

Gas Transmission

June 2022

Have your say:

Evolving the regulatory framework to ensure the least cost and secure net zero transition

nationalgrid

Sharing our thoughts and inviting your feedback about the forthcoming regulatory framework.

We think that there are 8 key areas that need to be considered and welcome your thoughts on these important topics:

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GAS

National Grid Gas Transmission exists to transport gas safely, reliably, affordably, and sustainably across the whole of Great Britain. We are proud to support the energy and heating needs of consumers and industry now, and are focused on delivering future net zero commitments. We know that success in achieving this ambitious agenda, in a way that works for consumers and stakeholders, requires real collaboration and partnership across our industry and with the communities we serve. The regulatory framework which governs our activities must ensure a net zero transition that is secure and least cost to current and future consumers and leaves no one behind. This document sets out our early thoughts on how the regulatory framework needs to evolve to deliver this objective.

The UK is currently going through an unparalleled change in the energy environment, but we have strengths that we can rely on: our transmission system consists of 7,660km high-pressure pipeline and is instrumental in keeping more than 80 per cent of Britain's households warm and comfortable, with natural gas delivering three times as much energy as electricity. We know that natural gas will continue to be a critical energy source for domestic heating, power generation and industrial purposes well into the 2030s.

We are committed to providing the lowest-cost solution to remove carbon from heat: using gas networks to transport hydrogen in the future represents good value for consumers, who have already invested in the network infrastructure. Our emerging plans for hydrogen will be a key part of the next regulatory period, and help secure high quality industrial jobs, drive economic development throughout the country and connect and align decarbonisation strategies across Europe.

Quite rightly, consumer value is at the front of governmental and regulatory minds right now, as people face an unprecedented step up in energy bills following sharp increases in global prices. The tragic events in Ukraine since February 2022 have also continued to drive up energy costs, as

well as exacting a terrible toll on human life. In this context, natural gas must remain part of providing resilience in the net zero journey, providing security and enabling renewables to grow further. As the 2022 British Energy Security Strategy states, "gas is currently the glue that holds our electricity system together and it will be an important transition fuel". There is no viable alternative.

To bring hydrogen into the mainstream is a long-term endeavour, and the next regulatory period will give us an unmissable opportunity to urgently deliver the energy needs at pace for the immediate future while developing the hydrogen system of tomorrow.

This is why we have put together this document – we would like to invite your thoughts against key areas as we approach the start of our next business plan build and regulatory submission. We would love to hear from you and develop a roadmap together that delivers the energy needs for the whole of Great Britain. Please take a moment to read and get in touch.

Jon Butterworth,
CEO of National Grid
Gas Transmission & Metering



The next regulatory price control period will give us an unmissable opportunity to deliver the natural gas needs of the immediate future while developing the hydrogen system of tomorrow. The right regulatory framework will enable us to improve delivery against energy security, affordability, decarbonisation and disruption. Across the following pages, we summarise 8 key areas where evolution of the regulatory framework will support realising this opportunity.

We'd love to hear your thoughts on these.

1. The voice of consumers and our stakeholders must be clear

For our current regulatory framework, we championed the approach of enhanced stakeholder engagement. Our consumer engagement programme has developed significantly, recognising the criticality of ensuring we understand and respond to consumers' needs.

The Independent User Group (IUG) (who are a panel of industry and stakeholder experts) drove significant improvements to our business plan, and this Group continues to hold us to account in reflecting the voice of stakeholders across our activities. Likewise, the independent Consumer Challenge Group (CCG) (established by Ofgem) provided challenge to networks' business plans on behalf of existing and future consumers.

We need to ensure that we continue to undertake and report on broad engagement so that Ofgem can take account of it in their decision making. We need clarity on how the

voice of stakeholders and consumers will be reflected in Ofgem's decision making, so that we ensure that we frame our engagement appropriately and that it is not too narrowly focused. The remit of the IUG and the CCG must be clear, including understanding their role in assessing our future business plan.

We continue to further our efforts to be a stakeholder-led business and we want our stakeholders to have confidence that their engagement with us is driving change and directly reflected in the service we provide.

