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Date: 29 June 2023

Dear National Grid Gas Plc,

**SIF Project Direction ref:**

**NGGT/HyNTS Deblending for Transport Applications/SIFZET/Rd1 Beta**

National Grid Gas Plc submitted HyNTS Deblending for Transport Applications (the Project) to be considered for funding through the Beta Phase of the Strategic Innovation Fund (SIF). As explained in greater detail below, this Project previously received SIF Funding and completed a Discovery Phase and Alpha Phase for round 1 of the SIF. In our<sup>1</sup> SIF funding decision which is finalised and will be issued on 18 July 2023, we selected the Project<sup>2</sup> for conditional funding and as a result we are now issuing this SIF Project Direction to implement that decision.

National Grid Gas Plc must comply with the conditions contained in this SIF Project Direction as a condition of the Project receiving funding through the SIF. These conditions can be found in the Schedule to this document.

**Progression through SIF Phases**

The SIF consists of a multi-phase approach for Projects in order to mitigate the risk associated with innovations. The Discovery Phase focuses on feasibility, the Alpha Phase on experimental development, and the Beta Phase on deployment and demonstration.

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<sup>1</sup> The terms 'we', 'us', 'our' refer to the Gas and Electricity Markets Authority. Ofgem is the office of the Authority.

<sup>2</sup> Unless otherwise specified, defined terms in this SIF Project Direction have the meaning given to them in Appendix 1 of the SIF Governance Document.

The Project previously received SIF Funding for the Discovery Phase<sup>3</sup> and Alpha Phase<sup>4</sup> of round 1, and submitted an Application for the Project to be considered for SIF Funding through the Beta Phase of round 1 of the SIF. As stated above, the Project has been selected to receive SIF Funding for the Beta Phase of round 1.

### **Role of UK Research & Innovation (UKRI)**

As per Chapter 1 of the SIF Governance Document<sup>5</sup> the role of UKRI is to deliver the SIF in line with the SIF Governance Document - administering the funding programme, monitoring the delivery of Projects, collating data from Projects on benefits, making recommendations to Ofgem on operational matters, supporting third-party innovators and, where possible, successful Projects to become 'business as usual' activities. To support the success of the Projects and the SIF programme, we expect that the Funding Party and Project Partners collaborate with Ofgem and UKRI.

### **SIF Project Direction**

Paragraph 5.14 of the SIF Governance Document states that a SIF Project Direction will:

- Set out the Project-specific conditions, to which the Funding Party is committing in accepting SIF Funding.<sup>6</sup>
- Require the Funding Party to undertake the Project in accordance with the commitments made in the Application. Where appropriate, the SIF Project Direction may therefore include extracts from the Application or refer to specific sections of the SIF Application.<sup>7</sup>
- Where applicable, set out conditions (such as Project stage gates) linked to milestones and deliverables, which Projects must meet.<sup>8</sup>
- Set out the SIF Approved Amount for the Project, that will form part of the calculation contained in the SIF Funding Direction issued by the Authority under chapter 7 of the SIF Governance Document.<sup>9</sup>
- Set out the Project budget that the Funding Party must report against and how variations in the Project budget will be reported.<sup>10</sup>

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<sup>3</sup> The Project Directions for round 1 of the Discovery Phase are available at:

<https://www.ofgem.gov.uk/publications/strategic-innovation-fund-discovery-projects-approved-funding>.

<sup>4</sup> The Project Directions for round 1 of the Alpha Phase are available at:

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

<sup>5</sup> <https://www.ofgem.gov.uk/publications/sif-governance-document>

<sup>6</sup> 'Project specific conditions' detailed under Point 3 – 'Condition President' of this SIF Project Direction.

<sup>7</sup> 'Project specific conditions' detailed under Point 3 – 'Condition President' of this SIF Project Direction.

<sup>8</sup> 'Project specific conditions' detailed under Point 3 – 'Condition President' of this SIF Project Direction.

<sup>9</sup> 'SIF Funding Amount' detailed under Point 5 – 'Condition President' of this SIF Project Direction.

<sup>10</sup> 'Annex 1 – Project Budget.

- Where applicable, set out special information sharing requirements applicable to the Project.<sup>11</sup>
- Set out the mechanism for the Funding Party receiving the SIF Approved Amount as set out in the SIF Funding Direction.<sup>12</sup>

All SIF Project Direction requirements are detailed in the Schedule to this SIF Project Direction.

### **Decision**

Provided the Funding Party complies with the SIF Governance Document and with the Schedule to this SIF Project Direction, the Project is deemed to be an Eligible SIF Project<sup>13</sup>.

