

Energy Transition Workshop Report



14th March 2019

together
we are
the network

Thank you



Thank you again to those of you who joined us for our Futures workshop.

With constant innovation and a growing focus on the environment, we are approaching a time of change in the gas industry. What role will natural gas play in the future of the energy system?

With so many new developments, we are entering new territory in the industry and therefore it is incredibly valuable for us to understand your opinions and concerns going forward. Over the course of the day, we got some excellent feedback from you and it was very informative to understand your opinions on what NGN should be doing to support a policy decision on gas, and whether we should continue investing in gas in the run-up to this decision.

We are really pleased with the feedback received on the day but if you have more suggestions or views, or could not attend the event, then it would be great to hear from you. We would also love to hear any comments you have on the event itself and how we can improve the dialogue between us going forward.

Best wishes

Gareth Mills
 Director of Strategy and Regulation
 Northern Gas Networks



Purpose of the workshop

As we prepare for our next regulatory period, Northern Gas Networks is taking the opportunity to review its plan for the future of gas in the UK; considering the role of gas in the energy industry, the potential for hydrogen in the UK's energy transition and the benefits of a whole systems approach to utilities.

This workshop formed part of a series of stakeholder events looking at different aspects of our business including our social commitments, environmental performance, safety and reliability and innovation. Reports on each of these workshops can be found at together.northerngasnetworks.co.uk

Our objectives for this session were to:

- Review our approach to the future role of gas, informed by our stakeholder's views
- Develop our approach to the hydrogen transition during the next regulatory price control period (RIIO2)
- Consider NGN's role in the context of a whole systems approach

To do this, our stakeholders discussed four key questions:

- What is the future of gas?
- Before there is a policy decision on the future of gas, what should NGN's approach to investment be?
- What is the potential for hydrogen in the UK's energy transition?
- What should NGN be doing to support a policy decision on gas?
- What are the benefits to a whole systems approach to utilities?

25

delegates – spanning from national policy shapers to customers

9.2

overall satisfaction with the event (out of 10)

“Useful to see what questions NGN are asking and what other stakeholders see”

“Useful to compare my views with the wider industry”

Acting on your feedback – our commitments

The feedback you gave us during this workshop is helping to shape the way we work both now and in the future:



- We know that you feel we have an important role to play in terms of developing the evidence base for hydrogen; we will continue to commit to an ambitious programme of research and development through RII01 and RII02.
- You were clear that we need to do more in terms of collaborating across the gas industry, particularly on hydrogen. We commit to continuing to improve collaboration, including through active involvement in the recently formed cross sector Hydrogen Transformation Group as well as continuing partnership based research and trials, such as HyDeploy and H21.
- Taking your views on board, we've now reviewed our approach to the future role of gas so that we can prepare for a hydrogen transition while also taking a managed risk approach to continuing investment in gas ahead of an industry policy decision.
- We recognise that local anchor institutions could be powerful actors to help catalyse a move to whole systems approaches. So, we will develop a scenario-based roadmap for decarbonising the gas network, in the context of a whole systems approach, and actively engage local policy makers in the design and delivery of that roadmap.

Next steps:

We want to make sure that we continue to get it right and, to do that, we want to keep the conversation going.

Here's three opportunities to work more with us over the coming months. However, we welcome your ideas.

Tell us your views on our new business plan: During July 2019, we'll be publishing the key proposals for our RII02 business plan based on the feedback that you've given us so far. We'd love to hear your thoughts on whether we've got it right. The consultation will be available on together.northerngasnetworks.co.uk

Feedback on this session:

Have further thoughts on some of the issues raised during this session? Or a great idea of things we should be doing in response to your feedback? We'd love to know. Please drop us a line directly on stakeholder@northerngas.co.uk

What is the future for gas up to 2026 and beyond?

“Ofgem only just changed their minds, as far as I can tell, away from decommissioning all these [gas network] assets and going for electrification.”

You told us that you felt gas still has a role to play in the energy mix going forward, however you recognised that government policy makers are not clear on the matter and could understand NGN’s uncertainty over whether they should continue investing in gas.

You felt that gas is here to stay because:

- The capacity of the electricity network would have to be increased by a factor of 5 to replace gas.
- A third of electricity generated is from gas
- Industrial usage for furnaces couldn’t get the heat levels required from electricity
- It’s a much lower carbon and cheaper alternative for isolated, rural households currently using oil.

We asked you what approach to investment NGN should take from 2021 to 2026 ahead of a policy decision on gas.

The results were:

- 1st:** Business as usual ‘plus’ - pump prime investments that prepare the network for a positive future policy decision (77%)
- 2nd:** Business as usual approach – continuing to invest in long term network reliability (12%)
- 3rd:** Minimum mandatory investments in assets (12%)
- 4th:** Not sure (0%)



“I think NGN should be a bit more positive about going for the future. If you wait until the mid-2020s, you’ve lost another 5 years.”

It was pleasing to see that on the majority you agreed with NGN’s intention to continue managing the existing network as business as usual rather than reducing their investment until there is a government policy decision on the future of gas (expected in 2025).

“Were it not for NGN’s previous work with H21, government policy would not be a question-mark, it would be a certainty that the gas networks would be decommissioned”

Those of you who supported ‘BAU+’ investment explained why you believe it is critical in GD2, saying:

- Proactive work done now to provide test case evidence can influence policy decisions.
- Being able to demonstrate future solutions to customers will help to bring them ‘on side’, and “public will creates political will”.
- Research is time-consuming so should not be artificially delayed
- The gas industry needs to be ready to deploy future solutions as soon as the policy decision is made.

