Heating

Case Study

Leasey Lodge February 2013 Making a World of Difference



Ecodan Brings Warmth and Comfort to Stylish, Luxury Home

Lansberry Ltd, Hertfordshire-based specialists in bespoke developments, has created a stylish and sophisticated, 4-bedroomed bungalow which sits in 4 acres of greenbelt with incredible views of the surrounding valley.

The stunning property has been designed to blend in with its agricultural setting, whilst keeping any impact on its environment to a minimum. Key to achieving these goals and to comply with strict regulations laid down in the Code for Sustainable Homes, was the use of a low carbon, sustainable technology.



Air Conditioning | Heating Ventilation | Controls





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The gabled structure is designed to offer maximum natural light.

The property's gabled structure has a steel frame design which incorporates glazed skylights for maximum natural light. The bedrooms, kitchen and living room areas all benefit from high vaulted ceilings reaching up to the apex to maximise the feeling of space.

Having built such a beautifully designed, state-of-the-art home, Lansberry wanted a low carbon, sustainable heating system that was in keeping with the property's green credentials.

In consultation with Mitsubishi Electric, Lansberry specified two 14 kW Ecodan® air source heat pumps to provide heating and hot water to the property.

Having designed a bespoke system for the luxury home the developer called in Herefordshire-based, renewable energy specialists, AOS Heating, to install it.

"Heat pump technology is not new, in fact it's been around for decades and has been used effectively in homes all over Europe," said Lee Wildego, Contracts Manager for AOS Heating.

"Mitsubishi Electric has advanced this technology with Ecodan and developed it into one of the most advanced and energy-efficient, domestic heating systems on the market today."



Changes for the Better

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to the environment



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The stylish home benefits from low carbon, renewable heating via an underfloor heating system.

"If you are looking for low heating bills, care about your green credentials and don't want to compromise on performance it's definitely a system you'd want to consider."

The Ecodan air source heat pump harvests renewable, low grade, energy from the air and then upgrades that energy into a heat supply to provide cost-effective heating and hot water to the property's underfloor heating system and swimming pool.

The heat pump requires very little in the way of maintenance and an annual service by a qualified engineer is all that is required.

Ecodan has a life-span of 15 to 20 years and offers the homeowner improved energy efficiency within the home at a much lower cost than most alternative systems.

Ecodan is also the only air source heat pump to have received the backing of the noise abatement society with its prestigious Quiet Mark Award, so it won't annoy the neighbours, either.

A full range of air source heat pumps is available from 5kW right up to 688kW and the technology can be used for larger applications also, such as community heating schemes.



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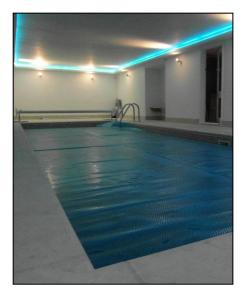




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Air source heat pumps provide heating and hot water to the house and indoor swimming pool.

"The production of natural gas in this country peaked in the 1990's and has been in steady decline ever since." said Nick Barham, Managing Director of Lansberry Ltd. "The levels at which our homes currently use gas is simply not sustainable, so we need to take a good look at alternative, renewable energy sources for our homes,"

Air source heat pumps have been classified by both the UK and the **EU Governments as sustainable** technology and provide an excellent alternative to systems based on fossil fuel.

"At Lansberry we make every effort to incorporate sustainability and carbon reduction into every project we undertake to reduce the impact our developments have upon the landscapes in which they sit," says Barham.

"And as buyers become more environmentally aware, this technology is becoming more and more important as a selling feature when we take our properties to market."

The entire house has been designed to make best use of sustainable materials and energy saving technology and comfortably achieved Level 4 of the Code for Sustainable Homes. The roof is cedar shingles and the external walls have been clad in softwood to resemble the character and appearance of a barn in order to blend in with the property's surroundings.



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Ecodan units have been refined by Mitsubishi Electric to be one of the most efficient heat pumps available.

Installation Summary

Application type

Bespoke property built in green belt

2 x 14kW Ecodan Air Source Heat **Pumps**

System capacity:

28kW heating for the 4-bedroomed luxury home

Heat delivery method:

Underfloor heating and swimming pool

Thermal properties:

High thermal performance, energy efficient windows, heat retaining walls and floor insulation

The windows are timber framed and internally the doors, skirts, architraves, window boards and staircase have been made using solid oak, with oak flooring throughout most of the living spaces. The Ecodan units provide heating to the house and to the indoor swimming pool. Rain water is used in the toilet cisterns and photovoltaic panels help to generate the energy used to run this equipment.

"We have worked with solar thermal technologies for over 10 years now, but this is first home in which we have used a combination of technologies and we are delighted with the results," said Mr Bareham.

"A sustainable home with reduced CO₂ emissions and running costs, combined with efficient use of energy is just what our customers are looking for."

Paul Moody, the new owner of Leasey Lodge said: "My wife and I have been delighted with the performance of the Ecodan system. The property is located in an off-gas area so our only energy source is electricity which could prove really expensive."

"Because of the low levels of energy needed to run the sustainable technologies that have been fitted to the house our bills are actually 25% less than they would be if we used an alternative system."



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