This SIF Project Direction constitutes notice pursuant to section 38A (Reasons for decisions) of the Gas Act 1986.

**Marzia Zafar**

**Deputy Director, Decentralisation & Digitalisation**

**For and on behalf of the Authority**

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<sup>11</sup> 'Project specific conditions' detailed under Point 3 – 'Condition President' of this SIF Project Direction.

<sup>12</sup> 'SIF Funding Amount' detailed under Point 5 – 'Condition President' of this SIF Project Direction.

<sup>13</sup> The meaning 'Eligible SIF Project' is described in Chapter 2 of the SIF Governance Document.

## Schedule to SIF Project Direction

### 1. PROJECT DETAILS

SIF Project Direction reference:

NGGT/HyNTS\_Deblending\_for\_Transport\_Applications/SIFZET/Rd1\_Beta

Application number: 10062041

Project title: HyNTS Deblending for Transport Applications

Innovation Challenge/Project Phase: Zero emission transport / Beta Phase round 1

Project start date: 01 July 2023

Project end date: 31 May 2026

SIF Approved Amount for SIF Funding: £9,921,257

### 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 Deblending for Transport Applications (the "Project") as a condition of it being funded under the SIF Funding Mechanism.<sup>14</sup>

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 – SIF Funding and contracts***

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.

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<sup>14</sup> The SIF Funding Return Mechanism is defined in the SIF Governance Document.

**Table 1. Project Partners**

DNV SERVICES UK LTD
ELEMENT ENERGY LIMITED
ELEMENT 2 LIMITED
HyET HYDROGEN B.V.
NORTHERN GAS NETWORKS LIMITED
SOUTHERN GAS NETWORKS PLC
CADENT GAS LIMITED
WALES & WEST UTILITIES LIMITED

***Condition 2 – Financial contribution***

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 – Meeting arrangements***

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

***Condition 4 – Stage gate scoping***

The Funding Party must, with support from Innovate UK/UKRI and, where applicable Ofgem, scope the requirements and success criteria for each stage gate within a Project at the quarterly reporting meetings ahead of any stage gate. These will be used to determine what criteria a Project must meet in order to pass a stage gate, and whether any additional information, such as a report, must be produced as part of the stage gate.

***Condition 5 – Dissemination of annual progress report(s)***

Each of the annual progress reports that the Funding Party publishes in the Beta Phase must, at a minimum, be uploaded to the ENA's Smarter Networks Portal. We also strongly encourage wider dissemination of the annual progress report(s) and support from all Project Partners in ensuring it reaches a wide audience.

***Condition 6 – Impact monitoring***

As part of the end of Project Phase report, the Funding Party must produce a Project Impact Monitoring and Evaluation Plan. This plan must outline how the Project plans to monitor and evaluate the delivery of benefits outlined in the Beta Phase Application following the end of the Beta Phase. The plan must also include the methodology that

will be utilised for quantifying and qualifying benefits realisation and how the Funding Party plans to report this to Ofgem 1, 3, 5 & 10 years post-Beta Phase completion. Further details on how to approach the development of this plan may be provided by Ofgem or IUK.

#### ***Condition 7 – SIF Community Forums***

The Funding Party and all Project Partners must make reasonable attempts to attend, participate and/or contribute at SIF Community Forum events occurring during the Project delivery. We anticipate there being approximately one event per year.

#### ***Condition 8 – Policy, regulatory and standards barriers***

The Funding Party must provide verbal updates at each quarterly meeting on any regulatory, policy and standards barriers and any change requirements which may impact delivery of the Beta Phase activities. The Funding Party must also include as an attachment to each of its annual progress report an update on any regulatory, policy and standards barriers which may require derogations and articulation of any proposed regulatory, policy and standards changes which would be necessary in deployment. The Funding Party must also provide an as an attachment to its end of Project Phase report a summary of the Project's findings on regulatory, policy and standards barriers, including any considerations for future work, and where applicable, where specific regulatory, policy and standards changes would be required for deployment.

#### ***Condition 9 – Updated 60-second videos***

The Funding Party must provide by 1 December 2023 an updated 60-second video. If the Project is greater than two years (longer than 24 months) in length, an updated video must also be provided at the Project's mid-point meeting. All Projects must also provide an updated 60-second video as part of their end of Project phase report. Innovate UK can share its guidance for 60-second videos with the Funding Party, if necessary.

#### ***Condition 10 – Consumer engagement***

The Funding Party must provide an update on consumer engagement plans at every second monitoring meeting (i.e. every six months). This must include an update on any activities which involve engagement and interaction with energy consumers, and any impact the Project may have on existing or future energy consumers and their premises.

