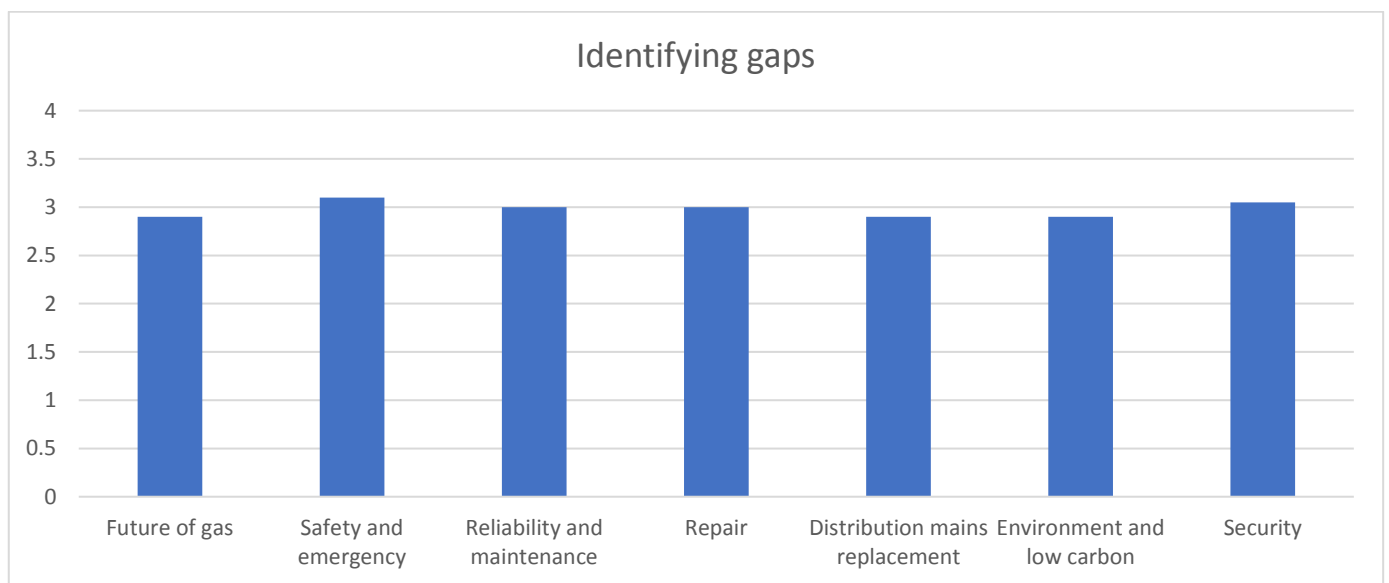
While stakeholders generally agreed that gaps had been well identified, scores here were slightly lower than those given for identification of the challenges and description of existing projects. In developing the final strategy we have attempted to address this by improving the description of areas we want to address through innovation, and being more specific about opportunities for projects and the strategic aims of the document itself.

Comments received

Response	Action taken
Stakeholders additionally suggested that while the strategy clearly identifies challenges for each theme, it does not address existing gaps in meeting these challenges. One stakeholder was particularly concerned about the fluid nature of security challenges, specifically mentioning cyber security, and another perceived a lack of urgency regarding the challenges and uncertainties facing the decarbonisation of heat.	Revised the future of gas and related sections to better explain decarbonisation challenges, especially around heat. Added explicit 'Strategic Aims' where possible to provide fill gaps. Revised the Security chapter to better reflect the evolving challenges in that area.

The importance of clearly identifying gaps was also underlined during the consultation period by attendees at the LCNI Conference (6-7th December 2017), where we presented the draft Gas and Electricity Network Innovation Strategies. In an interactive session, the audience suggested that the most important function of the strategies would be to enable others to more easily identify opportunities to work with the networks. Responses were as follows:

What do you think the most important function of the innovation strategies should be?

0 2 8

To help network operators coordinate innovation activity and deliver projects which collectively provide value for customers

21 %

To enable third parties to more easily identify opportunities to innovate and work with the network operators

32 %

To promote network operators to collaborate on strategic industry issues and adopt common approaches

18 %

To ensure that network innovation shapes and delivers a secure, low carbon and cost effective future energy system

29 %

*Results from audience vote at LCNI, 7th December 2017*

As a result of this feedback and the formal consultation responses, we have strengthened the commentary in the Strategy around areas for new innovation, and more clearly signposted how third parties can get involved in projects.