“I think NGN should be a bit more positive about going for the future. If you wait until the mid-2020s, you’ve lost another 5 years.”



What is the potential for hydrogen in the UK's energy transition?

“[Transport is] one of the big areas where the Committee on Climate Change are saying hydrogen should be the answer.”

You shared a number of key points related to hydrogen:

- Hydrogen is the only option for the gas network in the long term
- The UK will need to import some of its hydrogen requirement
- The cost of hydrogen storage is a concern
- Making the gas blend 20% hydrogen does not reduce carbon by the same proportion.
- The costs of replacing boilers are a concern, particularly for the fuel poor and customers that heavily rely on heat for health reasons.
- To retrofit the existing 21 million gas boilers and 12 million gas hobs in the UK would take 16 years for 10% of the gas workforce, or 4 years if 50% are deployed. In addition, the current workforce is ageing so current numbers and skill levels may not even be retained, particularly in the medium term.

- One delegate felt hybrid systems involving a heat pump with a hydrogen boiler are a practical solution as very large volumes of hydrogen on its own would be needed to replace natural gas. Others felt that such an interim step might not enable the transition to hydrogen precisely because it would only require lower quantities.
- Hydrogen can be used in the same way that gas is now; in contrast, heat pumps can't support 'spikes' of demand e.g. when a family gets home in the evening, and need houses to be better insulated, which is a major challenge for the existing housing stock.

“The Committee on Climate Change' big concern about [hydrogen] is it's not zero-carbon.”

When discussing what sector should be prioritised for the introduction of hydrogen you shared strong arguments for both transport and heat.

The arguments for why heat should be prioritised for hydrogen were:

- Heat requires the biggest challenge and investment; therefore, it makes sense to start it sooner.
- Priority should be given to the industry with greater certainty, and hydrogen is attractive to the heat industry because it can provide the higher temperatures required for some industrial processes.

The arguments for why transport should be prioritised for hydrogen were:

- It would create consumer confidence about hydrogen being a fuel that is safe for them to use in their own homes.
- Transport carbon emissions reductions are flatlining and hydrogen could be utilised to start reducing them again.
- There is existing political will

When discussing the hydrogen transition, you were very clear about the importance of education in this process. Pointing out that:

- Consumers are generally unaware of the idea of hydrogen being used for heating or are nervous about it. Gas consumers are far more aware of electricity being used as a future alternative to gas.
- It was suggested that the transition to hydrogen will likely be a “long, slow burn” similar to that of the gradual adoption of electric vehicles.
- Your main concerns about home energy are focused on the reliability of hydrogen and the cost to the consumer of transitioning.
- You thought that NGN will need to convince consumers that the risk of this investment (before a policy decision is made) is acceptable.
- You are unsure when customers should be informed of the hydrogen blending, whether it is best from the outset or once the hydrogen level reaches a certain proportion.

“My [recommendation for] education would just be focusing on the why and the benefits to them directly, to just get that initial buy-in.”

“Playing devil's advocate, there is a bit of an element of we didn't ask consumers if they wanted to replace their iron gas mains. We got on and did it and they paid for it on their bill. My personal view is that consumers kind of expect us to get on and do it. They don't necessarily see the need for them to be part of the decision.”

When asked what NGN should be doing to prepare for and support a policy decision on the future of gas, you responded that NGN should be:

- Conducting research (88%)
- Running live trials (81%)
- Pump priming the network infrastructure to be hydrogen and whole system ready (69%)
- Doing none of the above (0%)
- Doing something else (13%)



What are the benefits of a whole systems approach?

“We need to be cleverer and whole systems is... about making sure that to facilitate that low carbon journey, you have to have those interdependencies.”

We mentioned the ‘whole systems’ approach to utilities, including heating and you made a range of points about what you thought this approach is.

These included:

- It could include water and even broadband as well as gas, electricity and transport.
- It should start from the consumer, who buys energy and doesn't make the distinction between gas and electricity like the industries do.
- It's the whole value chain from production through to usage
- Funding mechanisms should focus on the outcome (decarbonisation) rather than on specific parts of the system (electricity), so there are contributions towards the outcome from multiple parts of the system.

We then had an interesting discussion of the benefits and drawbacks of the whole systems approach.

The benefits you mentioned are that:

- There is information sharing between industries for infrastructure works
- It allows real time data sharing on faults so others can predict load
- There would be more efficient stakeholder engagement because of the syndicated approach.
- Energy storage could be integrated and balanced at a national and/or regional level.
- It allows the system to be two-way. The current system is only one-way which is no longer appropriate in the age of the prosumer.

The drawbacks discussed included:

- That sometimes the option in the best interests of the whole system is not necessarily the best option for one of the organisations in the system. This is complicated when considering each organisation has obligations to their shareholders.
- A whole system is more unstable and harder to change as it's more complex, so there may be more failures.
- There would need to be legal changes to the current, separate Gas and Electricity Acts, and RIIO period alignment.



Thank you for reading the report.
We would welcome any further feedback you have regarding our plans for the next regulatory period. If you would like to contact us to share your views, please get in touch by emailing stakeholder@northerngas.co.uk

For further information contact:
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