### ***Condition 11 – Post-Beta Phase roadmap***

The Funding Party must provide to the monitoring officer by 1 April 2024 a roadmap for activities post-Beta Phase. This can build on the Project's Application question (question 11) and must focus on how and when the proposed solution will become business as usual within your network and across the other GB gas or electricity networks.

As part of this, the Funding Party must include consideration for:

- I. any steps the Project will take to ensure its innovation has suitable business as usual adoption;
- II. the Funding Party's strategy for adoption of the innovation or proposed solution, giving consideration to potential investment, ongoing costs and third-party involvement and;
- III. any early indication of interest from other networks in adopting the innovation.

The Funding Party must provide an update on all the above at every two quarterly monitoring meetings (i.e. every six months) and must include a final update of this roadmap as attachment to its end of Project Phase report.

### ***Condition 12 – Commercialisation strategy***

The Funding Party must provide at every second quarterly monitoring meeting (i.e. every six months) an update on its commercialisation strategy. This can build on the Project's Application question (question 12) and must focus on what considerations have the Project consortium made for the commercialisation of the proposed solution or innovation, and how the Project provides support for non-network partners to move towards commercialisation. As part of this, the Funding Party may wish to include consideration for:

- I. who the primary customer segment is beyond the Funding Party; the customer value proposition;
- II. if identified, the outline of the route to market and potential new partnerships;
- III. any additional Project Partner capital requirements in order to commercialize the innovation and;
- IV. how this product, process or service could be scaled across the GB network and taken to new markets.

The Funding Party must also include a final update of its strategy as an attachment to its end of Project Phase report. Ofgem and/or Innovate UK may issue a template for the final update as part of the end of Project Phase report.

### **Condition 13**

The Funding Party must provide an update in its second quarterly meeting with its monitoring officer on its ability to obtain hydrogen at the volumes required for the Project. The Funding Party must provide an outline of what opportunities there are for the Project to use green hydrogen in its demonstration activities, and how hydrogen trial projects can be used to help stimulate the development of the green hydrogen market within the UK. As part of this, the Funding Party must demonstrate consideration for how the use of green hydrogen may alter or change its proposed solution.

### **Condition 14**

The Funding Party must demonstrate an approach to Ofgem for maximising future value to all energy consumers for all activities occurring beyond the Beta Phase at the test facility at Spadeadam being constructed through the SIF in the Beta Phase. This outline should include any activities which the Funding Party plans to investigate related to the future opportunities for the test site, including outreach activities to raise awareness of the capabilities, opportunities for increased involvement by Project Partners or other network licensees, and opportunities for site use both nationally and internationally. As part of this submission, the Funding Party must provide to Ofgem by 1 April 2024 a formal proposal for the future operation of the test site and how the Funding Party plans to maximise the future value of the test site to all energy consumers beyond the Project's Beta Phase activities. The Funding Party can work across the other Beta Phase Projects which have this condition (HyNTS Compression, Velocity Design with Hydrogen) and note that this proposal can be fully or partially combined with those due from the other Beta Phase Projects. This should consider, but not be limited to;

- I. The overall mechanism or approach for maximising consumer value from the SIF investment beyond the Beta Phase
- II. Legacy ownership of assets on trial sites, including details on any decommissioning plans, and should there be no decommissioning following the Beta Phase, including statements of support from National Gas Transmission and any relevant third parties on the test site's physical and cyber security to ensure opportunities for continued use beyond the Beta Phase
- III. Return of commercial royalties associated with SIF funded assets to the consumer, including for example, how any revenues generated by the construction of the Beta Phase test site will be returned to consumers and whether this will occur via the Funding Party or another mechanism



- IV. Any approach to discounted or preferential access to test sites for GB network licensees or other organisations developing tests or technologies which are likely to benefit GB energy consumers
- V. The approach to intellectual property (IP) arrangements and how these IP arrangements will facilitate the return of benefits to consumers
- VI. A governance plan, including an outline of how decision making and spend controls relating to investment at the test site will occur beyond the Beta Phase and which may impact future SIF Projects and how the site will develop commercial business opportunities

The Funding Party must provide within the last six months of the Project (i.e. by 1 December 2025) an update on the above, including consideration for any new developments or opportunities that have occurred since the initial submission. Upon receipt of the Funding Party's proposal to Ofgem, Ofgem will determine whether to approve the proposal, or direct alternative arrangements prior to the completion of the Project's activities.

#### **Condition 15**

The Funding Party must regularly engage with potential demand users who would provide refuelling stations should the Project's proposed solution be successful. This could include, for example, market customers and supply chain observers. The Funding Party must include as part of each of its Beta Phase annual reports an attachment with an update on who the Project has engaged with since the last annual report and how their feedback has been incorporated into the Project.

