

# Consultation

SGN	ITS	<b>Futures</b>	Project
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We are consulting on SGN's proposed LTS Futures Project. We would like views from people with an interest in gas transmission and distribution networks, and the adaptability of these for hydrogen. We would also welcome responses from other stakeholders and the public.

This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the nonconfidential responses we receive alongside a decision on next steps on our website at **Ofgem.gov.uk/consultations**. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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# **1. Introduction**

### What are we consulting on?

1.1. We are consulting on the needs case and efficient costs for the LTS Futures project proposed by SGN under the RIIO-2 Net Zero Pre-Construction and Small Projects re-opener ('the NZASP re-opener').

1.2. LTS Futures is a project designed to contribute towards BEIS' Hydrogen Grid Research and Development Programme, which intends to help to develop the evidence to allow an informed government policy decision on the use of hydrogen for heat by the mid-2020s. The aim of the project is to demonstrate whether the Local Transmission System (LTS) can be repurposed to carry hydrogen, avoiding the costs of a full replacement of these pipes in the event hydrogen transportation capacity is needed to support Net Zero. The project will adapt a mothballed LTS pipeline for a live trial of hydrogen, and use the evidence from this to develop a blueprint for similarly repurposing other LTS pipelines around the UK.

1.3. SGN submitted an initial needs case for this project to us in August 2021. Following our review of this, we considered that the project should be progressed, and agreed to trigger the NZASP re-opener. As required by the NZASP Governance Document, SGN submitted their NZASP application on October 31, incorporating a number of changes and additional elements that we had requested. A redacted version of this document is published alongside this consultation.

1.4. This consultation sets out our minded-to position on the LTS Futures project in the following areas:

- The needs case
- The project design
- The project's value for money

1.5. Following the close of this consultation, we will consider responses, and make our final decision on whether to fund this project, and on any conditions that may apply to SGN using any NZASP funding. We will then consult on our proposed direction to give effect to this decision, in accordance with Special Condition 3.9.10 of the Gas Transporter Licence.

1.6. The consultation is for 28 days and will close on 2 February 2022. We will endeavour to publish our proposed direction by March 2022.

# **Context and related publications**

1.7. The scope of this consultation is limited to SGN's LTS Futures re-opener. Additional information on the NZASP Re-opener can be found in our RIIO-2 Final Determinations document<sup>1</sup>, and in the NZASP Governance document<sup>2</sup>. A consultation is currently open on certain amendments to the NZASP Governance document and the relevant licence Special Condition<sup>3</sup>.

# How to respond

1.8. We want to hear from anyone interested in this consultation. Please send your response to the person or team named on this document's front page.

1.9. We've asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can.

1.10. We will publish non-confidential responses on our website at <a href="http://www.ofgem.gov.uk/consultations">www.ofgem.gov.uk/consultations</a>.

# Your response, data and confidentiality

1.11. You can ask us to keep your response, or parts of your response, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

<sup>&</sup>lt;sup>1</sup> Available at <u>https://www.ofgem.gov.uk/publications/riio-2-final-determinations-transmission-and-gas-distribution-network-companies-and-electricity-system-operator</u>

<sup>&</sup>lt;sup>2</sup> Availabe at <u>https://www.ofgem.gov.uk/publications/net-zero-pre-construction-work-and-small-net-zero-projects-re-opener-governance-document</u>

<sup>&</sup>lt;sup>3</sup> Available at: <u>https://www.ofgem.gov.uk/publications/statutory-consultation-modifications-riio-2-transmission-gas-</u> <u>distribution-and-electricity-system-operator-licence-conditions-0</u>

1.12. If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you *do* wish to be kept confidential and those that you *do* not wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

1.13. If the information you give in your response contains personal data under the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in domestic law following the UK's withdrawal from the European Union ("UK GDPR"), the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 2.

1.14. If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

# **General feedback**

1.15. We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

- 1. Do you have any comments about the overall process of this consultation?
- 2. Do you have any comments about its tone and content?
- 3. Was it easy to read and understand? Or could it have been better written?
- 4. Were its conclusions balanced?
- 5. Did it make reasoned recommendations for improvement?
- 6. Any further comments?

