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Email: [Marzia.Zafar@ofgem.gov.uk](mailto:Marzia.Zafar@ofgem.gov.uk)

Date: 31/01/2023

Dear Scottish Hydro Electric Transmission Plc,

**Strategic Innovation Fund – Approval of the Material Change request for Scottish Hydro Electric Transmission Plc / Network-DC**

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.<sup>1</sup>

On 1 August 2022, Scottish Hydro Electric Transmission Plc was awarded SIF Funding for Network-DC (the Project).<sup>2</sup> The Project is examining the connection of offshore wind to DC networks in coastal communities. Further to this decision, on 12 August 2022 Ofgem<sup>3</sup> issued a SIF Project Direction.<sup>4</sup>

On 7 December 2022, Scottish Hydro Electric Transmission Plc submitted a Material Change request for the Project to the Authority. The Material Change request was submitted due to:

- The Funding Party identifying additional scope for its commercial and regulatory work packages being required in the Alpha Phase, which necessitates the reallocation of SIF Funding between Project Partners.

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

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

<sup>3</sup> 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.

<sup>4</sup> <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:

- In Table 3, the Funding Party has found efficiencies for its deliverable in milestone 4. As a result, the Funding Party is requesting it repurpose £10,000 of the SIF Funding allocated to this deliverable and originally allocated to SSEN Transmission to milestone 5 and to Carbon Trust Advisory Limited. This results in the SIF Funding allocated to milestone 4 being reduced by £10,000 and the SIF Funding allocated to milestone 5 increasing by £10,000. Additionally, with this change, the percentage of SIF Funding allocated to milestone 4 is reduced from 49% to 47% and the percentage of SIF Funding allocated to milestone 5 increasing from 9% to 11%. The Funding Party does not anticipate any change to the scope or timing of milestone 4.
- In Annex 1, in the SIF Project Direction costs table, the total project costs and total SIF Funding requested under labour are being reduced by £15,000. This is to reflect the reallocation of £10,000 in SIF Funding from Scottish Hydro Electric Transmission Plc to Carbon Trust Advisory Limited for the increase scope of milestone 5 which is classified as subcontracting costs by the Funding Party. Additionally, Scottish Hydro Electric Transmission Plc is reallocating £5,000 of SIF Funding from its own labour costs to contracting costs which was not considered a material change as per paragraph 6.22 in the SIF Governance.
- In Annex 1, in the SIF Project Direction costs table, the total project costs and total SIF Funding requested under subcontracting are increasing by £15,000 to incorporate the reallocation of £10,000 in SIF Funding from Scottish Hydro Electric Transmission Plc to Carbon Trust Advisory Limited, and the reallocation of SIF Funding received by Scottish Hydro Electric Transmission Plc from its labour category to its subcontracting category.
- In Annex 1, in the Project finances table, reducing the total SIF Funding requested by Scottish Hydro Electric Transmission Plc by £10,000 to reflect the reallocation of SIF Funding from Scottish Hydro Electric Transmission Plc to Carbon Trust Advisory Limited for the increased scope for milestone 5. This is reflected in the amended total Project costs for Scottish Hydro Electric Transmission Plc, which are reduced by £10,000. There is no change to the Project contribution percentage.
- In Annex 1, in the Project finances table, increasing the total SIF Funding requested by Carbon Trust Advisory Limited by £10,000 to reflect the increased scope of milestone 5. This is reflected in the amended total Project costs for Carbon Trust Advisory Limited, which have increased by £10,000.

## **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 Scottish Hydro Electric Transmission 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 reallocation of SIF Funding does not impact the Project's existing milestones and deliverables for the Project in Alpha and does not impact its timeline for delivery.
- The Project can more effectively and efficiently use the SIF Funding to scope the regulatory and commercial areas which could impact the Project.
- It does not impact the number of Project Partners nor their roles in the project and the Project continues to satisfy the Innovation Challenge-specific requirements.

As such, UKRI recommended approval of the Material Change request to Ofgem.

## **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 6.22 of the SIF Governance Document, the amended SIF Project Direction for Scottish Hydro Electric Transmission Plc / Network-DC 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](mailto:networks.innovation@ofgem.gov.uk). Alternatively, you can contact UKRI via [SIF\\_Ofgem@innovateuk.ukri.org](mailto:SIF_Ofgem@innovateuk.ukri.org).

Yours sincerely,

**Marzia Zafar**  
**Deputy Director of Strategy & Decarbonization**  
**For and on behalf of the Authority**

## Schedule: Amended SIF Project Direction

### 1. PROJECT DETAILS

SIF Project Direction reference: SHE/Network\_DC/SIFWholeSystem/Rd1\_Alpha

Application number: 10036946

Project title: Network-DC

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: £423,476

### 2. PREAMBLE

This SIF Project Direction is issued by the Gas and Electricity Markets Authority (the "Authority") to Scottish Hydro Electric Transmission Plc (the "Funding Party") pursuant to the SIF Governance Document issued pursuant to Special Condition 9.19 of the Electricity Transmission Licence (the "Licence"). It sets out the conditions to be complied with in relation to Network-DC (the "Project") as a condition of it being funded under the SIF Funding Mechanism.<sup>5</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**

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**

University of Edinburgh
Carbon Trust Advisory Limited
National Grid Ventures Limited

<sup>5</sup> The SIF Funding Return Mechanism is defined in the SIF Governance Document.

National Grid Electricity System Operation Limited SuperGrid Institute Renewable UK Association
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### **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.