#### **Condition 16**

The Funding Party must regularly engage with the successful Zero Emission Road Freight (ZERFT) Projects, once they are announced by Innovate UK and/or the Department for Energy Security and Net Zero (DESNZ), to identify areas of potential overlap and collaboration. As part of this, the Funding Party must provide an update on its ongoing engagement with the ZERFT Projects at its quarterly meetings with its monitoring officer.

#### **Condition 17**

Prior to 1 April 2024, the Funding Party must provide an outline of the IPR value from the Project to supply chain providers manufacturing the equipment in the Project. As part of this, the Funding Party must outline how the Project has taken an IPR approach which ensures replicability by other supply chain manufacturers.

#### **4. COMPLIANCE**

The Funding Party must comply with Special Condition 5.7 of the Gas Transporter licence (the “Licence”), the SIF Governance Document and with this SIF Project Direction.

#### **5. SIF APPROVED AMOUNT**

The SIF Approved amount of £9,921,257 (as detailed under Section 1: Project details of this Project Direction) will be recovered by National Gas Transmission from GB customers and transferred to the Funding Party. The Funding Party is responsible for notifying National 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 Gas Transmission, the reverse applies. The Funding Party must provide bank account details to National 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 Beta Phase. Within this report, the Funding Party must submit information related to questions on Project delivery as detailed in chapter 6, table 6 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)<sup>15</sup> and DPA (Data Protection Act) 2018<sup>16</sup>. 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.

## **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.

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<sup>15</sup> [https://ec.europa.eu/info/law/law-topic/data-protection/data-protection-eu\\_en](https://ec.europa.eu/info/law/law-topic/data-protection/data-protection-eu_en)

<sup>16</sup> <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>

**Table 3. Project milestone<sup>17</sup>**

Reference	Project milestone	Deadline	Overall objectives and key tasks	Summary of Milestones and Success Criteria	SIF Funding Request (100%)
Milestone 1	WP1: Project Management and dissemination	31 May 2026	<p>Overall work package objectives:</p> <p>This work package's overall objective will be to track and monitor project progress against the project plan and budget. To facilitate continued decision making throughout the project this work package will also include responsibility to arrange regular team meetings. In addition, this WP package will ensure that through regular communication, any issues that arise within the project are dealt with at an early stage.</p> <p>Key tasks:</p>	<p>M1.1: Project kick off meeting: Commencement of project activities. (£0.00)</p> <p>M1.2: Periodic report: Project running to timetable and project on target with budget. Deliverables noted within last quarter submitted. (£35,438.33)</p> <p>M1.3: Periodic report: Project running to timetable and project on target with budget. Deliverables noted within last quarter submitted. (£35,438.33)</p>	<p>£156,922.00</p> <p>(2%)</p>

<sup>17</sup> As outlined in in the Application or Project Plan appendix.

		<p>1.National Gas to lead various project management activities, this will include:</p> <p>a) 1. Quarterly Periodic reporting on project progress</p> <p>b) 2. Monitoring and regularly circulating updates on project progress</p> <p>c) 3. Arranging and leading monthly steering group calls and producing the minutes from these meetings. The Steering Group will comprise of all project partners.</p> <p>d) 4. Resolving ad hoc projects with the project as they arise</p> <p>e) 5. Maintaining a live action log and ensuring all partners deliver required work.</p> <p>f) 6. Interfacing with UKRI, providing any financial reporting required</p> <p>g) 7. Reporting from the Beta Phase, with support from the National Grid</p>	<p>M1.4: Final project reporting: Project deliverables submitted and project delivered to time and budget. (£35,439.34)</p> <p>M1.5: Completion of Gas network inputs: Input of expertise from alternative gas network projects relating to deblanding technologies and mobility uptake complete (validated by D1.6). (£14,570.00)</p> <p>M1.6: Completion of Gas network inputs: Input of expertise from alternative gas network projects relating to deblanding technologies and mobility uptake complete (validated by D1.6). (£10,428.00)</p>	
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			<p>GT&amp;M, Element 2 and inputs from organisations across the project team</p> <p>h) 8. Compiling a live 'lessons learned' document that captures the key learnings for future deblanding projects</p> <p>i) 9. Maintaining a live risk register to monitor project risks</p> <p>2. The National Gas will lead the dissemination of findings to gas network operators in the UK and Europe, potential fuel retailers and the general public through a number of avenues including dedicated workshops with UK networks, presentations of summary findings to the ENTSOG (EU National Transmission System Operators Group), public webinars and the presentation of the project at appropriate conferences and events. Element Energy will support the preparation of materials for webinars. All project members will also endeavour. Project updates which</p>	<p>M1.7: Completion of Gas network inputs: Input of expertise from alternative gas network projects relating to deblanding technologies and mobility uptake complete (validated by D1.6). (£12,639.00)</p> <p>M1.8: Completion of Gas network inputs: Input of expertise from alternative gas network projects relating to deblanding technologies and mobility uptake complete (validated by D1.6). (£12,969.00)</p>	
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			summarise project progress and key learning will be provided annually through each of these dissemination avenues.		
Milestone 2	WP2: Detailed design and preparation for deblending facility within FutureGrid	31 May 2026	<p>Overall work package objectives: To provide detailed designs for the FutureGrid deblending test facility. As part of this WP a thorough safety assessment carried out for all designs will also be carried out.</p> <p>Key tasks:</p> <p>1. Undertaking all design work required for the project including:</p> <p>a) Deblending facility (HyET)</p> <p>b) Tie into the FutureGrid facility, both flows into the deblending facility and re-injection post deblending (HyET)</p>	<p>M2.0a: Start of detail design: Start of detailed engineering deblending and compression/purification. (£158,400.00)</p> <p>M2.0b: Start of detail design: Start of detailed engineering for FutureGrid connection. (£177,772.00)</p> <p>M2.1: Completion of HRS design: Refuelling station design completed and signed off by Element 2. (£45,000.00)</p> <p>M2.2: Completion of detailed design for the de-blending and testing and data collection protocols complete:</p>	<p>£558,944.00</p> <p>(6%)</p>



