

# Decision

## Western Gas Network Project – Needs Case Decision

**Publication date:** 14/12/2021

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We are publishing our decision to approve the needs case for the Western Gas Network Project. This decision has been informed by the responses we received following publication of our needs case consultation on 14 October 2021. Alongside this document we are publishing the non-confidential responses we received in response to our needs case consultation

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## Contents

<b>Executive summary .....</b>	<b>3</b>
The Western Gas Network project.....	3
<b>1. Introduction .....</b>	<b>4</b>
Context and related publications.....	4
Our decision making process .....	4
Your feedback .....	4
General feedback .....	4
<b>2. Background.....</b>	<b>6</b>
Section summary .....	6
The Funded Incremental Obligated Capacity (FIOC) Re-Opener Mechanism .....	6
The WGN project needs case .....	8
<b>3. Summary of responses and our view .....</b>	<b>10</b>
Section summary .....	10
Responses to specific questions .....	10
Other issues raised by respondents .....	13
<b>4. Conclusion and next steps .....</b>	<b>15</b>
Our decision.....	15

## Executive summary

### The Western Gas Network project

In July 2021 National Grid Gas plc submitted a needs case for significant investment in network assets between Milford Haven and Churchover, the Western Gas Network project, to meet South Hook LNG Gas Company Ltd's request for additional capacity. This network upgrade will facilitate an additional 163GWh/d of entry capacity at Milford Haven Liquefied Natural Gas import terminal.

Funding for network investments of this nature is secured through the Funded Incremental Obligated Capacity Re-Opener mechanism as set out in Special Condition 3.13 of National Grid Gas Plc's Gas Transporter Licence. This mechanism requires that National Grid Gas plc receives approval for the Western Gas Network project needs case before submitting a detailed funding request in the form of a Project Direction application.

To secure this additional capacity South Hook LNG Gas Company Ltd is required provide a financial commitment prior to construction. In this case, the financial commitment represents a material contribution to the estimated cost of the Western Gas Network project. Increasing South Hook LNG Gas Company Ltd's import capacity will bolster security of supply for gas consumers in Great Britain as gas production declines.

### Our Decision

In reaching our decision we have assessed the needs case application submitted by National Grid Gas plc. This assessment was set out in our needs case consultation published on 14 October 2021. We have taken account of the consultation responses received in reaching our decision.

Our decision is to approve the need for the proposed output to which the application by National Grid Gas plc in July 2021 relates. Subject to material planning consents having been secured, National Grid Gas plc may now submit an application to us for a FIOC Project Direction specifying an output, delivery date and associated allowances for the Western Gas Network project in accordance with Appendix 2 of Special Condition 3.13.

## 1. Introduction

### Context and related publications

1.1. In July 2021 National Grid Gas plc (NGGT) submitted a needs case for significant investment in network assets between Milford Haven and Churchover, referred to as the Western Gas Network (WGN) project, to meet South Hook LNG Gas Company Ltd's request for additional capacity. This network upgrade will facilitate an additional 163GWh/d of entry capacity at Milford Haven Liquefied Natural Gas import terminal.

1.2. Funding for network investments of this nature is secured through the Funded Incremental Obligated Capacity (FIOC) Re-Opener mechanism set out in Special Condition 3.13 of NGGT's Gas Transporter Licence and further detailed in the RIIO-2 FIOC Guidance and Submissions Requirements Document. This mechanism requires that NGGT receives approval for the WGN project needs case before submitting a detailed funding request in the form of a Project Direction application.

### Our decision making process

1.3. We published our needs case consultation on 14 October 2021. This document provides a summary of the responses received and our consideration of these responses prior to publication of this decision.

1.4. We anticipate that following publication of this decision, NGGT will submit a Project Decision application for the WGN project in the first half of 2023.

### Your feedback

1.5. We want to hear from anyone interested in providing feedback on this decision document. Please send your response to the person named on this document's front page.

#### General feedback

1.6. We believe that consultation is at the heart of good policy development. We are keen to receive your comments about this decision. We'd also like to get your answers to these questions:

1. Do you have any comments about the overall quality of this document?
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. Are its conclusions balanced?
5. Did it make reasoned recommendations?

Any further comments?

## 2. Background

### Section summary

This section provides an overview of the FIOC Re-opener mechanism and the WGN project needs case.

