



Council gets an 'A' for energy efficiency

As part of a £12 million, two-year programme to fit energy efficient, low carbon technology to its properties, Stroud District Council is now able to boast its first residential property with an A-rated Energy Performance Certificate.

The Council is using the one-bedroom bungalow in King's Stanley, Gloucestershire, as a show house for tenants wanting to find out how renewable technology works and what the benefits are.

The property uses a 5kW Ecodan® air source heat pump as the primary source for heating and hot water, working in conjunction with a solar thermal hot water system.

Stroud District Council has also recently been awarded a share of £7 million funding under the Government's social landlords Renewable Heat Premium Payment (RHPP) competition, launched in May this year.



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Stroud Housing Association October 2013

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Above: The refurbished bungalow now hosts an array of state of the art, energy efficient products, all designed to reduce running costs and lower emissions.

Below: The Ecodan air source heat pump runs modern radiators which replace the old electric storage heaters.



As one of the largest recipients, the Council was mentioned by Energy & Climate Change Minister Greg Barker when he announced the 46 successful bidders and held up as an example of how renewable heating can be successfully introduced.

RHPP is a one-off grant designed to help social housing providers upgrade properties to tackle both fuel poverty and carbon emissions.

Stroud District Council has already installed more than 40 Ecodan heat pump systems to properties in the area and plans have already been drawn up for the installation of Ecodan to a further 1,000 homes following fabric improvements to some of the properties.

The bungalow, which has been completely refurbished, now hosts an array of state-of-the-art, energy efficient products designed to reduce running costs and lower CO₂ output.

In addition to the Ecodan unit, these include A+ rated windows and doors, LED lighting throughout, voltage optimisation and photovoltaic panels (PV) attached to the roof.

Project Manager Gary Salter says carrying out the work on this property has demonstrated what can be achieved at a reasonable cost when taking a holistic approach to refurbishment.

“The bungalow will help us demonstrate to our tenants the work we are undertaking to their properties over the next few years and also enables us to educate and display the technology working in a domestic property.”

“This will greatly increase their ability to understand the benefit of the technology and helps them to feel more empowered and included in the process, thereby increasing tenant satisfaction.”

The Ecodan unit sits on a base outside the rear of the property and extracts heat energy from the outside air – even in sub-zero temperatures.



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Product Reference: PLH2-W50VA-A-(BS),
PLH2-W50VA2-(BS), PLH2-HW140VA2*(HA2)-(BS),
PLH2-SW120VA, PLH2-SW120VA, PLH2-SW120VA,
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Installation

Ecodan 5kW air source heat pump, providing heat water to radiators throughout the bungalow.

The system also supplies hot water to a 180 litre pre-plumbed cylinder.

Cost and emissions reduction

The previous electric storage heater cost £1,210 per annum and produced over 4,480kg of CO₂.

The Ecodan heat pump costs £658, with a CO₂ output of less than 2,500kg.

The unit upgrades this and uses it to heat water supplied to radiators throughout the bungalow. The system also supplies hot water to a 180 litre pre-plumbed cylinder which caters for the home's sanitary hot water requirements.

Previously, electric storage heaters and an immersion heater supplied heating and hot water to the bungalow at a cost of £1,210 per annum, producing over 4,480kg of CO₂.

Now the Ecodan supplies heating to the bungalow via a series of radiators, along with domestic hot water, for an annual cost of £658, with a CO₂ output of less than 2,500kg.

To keep the home fresh and comfortable, a Mitsubishi Electric Lossnay mechanical heat recovery ventilation is installed in the loft.

The unit has been designed to reduce overall energy costs for the bungalow by extracting the internal stale air and recovering the heating energy from it.

This is then used to heat the air coming into the building, keeping the property both fresh and at the desired temperature.

The Lossnay unit has a special paper core which completely separates the incoming and outgoing air whilst offering superior heat and moisture transfer.

"The show home has been kitted out to demonstrate to tenants in the area the benefits and potential cost savings that the new technology will bring when we install it in their homes," says Graeme Burton, who is leading the project for the Council.

"It also provides us with the opportunity to showcase to local authorities and social housing landlords how sustainable technology can help them greatly reduce their own CO₂ footprint whilst helping to prevent their tenants from falling into fuel poverty."

The Council is also using the property to train its housing officers in how they can assist tenants in managing their heating effectively.



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