DESCRIPTION OF EXISTING PROJECTS

The Gas Network Innovation Strategy gives examples of existing projects in many areas, and how these have helped to address some of the challenges and opportunities identified.

Scores

Respondents were asked to review each theme and score whether they agreed that it sufficiently described the way in which existing projects are addressing issues identified in that area, from 1 (strongly disagree) to 4 (strongly agree). The average scores in each area were as follows:
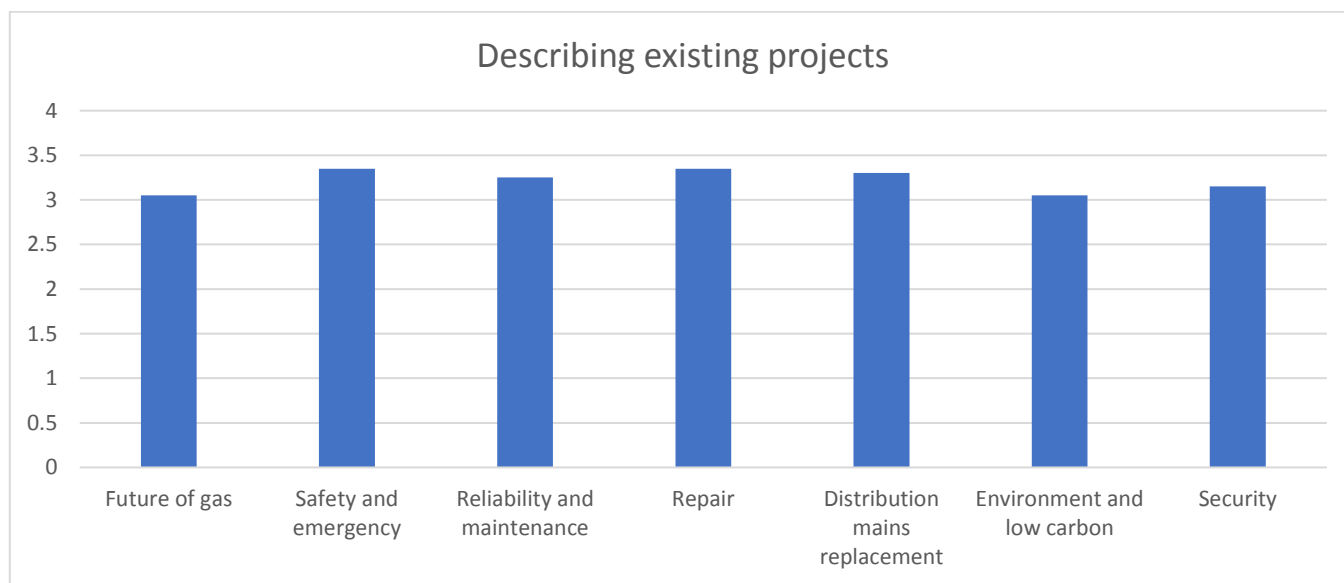
These responses showed that stakeholders were generally satisfied with the way existing projects are described in the Strategy. We have strengthened these references, particularly in the 'Future of gas' and 'Environment and low carbon' themes, which had slightly lower scores.

Comments received

| Response	Action taken
Stakeholders asked for significant additional material on blended gas, biomethane, BioSNG, and P2G, and multiple stakeholders requested additional focus on renewable gas for transportation and for additional information on whole systems integration.	We included additional information on renewable energy for transportation in the strategy. We recognise the importance of biogas and have added additional information to the Environment and Low Carbon and Future of Gas chapters, within the scope of network innovation and the Strategy. We added figures for investment in innovation in each theme to date.

AVOIDING DUPLICATION & SHARING LEARNING

Good collaboration between the gas networks themselves and with external partners is essential to make the most of innovation.

Stakeholders were then asked to comment on whether they felt the strategy sufficiently outlined the networks' collective strategy for avoiding duplication, and sharing learning. Detailed scores and comments, and the action we have taken, are presented in the following sections.

