

## Energy Statement

Case Ref No: DC/091368

Site address: 480 Manchester Road, Heaton Chapel, Stockport, SK4 5DL

Site & Building Footprints: site area 311sqm, total buildings footprint 95sqm

Proposal: Two storey side and rear extension to existing terraced shop with flat above to create two additional one bedroom apartments

## Targets

The development is for two new apartments and does not trigger Stockport's carbon reduction policy target thresholds.

## Energy and Design Considerations

The dwellings will be built to the minimum current Part L Building Regulations.

## Low & Zero Carbon Technologies

The following technologies have been considered for inclusion in the development and the detailed findings are reflected in the table below.

Based on the following assessment it is considered that none of the technically feasible technologies are financially viable in terms of the project going forward.

Technology	Technical Feasibility	Carbon Savings	Estimates Costs	Financial Viability
Solar photovoltaics	Any roof aspect south facing between east and west could support solar technologies	A 2kwp system would save around 425 kg of CO2 / year per dwelling	Average cost for such a system is upwards of £2,700K per dwelling	Fuel cost saving of around £96 year dependent on occupancy levels
Wind	Average wind speeds at 10m above ground level are around 4.7 m/s (Rensmart database)	To be feasible local wind speeds need to be a minimum of 5 m/s	N/A	N/A
Micro hydro	There is no capacity for micro hydro on this site since there is no local water course	N/A	N/A	N/A
District heating	There are no existing or planned district heating networks to facilitate connection at this stage	N/A	N/A	N/A

Solar hot water	The south facing aspects of the roof between east and west could support solar technologies	Saving of between 118-168kg CO <sub>2</sub> / year per dwelling	£1500 to £2500 per dwelling	Fuel savings of around £30-45 / year
Heat pumps	GSHP: potential to lay coils in garden, but would most likely need to be vertically installed requiring specialist machinery to drill a borehole  ASHP: potential connection to intended wet system, however efficiency would be low	GSHP: approx 1500 kg CO <sub>2</sub> / year per dwelling	GSHP: typical system costs around £8000 to £10,000 per dwelling  ASHP: typical system costs around £5000 to £9000 per dwelling	Fuel savings of around £145 / year per dwelling  Fuel savings of around £120 / year per dwelling
Biomass	A Smoke Control Zone appropriate biomass pellet boiler could be installed to service a traditional wet heating system. There is no space for fuel storage and access for delivery.	Minimum carbon saving 1300 kg CO <sub>2</sub> / year per dwelling	Pellet boiler typical cost around £7000 to £10000 per dwelling	Fuel savings of around £80 / year per dwelling