Please send any general feedback comments to stakeholders@ofgem.gov.uk

#### How to track the progress of the consultation

You can track the progress of a consultation from upcoming to decision status using the `notify me' function on a consultation page when published on our website.

Ofgem.gov.uk/consultations.

#### Notifications



Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:



## 2. Our assessment of the project

## **Section summary**

In this section, we describe the background to the project, set our views on key aspects of SGN's NZASP application, and identify the questions we would like to ask on our minded to position to fund the project.

### Questions

Question 1: Do you agree that this project should be approved, and at the value proposed?

Question 2. Do you agree with our assessment of and additional requirements for SGN's project plan?

Question 3. Do you agree with our proposals on how we will hold SGN to account for the project deliverables?

Question 4. Do you have any views on the appropriate funding approach for this project?

Question 5. Do you agree with our assessment of SGN's proposed level of contribution and treatment of benefits in kind?

### **Overview**

#### Why has LTS Futures been brought forward?

2.1. The UK Government has stated that a low carbon hydrogen sector is a key part of their plan for achieving net zero carbon emissions by 2050<sup>4</sup>. If hydrogen becomes widely used, it will need to be transported between production facilities and consumption points.

2.2. The LTS is a key part of the GB natural gas network, comprising 11,000km of pipelines that take gas from the National Transmission System (NTS) and transport it to towns and cities before it is transferred into the lower pressure networks for delivery to consumers. The LTS therefore has the potential to provide a ready-made means of transporting hydrogen across the country. For this to happen, however, there is a need to understand what changes will be required both to the pipes themselves, and to the procedures for safely operating them, to enable the safe transportation of hydrogen.

2.3. BEIS have an ongoing Hydrogen Grid Research and Development Programme to provide government with the necessary evidence base to inform its decision on the role of hydrogen in decarbonising heat. As part of this programme, the Health and Safety Executive (HSE) has identified 65 evidence gaps that need to be filled in order to demonstrate that a safe transition can be achieved. SGN's LTS Futures project has been designed to help fill 31 of the HSE's evidence gaps, and to contribute other learnings to BEIS' evidence base on which future decisions about hydrogen will be made.

#### Summary of SGN's proposal

2.4. SGN are proposing to recommission a currently mothballed LTS pipeline, and use it to carry out a live trial of transporting hydrogen through the LTS (though this will not involve the supply of hydrogen to any consumers). The trial will be used to produce a blueprint methodology for potentially repurposing and uprating<sup>5</sup> existing LTS pipelines across GB to carry hydrogen.

<sup>4</sup> BEIS – UK Hydrogen Strategy. Available at

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/1011283/UK-Hydrogen-Strategy\_web.pdf

<sup>&</sup>lt;sup>5</sup> Uprating is the process of reclassifying a pipeline so a higher safe operating limit can be declared, enabling the pipeline to be operated at a higher pressure.

2.5. In addition to the blueprint, the project will also develop evidence on the levels of linepack capacity (in-pipe storage) and energy delivery that can be achieved in LTS pipes when used for hydrogen rather than natural gas. These are critical issues to understand in assessing the potential of using hydrogen for heating.

#### Our minded to position

2.6. We are minded to fund the LTS Futures project in full. This is to subject to consultation responses, including specific additional information requested from SGN and any wider stakeholder feedback. We have set out our reasons for this position below.

### **Our Assessment of SGN's Proposals**

#### **Needs** case

2.7. We consider that the requirements laid out by BEIS, and the HSE, under their research programme establish a clear need for research and live trials to be conducted on the LTS. There has not been any detailed research in GB in this area and the successful completion of the LTS Futures project would close 31 of the 65 knowledge gaps identified by the HSE. It will also provide new evidence on linepack and energy capacity. As part of their response to this consultation, we would like SGN to provide clarity on the 31 knowledge gaps the project will address, including confirmation that the HSE is satisfied with the plan to address these.