## **4. COMPLIANCE**

The Funding Party must comply with Special Condition 9.19 of the Electricity Transmission Licence (the "Licence"), the SIF Governance Document and with this SIF Project Direction.

## **5. SIF APPROVED AMOUNT**

The SIF Approved amount of £423,476 (as detailed under Section 1: Project details of this Project Direction) will be recovered by National Grid Electricity System Operator from GB customers and transferred to the Funding Party. The Funding Party is responsible for notifying National Grid Electricity System Operator 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 Electricity System Operator, the reverse applies. The Funding Party must provide bank account details to National Grid Electricity System Operator 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)<sup>6</sup> and DPA (Data Protection Act) 2018<sup>7</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.

**Table 3. Project milestone<sup>8</sup>**

Reference	Project milestone	Deadline	Evidence	SIF Funding Request
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<sup>6</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>7</sup> <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>

<sup>8</sup> As outlined in in the Application or Project Plan appendix.



				(100%) <sup>9</sup>
Milestone 1	Work package 0: Project management	January 31, 2023	There are several expect results tied to this work package and milestone, as detailed in the Project Plan appendix of the Application: <ul style="list-style-type: none"> <li>Alpha phase work packages completed to time and to budget</li> <li>Consortium partners have contributed expertise to work packages for which their input was critical</li> <li>Robust internal stage-gate was held to agree on whether to proceed with Beta phase application</li> <li>SIF Beta phase preparation</li> </ul>	£55,050 (13%)
Milestone 2	Work package 1: Defined use case & define counterfactual	January 31, 2023	There are several expect results tied to this work package and milestone, as detailed in the Project Plan appendix of the Application: <ul style="list-style-type: none"> <li>Use case</li> <li>Defined Counterfactual case</li> </ul>	£8,469 (2%)
Milestone 3	Work package 2: Engagement with OEMs and ITT	January 31, 2023	There are several expect results tied to this work package and milestone, as detailed in the Project Plan appendix of the Application:	£50,816 (12%)

<sup>9</sup> 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.

			<ul style="list-style-type: none"> <li>• NDAs with manufacturers</li> <li>• Invitation to Tender (ITT) for involvement in Beta phase</li> <li>• Engagement with the ITT as evidenced by letters of support and Technical Queries (TQs)</li> </ul>	
Milestone 4	Work package 3: DC circuit breaker (DCCB) modelling validated network models and DCCB short-term breaker specification	January 31, 2023	<p>There are several expect results tied to this work package and milestone, as detailed in the Project Plan appendix of the Application:</p> <ul style="list-style-type: none"> <li>• DCCB Models collated for use in simulation</li> <li>• Validated network models and simulation results</li> <li>• DCCB short-form breaker specification</li> </ul>	<p><del>£207,499</del> (49%) <u>£197,499</u> (47%)</p>
Milestone 5	Work package 4: Draft commercial model(s) and associated regulatory recommendations	January 31, 2023	<p>The expect results tied to this work package and milestone is, as detailed in the Project Plan appendix of the Application:</p> <ul style="list-style-type: none"> <li>• Draft commercial model(s) and associated regulatory recommendations</li> </ul>	<p><del>£38,122</del> (9%) <u>£48,122</u> (11%)</p>
Milestone 6	Work package 5: Updated cost-benefit analysis	January 31, 2023	<p>The expect results tied to this work package and milestone is, as detailed in the Project Plan appendix of the Application:</p> <ul style="list-style-type: none"> <li>• Updated Cost-benefit Analysis (CBA)</li> </ul>	<p>£63,520 (15%)</p>

## **14. USE OF LOGO**

The Funding Party and the Project Partners, External Funders and Project Supporters or subcontractors<sup>10</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.

## **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:

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<sup>10</sup> As detailed in the Application.

- (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 9.19 of the Electricity Transmission 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 9.19 of the Electricity Transmission 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 49A (Reasons for decisions) of the Electricity Act 1989.

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

<b>SIF Project Direction costs<sup>11</sup></b>			
Cost Category	Total Project costs (£)	Project contribution (£)	Total SIF Funding requested (£)
Labour	<del>£261,972</del> <u>£246,972</u>	£68,429	<del>£193,543</del> <u>£178,543</u>
Materials	£20,000	£0	£20,000
Subcontracting	<del>£108,475</del> <u>£123,475</u>	£0	<del>£108,475</del> <u>£123,475</u>
Travel and subsistence	£10,344	£0	£10,344
Other costs	£91,114	£0	£91,114
<b>Total</b>	<b>£491,905</b>	<b>£68,429</b>	<b>£423,476</b>

<b>Project finances</b>				
Project Partner	Total project costs (£)	Project contribution (%)	Project contribution (£)	Total SIF Funding requested (£)
Scottish Hydro Electric Transmission Plc	<del>£287,154</del> <u>£277,154</u>	10%	£28,715	<del>£258,439</del> <u>£248,439</u>
University of Edinburgh	£81,793	10%	£8,179	£73,614
Carbon Trust Advisory Limited	<del>£35,000</del> <u>£45,000</u>	0%	£0	<del>£35,000</del> <u>£45,000</u>
National Grid Ventures Limited	£18,170	99%	£18,169	£1
National Grid Electricity System Operation Limited	£6,651	0%	£0	£6,651
SuperGrid Institute	£55,287	10%	£5,517	£49,770
Renewable UK Association	£7,850	99%	£7,849	£1
<b>Total</b>	<b>£491,905</b>		<b>£68,429</b>	<b>£423,476</b>

<sup>11</sup> 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 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)