

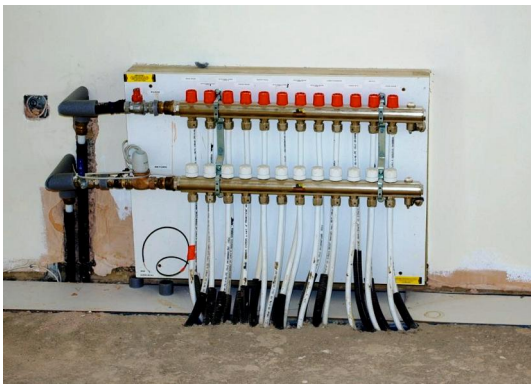
## Energy Efficiency – A Textbook Case for Woodstock

Midland Felt Roofing is part of the Midland Roofing Group and their Managing Director is Paul Snell, a Woodstock man born and bred. The company's original offices and workshops were in the Glyme Valley, a site they expanded several times before looking for larger premises elsewhere. Locations were considered further afield but Paul's inclination was to look for a site near to the town and eventually the ideal place came up at Field Barn farm just to the north of the town. Field Barn consisted of a number of half derelict farm sheds and tumble down stone barns and an old cottage. Located on high ground with magnificent panoramic views towards Wootton, Weaveley and Woodstock, it sits well back away from the A44 and is accessed by a new accommodation road from Stratford Lane.



Paul acquired the site and began the design of his new offices and warehousing for the firm's roofing products. From the very start he was determined to indulge his passion for conservation, the countryside and the natural environment, so it was not unexpected that he should pay close attention to the energy efficiency of his new offices.

For a start there is extra insulation to the old stone walls, argon filled double glazing, special roof insulation developed by the NASA space agency, and every conceivable nook and cranny is sealed against drafts. When the building was pressure tested, a process seen as a good measure of energy efficiency, the result was a



value of 1. Sustainable Woodstock member, Darrell Marchand, an energy expert from Oxfordshire County Council reckons that a target result of 5 is considered excellent and 7 is the usual disappointing figure attained. And insulation is just the beginning. So effectively insulated is the building that there is no central heating boiler whatsoever, and all the heating is provided by a ground source heat pump. This extracts heat from the soil and releases it into water filled pipes running under the

*Ground source heat pump delivers under floor heating. Above: The control console.*

floors. Each room is independently temperature controlled and the entire system is backed up by a thermal water tank in the centre of the building that acts like a large storage heater. Furthermore, air is circulated through the building to distribute naturally warmed air from south-west facing windows to other rooms less blessed with sunshine. This ducted air can be reversed to cool the hotter parts of the building in high summer. Adjoining the office block is the large warehouses where Midland Felt Roofing store their supplies. The



*The adjoining warehouse delivers vast volumes of warm air from the roof space*

large roof area conducts huge volumes of heat, even on a cool day, into the interior and this too is ducted through the buildings to capitalise on this natural and free energy source.



*Paul Snell (left) talking  
technology with Darrell  
Marchand*

Paul has installed a rain-water harvesting system to provide “grey” water for toilets and other non-potable purposes and a state of the art sewerage purification system ensures that there is no unacceptable effluent running into the aquifers or watercourses. Given the recent government announcement on feed-in tariffs for micro-electricity generation, Paul is considering the possibility of three modestly sized wind turbines. Located as the offices are, on high and exposed ground, there is every chance of a significant financial return from electricity fed into the grid in this way.

Conservation is important to Paul and the materials used in construction are largely reclaimed timber, stone and slate. The exposed beams in the upstairs offices are of English Oak and all the lintels and sills are similarly sourced. Floors are reclaimed slate and much of the insulation was second hand and destined for landfill until Paul rescued it.

The firm moves into the offices in a few weeks time but there is already one resident who has been provided with very special accommodation. For years when the barn was a deserted relic, it was home to a beautiful barn owl. I know. I have seen it winging its way across the open fields back to its haven in the old stonework. Paul has ensured that the perfect nesting place has been provided so that the resident owl has no need to move house. Not many owls can claim a high tech, energy efficient, “Grand Design” homestead.

Colin Carritt