CASE STUDY

CLYDE VALLEY HOUSING ASSOCIATION: AIR SOURCE HEAT PUMP PROJECT

BACKGROUND

In the village of Douglas in South Lanarkshire, Clyde Valley Housing Association have 105 social let properties, built between 1939 and 1949. The properties used a mix of electric storage heaters and wet heating systems. To provide tenants with a more efficient, affordable and reliable heating system, Clyde Valley Housing Association offered their customers Air Source Heat Pump systems, with 92 successfully installed over a 6 month period.

TRIAL

Clyde Valley Housing Association (CVHA) first installed Air Source Heat Pumps (ASHP) in 2010 but heating performance data was limited. To undertake a comprehensive trial and improve the home environment, CHVA joined John Gilbert Architect's award winning Hab-Lab service.

Clyde Valley worked with John Gilbert Architect to undertake building works to improve ventilation, produce temperature modelling and install the heat pump onsite.

LOCALENERGY.SCOT
0808 808 2288
FUNDED BY THE SCOTTISH GOVERNMENT

Greener Scotland
Scottish Government

CASE STUDY

LOCAL ENERGY SCOTLAND

Temperature modelling was carried out before and after installation. This showed that with the electric storage heaters, the roooms were very warm at 6am but needed additional heating by 2pm as this heat had dissipated. ASHP was found to provide a comfortable source of heating available throughout the day.

After three months the benefits of the heat pumps could already be seen. The tenant of the trial property had two years of heating bills available, allowing a meaningful difference in energy usage to be seen. Billing was initially higher in the summer months as heat was now available on demand, but during the winter months there was a clear difference in energy usage.

POTENTIAL ALTERNATIVES

Clyde Valley considered a range of other heat technologies for the properties at Douglas.

- Mini-biomass: The properties' EPCs recommended mini-biomass as an alternative to the existing electric heating systems. Clyde Valley decided this wasn't suitable as they didn't feel comfortable with the risk of leaving customers without supply if pellets weren't available or there was a problem with the systems.

- Infra-red radiators: Another option for Clyde Valley was the installation of infra-red radiators, but the housing association felt not enough information was available on the long-term operation and efficiency of the technology.

THE PROJECT

After the trials were completed, 90 CVHA customers had ASHP heating installed. Mitsubishi model heat pumps were chosen to mirror other ASHP developments in South Lanarkshire, as Clyde Valley hopes to tie into a larger servicing arrangement in the area.

The 92 completed installations have shown energy usage has reduced by around 35%, coming down from 960,000 to 580,000 kWh.

CASE STUDY

LOCAL ENERGY SCOTLAND

LESSONS LEARNED

1. It is important to consult with environmental health and your local authorities planning department early on in the process, to get clarity on potential issues before they arise. South Lanarkshire Council has a large stock of ASHPs so was very helpful and understanding.
2. Not all occupiers will be open to the use of a nonstandard heating system, with 15 properties not wishing to take part in the scheme.
3. To maximise the benefit of the system, wall and loft insulation may need to be upgraded or installed to maximise the heat retention of the building.

NEXT STEPS

Clyde Valley have extended the ASHP programme to 100 new build properties and are continuing to install heat pumps at the remaining properties in Douglas.

TOP 3 TIPS

1. Look at doing a trial at least a year before a wider scheme is launched, giving you 6 months of data to know how the system might work for your tenants.
2. Make sure you consider site design as well as system design, particularly where properties are close together with small amenity areas. This will reduce potential amenity issues.
3. Encourage tenants to combine more efficient energy usage with a more economical energy tariff.

LOCALENERGY.SCOT
0808 808 2288
FUNDED BY THE SCOTTISH GOVERNMENT

Greener Scotland
Scottish Government