SIF Alpha Round 3 Project Registration

Date of Submission

Jun 2025

Project Reference Number

10125526

Initial Project Details

Project Title

Rural Energy and Community Heat (REACH) Alpha

Project Contact

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Challenge Area

Whole system network planning and utilisation to facilitate faster and cheaper network transformation and asset rollout

Strategy Theme

Supporting consumers in vulnerable situations

Lead Sector

Electricity Distribution

Other Related Sectors

Electricity Distribution

Project Start Date

01/12/2024

Project Duration (Months)

6

Lead Funding Licensee

NGED - National Grid Electricity Distribution

Funding Licensee(s)

NGED - National Grid Electricity Distribution

Funding Mechanism

SIF Alpha - Round 3

Collaborating Networks

National Grid Electricity Distribution

Technology Areas

Modelling

Electric Vehicles

Storage

Project Summary

REACH Alpha has been designed to address the disproportionate barriers faced by rural communities in decarbonising energy use, supporting both network capacity and consumer choice. Building on Discovery Phase insights, REACH Alpha will deliver two integrated innovation streams:

1. Techno-Economic Innovation for the REACH Energy Centre: A modular, standardised, community-owned infrastructure solution providing grid support, renewable generation, energy storage, shared heat networks, and EV charging. This will alleviate grid constraints, provide electrical capacity ahead of need, and support low-carbon technology adoption.

2. Social Innovation for Community Engagement and Support: Development of the Community Guidance Tool architecture to assist communities in understanding decarbonisation options, interpreting techno-economic data, and navigating delivery processes. The tool will evaluate both conventional network interventions and REACH Energy Centre viability, helping communities to make informed, cost-effective decisions.

Add Preceding Project(s)

Rural Energy and Community Heat (REACH) (1) - Rural Energy and Community Heat (REACH)

Add Third Party Collaborator(s)

Smart Grid Consultancy

Regen

VEPod Limited

Passiv UK

Cranfield University

Frontier Economics

Project Budget

£627,857.00

SIF Funding

£490,017.00

Project Approaches and Desired Outcomes

Animal testing (not scored)

- ○ Yes
- ◉ No

Problem statement

Extensive engagement with rural communities has revealed both widespread aspiration for decarbonisation and significant barriers:
- Limited grid capacity, high reinforcement costs, dispersed populations, ageing infrastructure.
- Complexities in understanding and combining technologies.
- Lack of accessible tools to support informed community decisions.
- Need for commercially viable, scalable solutions providing capacity ahead of traditional grid interventions.

Innovation justification

REACH Alpha delivers technical, commercial, and social innovation:

- Energy Centre Design: Modular, hardware-based REACH Energy Centres providing electrical capacity, supply-side flexibility, and enhanced network resilience, using type-approved components to streamline connections.

- Community Guidance Tool: An interactive, accessible tool enabling communities to assess decarbonisation pathways, project costs, carbon savings, and delivery options, with high-level architecture developed in Alpha for Beta phase build.

- Commercial Model Development: A tailored, community-focused commercial framework optimising revenue streams including EV charging and DSO flexibility, ensuring financial sustainability.

- Innovative Carbon Assessment: Cranfield University's new methodology will calculate avoided emissions, assess environmental impacts, and account for grid decarbonisation trajectories.

- Community Engagement: In-depth feasibility studies for selected communities and broader engagement to ensure the solution meets community needs and accelerates decarbonisation.

Impact and benefits (not scored)

Financial - cost savings per annum for users of network services

Environmental - carbon reduction – indirect CO2 savings per annum

Others that are not SIF specific

Impacts and benefits description

The project will deliver:
- Financial: Lower reinforcement costs, reduced consumer bills, new revenue opportunities.
- Environmental: Faster deployment of renewables, low-carbon heat, EV infrastructure, measurable emissions reductions.
- System-wide: Deferred infrastructure investment, enhanced network resilience.
- Social: Empowered communities, increased energy security, pathways for vulnerable consumers.
- Innovation Legacy: Scalable, standardised tools and infrastructure to enable replication across rural areas.

Teams and resources

The REACH Alpha consortium has been assembled to ensure successful project delivery:
- NGED: Lead DNO responsible for network knowledge and programme oversight.
- Smart Grid Consultancy: Project management and technical integration.
- Regen: Community engagement and stakeholder expertise.
- VE Pod Ltd: Modular energy centre design.
- Passiv UK: Heating system optimisation and controls.
- Cranfield University: Carbon assessment and sustainability modelling.
- Frontier Economics: Economic modelling and commercial strategy development.