### The Funded Incremental Obligated Capacity (FIOC) Re-Opener Mechanism

2.1. Special Condition 9.13 of NGGT's Gas Transporter Licence stipulates the level of capacity that NGGT must make available at each entry and exit point on the National Transmission System (NTS). Should a customer require additional capacity to be made available at any of these points it will make the request by submitting to NGGT a Planning and Advanced Reservation of Capacity Agreement (PARCA) application.<sup>1</sup> To secure the provision of this additional capacity the consumer is required to make a financial contribution<sup>2</sup> in the form of advanced capacity bookings.<sup>3</sup>

2.2. To provide this additional capacity NGGT may utilise some combination of the following options.

- Network reinforcement
- Substitution of capacity from other entry / exit points where spare capacity may be available.
- Manage constraint cost risk associated with releasing additional capacity without reinforcement or substitution.

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<sup>1</sup> PARCA is defined in the Uniform Network Code

<sup>2</sup> Calculated in accordance with NGGT's [Entry Capacity Release Methodology Statement](#)

<sup>3</sup> Through the allocation of capacity prior to the start of construction (Planning and Advanced Reservation of Capacity Agreement Phase 3)

2.3. In circumstances where NGGT determines that network reinforcement is required, then the necessary funding maybe secured using the Funded Incremental Obligated Capacity (FIOC) Re-Opener mechanism (Special Condition 3.13). This mechanism has two separate stages:

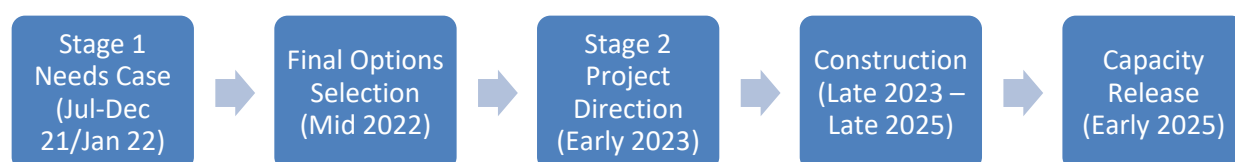
**Stage 1 Needs Case Assessment** – At this early stage of project development we decide whether or not network reinforcement is the best way to make the additional capacity available or whether some combination of the other options available would allow the additional capacity to be made available at lower cost. Approval of the needs case is required before NGGT can proceed to the next stage.

**Stage 2 Project Direction Assessment** – At this stage we make our final decision as to the level of funding made available, the outputs to be delivered and the timing of output delivery. This takes the form of a Price Control Deliverable as set out in Appendix 2 of Special Condition 3.13. NGGT may only submit a Project Direction once a needs case has been approved and any material planning consents have been secured.

2.4. NGGT must comply with FIOC Guidance and Submission Requirements document when preparing both the needs case and Project Direction submissions.<sup>4</sup>

2.5. Figure 2 shows the indicative timeline of the WGN project. NGGT have indicated that they expect that the additional capacity requested by South Hook LNG Gas Company Ltd will be made available at Milford Haven from January 2025. This could be 12 months ahead of the delivery date set out in the PARCA itself which is January 2026.

*Figure 2 - Indicative WGN project timeline*



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<sup>4</sup> [RIIO-2 FIOC Guidance and Submissions Requirements Document | Ofgem](#)



## The WGN project needs case

2.6. There are currently three Liquefied Natural Gas (“LNG”) terminals connected to the NTS; Grain LNG (Isle of Grain in Kent), South Hook LNG and Dragon LNG (Milford Haven in Pembrokeshire). Milford Haven is connected to the rest of the NTS by a dedicated pipeline and has an entry capacity of 950GWh/day<sup>5</sup>.

2.7. The WGN project needs case was submitted by NGGT following a request by Ltd South Hook LNG Gas Company Ltd for 163GWh/d of additional entry capacity at Milford Haven. This represents a 17% increase on the existing level of entry capacity available 950GWh/d. Following this request NGGT identified a shortlist of 11 strategic investment options including a ‘do nothing’ counterfactual which would see the increased use of constraint management.

2.8. The preferred option was identified using a Cost Benefit Analysis based on the four scenarios for gas demand and supply included in Future Energy Scenarios (FES) 2020. To reflect the level of uncertainty with respect to future gas demand the time horizon for the main analysis was limited to 2035. Analysis over a longer horizon was also provided. The sensitivity of the analysis to both constraint management and capital investment costs was also tested.

2.9. NGGT’s preferred option required the least capital investment while delivering the same reduction on constraint management costs of more expensive options out to 2035. Other options might be preferred in the longer term under certain Future Energy Scenarios. However, level of uncertainty post 2035 means that more weight is given to the shorter term analysis. In any case the design of the preferred option is such that it includes many of the features of the other options that might be preferred under certain longer term scenarios. The preferred option therefore provides a base level of network reinforcement that can easily be added to at a later date if necessary. The preferred option thus exhibits a modular approach to future investment that reflects uncertainties.