#### **Project Design**

#### Location

2.8. We agree with SGN's proposed choice of location for the project. In Appendix E of their NZASP application, SGN list the characteristics of this pipe that make it the most suitable option. Of these, we think the following are particularly significant:

- It is currently non-operational, meaning there is no security of supply issue or diversionary requirement from using it.
- It is an older pipeline, with more potential risk of additional stress and degradation if used for hydrogen transportation. Therefore, tests carried out on it will represent a worst-case material example for repurposing and uprating, meaning their results will also be valid for higher grades of LTS pipe.

• The route and location of the pipe mean that it includes a range of key environmental features that influence the safe operation of LTS pipelines, including a mixture of rural and suburban areas, proximity to dwellings and to other utilities, and road, river and rail crossings.

#### Project Plan

2.9. As part of their project planning, SGN consulted with the three other GB Gas Distribution Networks as well as National Grid Gas, and has set up a Technical Advisory Group with them. The other networks have indicated their approval of the project through letters of support, and are providing a share of the network contribution towards the costs. We think that this collaborative approach is to the benefit of the project and will increase the effectiveness of SGN's project management and learning delivery.

2.10. We think that SGN's project plan and stakeholder engagement plan (Appendices I and J of their application) are both broadly satisfactory. However, these could be strengthened further with the provision of additional detail. As part of their response to this consultation, SGN should provide more clarity and detail with regards to their project and stakeholder engagement plans, including:

- a critical path plan that makes clear significant external dependencies such as approvals from landowners to carry out work; and
- a revised draft of the stakeholder engagement plan (noting that the final plan will be completed as part of the project), that will provide more clarity on the required timings and dependencies around these contacts.

#### Deliverables

2.11. We think it is essential that SGN deliver the learnings that consumers are paying for. Consequently, our view is that any decision on funding the LTS Futures project under Special Condition 3.9 should include conditions to hold SGN to account for an agreed set of deliverables. We expect SGN to monitor these deliverables, and report to Ofgem on their status, and completion, both during the project and at its end. At the end of the project we will review these deliverables, and in the event of underdelivery we may consider the return of a portion of the funding to consumers. 2.12. SGN have proposed deliverables in their NZASP application, which we think are broadly satisfactory.<sup>6</sup> In Appendix 1 of this consultation we have set out our expectations of how SGN should demonstrate successful delivery of the project, as well as specific evidence requirements.

2.13. Following the publication of this consultation we will engage with SGN on the wording of the conditions relating to these. As part of their response to this consultation, SGN should confirm whether they agree with these expectations. We also welcome feedback from stakeholders on any further deliverables that may be appropriate.

#### Value for Money

#### Efficient costs

2.14. Based on the information provided, we are satisfied that SGN have appropriately assessed the efficient costs of the project. SGN have identified the costs involved in each stage of the project, and set out the process used to assess these, which included market engagement and independent assurance. The costs include a contingency fund, based on 5% of the total costs, to reflect project risks including the status of the buried pipe and raw material cost volatility.

#### Funding mechanism

2.15. We are considering the appropriate funding mechanism for this project. SGN have proposed a hybrid approach, arguing that the project represents a mixture of research and development (R&D) work on the one hand, and asset interventions with an enduring value on the other. SGN propose that the former (approx. 55% of the total cost) should be classed as innovation costs, and collected from all GB customers via NGGT<sup>7</sup>. The remaining costs would be put into their regulatory asset value (RAV) and be recovered through annual revenue from Scottish consumers, who would benefit from the asset in the future.

<sup>6</sup> In SGN's NZASP application, their deliverables are located as follows:

a list of deliverables required to pass each stagegate of the project (Table 1);

<sup>•</sup> a description of the primary deliverables and learning points from the project as a whole (section 5.1); and

a table with detailed outcomes to be delivered by the project (Appendix M).

<sup>&</sup>lt;sup>7</sup> This is broadly analogous to the approach used under the Network Innovation Competition.

2.16. We understand the logic behind SGN's proposal to split the funding. However, we are minded to fund 100% of the project costs through a charge on all GB consumers, to be collected by NGGT under their RIIO-2 price control, and passed on to SGN.

