

## Kirkby Stephen, low carbon energy system

RCEF Stage: 2



### Key Facts

Ambient loop	Shared ambient loop borehole clusters.
Heat pumps	Individual dwelling level ground source heat pumps.
Solar PV	Rooftop solar PV to help reduce dependency on imported energy generation.
Solar thermal	Rooftop solar thermal to maximise system efficiency.

### The Story

The project is seeking to develop a low carbon energy system for a new build housing scheme that utilises shared ambient borehole clusters and dwelling level ground source heat pumps. This will be supported by solar (thermal & PV) generation to reduce dependency on imported grid-based energy, reduce carbon emissions and manage energy costs.

The project aims to develop the energy plant in an external energy module to enable off-site assembly, increase the scope for standardisation and reduce the footprint of the energy plant within the building for wider applications.

### Key Figures

<b>Project size:</b>	Heat pumps 4 – 7 kW
<b>Tech type</b>	/property Solar PV: 4 – 7 kWp /property
<b>RCEF grant</b>	Stage 1: £24,750 Stage 2: £99,750

### Challenges & Risks

eQuality Homes has secured an option for the land and planning consent for 22 new build units (subject to s106) and is currently working through the emerging requirements relating to nutrient neutrality which has recently impacted the project.

### Further Notes

LEP area: North West Hub

Link for further info: [www.equalityhomes.co.uk](http://www.equalityhomes.co.uk)

### Lessons Learned

We're still learning lessons and adapting the concept and the design as the scheme develops, but flexibility and adaptability to deal with changing circumstances and requirements remain key.