		<p>c) Site integration and utility connections, including H2 pipeline routing to refuelling station (DNV)</p> <p>d) Metering and gas analysis pre and post separation (DNV)</p> <p>e) Compression and purification (HyET)</p> <p>f) Refuelling station (Element 2)</p> <p>2. Procurement of appropriate refuelling station supplier (Element 2)</p> <p>3. Safety assessments will be carried out for the final designs, including HAZOP and process safety assessments (DNV)</p> <p>4. A detailed plan for construction of the facility (DNV lead with HyET support)</p> <p>5. A detailed testing plan and success matrix (HyET). Project partners will also agree on and define protocols for data collection, and finalise the performance KPIs for the deblending equipment proposed in the alpha phase (HyET lead)</p>	<p>Design(D1.1) finalised for de-blending of gas and compression and purification and signed off. (£0.00)</p> <p>M2.3: FutureGrid design and construction plan complete and HAZOP and safety assessments passed: All design and plan work completed to enable construction of Deblending facility and HRS. HAZOP and safety assessment produced ready for construction (D2.4). (£177,772.00)</p>	
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			6. A plan for hydrogen supply and retail to vehicles on site will be developed and agreed with the consortium (DNV)		
Milestone 3	WP3: Mechanical, Civil and E&I works at Future Grid	31 May 2026	<p>Overall work package objectives: To prepare the site for the installation of the deblending equipment. This will involve civil engineering work to ensure the site is ready for the construction, installation and commissioning of de-blending equipment that will occur in WP4 and developing the associated utility connections for the deblending facility.</p> <p>Key tasks:</p> <p>The Futuregrid site benefits from existing site levelling works at the location of the proposed deblending facility. Therefore only new foundations, and utility connections will be required for deblending facility. The refuelling station, however will require and hence will</p>	<p>M3.1: Commence of civils, including signing of subcontract and order of parts. (£697,480.00)</p> <p>M3.2: Completion of civils ready for start of construction: Site is ready for the installation of the de-blending facility. (£697,480.00)</p>	<p>£1,394,960.00 (14%)</p>