2.10. The key features of the preferred option include:

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<sup>5</sup> Special Condition 9.13 Appendix 1

- Increasing the Maximum Operating Pressure (MOP) of part of the existing Feeder 28 pipeline between Felindre and Three Cocks and the section from Felindre to Cilfrew. This task is currently expected to only require limited changes to pipework;
- 9km of new pipeline between Wormington and Honeybourne and 2km of new pipeline between Churchover Compressor and Churchover Multijunction; and
- Related works at several existing Above Ground Installations (AGIs) and compressor stations to facilitate the higher flows, pressure uprating, connection of new pipelines and effective compression at existing stations.

2.11. NGGT has identified potential variations to the preferred option depending on the outcome of the Wormington Compressor Emissions project. Greater clarity on this project will therefore be necessary before NGGT is able to finalise the preferred option to be included in any future submission of a Project Direction application.

### 3. Summary of responses and our view

#### Section summary

This section contains a summary of the responses we received and our views on the various issues raised.

#### Responses to specific questions

**Question 1:** Do you have any views on NGGT’s approach to the options selection process? This might include NGGT’s use of the Future Energy Scenarios (referred to by NGGT as “FES”) as the basis for forecasting of gas flows and constructing its cost benefit analysis (“CBA”), and whether 2035 is an appropriate cut-off date for assessing the CBA for the WGN project?

3.1. Both respondents who answered this question believed that NGGT had carried out a thorough option selection process that included consideration of a wide range of possible options. Both also supported the approach taken by NGGT to deal with the level of uncertainty with respect to future gas demand post 2035. One commented that it would be important to continue to review the need for future investment to ensure that significant capacity constraints did not develop at Milford Haven.

#### *Our View*

3.2. We agree that NGGT has followed a robust option selection process. We also agree that the Future Energy Scenarios provides a robust basis for forecasting future gas flows and that 2035 is an appropriate cut-of date for this needs case CBA. There is a suite of licence obligations in place that require NGGT to review on an annual basis future network capacity and investment requirements. These obligations are set out in:

- Special Condition 9.10: Long term network planning
- Special Condition 9.11: Transmission Planning Code
- Special Condition 9.12: Licensee's Network Model

**Question 2:** Do you agree with our minded to position to approve the needs case, allowing NGGT to proceed to the next stage of the FIOC Re-opener process?

3.3. Both respondents who answered this question supported our minded to position to approve the needs case submitted by NGGT.

*Our View*

3.4. We welcome the support expressed for our minded to position. We note further that no arguments were presented in opposition to any element of the assessment that underpinned this minded to position.

**Question 3:** Do you agree that the WGN project is compatible with Government's commitment to achieve net zero emissions by 2050?

3.5. Both respondents who answered this question agreed with our assessment that the WGN project is compatible with net zero emissions by 2050. Respondents noted that the CBA submitted by NGGT was based on the 2020 Future Energy Scenarios in which three out of the four scenarios achieved net zero by 2050. All these scenarios envisage an increased role for imported LNG until the mid-2030s as domestic gas production declines. Both respondents expressed the view that the WGN project would improve security of supply for energy consumers.

*Our view*

3.6. We welcome the support expressed for our assessment that the WGN project is compatible with achieving net zero and that it would benefit consumers by improving security of supply.

**Question 4:** Do you agree that NGGT's current preferred option represents an appropriate balance between delivering the required level of capability whilst limiting investment costs?

3.7. Both respondents who answered this question agreed that the preferred option represents an appropriate balance between capacity delivered and cost.

3.8. However, one respondent noted that the preferred option does not deliver the full capability for the incremental capacity requested in South Hook Gas LNG Gas Company Ltd's PARCA application. As a consequence, the respondent stated that there should be

specific constraint management tools applicable to this option to ensure that any risk arising from a lack of capability sits with NGGT and not with third party customers. This respondent stated that the current constraint management tools should be enhanced for sources of network flexibility such as LNG Terminals, Storage and Interconnectors. A review of existing constraint management mechanisms would therefore be welcomed by this respondent.

