

Cascade heat pumps chosen for farmhouse renovation



Dartmoor,
South Devon



Self-build homeowners in South Devon are enjoying the energy efficient benefits of renewable heat pumps technology following the installation of an Ecodan cascade system at their newly renovated farmhouse and barn conversions.

Located on the southern slopes of Dartmoor in the heart of South Devon, the renovation incorporated the existing farmhouse and the conversion of a number of barns.

The original farmhouse was in an off-gas area and as is typical of this type of property, has no heating system apart from open fires. The only real alternative would have been oil which would have meant significant install and running costs.

Specification of the homeowner was for underfloor heating throughout the property which incorporated a number of different floors and levels with the remaining rooms wanting antique radiators.



The solution

With the limited space surrounding the property and only a single phase electric supply, a bespoke solution was called for which would meet the requirements of the homeowner while also proving cost effective to run. A further complication came from the single phase electricity supply and extensive costs which would need to be met by the homeowner if a 3-phase power supply had to be installed to the property.

To resolve these issues, the installer, Source energy, specified an Ecodan air source heat pump cascade system, which rotates the workload between the individual heat pump to maximise efficiency. Two 14kW Ecodan air source heat pumps were installed to linked to a 300 litre Kingspan stainless steel hot water tank to meet the 20W heat demand and supply a sufficient volume of hot water to meet the needs of the occupants.

Mitsubishi Electric’s, Chris Whiteford commented **“The only real alternative for this property would have been oil which would have incurred significant installation and running cost. The cascade system therefore proceed to be ideal as it offers a cost effective solution.”**

Going forward the homeowner can enjoy a heat system which is efficient to run and provides copious amounts of hot water. More importantly, they are taking advantage of a system which uses renewable energy resulting is significantly reducing their carbon footprint and annual running costs.

Summary:

- Two 14kW Ecodan air source heat pumps work together to meet heating demand
- The system controls alternates use of Ecodan to maximise efficiency
- Homeowners have complete control and much lower running costs to traditional systems



Product Overview:



14kW



300L



Underfloor



Radiators



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Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP-4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

