



Making a positive difference
for energy consumers

National Grid Gas Plc
1-4 Strand,
London,
WC2N 5EH

Direct Dial: 020 7901 7295

Email: Marzia.Zafar@ofgem.gov.uk

Date: 31/01/2023

Dear National Grid Gas Plc,

Strategic Innovation Fund – Approval of the Material Change request for National Grid Gas Plc / HyNTS Compression

The Strategic Innovation Fund (SIF) supports network innovation that contributes to the achievement of Net Zero, while delivering net benefits to energy consumers. It facilitates collaboration with other public funders of innovation so that activities appropriately funded by network consumers are coordinated with activities funded by Government, and funding gaps are avoided. The SIF Governance Document sets out the governance and administration of the SIF.¹

On 1 August 2022, National Grid Gas was awarded SIF Funding for HyNTS Compression (the Project).² The purpose of the Project is to investigate the key challenges associated with the compression of hydrogen and hydrogen blends for use in the National Transmission System to determine the technical and commercial feasibility. Further to this decision, on 12 August 2022 Ofgem³ issued a SIF Project Direction.⁴

On 18 October 2022, National Grid Gas submitted a Material Change request for the Project to the Authority. The Material Change request was submitted due to:

- ITM Power, one of the Project Partners to the Project in the Application, was unable to formally join the Project and is stepping back from its role as Project Partner.

¹ <https://www.ofgem.gov.uk/publications/updated-sif-governance-document>

² <https://www.ofgem.gov.uk/publications/strategic-innovation-fund-round-1-alpha-projects-approved-funding>

³ The terms the "Authority", "Ofgem", "we" and "us" are used interchangeably in this document. The Authority refers to the Gas and Electricity Markets Authority. Ofgem is the Office of the Gas and Electricity Markets Authority.

⁴ <https://www.ofgem.gov.uk/publications/sif-round-1-alpha-phase-project-directions>

The Material Change request proposed the following changes to the schedule of the SIF Project Direction issued on 12 August 2022:

- Removal of ITM Power from Table 1 of Project Partners.
- In Annex 1, amending the Project Budget table to reflect the removal of ITM Power's 'Travel and Subsistence' costs from the 'Total Project Costs' column and 'Project contribution' column.
- In Annex 1, amending the Project Budget table to reflect the amended travel and substance costs.
- In Annex 1, amending the Project finances table to reflect that National Grid Gas Plc will be taking on ITM Power's labour costs, thereby increasing National Grid Gas' total costs by £16,000.
- In Annex 1, amending the Project finances table to reflect the contribution percentage change for National Grid Gas to reflect its increased total Project costs.
- In Annex 1, amending the Project finances table to reflect the total SIF Funding requested for National Grid Gas, as it will now be taking over ITM Power's work packages and SIF Funding originally allocated to ITM Power.
- In Annex 1, amending the Project finances table to remove the ITM Power row, thereby removing its name as a Project Partner, its total Project costs, its Project contribution percentage, its Project contribution amount, and its total SIF Funding requested amount.
- In Annex 1, amending the Project finances table total Project costs amount for the Project to reflect that ITM Power's £600 for 'Travel and subsistence' is no longer required. Similarly, amending the Project contribution total for the Project to reflect the £600 is no longer required.

National Grid Gas Plc has proposed taking over the work packages originally assigned to ITM Power and will use its internal knowledge to complete these work packages. In doing so, National Grid Gas will take on the SIF Funding allocated to ITM Power (£16,000.00). Furthermore, as ITM Power is no longer a Project Partner, the £600 contribution from ITM Power towards its 'travel and subsistence' costs is no longer required and is reflected in the amendments to the total Project costs and total Project contributions.

Ofgem's review

As set out in chapter 1 of the SIF Governance Document, Ofgem is the decision-maker in the SIF. Furthermore, as set out in chapter 6, Ofgem will consider Material Changes in circumstances and requests to change SIF Project Directions on a case by case, and will engage with monitoring officers on Projects to support the assessment of Material Change requests.