Avoiding duplication

The Gas Network Innovation Strategy sets out how the networks collaborate to avoid duplication of innovation activity and build on previous projects.
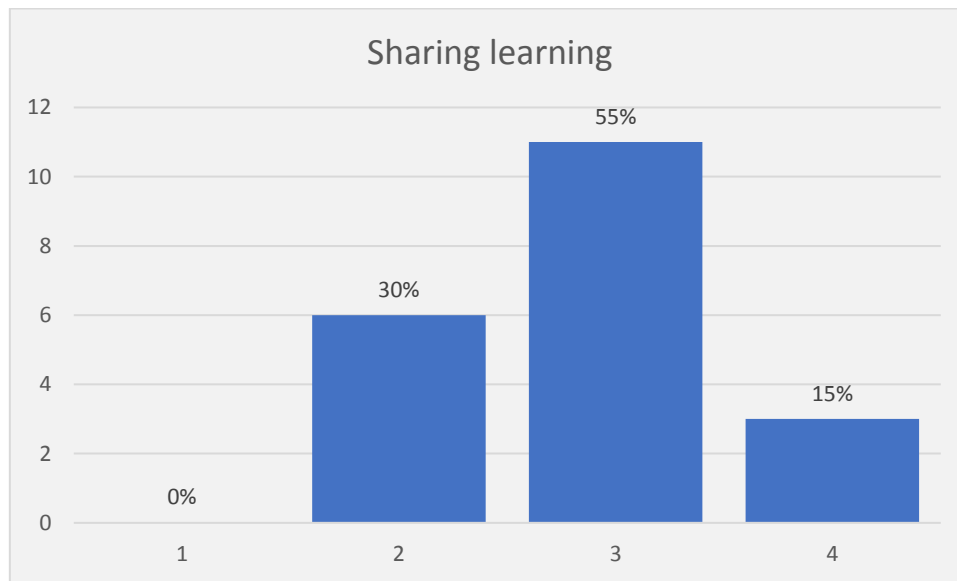
 Respondents were asked to provide a numerical response indicating whether or not they agree that the strategy sufficiently outlines the networks' collective strategy for avoiding duplication, from 1 (strongly disagree) to 4 (strongly agree).
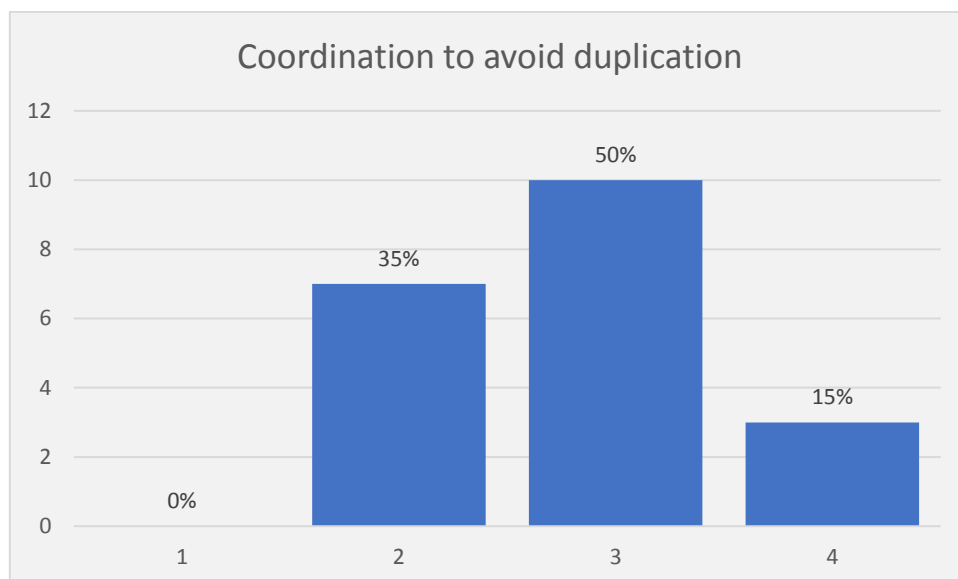
Sharing learning

Partnership is key. We want to continue to build strong links with academia, suppliers, manufacturers, and other organisations through the gas value chain, and from related industries. The Gas Network Innovation Strategy describes the key ways in which the networks share learning with each other and the wider energy industry.

Respondents were asked to assess whether or not they agreed that the strategy sufficiently outlines the networks' collective strategy for shared learning, with scores from 1 (strongly disagree) to 4 (strongly agree).