			<p>require new site levelling and that DNV will lead the site preparation work including the following tasks:</p> <ol style="list-style-type: none"><li>1. Deblending facility foundations and utility connection.</li><li>2. Civils required for hydrogen pipeline development to hydrogen refuelling station</li><li>3. Civils required to prepare for HRS and compression/purification construction (incl. ground levelling, foundations and utility connection)</li><li>4. Civils and Installation of pipework from FutureGrid to the deblending unit and from the deblending unit to the HRS</li><li>5. Installation of the Electrical &amp; Instrumentation cable for the deblending station and refuelling station</li></ol>		
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Milestone 4	WP4: Fabrication of de-blending and HRS equipment offsite and delivery to site	31 May 2026	<p>Overall work package objectives: To deliver and install the de-blending equipment at the FutureGrid site. Within this work package, the building of the de-blending and electrochemical compression units will occur, as well as the commissioning the demonstration unit.</p> <p>Key tasks:</p> <p>0. HyET will order long lead items at the start of the project</p> <p>1. HyET will lead the fabrication of the deblending equipment off site, factory acceptance testing and then deliver the equipment to the FutureGrid facility.</p> <p>2. As in Task 2 – but for the electrochemical compression/purification equipment.</p>	<p>M4.0: Order of long lead items for electrochemical compressor and deblending equipment: Equipment ordered to schedule and in line with detailed design carried out in WP1. (£1,729,165.00)</p> <p>M4.1a: Start of Fabrication of deblending: Long lead items received and HyET commence fabrication of electrochemical deblending. (£1,081,774.00)</p> <p>M4.1b: Start of Fabrication of EC&amp;P: Long lead items received and HyET commence fabrication of electrochemical compression and purification units. (£229,849.00)</p>	£4,041,095.00 (41%)
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			<p>3. DNV will procure all of the parts required to connect the deblending facility to the Future Grid site.</p> <p>4. HyET will lead the transport of de-blending &amp; purification equipment to site</p> <p>5. Element 2 will monitor the manufacturing of the refuelling station equipment.</p> <p>6. Element 2 will also review the factory acceptance tests of the refuelling station equipment, to ensure performance.</p> <p>7. Element 2 liaise with a subcontractor who will construct of a HRS offsite and then the delivery of HRS to the FutureGrid site</p>	<p>M4.2: Placement of HRS order: Equipment ordered with selected successful supplier and meeting detailed design in WP1. (£536,400.00)</p> <p>M4.3: Electrochemical compressor/purifier delivered to Future Grid site: Electrochemical compressor/purifier arrive on site and delivery signed off, after passing factory acceptance tests (D4.2). (£83,581.00)</p> <p>M4.4: Refuelling station delivered to site: Constructed refuelling station delivered to site ready for installation to occur. (£67,500.00)</p> <p>M4.5: Electrochemical deblending equipment delivered to site:</p>	
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				Electrochemical de-blending equipment arrives on site and delivery signed off, after passing factory acceptance tests (D4.1). (£312,826.00)	
Milestone 5	WP5: Facility installation and commissioning	31 May 2026	<p>Overall work package objectives: The installation and commissioning of the de-blending equipment and refuelling station on site, as well as the delivery of vehicles to the site.</p> <p>Key tasks:</p> <ol style="list-style-type: none"> <li>1. Through a selected supplier, a hydrogen refuelling station will be installed and commissioned at the FutureGrid site, with the support of DNV</li> <li>2. DNV and HyET will work together to lead the installation and commissioning of de-blending equipment at the Future Grid site. DNV will carry out the installation under HyET supervision, DNV</li> </ol>	<p>M5.1: Installation of electrochemical compression and purification complete: EC&amp;P installed and signed off by HyET and DNV, ready for commissioning. (£66,493.00)</p> <p>M5.2: Installation of HRS complete: HRS installed and signed off by Element 2 and DNV. Ready for commissioning. (£63,000.00)</p> <p>M5.3: Installation of electrochemical deblending complete: Deblending system installed and signed off by HyET and DNV. (£97,927.00)</p>	<p>£388,375.00 (4%)</p>

			<p>will be responsible for the site management, temporary permitting and safety regulations.</p> <p>3. Element 2 through a selected partner will ensure vehicles are delivered to the site</p> <p>4. Monitoring equipment to allow for data collection in WP6 to be included with the installation of refuelling equipment</p> <p>5. Element 2 will co-ordinate with operators of vehicles on site and vehicle suppliers to ensure the timely delivery of vehicles</p> <p>6. As the site lead, DNV will support all of the activities above.</p>	<p>M5.4: Vehicles delivered on site: Correct number and type of vehicles delivered on time for project plan. (£14,955.00)</p> <p>M5.5: Facility commissioned: Commissioning signed off on. (£146,000.00)</p>	
Milestone 6	WP6: Equipment Operation and Monitoring	31 May 2026	<p>Overall work package objectives: Through this WP, once fully installed, the operation and monitoring of equipment will be conducted. This WP package will also include the collection of</p>	<p>M6.1: First set of tests completed (under test profiles defined): Report completed outlining results from tests. (£1,398,046.00)</p>	<p>£3,102,949.00 (31%)</p>

