

ADAPT ✓

A Typical Farm House



The Challenge

A large Victorian house which needed some renovation. A full energy survey of the building revealed poor thermal performance, fabric losses and weaknesses. Coupled with this were recommendations for renewable energy sources which would be most effective. The owner was keen to use only renewable heat sources for space heating and domestic hot water. The recommendations identified the need for further insulation measures to be taken including new double glazing. It also identified a need to renew radiators what-

ever solution was pursued to meet required comfort levels.

The client wanted the installation to be in an adjacent barn to release space in the house and make access easier.

There are a number of barns and outhouses round the main house limiting options.



14kW ground source heat pump which provides all space heating and domestic hot

The Solution

Specification

- Location: Cheshire
- Ground source heat pump
- Heat distribution: Radiators
- Solar PV system
- Funding: private
- CO₂ Saving XXkg pa
- Annual net saving/FIT £ZZZ

The initial work was to improve the insulation and glazing whilst also ruling out certain renewable technologies considered not viable.

The second stage was to refine what was suitable and to design the specifications for such technologies.

A ground source heat pump considered the most attractive option for heating and domestic hot water was selected. This required a complete new water tank

and the radiator changes which went on simultaneously to the heat pump installation.

The client chose a Dimplex 14kW system as his preferred option.

A local company installed the ground collector pipes for the heat pump. They were laid horizontally 1.5 meters deep in an adjacent field some 70 meters from the house. In all there were 800m of pipe laid in five trenches. The heat pump

was installed in the closest barn with the pipes connected underground to the house by an accredited company.

The client now has a warm house with a heat pump which has coped with the very cold winter weather.

A 4kW PV array was installed on a south facing roof of an adjacent barn to contribute to the electricity consumed in running the heat pump.