We would like to hear from you about:

- 1. How do we ensure clarity of the voice of consumers and stakeholders in the next regulatory period?**



2. The shifting energy landscape means incentivisation must evolve

Using incentives to drive optimal value for consumers has proven to be effective. During previous regulatory periods some of the consumer value this created included reducing upward pressure on wholesale energy prices, allowing the market to function as effectively and efficiently as possible and minimising the environmental impact of our operations.

As we move forward, the energy challenges we face are evolving and the ability to drive whole energy system solutions is critical. We will play a key role in enabling the net zero transition, through ensuring the right network capabilities for developers and consumers to connect to, providing services and information that support the development of markets and maintaining the critical ongoing resilience and fluidity of supply. In many cases, the transition could require us to act differently or faster in response to changing stakeholder needs. Given the ongoing cost-of-living crisis, we also need to reflect on the role we play in supporting fairness and affordability particularly for vulnerable consumers in accessing affordable energy to meet their needs both now and as we transition to net zero.

What and how we are incentivised will need to evolve. We need to ensure we focus on new measures, metrics, changing risk profiles and innovative approaches to quantification of

value. We welcome the need to demonstrate consumer value, including through the Consumer Value Propositions (CVP) concept in our current framework.

Everything we do should be driving value for consumers and for the next regulatory period we need a consistent way of articulating value across network companies.

We would like to hear from you about:

2. How should net zero ambitions be reflected in our incentives framework?
3. What incentives should be included to ensure optimal decisions for current and future consumers?
4. What common elements should be included in assessing consumer value?
5. What should our role be with regards to supporting fairness and affordability particularly for vulnerable consumers?



3. Progress must be made whilst protecting consumers against the risk of uncertainty

Events in the energy landscape over recent months have highlighted that the energy market needs to be resilient to uncertainty. As we look towards net zero in 2050, we can see that the future pathway for Britain's energy remains uncertain.

What is clear is that the natural gas network will play a critical role in navigating the pathway to net zero, supporting natural gas, hydrogen and blended gases, during the transition and in the long term. It will provide optionality to support whatever pathway emerges. We need to recognise that uncertainty exists and ensure appropriate mechanisms are available to protect consumers. Such mechanisms must be deployed carefully and in a targeted way to accommodate optionality in the range of

pathways for the whole energy system of the future. We need to explore other economic tools that can facilitate effective decision making to navigate against uncertainty (such as Real Options Analysis), which can support identifying optimal timing of investment decisions when faced with uncertainty.

We would like to hear from you about:

6. **What other tools could be used to support decision making against uncertainty?**

4. We need to fairly allocate costs and risks across generations and beneficiaries

We head into the price control amidst economic volatility and cost-of-living challenges both in the UK and on the world stage. This underlines the need for resilience and self-sufficiency in energy supply, but this must be affordable for everyone.

Ongoing investment in the natural gas network will be required to maintain and enhance resilience as we transition. Strategic investment to repurpose existing infrastructure to transport hydrogen can provide a cost-effective solution to significantly decarbonise industry, transport and heat.

Supporting the required ongoing investment whilst managing uncertainty, economic volatility, and stranding risks across time horizons all have a financial impact. Regulatory frameworks can provide solutions as to how these costs can be most fairly balanced across society and intergenerational beneficiaries. There are inevitably trade-offs that need to be managed, and there is rarely a perfect solution. For the next regulatory period, we need to take stock of the range of potential solutions to effectively balance financial risk and cost across generations.

We would like to hear from you about:

7. **How should charging reflect short-term economic uncertainty (for instance general inflation, interest rates, wholesale energy prices)?**
 - a. Is short-term stability in bills preferred?
 - b. Is it better to track to the actual position as far as possible to reduce future uncertainty?
8. **How should historic and future investment costs in the natural gas network be managed in the transition to net zero?**

5. We need to align and plan around a whole energy system

Gas and electricity supply and demand scenarios are important to ensure energy networks invest for consumer needs today and into the future. Energy companies build their plans around a range of different scenarios and assumptions. This means that it is difficult for network companies and regulators to identify optimum investments across fuel types and networks, which provide best value for consumers and alignment around an integrated and whole energy system.