2.17. There is considerable uncertainty around the future of hydrogen and its use on the LTS. Consequently, there is no guarantee that the asset will have an enduring value to Scottish consumers. We do not think it is right to add assets for 100% hydrogen transportation into the RAV at this point in time, given that no decision has been taken by government on the long-term role of hydrogen in the energy system. The objective of this project is to develop the evidence base for that decision, and the upgrades to the pipeline will be done for this purpose, rather than to deliver an asset of lasting value.

2.18. In addition, SGN's proposals do not work within the prescribed regulatory framework. The capitalisation rate for re-openers in GD is fixed at 70%<sup>8</sup>, which means that only this proportion of the costs would be added to the RAV, with the rest being collected in the year it is spent. While there could potentially be other ways to split funding in a similar way to what SGN propose, we do not think it is appropriate for this specific project for the reasons above.

#### SGN cost contribution

2.19. We think that SGN should provide a higher level of cost contribution than proposed in their application. SGN are proposing a contribution towards the costs of £1.48m, with £1.1m being made up of benefits in kind, and the remainder a direct financial commitment. £1.48m represents 5.3% of the overall project costs.

2.20. SGN have calculated the contribution by taking 10% of what they consider to be the innovation element of the project (excluding contingency costs). They have not proposed a contribution towards what they have identified as the asset element of the project cost, on the basis that asset spending does not normally involve a network contribution.

2.21. We think the overall purpose of this project is to deliver evidence in support of a potential future hydrogen transition. This evidence has the potential to provide long-term benefits to SGN, and their shareholders, as well as to GB customers as a whole. We think the project has characteristics that make it very similar to other hydrogen projects we have

<sup>8</sup> RIIO-2 Final Determinations Finance Annex Table 17. Available at <u>https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final\_determinations\_finance\_annex\_revised\_002.pdf</u> funded in the past under the Network Innovation Competition (NIC), where a 10% contribution is typical, and we think this level of contribution is appropriate.

2.22. We have two additional points on SGN's method for calculating the contribution, which should be considered:

- Since the funding being requested includes a sum for contingency, this should be included in the project value used to calculate the contribution level.
- We are content with the use of benefits in kind to make up part of the network contribution and consider that, for the most part, these have been valued appropriately. However, it includes 2 pressure reducing stations (PRS) to be provided by Cadent and WWU, which have already been in service for some time. These have been valued at full replacement cost, which we do not think is appropriate. As part of their response to this consultation, SGN should reconsider the valuation based on the age of these assets.

#### Inflation adjustments

2.23. SGN have applied different methodologies to allow for inflation within their innovation and asset costs, in each case following the standard approach used for the funding mechanism they have proposed for that category.<sup>9</sup> They also propose that across the whole project, costs for labour (85% of the total) and materials (12% of the total) should be adjusted for Real Price Effects (RPEs) using the RIIO-GD2 Final Determinations benchmarks.

2.24. Since we propose to provide 100% of the funding via NGGT, all project costs should be adjusted to include forecast inflation. We intend to work with SGN on restating the asset costs in nominal values, and as part of this will consider the appropriate treatment of RPEs.

<sup>&</sup>lt;sup>9</sup> Additions to the RAV are provided in constant values, as Price Control Financial Model will apply the appropriate inflation adjustments. Innovation costs collected via NGGT are provided in nominal values.

# Appendices

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# **Appendix 1 Proposed delivery requirements for project outcomes**

This appendix sets out our proposed requirements for what SGN will be held to account for delivering through this project. SGN should provide evidence of these as follows:

- Following the completion of each stagegate, as listed in Table 1 of their NZASP application, SGN should submit a report providing an update on the progress, and confirming that all of the deliverables and evidence described in Table 1 have been completed.
- 2. Following the completion of the project (due in 2025), SGN should submit a closedown report. This should provide confirmation that all of the outcomes listed in Appendix M, and the primary deliverables listed in section 5.1 of the NZASP applicationion have been completed. In relation to the latter, the table below sets out our expectations of what evidence SGN should provide to demonstrate successful completion.

