



Community Centre benefits from ground source heat pump

A brand new, state-of-the-art community centre is reaping the energy-saving rewards following the installation of an Ecodan ground source heat pump.

The brand new building has been designed to offer an inspirational space for local people to meet, socialise and take part in numerous leisure activities.

The Mitsubishi Electric Ecodan CRHV ground source heat pump at the new Glencorse Centre in Auchendinny is providing a simple, renewable solution which rivals traditional methods of heating and ensures significant energy savings.



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ABOVE: The new Glencorse Centre is at the heart of small community village near Penicuik, Midlothian, Scotland. It provides an invaluable resource, replacing the original village hall which was closed in 2007.

The original village hall which stood on the site was built in the 1970's but by 2007 it had come to the end of its lifespan and health and safety regulations forced its closure leaving the community without a vital resource.

The £1.2m replacement was funded by Midlothian Council, Scottish Rural Development Programme and Charity Bank and provides a fit-for-purpose facility which is environmentally sound and meets the changing needs of the community.

Designed by John R Harris and Partners, the stunning new building is clad in European larch and boasts a sandstone feature wall, copper canopy and ramped access to the main entrance which rises to culminate in magnificent views across the Pentland hills.

But stunning scenery was not the only focal point for this new building because energy efficiency and sustainability were also a key requirement for this project, leading to a number of energy saving initiatives being specified throughout the building.

With the cost of heating accounting for a large proportion of the projected energy use this was one area where efficiency was vital and the installation of the Ecodan CRHV system to serve the underfloor heating proved to be an ideal solution.

Alan Cameron of Livingston Mechanical Services says: "In a community building of this type there is always a requirement for energy efficiency but because it is in a rural, off-gas location the choices are limited.



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PLH2-SW140VHA, PLH2-SW15VHA, PLH2-SW120VHA,
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ABOVE: The Ecodan CRHV extracts heat from the ground, aquifer, or open water loop systems. The system's scalability also helps to make larger projects much more cost effective.

Key features of the Ecodan CRHV

Multiple unit cascade control of up to 960kW capacity.

Provides up to 65C water flow temperatures without booster heaters.

Split refrigerant circuits within each unit provides 50% back up.

Low maintenance and able to rotate units based on accumulated run hours.

By specifying the Ecodan ground source heat pump to serve the underfloor heating throughout the building we came up with a solution which is both simple to operate and one which will be significantly cheaper to run throughout the lifetime of the building than other traditional methods of heating."

Ground source heat pumps are an excellent alternative to traditional heating methods such as oil which would have incurred significant installation and running costs at The Glencorse Centre.

Heat pumps harness renewable energy by absorbing low grade heat from the ground and raising the temperature efficiently— a process which subsequently reduces energy consumption, lowers emissions and increases efficiency.

Alan continues: "The economic benefits of the CRHV heat pump are enormous for a building of this type which is used on a regular basis by the local community. In addition, because it meets the requirements of the Building Regulations, requires little maintenance throughout its lifetime, and is designed to be eligible for financial incentives such as the Renewable Heat Incentive (RHI) it is the ideal solution."

Ecodan heat pump technology is a practical alternative to more traditional methods of heating and its efficiency is demonstrated in this installation which achieved an average Seasonal Coefficient of Performance (SCOP) of 4.08, operating at an average flow temperature of 50°C in the first six months of operation.



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