We, alongside other energy network companies, are currently addressing this opportunity by debating the need for the early identification of common planning assumptions which capture the envelope of plausible futures. This will allow us to construct core plans, and develop consistent approaches to deal with uncertainties as we transition towards a low carbon energy system. It will support the identification of the right level of investment across the whole energy system that offers value for money whilst maintaining

continued security of supply with minimal environmental impacts.

We believe that energy network companies must work together to define and align their plans around common planning assumptions that will deliver Britain's energy needs, and support a net zero transition that is secure and least cost to consumers.

We would like to hear from you about:

9. Do common planning assumptions help improve certainty for security, net zero and affordability for consumers?
10. What role does low carbon gas play in the future energy transition?



6. There are benefits in aligning the regulatory framework for natural gas and hydrogen

To meet the UK's 2030 ambition of 10GWs of hydrogen production capacity, we need to start developing the hydrogen transmission network today, and that this is supported by a clear long-term regulatory framework that will deliver Government policy and consumer needs.

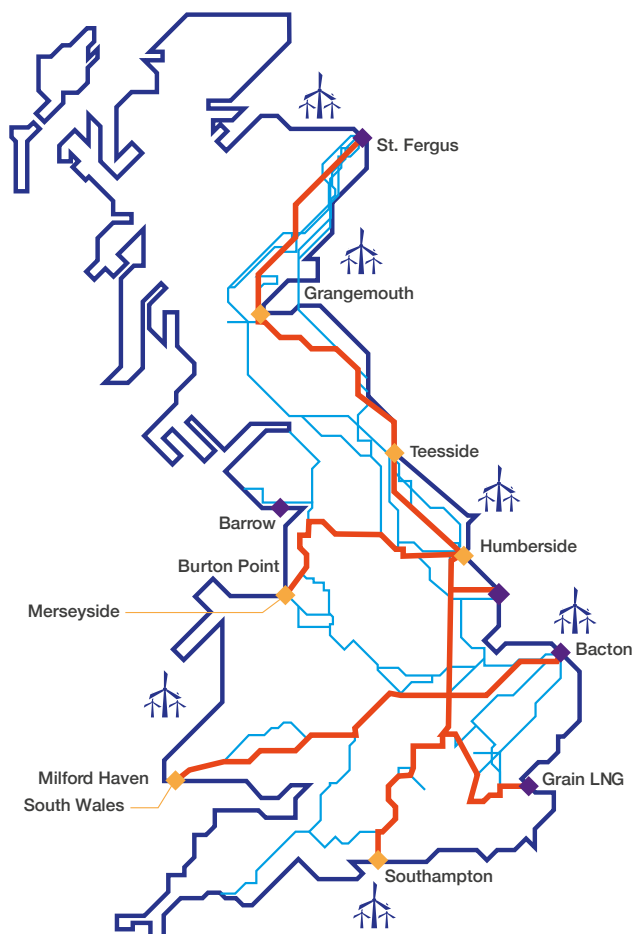
The current regulatory framework provides the right tools to start regulating hydrogen networks - providing the structure to take forward net zero investments in a coordinated, integrated and societally optimal manner from day one. There are benefits from aligning the natural gas and hydrogen framework including supporting the ability to repurpose the natural gas network for hydrogen. Simple, early decisions on the regulatory framework are needed to keep things moving while an enduring model is introduced. Whilst we welcome the Government's commitment to design the new business model for hydrogen

transportation infrastructure by 2025, we need to understand the framework in advance of this if we are to optimise investment planning across natural gas and hydrogen networks in the next regulatory period.

We would like to hear from you about:

- 11. What role should regulation play in the development of a hydrogen transmission network?**
- 12. What parts of the existing regulatory framework could be applied to hydrogen network development?**

Project Union



Hydrogen is a low carbon clean gas. Project Union is National Grid's plan to repurpose its network, enabling net zero and empowering a UK hydrogen economy, to create a 2,000km hydrogen backbone for the UK by the early 2030s, connecting all major industrial clusters and production centres. The feasibility phase will help to inform energy policy that will enable Government to make progress in realising its hydrogen ambitions and will significantly contribute to the UK becoming more energy independent. The UK hydrogen backbone will unlock energy security and support a wider European model.

