

# HARD TO HEAT, HARD TO TREAT

## OUR COMMUNITY BUILDING'S JOURNEY TO NET ZERO



### Phase 1: ENERGY EFFICIENCY IMPROVEMENTS 2019 -2021

We received funding from the Scottish Land Fund and National Lottery Community Fund to buy 8 East Fergus Place and refurbish it in 2019.

This is a listed building in a conservation area and it was previously the old library headquarters. We inherited the building as a large empty shell and divided up the spaces into kitchens, offices, a welcome area and a large community space.



#### PROBLEM 1: LOSING ENERGY THROUGH THE ROOF AND WALLS

#### SOLUTION: FABRIC FIRST

We reduced our energy use before installing green technology. This wasn't as expensive and we felt the difference immediately. The **'fit-and-forget'** nature of these upgrades is one of the benefits of making these changes.

All **insulation** was a minimum of **270mm**. We:

- Installed north face wall insulation.
- Insulated the loft space above the upstairs offices.
- Repaired patched and insulated the flat roof.

#### ENERGY EFFICIENCY HIERARCHY

Use less energy

Use energy efficiently

Use renewable energy  
and sign up to a green  
energy supplier.

CAVITY &  
ROOF INSULATION  
SAVED US

**11.7 tonnes CO<sub>2</sub>e**

**&**

**£1,670**

PER YEAR  
(ANNUAL ESTIMATES)



## PROBLEM 2: ENERGY INEFFICIENT LIGHTING

### SOLUTION: CHANGING ALL LIGHTS TO LEDS

Changing our lights was relatively cheap and it had a quick payback time, of between 6-12 months.

The **payback time** of an energy-saving solution is a measure of how cost-effective it is. The payback time is shortest if the cost of installation is low compared to the savings made each year.



## OTHER ENERGY SAVING ADAPTATIONS

**Water:** Installed motion sensors which cut out after a certain amount of time to help save water.

**Hot water (kitchen):** We installed electric single point instantaneous hot water tanks as previously ran off gas. The gas one would have taken too long to heat for our kitchen use, we also had plans to decarbonise our building in the long run.

**Energy efficient appliances:** following recommendations from the funders we bought energy efficient appliances including fridge freezers, ovens and other kitchen appliances.

The **'fit-and-forget'** nature of the upgrades above is one of the benefits of making these changes.

**Thermostatic radiator valves (TRVs):** We updated these because they were temperamental. However, staff and visitors need training to understand how to use them efficiently and not over-adjust them.

## WHAT WE DIDN'T CHANGE... (YET!)

- **Windows-** No change as these were already double glazed and not draughty.
- **Heating System-** Although the heating system was large (80KW commercial boilers) and fairly old, it worked. To change it would have been onerous and expensive. With a limited budget, it's important to prioritise the most important improvements.
- **Radiators-** To ensure the new rooms we created in the building had sufficient heating, we repositioned some of the original radiators. This improved the heating in most rooms, although, as we kept the original heating system, a few rooms remain underheated.