#### *Our View*

3.9. We note respondents' views on the current preferred option. In our needs case consultation, we noted that although NGGT had chosen a sensible preferred option, there were still a number of material outstanding issues that needed to be resolved before submission of a Project Direction application. These include the project delivery timetable, the feasibility of uprating the maximum operating pressure of existing pipelines and Above Ground Installations and, the overlap between the WGN project and Wormington Compressor Emissions projects. These issues remain outstanding. We therefore welcome the commitment that NGGT make in their needs case consultation response to provide us with an updated assessment of the preferred option prior to submission of any Project Direction application. We will continue to work with NGGT to understand the appropriate format this updated assessment of the preferred option should take.

3.10. In response to customers' requests for increased capacity NGGT will seek the optimum balance between network investment, commercial solutions and capacity constraint risk on the network. The preferred option maximises capability at the demand levels where it is needed most and where flows are most concentrated. Although when comparing maximum capability to baseline there is a relative decrease, there is a relative increase at lower demand levels. This minimises the number of predicted occasions on which flows are above this capability. The consequences of these breaches are fed into the Cost Benefit Analysis. A robust Cost Benefit Analysis is a key piece of evidence that NGGT have relied upon in meeting the requirements set out in the RIIO-2 FIOC Guidance and Submissions Requirements Document.

3.11. A number of sensitivities were run on the CBA assessment by NGGT, in order to determine that the preferred option remained as such, when simulating increased costs that may be borne by the nature of upstream LNG operations. This was undertaken with input from South Hook Gas Company Ltd and did not alter the decision as to the preferred option.

3.12. Constraint Management tools and services are principally prepared in accordance with NGGT's System Management Principles Statement pursuant to Special Condition 9.19 of NGGT's Gas Transporter Licence.<sup>6</sup> The System Management Principles Statement must be reviewed annually in consultation with those "materially affected by the licensee's use of System Management services". Other rules and common terms regarding capacity constraint management are outlined in the Uniform Network Code, where there are established industry processes to propose modifications. We would encourage those seeking to modify or propose changes to constraint management mechanisms to engage with these established processes outside of this consultation.

## **Other issues raised by respondents**

3.13. While NGGT as the owner of the needs case application did not directly answer any of the above questions, they did provide a number of comments on our needs case consultation.

3.14. On the issue of delivery timetable. NGGT noted our comment that, the WGN project plan contained an optimistic view on total construction duration. Given the work completed to date on the preferred option NGGT remain confident that the WGN project can be delivered by January 2025 and not January 2026 as indicated in Figure 2 on page 11 of our needs case consultation.

3.15. On the issue of WGN project scope. NGGT stated that, contrary to the view expressed in our needs case consultation, the scope of the WGN project had been well enough defined to select the preferred option. NGGT would continue to explore ways in which the interactions between the WGN project and Wormington Compressor projects could be managed to ensure the efficient delivery of both.

3.16. On the issue of further engagement prior to the submission of any Project Direction application. NGGT committed to providing us with an update at the next stage gate in the

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<sup>6</sup> [NGGT System Management Principles Statement means a statement of that name established in accordance with Part C and revised in accordance with Part D of Special Condition 9.19 of NGGT's Gas Transporter Licence \(System Management Services\)](#)

NGGT ND500 process (stage gate 4.3).<sup>7</sup> However, depending on the level of development or change this may not warrant being delivered as a formal Final Option Selection Report.

#### *Our View*

3.17. We note the comments with respect to both delivery timetable and WGN project scope. However, in the absence of any additional evidence to the contrary, the concerns we expressed in our needs case consultation remain. We therefore welcome the commitment that NGGT make in their needs case consultation response to provide us with an updated assessment of the preferred option as it passes through the internal NGGT “option select” ND500 process (stage gate 4.3). This should address the risks we have identified with respect to delivery timetable and WGN project scope. We will continue to work with NGGT to understand the appropriate format this updated assessment of the preferred option should take.

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<sup>7</sup> Stage gate 4.3 is the point along the NGGT internal governance process (ND500) at which commitment is made to a specific option which is progressed towards a final engineering design.

## 4. Conclusion and next steps

### Our decision

4.1. In reaching our decision we have made an assessment of the needs case application submitted by NGGT. This assessment was set out in our needs case consultation published on 14 October 2021. We have taken account of the consultation responses received in reaching our decision.

4.2. Our decision is to approve the need for the proposed output to which the application by NGGT in July 2021 relates. Subject to material planning consents having been secured,<sup>8</sup> NGGT may now submit an application to us for a FIOC Project Direction specifying an output, delivery date and associated allowances for the WGN project in accordance with Appendix 2 of Special Condition 3.13.

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<sup>8</sup> Special Condition 3.13.9(b)