SP Electricity North West

NIA ENWL038

Net Zero Terrace

Progress Report

July 2026

Version History

Version	Date	Author	Status	Comments
0.1	30 05 2026	RS	Draft	
1.0	22 07 26	RS	Final	

Review

Name	Role	Signature
G Paterson	Innovation PMO Manager	*G Paterson*
A Howard	Innovation Programme Mgr.	*A Howard*

Approval

Name	Role	Signature & Date
R Moulton	Head of Innovation	*R Moulton – 28 July 2026*

Table of Contents

Glossary of terms

Acronym	Description
CEMS	Community Energy Management System
CIC	Community Interest Company (Looped Energy Communities)
Fairer Warmth (FW)	The Fairer Warmth system, developed by the Centre for Energy Equality, is designed to connect households with organisations to promote energy efficiency and affordability. www.fairerwarmth.com
GDPR	General Data Protection Regulation
HEMS	Home Energy Management System
LV	Low Voltage
NZT	Net Zero Terrace
MVP	Minimum Viable Product
SIF	Strategic Innovation Fund
SLES	Smart Local Energy System

Project fundamentals

Project title	**Net Zero Terrace**
Project reference	**NIA_ENWL038**
Funding licensee(s)	**Electricity North West Limited**
Project start date	**May 2025**
Project duration	**14 Months**
Nominated project contact(s)	**Rachel Stanley**

1. Project background

There are approximately 10 million terraced houses in the UK and due to space and noise constraints, these communities are difficult to decarbonise meaning the consumers are at risk of being left behind during the energy system transition.

The current solution for terraced properties is a standalone electric boiler which is up to four times less efficient than a heat pump, resulting in increased costs for consumers and higher demand on the network. A large-scale rollout of electric boilers will cause constraints on the Low Voltage (LV) network and require large amounts of reinforcement.

Recent Strategic Innovation Fund (SIF) Discovery and Alpha projects began the development of the Net Zero Terrace (NZT) solution including the technical model, architecture model, deployment model and planning model.

Whilst the SIF projects went a long way towards developing the NZT solution there is further development required to de-risk the solution before it is scaled out to communities. This project will understand, develop and test the Minimum Viable Product (MVP) for the Home Energy Management System (HEMS), create the specification for the Community Energy Management System (CEMS) and further develop the tools for the customer journey as well as improve understanding of data flows and build data governance strategy to enable communities of terraced houses to adopt low carbon affordable heating, reduce bills and increase the provision of network flexibility.

2. Project scope

The project will establish and test the NZT HEMS Minimum Viable Product solution including defining the key elements of the MVP, producing the specification for the HEMS, testing it in a laboratory environment and developing the functional requirements for the CEMS. The project will also appraise options for future deployment of NZT by assessing areas of the network where the solution could be deployed.

Additionally, the project will develop the digital solutions required to improve the customer journey including data management governance.

3. Objectives

The objectives are:

- Demonstrate, in a laboratory environment, the HEMS MVP
- Develop the system models and functional requirements enabling integration of the components
- Develop the planning model to understand the locations where the solution could be deployed
- Develop the digital customer journey.

4. Success criteria

The project will deliver the following outputs:

- Functional specification for the HEMS
- Functional specification for the CEMS
- Report detailing the outcome of the laboratory testing
- Report detailing the digital customer journey
- Report detailing the planning model including recommendations for future deployment.

5. Performance compared to the original project aims, objectives and success criteria

The wider purpose of Net Zero Terrace is to support terraced communities to adopt low carbon, affordable heating, reduce bills, increase the provision of network flexibility, and allow DNO's to better understand the potential impact and benefits of Net Zero

communities developing on their networks. This NIA project is focussed on selected key elements of this wider purpose.

Progress on the project within the year was generally to plan, however the final documentation of progress is taking longer than anticipated, including the scoping of the final equipment development and testing cycle.

We secured a laboratory facility to allow test the suitability of several equipment options for the Home Energy Management System Minimum Viable Product (HEMS MVP) - a key component within the wider Net Zero Terrace Smart Local Energy System (SLES). The testing was performed against a specification which was developed during the project. Most of the required project testing has now been completed, however the facility remains available to the end of the project if further testing is required.

The testing highlighted the advantages and disadvantages of the different equipment options that were selected of testing. Based on the testing results, a favoured option has been identified although this still requires additional development to meet the full MVP requirements. The possibility of needing additional development was identified at the start of the project and is included in the overall project scope. The scope for the additional development is currently being finalised and agreed. Development of the HEMS MVP de-risks a key element of the Smart Local Energy System (SLES) ahead of a demonstration in customers' homes as part of a future project.

The project has also developed the necessary system models and functional requirements to enable the integration of the Net Zero Terrace components. These are substantially complete pending final documentation and formal approval.

The planning model required to identify and select suitable clusters of terraced properties for Net Zero Terraced deployment has been completed for use in a potential future project.

Customers living in terraced properties wanting to decarbonise, will need to understand how they can, and will, interact with the range of technologies to meet these needs. To enable this, the project has developed a digital customer journey. This includes details of how data flows are managed within the SLES, how GDPR requirements are met and how the user interfaces with the CEE "Fairer warmth" app which at the heart of the solution. This work is ongoing and reaching its completion.

The formal reports from the project work will be completed later in 2026 and will be published on the ENA Smarter Networks portal and the SP ENW website when available.

6. Required modifications to the planned approach during the course of the project

There has been no modification to the planned approach so far, however delays in documenting final reports and completing the final HEMS development may cause a delay to the project completion.

7. Lessons learned for future projects

Where a facility is created to support a project development, consideration should be made on the flexibility and longevity of the environment and its potential future use during project delivery.

8. Data access & quality detail

There is no data available associated with this project at this stage.

Any anonymised data can be made available in line with our innovation data sharing policy, which can be found on our website.

9. Foreground IPR

There is no foreground IPR associated with this project at this stage.

10. Standards documents

Not applicable.