- Project Union (Routing is illustrative)
- Transmission Pipelines
- ◆ Industrial Cluster Sites
- ◆ Strategic Production Sites

7. The approach to economic assessment needs to be refined to allow for no regrets decisions in the interest of consumers

Recent months have brought unprecedented change to the energy landscape. The ambition of moving to a low carbon energy system, whilst keeping costs down for consumers and maintaining secure supplies has never been more challenging. Our natural gas network is essential to meeting today's energy requirements, whilst enabling the low carbon transition to deliver tomorrow's needs. To date, the regulatory framework has successfully driven down costs to consumers. This remains key and needs to be balanced with Government targets and policies, and the other priorities of security of supply and the affordable and timely transition to net zero.

An evolution of how we present, and how Ofgem assesses, the economic needs case for investment is required. This must take account of the full range of societal risks and benefits

associated with a range of investment options and the insurance value of our network in providing resilient energy supplies for our nation. We need to find a way through the uncertainty, using innovative approaches that explore a range of economic tools to support the right short and long-term decisions. Only through taking a holistic approach can we ensure that the transition will be secure and the lowest cost to consumers.

We would like to hear from you about:

13. How should societal risks be included in the economic assessment?

8. Simplifying the framework will enhance transparency of performance and speed-up delivery

Transparency of process, mechanisms and deliverables are critical to help consumers and stakeholders understand and trust the performance of network companies. A complex and burdensome regulatory framework will lead to a challenge in understanding network commitments and performance against them.

For our current regulatory period, we introduced improvements to how we capture and report

on performance. We are also committed to the ongoing role of the Independent User Group to challenge and scrutinise our business plan and performance. We want to continue to leverage these transparency enhancements, moving towards greater simplicity in both our business plan, and in our performance. This will unlock benefits to stakeholders, Ofgem and network companies alike and give us all a better chance to meet net zero targets.

We would like to hear from you about:

14. What aspects of the framework would you like to see simplified?

15. What enhancements would you like to see to aid your understanding of our performance?

List of questions

For your reference, here is a summary list of questions that we have asked in this document.

1. How do we ensure clarity of the voice of consumers and stakeholders in the next regulatory period?
2. How should net zero ambitions be reflected in our incentives framework?
3. What incentives should be included to ensure optimal decisions for current and future consumers?
4. What common elements should be included in assessing consumer value?
5. What should our role be with regards to supporting fairness and affordability particularly for vulnerable consumers?
6. What other tools could be used to support decision making against uncertainty?
7. How should charging reflect short-term economic uncertainty (for instance general inflation, interest rates, wholesale energy prices)?
 - a. Is short-term stability in bills preferred?
 - b. Is it better to track to the actual position as far as possible to reduce future uncertainty?
8. How should historic and future investment costs in the natural gas network be managed in the transition to net zero?
9. Do common planning assumptions help improve certainty for security, net zero and affordability for consumers?
10. What role does low carbon gas play in the future energy transition?
11. What role should regulation play in the development of a hydrogen transmission network?
12. What parts of the existing regulatory framework could be applied to hydrogen network development?
13. How should societal risks be included in the economic assessment?
14. What aspects of the framework would you like to see simplified?
15. What enhancements would you like to see to aid your understanding of our performance?

Let's hear your thoughts



We invite your thoughts against all or any of these questions by 22nd July 2022. We will then play back an update on what we have heard. In addition, I would like to include one more question...

16. Do you have any other key areas or observations that you think we need to consider?

Please send any correspondence on this document, or if you would like the opportunity to discuss these matters, via email to Carole Hook carole.hook@nationalgrid.com

Gas Transmission

Gas Transmission owns, manages, and operates the national transmission system in Great Britain, making gas available when and where it's needed. We ensure that our network is safe, reliable and available, and that it delivers value for our consumers and stakeholders, while minimising impact on the environment.

In March 2022, National Grid confirmed it has entered into an agreement for a consortium led by Macquarie together with the British Columbia Investment Management Corporation to acquire a 60% equity stake in Gas Transmission and Metering. The consortium also has an option to acquire the remaining 40% stake in 2023.

Our gas transmission network



In numbers:

7,660km
of high pressure pipeline

600
above-ground installations

24
compressor sites

Natural gas delivers three times as much energy as electricity; it keeps

80%
of the UK's 28 million homes warm and comfortable, generates electricity and fuels industrial and manufacturing processes.

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