		<p>performance data and the monitoring of performance indicators which will be shared for reporting in WP8.</p> <p>Furthermore, test of the de-blending equipment under different test profiles will occur, with any issues to be shared and included in reporting covered by WP8. Finally, this WP will ensure that ongoing hydrogen supply to the site occurs, and that sufficient hydrogen storage is created on site.</p> <p>Key tasks:</p> <ol style="list-style-type: none"> <li>1. DNV will operate the deblending equipment and refuelling station, including running the test profiles for the deblending equipment, compiling of performance data and assessment against project KPIs defined in WP2</li> <li>2. HyET and selected HRS supplier will monitor the equipment remotely and</li> </ol>	<p>M6.2: 3months of operation of vehicles and refuelling station: Successful operation of vehicles and refuelling station for 6 months of the project, including visit of at least one heavy duty vehicle. (£74,775.00)</p> <p>M6.3: Analysis of deblending, electrochemical purification and compression and hydrogen refuelling facilities performance against KPIs complete: Report shared on time with evaluation of success of meeting KPIs (6.2). (£1,398,006.00)</p> <p>M6.4: 6 months operation of vehicles and refuelling: Successful operation of vehicles and refuelling station for 12months of the project, including</p>	
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			<p>resolve any technical issues as quickly as possible</p> <p>3. DNV will also be responsible for managing the hydrogen supply to vehicles on the site, ensuring there is sufficient hydrogen for their vehicle operations.</p>	<p>visit of at least one heavy duty vehicle. (£89,730.00)</p> <p>M6.5: Testing of deblending equipment completed: Successful test plan completed. (£142,392.00)</p>	
Milestone 7	WP7: Future roll-out and stakeholder engagement	31 May 2026	<p>Overall work package objectives: This WP will develop and define the potential future market and locations for deblending and identify a first commercial demonstration.</p> <p>-Through this WP, mapping will be undertaken to map potential HRS locations and the NTS to identify future potential. Furthermore, stakeholder engagement will be undertaken with HRS operators and hydrogen producers to identify early demonstration sites and further develop the use case for hydrogen supply by deblending.</p>	<p>M7.1: Preparation for stakeholder engagement completed and report on first phase stakeholder engagement learnings completed: Stakeholder engagement plan completed (d7.1)and agreed upon, discussion slides prepared ahead of stakeholder engagement (D7.2). (£28,986.35)</p> <p>M7.2: Completion of future roll-out mapping: Report written with de-blending supplied HRS sites identified (D7.3). (£60,632.64)</p>	<p>£113,198.00 (1%)</p>

			<p>Key tasks:</p> <p>1. Element Energy will use GIS to identify locations for future de-blending served refuelling stations, mapping the NTS against potential locations in need of refuelling hubs (major road networks, train stations/depots, logistics hubs and ports). EE will also model viable uptake of hydrogen vehicles at these refuelling stations and by working with National Gas to understand the blend timeframes for the NTS we will identify priority locations for first deblending deployment.</p> <p>2. National Gas (with EE support) will create stakeholder engagement plan will be created at the start of the project to facilitate these activities, including first introductions to the project towards the start of the project and continued engagement to share emerging project</p>	<p>M7.3: Concept paper for 1st commercial demonstration: All stakeholder engagement detailed in stakeholder engagement plan completed (D7.4). (£23,579.01)</p>	
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		<p>findings and to be updated on stakeholder plans as they develop. An advisory group will be created to facilitate the dissemination which will meet quarterly throughout the project.</p> <p>3. National Gas will lead engagement with potential HRS operators, with support from Element Energy who will use their extensive connections in the hydrogen sector. This engagement will aim to identify locations for first de-blending supplied hydrogen refuelling stations and understand drivers to use hydrogen refuelling stations and test ideas for future ownership models of deblending equipment. We will also discuss the technical feasibility of deploying deblending equipment.</p> <p>4. National Gas will lead engagement with potential hydrogen producers, with support from Element Energy who will use their extensive connections in the</p>		
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			<p>hydrogen sector. This engagement will aim to determine the availability of hydrogen in the future in terms of location and amount.</p> <p>5. National Gas will lead engagement with global transmission operators with support from Element Energy through the introduction of an advisory group. Interested parties to date include Snam (Italy), EnaGas (Spain), Fluxys (Belgium) and APA (Australia).</p> <p>6. Following these stakeholder engagement activities, Element Energy will draft a concept paper for a first commercial demonstration facility will be defined, which will set out a proposed location, stakeholders involved, budget, technical feasibility and steps required to develop the concept into a deliverable project. First demonstration sites to be identified from information collected</p>		
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			<p>through mapping activities and stakeholder engagement.</p> <p>7. Element Energy will create a 'requirements specification' for the proposed commercial scale system, to enable HyET to design such a commercial scale system.</p>		
Milestone 8	WP8: Commercial feasibility and regulation	31 May 2026	<p>Overall work package objectives: This WP will have the main objective of covering overall reporting of the Beta Phase. Dissemination of any relevant information will also occur through webinars and key issues or learnings that have been highlighted during the project will be compiled in this WP. Finally, a final business case will also be developed.</p> <p>Key tasks:</p>	<p>M8.1: Commercial system design complete and costed: Total cost determined for system suitable for roll-out in a commercial setting. (£36,394.00)</p> <p>M8.2: Summary report for general audience: Summary report approved by Steering group. (£83,346.00)</p>	<p>£119,740.00</p> <p>(1%)</p>

