

NIA ENWL017 Electricity and Heat

Progress Report

31 July 2017



VERSION HISTORY

Version	Date	Author	Status	Comments
v1.0	16 July 2018	Geraldine Paterson Innovation Engineer	Final	

REVIEW

Name	Role	Date
Lucy Eyquem	Innovation PMO Manager	24 July 2018
Paul Turner	Innovation Manager	25 July 2018

APPROVAL

Name	Role	Date
Steve Cox	Engineering & Technical Director	31 July 2018

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1 PROJECT BASICS

Project title	Electricity and Heat
Project reference	NIA_ENWL017
Funding licensee(s)	Electricity North West Limited
Project start date	July 2016
Project duration	2 years
Nominated project contact(s)	Cara Blockley (innovation@enwl.co.uk)

2 SCOPE

The project will be conducted at a single location and help understand how benefits for a distribution network operator and their customers can be derived from improved energy management.

The scope of this project includes the adaption design work to implement technology from other sectors in a trial site.

3 OBJECTIVES

The project has four primary objectives:

- A trial installation to assess impact and opportunities for a GB distribution network operator (DNO)
- To determine the capability of the technology to assist in overall energy management
- To quantify the impact on metered energy consumption at the trial site
- To investigate the impact on timing of energy consumption at the trial site.

Achieving these objectives will support network operators in releasing network capacity for use by customers, particularly in areas of high and increasing demand.

4 SUCCESS CRITERIA

This project will be considered a success upon:

- A trial site being identified
- The trial site being adapted such that sufficient monitoring and data is available to quantify potential costs and benefits
- Production and publication of a report to disseminate the findings.

5 PERFORMANCE COMPARED TO THE ORIGINAL PROJECT AIMS, OBJECTIVES AND SUCCESS CRITERIA

Phase 1 of the project has been completed. Project partner, Futurebay, carried out intensive monitoring of temperatures, fan speeds and power consumption of an air conditioning system at the trial site. The analysis of the data collected showed that around 60kWt of waste heat could be utilised by the Futurebay system, with temperatures of 40°C.

Based on the monitoring and analysis of the test site and consideration of the issues to be addressed, three options to shift the load, utilise waste heat, and reduce CO₂ impact have been proposed. Phases 2 and 3 are currently underway and the final designs, costings and trial methods are being developed.

To date the specification, design and initial manufacturer of all the major sub-assemblies has been completed. Final assembly and the test site build of these systems has been initiated. System operational modelling has been assessed and control methodology and logic produced.

Preliminary layouts of the system and site implementation have been delivered and a transportation review undertaken. Site location and inspections have been undertaken and planning permission for the installation is to be progressed.

6 REQUIRED MODIFICATIONS TO THE PLANNED APPROACH DURING THE COURSE OF THE PROJECT

The project is currently on programme with Phase 1 complete.

Phases 2 and 3 involve developing the final design and associated costs. Based on the results from Phase 1 and the test design work for Phase 2 it has been confirmed that the project budget will change as will the project timescale. In particular it was determined that the initial test site was unsuitable to explore the full potential for time of use energy shifting and hence an alternate site has been selected. Once these new costs and timescales are finalised Electricity North West will update the registration document. It was always intended to review the project budget once the designs and costs were finalised.

Initial assessment had not identified a requirement for planning permission. Based on the current design, planning permission may be required which could delay the project.

7 LESSONS LEARNED FOR FUTURE PROJECTS

No lessons have been identified at this stage of the project.

8 THE OUTCOMES OF THE PROJECT

Not applicable.

9 DATA ACCESS

Electricity North West's [innovation data sharing policy](#) can be found on our website.

10 FOREGROUND IPR

The project will trial a novel heat recovery system. The technology will be made available for purchase from Futurebay and the method used for the trials will be made available via Electricity North West for others to replicate the project.

11 PLANNED IMPLEMENTATION

Not applicable.

12 OTHER COMMENTS

Not applicable.