

## Farm Café in Northumberland.

### HEAT FROM THE AIR—AIR SOURCE HEAT PUMP



**Daikin Altherma 8KW Air Source Heat Pump**

Our clients were developing a café on their farm and wanted a renewable way of heating the building, including a bunk house a wash room area and provide hot water for the kitchen.

After a site visit it was found to be most cost effective solution was to install an Air Source Heat Pump for all their hot water and heating requirements.

The Air Source Heat Pump works in a similar manner to a Ground Source, but takes the heat from the outside air.



#### Key Features

- Reduced CO2 emissions
- Lower running costs over oil and gas
- Highly efficient for of heating

Above: showing the Daikin Altherma Air Source Heat Pump (indoor unit)

## How does it work?

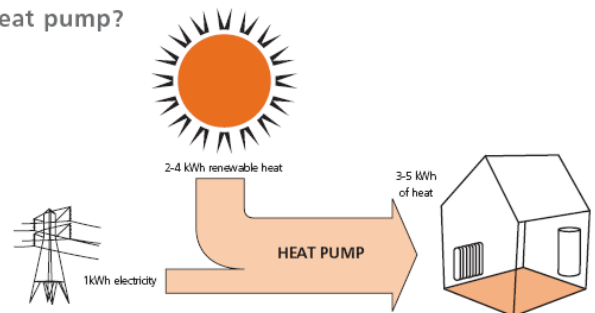
A heat pump extracts low temperature energy from the environment and increases its temperature for heating purposes. Heat pump efficiencies are normally quoted as the coefficient of performance of the system, these are typically in the range 3 to 5. In other words, extracting heat from renewable sources requires just 1kW of electrical input in order to generate 3kW to 5kW of heating output. Heat pump systems therefore, are 3 to 5 times more efficient than fossil fuel boilers and are more than capable of warming a house completely, even during the lowest winter temperatures. The increasing popularity of these heating systems is reflected by their overwhelmingly successful application in the cold climates of Scandinavia.

Millions of Heat Pumps are installed across Europe and the market is growing rapidly due to increasing awareness of the system's obvious benefits. Recent research indicates that during the last five years alone heat pump sales have doubled'.

### Key Features:

- 30-50% reduction in co2 emissions
- Low running costs
- Low maintenance
- Low noise—unobtrusive and quiet
- Perfect for under floor heating integration
- Helps achieve 3 star rating in the code for sustainable homes
- Has a Co-efficient of Performance (COP) of 3.6 at 35 degrees flow temperature

### What is a heat pump?



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