NGED Community Energy Engineers will support ongoing community engagement.

Project Plans and Milestones

Project management and delivery

The project will be managed by Smart Grid Consultancy, applying proven governance processes from previous SIF, NIC, and NIA initiatives. NGED will provide overall oversight to ensure regulatory alignment and stakeholder engagement. Delivery will be coordinated through regular partner meetings, milestone tracking, risk management, and structured reporting.

Key outputs and dissemination

The project will produce the following outputs:
- Technical specifications for the REACH Energy Centre.
- A validated carbon accounting methodology.
- A commercial model and community decision-support tool.
- Feasibility studies and recommendations for Beta phase development.

Project findings will be disseminated through workshops, industry events, SIF Show and Tell, and publicly accessible reports.

Commercials

Intellectual property rights, procurement and contracting (not scored)

The project follows default SIF IPR arrangements:
• Foreground IP (reports, tools, methodologies) will be published.
• Background IP remains with partners.
• Regen and Passiv UK provide expertise within these arrangements.

Commercialisation, route to market and business as usual

The project outputs, including modular energy centres and the Community Guidance Tool, are designed to be scalable and replicable, supporting Business as Usual adoption by NGED and other networks. The commercial model will enable communities to attract investment and deliver projects beyond the innovation phase.

Policy, standards and regulations (not scored)

The project aligns with current decarbonisation policy and anticipates future regulatory requirements. Standardisation of technical configurations and streamlined connection processes will support policy objectives and inform regulatory development for rural decarbonisation solutions.

Value for money

The total REACH Alpha project budget is £627,857, comprising £490,017 requested from the SIF (78%) and £136,715 provided as partner contributions (22%). The budget reflects strong partner commitment and cost efficiency, maximising project outputs relative to funding.

The project represents value for money through:
- Modular, standardised energy centres reducing bespoke design costs.
- Streamlined connection processes lowering development risks and timescales.
- A scalable, replicable solution supporting cost-effective deployment beyond the project.
- Community tools enabling informed, affordable energy choices.
- Measurable carbon savings and deferred grid investment.
- Knowledge products shared openly to enable wider benefits.

Detailed Budget Breakdown:
- Labour: £570,466 – reflecting extensive technical and stakeholder delivery.
- Subcontracting: £13,475 – targeted use of specialist expertise.
- Travel & Subsistence: £12,350 – to support effective community engagement.
- Total Project Cost: £627,857.

Partner contributions have been updated following an Ofgem-approved Material Change Request. This includes the removal of Kensa Utilities and the addition of Passiv UK to optimise project delivery and ensure maximum efficiency.

Associated Innovation Projects

- (•) Yes (Please remember to upload all required documentation)
- ( ) No (please upload your approved ANIP form as an appendix)

Supporting documents

File Upload

WPB4 D1 (Carbon Accounting) - Literature Review (REACH).pdf - 737.6 KB
WPB3 D1_2 (Commercial Model) - REACH CBA and commercial model report - 2025.06.23.pdf - 1.2 MB
WPB2 D3 (Heat Network) - Community Heat Load Modelling.pdf - 3.2 MB
WPB1 D4 (REACH Energy Centre) - REACH energy centre design (V5.2).pdf - 2.7 MB
WPA4 D2 (Review of alternative delivery options)- Summary and Options Report V2.pdf - 2.1 MB
WPA1 D4 & M8 (Community Requirements) - Community user insights.pdf - 3.4 MB
WPA1 D2 (Community Requirements) - Briefing note on Knowledge Sharing Event.pdf - 3.0 MB
WPA1 D1 (Community Requirements) - Briefing note on community selection.pdf - 400.4 KB
WPA1 (Community Requirements) - Bigbury Net Zero feasibility report V1.pdf - 6.2 MB
WPA1 (Community Requirements) - Awel Aman Tawe feasibility report V1.pdf - 6.0 MB
UKRi - REACH Midpoint Review Report March 2025.pdf - 959.6 KB
UKRi - REACH End of Phase Report June 2025.pdf - 933.6 KB
UKRi - REACH Alpha Quarterly Review V1.pptx - 808.8 KB
UKRi - REACH Alpha End Of Project Review V1.pdf - 2.9 MB
WPA2 D1 (Capability Led Network Assessment) - Rural Network Report.pdf - 1.3 MB
SIF Alpha Round 3 Project Registration 2025-06-25 1_41 - 51.8 KB

Documents uploaded where applicable?

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