

Domestic Heating

Case Study

4 Bed house, Berkhamsted

September 2010

Making a
World of
Difference



RENEWABLE SOLUTION PROVIDED
300%
efficiency heats home to 20°C for much less money

Ecodan delivers efficient heating throughout harshest of winters

This 1950's 4 bed semi in Berkhamsted, Hertfordshire is home to a family of four looking to reduce energy bills by using advanced technology to heat their home more efficiently. In the autumn of 2010 they installed a Mitsubishi Electric Ecodan system, replacing all of their existing radiators with intelligent, modern radiators from Jaga.

Last winter saw some of the harshest conditions for decades, with temperatures plummeting to sub-zero for weeks. But as the UK endured the coldest of winters, live on-site monitoring has proven that Ecodan worked effectively to keep this family warm whilst significantly reducing their energy bills. The trials also highlight the importance of radiator selection. Using correctly sized radiators ensures optimum system performance and comfort levels, with Ecodan able to deliver efficiency levels in excess of 300% even in the harshest of conditions.



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Ecodan provides highly efficient heating all year round

An 8.5kW Ecodan unit was installed in the alleyway of the house to provide all the heating and hot water that this family of four require. In addition to supplying the domestic hot water the Ecodan feeds nine Jaga Strada Dynamic Boost Effect radiators installed throughout the home. These modern radiators offer maximum efficiency at low water temperatures and contain around 15% of the water held in a traditional radiator. This means there's less water in the system and they're able to deliver required heat much quicker and therefore more efficiently.

By installing Ecodan this young family enjoy a much greater control of their comfort and energy bills

With some manufacturers now claiming COPs of 4.0 or even 5.0 (5kW of heating from every 1kW of electrical energy consumed by the heat pump), Mitsubishi Electric are urging anyone considering a heat pump to remember that these COPs will typically have been measured in laboratory conditions at an outdoor temperature of 7°C (or higher) with the unit supplying a water flow at a temperature of 35°C, or even lower.

Radiators such as the ones installed in this home, use small fans to aid convection. This ensures that the space is heated relatively fast, even when the flow temperatures are low. Consequently the average flow temperature from the Ecodan system can be lowered to reduce running costs further still.

Ecodan has given this young family greater control, improved comfort and significant reductions in their overall energy use.

Installation Summary

1950's 4 Bed semi-detached house

Mains gas supply available

Originally heated by a floor standing gas boiler

Replaced with 8.5kW Ecodan

Stand alone optimised cylinder

Jaga Strada Dynamic Boost Effect radiators fitted throughout

Installation took 3 days



Changes for the Better

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Mitsubishi Electric's commitment to the environment



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