SGN stated project outcomes	Proposed Ofgem requirements	
Provide evidence to determine the safety and suitability of LTS network assets for hydrogen culminating in a live trial to prove the practical and operational aspects.	All of these outcomes will be addressed with the blueprint.	
<ul> <li>a) Develop a methodology (blueprint) for future repurposing and uprating projects, ensuring safety, efficiency and applicability throughout the GB.</li> <li>b) Determine wayleave suitability, access and landowner engagement requirements</li> <li>c) Determine the suitability of LTS materials for 100% hydrogen</li> <li>d) Validate the operational strategy for operating a hydrogen network, identifying any differences from operating a natural gas network</li> <li>e) Develop the skills and competencies for managing, operating and maintaining assets in the hydrogen economy, with the procedures required to support it.</li> </ul>	<ul> <li>The closedown report will demonstrate that these goals have been met, as follows:</li> <li>1. Provide confirmation that all of these learnings have been captured within the blueprint.</li> <li>2. Provide confirmation that the peer review reports demonstrate third party acceptance that these requirements have been met.</li> </ul>	
<ul> <li>Provide the technical foundation and investor confidence to support delivery of industrial cluster decarbonisation.</li> <li>a) Develop knowledge and acceptance of hydrogen within the public, industry, standards bodies and regulatory agencies</li> </ul>	For each of these outcomes, SGN should provide further detail on how they will demonstrate this has been delivered, including third party validation. This should	

<ul> <li>b) Optimise and validate the cost model for future repurposing projects</li> <li>c) Provide visibility of the commercial and regulatory aspects for future operation of conversion hydrogen networks, this insight will support future regulatory models.</li> <li>d) Understanding interface and commercial arrangements with hydrogen suppliers</li> </ul>	be included as part of their response to this consultation.
<ul> <li>Define the role of LTS in system transformation and facilitate industrial clusters.</li> <li>a) Develop and test the regulatory (safety, commercial and environmental) framework required for the GB Hydrogen network</li> <li>i. Compliance with Pipelines Safety Regulations</li> <li>ii. Identify any modifications required to the Gas Safety (Management) Regulations or other legislation</li> <li>iii. Land Use Planning and Planning consent</li> </ul>	<ul> <li>a) The closedown report should provide details on how this has been achieved. This should include confirmation that the HSE agree that the 31 evidence gaps have been satisfactorily addressed.</li> </ul>
<ul> <li>b) Confirm a repurposed LTS will deliver the required operating pressures, flowrates and linepack to facilitate the green recovery</li> </ul>	<ul> <li>b) SGN should agree with BEIS on the form that this evidence should take, in order to provide the greatest value.</li> </ul>

# **Appendix 2 – Privacy notice on consultations**

#### Personal data

The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

#### 1. The identity of the controller and contact details of our Data Protection Officer

The Gas and Electricity Markets Authority is the controller, (for ease of reference, "Ofgem"). The Data Protection Officer can be contacted at <u>dpo@ofgem.gov.uk</u>

#### 2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

#### 3. Our legal basis for processing your personal data

As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation.

#### 3. With whom we will be sharing your personal data

(Include here all organisations outside Ofgem who will be given all or some of the data. There is no need to include organisations that will only receive anonymised data. If different organisations see different set of data then make this clear. Be a specific as possible.)

4. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for (be as clear as possible but allow room for changes to programmes or policy. It is acceptable to give a relative time e.g. 'six months after the project is closed')

#### 5. Your rights

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data
- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data
- get your data from us and re-use it across other services
- object to certain ways we use your data
- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3<sup>rd</sup> parties
- tell us your preferred frequency, content and format of our communications with you
- to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

**6. Your personal data will not be sent overseas** (Note that this cannot be claimed if using Survey Monkey for the consultation as their servers are in the US. In that case use "the Data you provide directly will be stored by Survey Monkey on their servers in the United States. We have taken all necessary precautions to ensure that your rights in term of data protection will not be compromised by this".

#### 7. Your personal data will not be used for any automated decision making.

**8. Your personal data will be stored in a secure government IT system.** (If using a third party system such as Survey Monkey to gather the data, you will need to state clearly at which point the data will be moved from there to our internal systems.)

**9. More information** For more information on how Ofgem processes your data, click on the link to our "<u>Ofgem privacy promise</u>".