Comments received

Response	Action taken
Stakeholders suggested that additional information on shared learning would be beneficial to better understand the collaborative actions taken by the networks, and another requested more guidance on issues specific to the networks involved in order to assist developers in generating solutions to problems faced. It was also suggested that the strategy assign specific challenges and supply relevant information to operators to assist in developing solutions to challenges outlined.	We have expanded the summary of collaborative work undertaken by the networks and described, where relevant, how these efforts fit in with each theme. We have also added further description of plans on collaboration going forward.
One stakeholder would like to see the outcomes of NIA and NIC projects included with the strategy & additional information on how the results of projects are shared. Stakeholders also indicated that they would like to learn more about how networks engage with academia, government, and other related sectors.	While the Strategy is not the right place to provide outcomes of specific projects, we have signposted information e.g. via the Smarter Networks Portal and the networks' Annual Innovation Summaries. As noted above we have added more information on collaboration.

PROCESS FEEDBACK

Respondents' commentary contained a number of references to the format of the consultation itself, and the way in which we engaged with the wider energy sector in developing the Strategy. We will use this to inform the process of reviewing the strategy and engaging stakeholders in future.

Response	*Action taken*
Stakeholders indicated that the online Google Form was not particularly user friendly and that part of the process could be improved – it only allowed for "negative" comments and forced the stakeholder to respond to all questions rather than just those relevant to them. One stakeholder indicated they would have liked increased engagement with the biogas community.	The feedback is noted and will be taken into account during the next GNIS consultation. We also note, however, that Google Form was only one method of responding to this consultation; stakeholders were welcomed to respond by letter or email where they could choose which questions to address. The online form was generally preferred by most stakeholders, with around 75% responding that way. We consider that we had good engagement from biogas stakeholders, as groups including ADBA, REA and NFU responded to the consultation, but will consider how to increase engagement opportunities in the future.

PROCESS FEEDBACK

Consultation questions

In responding to the document, stakeholders were asked the following questions.

Your score	**1**	**2**	**3**	**4**
Response	Strongly disagree	Disagree	Agree	Strongly agree

Q	Gas Network Innovation Strategy Stakeholder Consultation	Score			
		1	2	3	4
1	The structure and content of the strategy document is easy to understand				
	Please add your comments – if you have scored 1 or 2 please let us know what you think we could do to improve that score				
2	The seven themes contained within the strategy clearly and sufficiently describe the challenges and uncertainties facing the gas network				
	▪ Future of gas				
	▪ Safety and emergency				
	▪ Reliability and maintenance				
	▪ Repair				
	▪ Distribution mains replacement				
	▪ Security				
	▪ Environment and low carbon				
	Please add your comments – if you have scored 1 or 2 please let us know what you think we could do to improve that score				

Q	Gas Network Innovation Strategy Stakeholder Consultation	Score			
		1	2	3	4
3	The seven themes clearly identify the challenges which are not currently being addressed through existing industry projects or plans				
	▪ Future of gas				
	▪ Safety and emergency				
	▪ Reliability and maintenance				
	▪ Repair				
	▪ Distribution mains replacement				
	▪ Security				
	▪ Environment and low carbon				
	Please add your comments – if you have scored 1 or 2 please let us know what you think we could do to improve that score				
4	The strategy contains a clear and sufficient description of the innovative projects and plans that the gas networks intend to progress to address the challenges and the gaps				
	▪ Future of gas				
	▪ Safety and emergency				
	▪ Reliability and maintenance				
	▪ Repair				

Q	Gas Network Innovation Strategy Stakeholder Consultation	Score			
		1	2	3	4
	▪ Distribution mains replacement				
	▪ Security				
	▪ Environment and low carbon				
	Please add your comments – if you have scored 1 or 2 please let us know what you think we could do to improve that score				
5	The strategy clearly defines the plans the gas networks will make to co-ordinate their innovation activities to minimise unnecessary duplication of effort				
	Please add your comments – if you have scored 1 or 2 please let us know what you think we could do to improve that score				
6	The strategy clearly describes how the gas networks will share the learning that they have gained through innovation projects				
	Please add your comments – if you have scored 1 or 2 please let us know what you think we could do to improve that score				

Q	Gas Network Innovation Strategy Stakeholder Consultation	Score			
		1	2	3	4
7	Please add any further comments about how we could improve our strategy				