Ofgem has reviewed this Material Change requested submitted by National Grid Gas Plc and has engaged with the monitoring officer on the Project. Ofgem has reviewed the reasoning for the Material Change submitted by the Funding Party and considers it to satisfy the Eligibility Criteria in chapter 2 of the SIF Governance because:

- The requested change to the Project does not violate any of the Eligibility Criteria set out in chapter 2 of the SIF Governance Document.
- The requested change also does not violate the eligibility set out in the Innovation Challenge⁵ as the required Project Partners are remaining in the Project.
- National Grid Gas Plc has confidently and sufficiently outlined that they are capable of taking the work packages and deliverables originally allocated to ITM Power such that the Project's overall deliverables will not shift significantly. As a result of National Grid Gas Plc taking over the work packages originally assigned to ITM Power, National Grid Gas Plc will also be taking the SIF Funding allocated to ITM Power.

Decision

As a result of the reasons outlined above, Ofgem approves of this Material Change request.

In accordance with Section 17 of the Project Direction issued on 12 August 2022 and paragraph 6.25 of the SIF Governance Document, the amended SIF Project Direction for National Grid Gas / HyNTS Compression is published in the Schedule 1 of this letter. The amended SIF Project Direction is effective as of the date of this letter and, unless stated otherwise, supersedes the SIF Project Direction issued on 12 August 2022. The letter constitutes notice pursuant to section 49A (Reasons for decisions) of the Electricity Act 1989 and 38A (Reasons for decisions) of the Gas Act 1986.

If you would like to discuss any of the issues, you can contact Ofgem via networks.innovation@ofgem.gov.uk. Alternatively, you can contact UKRI via SIF_Ofgem@innovateuk.ukri.org.

Yours sincerely,

Marzia Zafar
Deputy Director of Strategy & Decarbonization

⁵ <https://www.ofgem.gov.uk/publications/strategic-innovation-fund-round-two-innovation-challenges>

For and on behalf of the Authority

Schedule: Amended SIF Project Direction

1. PROJECT DETAILS

SIF Project Direction reference: NGGT/HyNTS_Compression/SIFWholeSystem/Rd1_Alpha

Application number: 10036949

Project title: HyNTS Compression

Innovation Challenge/Project Phase: whole system integration / Alpha Phase round 1

Project start date: August 1, 2022

Project end date: January 31, 2023

SIF Approved Amount for SIF Funding: £499,898

2. PREAMBLE

This SIF Project Direction is issued by the Gas and Electricity Markets Authority (the "Authority") to National Grid Gas Plc (the "Funding Party") pursuant to the SIF Governance Document issued pursuant to Special Condition 5.7 of the Gas Transporter licence (the "Licence"). It sets out the conditions to be complied with in relation to HyNTS Compression (the "Project") as a condition of it being funded under the SIF Funding Mechanism.⁶

Unless otherwise specified, defined terms in this SIF Project Direction have the meaning given to them in the Licence or Appendix 1 of the SIF Governance Document.

References to specific sections of the Funding Party's Application in this SIF Project Direction are, for ease of reference, made by referring to the section number in the Funding Party's Application.

3. PROJECT SPECIFIC CONDITIONS

In accepting funding for the Project, the Funding Party is subject to the following Project-specific condition(s):

Condition 1

The Funding Party must not spend any SIF Funding until contracts are signed with the Project Partners named in Table 1 for the purpose of completing the Project.

Table 1. Project Partners

Siemens Industrial Turbomachinery Limited

⁶ The SIF Funding Return Mechanism is defined in the SIF Governance Document.

National Grid Electricity Transmission Plc
Northern Gas Networks Limited
Southern Gas Networks Plc
GL Industrial Services UK Limited
~~ITM Power Plc~~
Cullum Detuners Limited

Condition 2

The Funding Party must report on the financial contributions made to the Project as set out in its Application. Any financial contributions made over and above that stated in its Application should also be reported and included within the Project costs template.

Condition 3

The Funding Party must participate in all meetings related to the Project that they are invited to by Ofgem, UKRI and BEIS during the Alpha Phase.

Condition 4

Prior to the mid-Project Phase progress report, the Funding Party must provide to Ofgem and Innovate UK an explanation of how the allocation of Foreground IPR in the Project will ensure that the one compressor manufacturer involved in the Project does not exclusively own and hold IPR stemming from the Project, and as part of this, how the outputs of the modelling and asset trade-offs as part of the Project will be made available to other original equipment manufacturers.

4. COMPLIANCE

The Funding Party must comply with Special Condition 5.7 of the Gas Transporter licence (the "Licence") (National Grid Gas plc) the SIF Governance Document and with this SIF Project Direction.

