

Embedding sustainability in *all* that we do



ENERGY EFFICIENCY CASE STUDY: DECARBONISING THE HEATING SYSTEM IN PLANTATION PARK

The Challenge

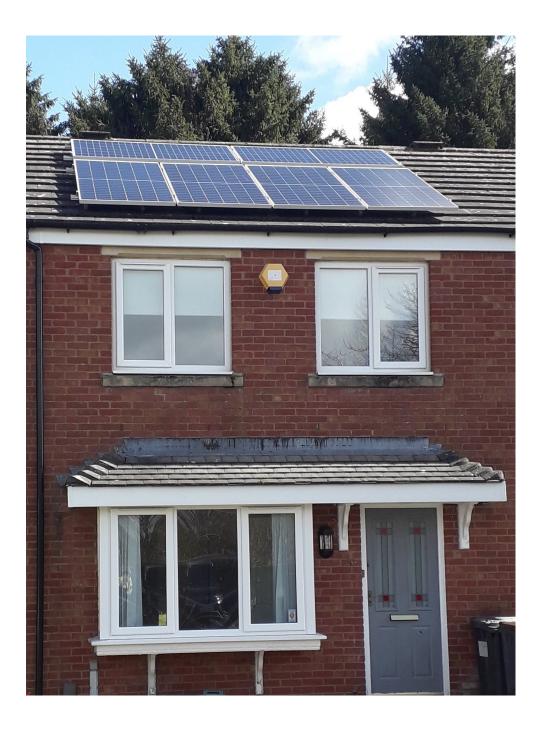
- The terraced house in the Plantation Park area of campus has been convened for use as a multi-occupancy student residence.
- Its heating system comprised of a Liquified Petroleum boiler with radiators throughout the property.
- Whilst the system was reasonably efficient, the University was keen to explore alternatives to fossil fuel heating systems that could demonstrate how it can decarbonise its housing portfolio.

The solution

- Following a detailed options analysis undetaken internally by University Engineers, it was determined that an Air Source Heat Pump (ASHP) could be employed to provide the heating for the building.
- ASHPs work like refrigerators in reverse, with heat absorbed from the outside air, even in winter.

SOME FACTS

Total project costs: £27,480 Total annual energy savings: 10,600 kWh Total Carbon savings per year: 2.4CO2e per year



- They have significant advantages over other electric heating systems as for each unit of energy put into the system, as many as 4 units of heat energy are generated.
- To limit the carbon impact from the electricity required for the system a small solar PV array was installed alongside a domestic size battery to provide the majority of the power needed to run the heating system.

The outcome

- 100% Grant funding from Salix Finance Limited was provided through the Public Sector Decarbonisation scheme to allow the University to appoint MEB Total to undertake the works.
- Completed in March 2021, the gas connection to the building has been disconnected, saving more than 2.4t of CO2e per year and lowering the energy costs of the building by 75% per year.
- The University is now using the lessons learnt from the installation to understand how it could be implemented elsewhere on campus to support its netzero carbon by 2030 target.

