

CARES CASE STUDY



LOCAL
ENERGY
SCOTLAND

EASTHEAT

BACKGROUND

EastHeat was a project led by Sunamp Ltd in partnership with Castle Rock Edinvar Housing Association and East Lothian Housing Association. It aimed to develop and implement local solutions to address fuel poverty using innovative storage batteries.

Technology:

Heat batteries plus micro-renewables

Location:

Lothians and Falkirk

CARES funding:

Local Energy Challenge Fund £3,189,887

Date installed/operational: 2016



LOCALENERGY.SCOT
0808 808 2288
FUNDED BY THE SCOTTISH GOVERNMENT



Greener
Scotland
Scottish
Government

CARES CASE STUDY



LOCAL
ENERGY
SCOTLAND

PROJECT AIMS AND OBJECTIVES

EastHeat (Edinburgh and Surrounding Towns Heat Energy Action through Thermal-Storage) was a project led by Sunamp Ltd in partnership with Castle Rock Edinvar Housing Association and East Lothian Housing Association.

The project aimed to develop and implement local solutions to address fuel poverty using innovative storage batteries. This technology would enable more efficient use of renewable technologies, making a bigger impact on tenants' fuel bills.

The project aimed to work across a range of different property types, from sheltered housing to individual socially rented homes. In each property a heat battery was installed alongside another form of renewable energy generation such as a solar PV array.

By using a heat battery, EastHeat would create a direct link between local energy demand and local renewable energy production. The project would also demonstrate the benefit of local heat storage and the value of integrated renewable energy solutions.

In addition, the project aimed to create a replicable model for social housing providers to meet the Energy Efficient Standards for Social Housing (ESSH).

The beneficiaries of the project would be tenants: through access to lower cost heating and hot water, this would make a significant difference to their cost of living, particularly for tenants receiving housing benefit.

OUTCOMES AND ACHIEVEMENTS

Sunamp supplied 2,042 Heat Battery cells, providing 4.6 MWh of storage in 625 properties in rural, semi-rural and urban settings.

A tenants' survey highlighted that participants enjoyed an enhanced flow rate of hot water and rapid radiator warm up, as well as dramatic levels of comfort without them having to spend any more on their energy bills.

A factual analysis of the project revealed that every user had some saving on their fuel usage where solar PV was fitted alongside the heat battery. In most of these properties between 55% and 63% of hot water was provided completely free of charge.

In properties where a heat battery was only used to replace an existing electric hot water cylinder, a typical yearly saving of £67 was realised. This is explained by the high energy efficiency of the heat battery that, unlike the hot water cylinder it replaces, has substantially lower heat losses each day.

The benefits to housing associations were clear: there was reduced time and cost for their maintenance teams and most of their tenants saved money on their energy bills. The improved heating and hot water efficiency is also reflected in their Standard Assessment Procedure (SAP) scores, which support their ESSH targets.

The project benefited Sunamp too: it demonstrated that they could make heat batteries at full production scale that could be easily

LOCALENERGY.SCOT
0808 808 2288
FUNDED BY THE SCOTTISH GOVERNMENT



Greener
Scotland
Scottish
Government

CARES CASE STUDY



LOCAL
ENERGY
SCOTLAND

installed with low ongoing maintenance. Sunamp has now produced its third-generation heat battery which is smaller and lower in cost.

Renewable Energy Association recorded EastHeat as the biggest energy storage trial in the world at the time and the project continues to receive local, national and international recognition. Delegations from companies around the world including Japan, China, the US and Australia have visited reference sites for the project.

LESSONS LEARNED

Local authorities and housing associations who are seeking to reduce fuel poverty and who have already installed solar PV should also consider installing heat batteries. This would provide free hot water to tenants in addition to the current benefit of free electricity generated from solar PV.

In the tenants' survey, two thirds of battery users expressed their delight at the combination of energy bill savings, comfort, "doing our bit for the planet", or had no issues with the seamless integration of the system. The remaining third of tenants worried that they may be paying more for their energy despite evidence from the project showing that all properties benefited. Further communications work was planned to inform tenants of the benefits of the batteries.

Download the full report on the trial on the [Local Energy Scotland website](#).

To find out more about funding from the Community and Renewable Energy Scheme, visit localenergy.scot/funding

LOCALENERGY.SCOT
0808 808 2288
FUNDED BY THE SCOTTISH GOVERNMENT



Greener
Scotland
Scottish
Government