5. SIF APPROVED AMOUNT

The SIF Approved amount of £499,898 (as detailed under Section 1: Project details of this Project Direction) will be recovered by National Grid Gas Transmission from GB customers and transferred to the Funding Party. The Funding Party is responsible for notifying National Grid Gas Transmission of the bank account details to which transfers must be made, in addition to completing Annex 2 of this SIF Project Direction. If a Funding Party is required to return funding to National Grid Gas Transmission, the reverse applies. The Funding Party must provide bank account details to National Grid Gas Transmission within two weeks of accepting this SIF Project Direction.

6. PROJECT BUDGET

The Project Budget is set out in Annex 1 of this SIF Project Direction.

The Funding Party must report on expenditure against each line under the category total in the Project Budget and explain any projected variance against each line as part of its detailed report which will be provided, in accordance with Chapter 7 of the SIF Governance Document. The Funding Party must report variations in the Project budget as outlined in Chapter 6 of the SIF Governance Document.

7. PROJECT IMPLEMENTATION

The Funding Party must undertake the Project in accordance with the commitments it has made in the Application and with the conditions of this SIF Project Direction. These include (but are not limited to) the following:

- (i) undertake the Project in accordance with its Application,
- (ii) complete the Project on or before the Project completion date as detailed under section 1 of the schedule of this SIF Project Direction, and
- (iii) disseminate the learning from the Project at least to the level described in chapter 3 of the SIF Governance Document. Dissemination of learning must be carried out whether the Project was concluded successfully or otherwise.

8. REPORTING

Ofgem and UKRI may issue guidance (and amend it from time to time) about the structure and content of the Project reporting required by Chapter 6 of the SIF Governance Document. The Funding Party must follow this guidance in preparing the reports.

The Funding Party must submit an end of Project Phase report to UKRI monitoring officers for the Alpha Phase. Within this report, the Funding Party must submit information related to questions on Project delivery as detailed in chapter 6, table 4 of the SIF Governance Document.

9. MONITORING

The Funding Party must comply with any reasonable request for information by its monitoring officer at UKRI and related deadlines. Ofgem, with the support of UKRI, will together monitor Project delivery, impacts and benefits. Throughout the term of the Project, progress is monitored by UKRI through a monitoring officer. The monitoring officer is the first point of contact for official notifications, queries and correspondence with UKRI and the Authority, unless otherwise required by this SIF Project Direction.

As detailed in Chapter 6 of the SIF Governance Document, meetings with the monitoring officer will take place at regular intervals, as advised by Ofgem or the monitoring officer during the delivery of the Project, and at the end of each Project Phase.

10. EVALUATION

The Funding Party has acknowledged when it submitted its Application for this Project, that reporting information and data gathered during the Project's timescales (as detailed in Section 1 of this SIF Project Direction) will be used to evaluate Project performance. In addition, the Funding Party may be required to provide requested information outside of the Project timescales and, in particular, for the period from the Project end date to the end of the SIF Programme. Further data and reporting information may be requested (frequency and method based on requirement) outside of standard monitoring and reporting requirements as deemed necessary. Further data and information requirements must be complied with by the Funding Party and Project Partners.

11. DATA SHARING

As set out in Chapter 3 of the SIF Governance Document, the Funding Party must follow Data Best Practice Guidance with regards to all data gathered or created in the course of a Project. We expect the Funding Party to document any reasons, such as commercial sensitivities, for desensitising data. As defined by, and in accordance with, Data Best Practice Guidance, Funding Parties must have a data triage process. Where multiple Project Partners are collaborating on a Project, the consortium must adopt a consistent Open Triage Process for the data related to the Project. Ofgem may require that Project information and data is also shared with other specified parties, such as parties working on complementary innovation funding programmes (subject to redaction of sensitive data).

12. CYBER SECURITY

It is the responsibility of the Funding Party and all Project Partners to implement and maintain appropriate security measures to protect personal data in accordance with The GDPR (General Data Protection Regulation)⁷ and DPA (Data Protection Act) 2018⁸. Protection of computer systems from unauthorised access or being otherwise damaged or made inaccessible must be in place alongside effective working practices. These must be maintained in line with the Funding Party's IT Management Strategies and policies.

⁷ https://ec.europa.eu/info/law/law-topic/data-protection/data-protection-eu_en

⁸ <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>

13. PROJECT MILESTONES

The Funding Party must submit its end of Project Phase report to its monitoring officer that verifies the Project milestones have been achieved or explains why they have not.

Project milestones are outlined below in Table 3, based upon details contained within Question 7 and Appendix Question 9 in the Funding Party's.