		<p>1. Element Energy will compile outputs for relevant data collected in WP5 into Beta Phase reporting.</p> <p>2. Element Energy will develop a final business case based upon costs incurred during the Beta Phase, system performance (incl. performance away from designed set point) and potential cost reductions identified for a commercial scale system. The business case will consider the case for hydrogen supply via de-blending in example real world scenarios, building on engagement with stakeholders (WP7), learnings will also be incorporated into the final business case. This task will be supported by HyET</p> <p>3. A short summary report, targeted for public general audience, on the performance of deblending equipment and its future roll-out potential, will be produced.</p>		
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			<p>4. Element Energy will hold a workshop with the National Gas team who focus on blending regulation, to feed the learnings from the HyNTS Beta phase into their thinking around blend regulation.</p> <p>5. HyET will lead the design work for a commercial scale system (incorporating beta demonstration learnings, feedback for stakeholder engagement and the proposed detailed requirements specification (WP7)) and costs for this system.</p>		
Milestone 9	WP9: Decommissioning	31 May 2026	Overall work package objectives: This WP will enable the de-commissioning of equipment no longer required after the completion of the demonstration phase to occur. Furthermore, through this WP, de-commissioned equipment will be returned to an agreed state and removed from the FutureGrid site.	M9.1: Relevant equipment de-commissioned: Decommissioned to pre approved state and signed off by HyET. (£45,074.00)	£45,074.00 (0%)

		<p>Key tasks:</p> <ol style="list-style-type: none"><li>1. Plans for further use of de-blending equipment will be developed, considering potential commercial roll-out plans (set out in WP7) and further field demonstrations of the deblending unit.</li><li>2. Any equipment that is no longer required after the completion of the demonstration will be de-commissioned</li><li>3. De-commissioned equipment will be returned to an agreed state and removed from the FutureGrid site</li><li>4. Element 2 will define a plan for the ongoing operation of refuelling station on site and service of remaining vehicles beyond the demonstration project.</li></ol>		
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#### **14. USE OF LOGO**

The Funding Party and the Project Partners, External Funders and Project Supporters or subcontractors<sup>18</sup> 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.

#### **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.

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<sup>18</sup> As detailed in the Application.

## **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, 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 costs		
Cost Category	Total Project costs (£)	Total SIF Funding requested (£)
Labour	£3,963,100	£3,022,677
Materials	£4,522,880	£4,522,881
Subcontracting	£2,263,727	£2,263,727
Travel and subsistence	£96,550	£96,550
Other costs	£175,000	£15,423
<b>Total</b>	<b>£11,021,257</b>	<b>£9,921,257</b>

Project Partner	Total project costs (£)	Project contribution (£)	Total SIF Funding requested (£)	In-kind contribution (£)	Project contribution (%)
NATIONAL GAS TRANSMISSION PLC	£1,206,316	£1,100,000	£106,316	£126,000	
DNV SERVICES UK LTD	£4,692,556	£0	£4,692,556	£765,000	
ELEMENT ENERGY LIMITED	£196,544	£0	£196,544	£37,790	
ELEMENT 2 LIMITED	£891,360	£0	£891,360	£99,040	
HyET HYDROGEN B.V.	£3,983,875	£0	£3,983,875	£345,000	
NORTHERN GAS NETWORKS LIMITED	£14,570	£0	£14,570	£0	
SOUTHERN GAS NETWORKS PLC	£10,428	£0	£10,428	£0	
CADENT GAS LIMITED	£12,639	£0	£12,639	£0	
WALES & WEST UTILITIES LIMITED	£12,969	£0	£12,969	£1,297	
<b>TOTAL</b>	<b>£11,021,257</b>	<b>£1,100,000</b>	<b>£9,921,257</b>	<b>£1,374,127</b>	<b>25%</b>

**ANNEX 2 TO SCHEDULE: TEMPLATE OF BANK ACCOUNT DETAILS TO BE PROVIDED TO EITHER NGGT ([BOX.GSOSETTLEMENTS@NATIONALGRID.COM](mailto:BOX.GSOSETTLEMENTS@NATIONALGRID.COM)) OR NG ESO ([revenue.invoice@nationalgrideso.com](mailto:revenue.invoice@nationalgrideso.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)