Table 3. Project milestone⁹

Reference	Project milestone	Deadline	Evidence	SIF Funding Request (100%) ¹⁰
Milestone 1	M1: Reporting on visual inspection of existing compression equipment	January 31, 2023	<p>This milestone focuses on the reporting on the existing compression equipment. Work in this milestone will focus on work package 3 (Gas turbine drive systems and alternative drive systems), work package 4 (compression equipment), and work package 5 (site infrastructure and equipment), as detailed in the Project plan appendix of the Application.</p> <p>This milestone will look to develop and deliver according to the timeline provided in the Project plan appendix of the Application a report detailing the condition of the existing compression equipment and its suitability for repurposing.</p>	£50,000 (10%)

⁹ As outlined in in the Application or Project Plan appendix.

¹⁰ Where Project Applications were not explicit on milestone(s) as a percentage of total SIF Funding Request, milestone(s) as a percentage of total project costs were applied to the SIF Funding Request. In some circumstances where the information needed to complete this table was not available in an Application, Funding Parties were requested to provide this information separately.

Milestone 2	M2: Completion of NTS compression modelling	January 31, 2023	<p>This milestone focuses on NTS compression modelling. Work in this milestone will focus on work package 2 (Business case & requirements development), as detailed in the Project plan appendix of the Application.</p> <p>This milestone will focus on the requirements for modelling, a summary of the inputs and outputs of electrolysers, and an examination of potential electrolyser locations. As part of this milestone, there will be the development of a technical report detailing the results of compression modelling, requirements for demonstration, proposed test plan and business case.</p>	£28,000 (6%)
Milestone 3	M3: Conceptual design of compression systems	January 31, 2023	<p>This milestone focuses on the conceptual design of compression systems. Work in this milestone will focus on work package 3 (Gas turbine drive systems and alternative drive systems), work package 4 (compression equipment), and work package 5 (site infrastructure and equipment), as detailed in the Project plan appendix of the Application.</p>	£250,000 (50%)

			This milestone will focus on delivering conceptual designs of the drive system, compressors, hydrogen cab and a demonstration site.	
Milestone 4	M4: Final reporting	January 31, 2023	<p>This milestone focuses on the delivery of a final report spanning all the Project work packages, as detailed in the Project plan appendix of the Application. This milestone involves the finalisation of work across work package 2 (business case & requirements), work package 3 (gas turbine drive systems and alternative drive systems), work package 4 (compression equipment) and work package 5 (site infrastructure and equipment).</p> <p>As detailed in the Project plan appendix of the Application, the final report will include:</p> <ul style="list-style-type: none"> • A report detailing the results of compression cab assessment and recommendations for equipment to be reused, repurposed or replaced. • A conceptual design of demonstration site including compression loop, aftercooler, hydrogen supply and storage, groundworks 	£171,898 (34%)

			<p>and civil base and accompanying report.</p> <ul style="list-style-type: none"> • A conceptual design and report of hydrogen ready compression cab • A detailed asset transport plan. 	
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14. USE OF LOGO

The Funding Party and the Project Partners, External Funders and Project Supporters or subcontractors¹¹ must not use the Innovate UK/UKRI and/or Ofgem logo for purposes associated with the Project in any circumstances.

As an alternative for use of both Ofgem and UKRI logos, all external Project communications must include the following standard form of wording:

- (i) "this project is funded by network users and consumers under the Strategic Innovation Fund, an Ofgem programme managed in partnership with UKRI."

For additional guidance, refer to the communications and media guidelines for competition winners, detailed as part of your delivery pack. These guidelines are designed to help with some suggestions and encourage you to take a proactive approach to communicating about your Project.

15. SHARING OF LESSONS LEARNED

The Funding Party is required to ensure that the sharing of lessons learned and the facilitation of knowledge transfer is conducted as effectively as possible, to ensure that all parties, and therefore all consumers including future consumers, can benefit from Projects.

As contained within Chapter 3 of the SIF Governance Document, we require the Funding Party to work collaboratively to maintain the ENA Smarter Networks Portal so that all reporting and dissemination of learnings on Projects (as required by chapter 6 of the SIF Governance Document) is available via the ENA Smarter Networks Portal.

¹¹ As detailed in the Application.

16. COLLABORATION

The Funding Party must collaborate with third-party innovators as Project Partners, as well as work closely with other parties in the energy supply chain, as set out in Chapter 3 of the SIF Governance Document.

The Funding Party must collaborate with other parties and with UKRI to organise an annual conference in a format appropriate to enabling the building of consortiums and disseminating learning widely. The conference may be a single event for gas and electricity, or more than one event, as appropriate.

17. AMENDMENT OR REVOCATION

As set out in Chapter 7 of the SIF Governance Document, this SIF Project Direction may be amended or revoked under the following circumstances:

- (i) if the Funding Party considers that there has been a material change in circumstance that requires a change to the SIF Project Direction, and the Authority agrees; or
- (ii) to reflect amendments made to the Licence.

18. HALTING OF PROJECTS

This SIF Project Direction is subject to the provisions contained in Chapter 7 of the SIF Governance Document relating to the halting of Projects. By extension, this SIF Project Direction is subject to any decision by the Authority to halt the Project to which this SIF Project Direction relates and to any subsequent relevant SIF Funding Direction issued by the Authority pursuant to Special Condition 5.7 of the Gas Transporter licence (the "Licence").

Further to the requirements in Chapter 7 of the SIF Governance Document, in the event the Authority decides to halt the Project, to which this SIF Project Direction relates, to which this SIF Project Direction relates, the Authority may issue a statement to the Funding Party clarifying the effect of that halting decision as regards to the status and legal force of the conditions contained in this SIF Project Direction.

NOW THEREFORE:

In accordance with the SIF Governance Document issued pursuant to Special Condition 5.7 of the Gas Transporter licence (the "Licence") of the Licence the Authority hereby issues this SIF Project Direction to the Funding Party in relation to the Project.

This constitutes notice of reasons for the Authority's decision pursuant to section 38A (Reasons for decisions) of the Gas Act 1986.

Failure to comply with the conditions of this SIF Project Direction means that Ofgem may treat all or part of the SIF Approved Amount received by the Funding Party as SIF Disallowed Expenditure.

ANNEX 1: PROJECT BUDGET

SIF Project Direction costs¹²			
Cost Category	Total Project costs (£)	Project contribution (£)	Total SIF Funding requested (£)
Labour	£524,082	£41,483	£482,599
Materials	£6,307	£1,684	£4,623
Subcontracting	£0	£0	£0
Travel and subsistence	£11,346 <u>£10,746.00</u>	£1,970 <u>£1,370.00</u>	£9,376
Other costs	£17,300	£14,000	£3,300
Total	£559,035 <u>£558,435.00</u>	£59,137 <u>£58,537.00</u>	£499,898

Project finances				
Project Partner	Total project costs (£)	Project contribution (%)	Project contribution (£)	Total SIF Funding requested (£)
National Grid Gas Plc	£95,860 <u>£111,860.00</u>	0% <u>45%</u>	£50,000	£45,860 <u>£61,860.00</u>
Siemens Industrial Turbomachinery Limited	£171,075	0% <u>0.5%</u>	£900	£170,175
National Grid Electricity Transmission Plc	£6,000	0%	£0	£6,000
Northern Gas Networks Limited	£2,020	0%	£0	£2,020
Southern Gas Networks Plc	£1,848	0%	£0	£1,848
GL Industrial Services UK Limited	£167,995	0%	£0	£167,995
ITM Power Plc	£16,600 <u>£0.00</u>	0%	£600 <u>£0.00</u>	£16,000 <u>£0.00</u>
Cullum Detuners Limited	£97,637	<u>8%</u>	£7,637	£90,000
Total	£559,035 <u>£558,435.00</u> <u>0</u>		£59,137 <u>£58,537.00</u>	£499,898

¹² Funding Parties were requested to provide the information in this table separate to their Application submissions.

ANNEX 2 TO SCHEDULE: TEMPLATE OF BANK ACCOUNT DETAILS TO BE PROVIDED TO NGGT (BOX.GSOSETTLEMENTS@NATIONALGRID.COM)

Company name:

Primary Contact Details (only one contact permitted)

First Name:

Last Name:

Email address:

Mobile phone number:

Work phone number:

Address details

Address name:

Street address:

City:

State / region:

Post code:

PO box: (if applicable)

PO box post code: (if applicable)

Banking details

These should be evidenced in non-editable format. The evidence provided must show company name and bank details and it should be dated within the last 6 months.

Any of the below documents will suffice:

- Bank statement (scanned document)
- Void cheque
- Paying in slip
- Screenshot of online banking (showing a logged in account with bank account and sort code, with browser visible)