



An architect's visualisation of the new sports facility at Grantown Grammar.

Grantown Grammar's new 'environmental' sports facility

A new sports facility is currently being built for Grantown Grammar school which will include a sports hall, changing rooms, fitness room, community reception and social areas to link with the existing swimming pool. However, what makes this new facility a little bit out of the ordinary is that it is being built with sustainability and energy efficiency very much in mind. The designers brief was to make the new facility as sustainable as possible by including where practical reusable, recyclable and locally sourced materials. The design team have also incorporated a novel 'heat loss reduction' ventilation system, energy efficient lighting and most significantly a renewable energy heating source in the form of a heat pump.

So what advantages are realised through taking a sustainability approach to the design? The environmental impact of a new building, the ever increasing cost of fuel to both construct and operate buildings and the need to conserve resources means that it is important that consideration is given to these aspects from conception to disposal of a new building. A sustainable approach therefore reduces the environmental impact, reduces building running costs and results in lower greenhouse gas emissions. All of these particular design measures add up to making a significant step towards a more environmentally friendly and energy efficient building. Sustainable elements of the building include the roof of which 60% of the materials can be recycled, timber cladding and floors are sourced from sustainable forestry and the

main building structure is steel which can also be recycled when the building is no longer required.

As previously mentioned the sports facility is to be heated using a renewable energy source in the form of a ground source heat pump. The heat pump extracts solar energy stored in the ground, as at short distance below the surface remains at approximately 8 deg C all year, and upgrades this heat to produce hot water at 40 – 45 deg C. This is then circulated through an underfloor heating circuit in the sports facility. The heat pump collects the solar energy through a ground loop which in the case of this installation was placed vertically into the ground in 150m deep bore holes due to the restricted space on the site. Essentially a heat pump is like a fridge working in reverse. A fridge uses electricity to extract heat from your food which is released into the room from the back of the fridge. A heat pump uses the same principal to extract heat from the ground and use this energy to heat the building.

As with any building the greatest heat loss is through the roof. In order to reduce this loss a novel ventilation or 'dynamic insulation' system is being incorporated that involves pumping air into a void between the roof construction and the ceiling. Because the air within the void is at a higher pressure than that inside the hall it creates a movement of air through slots in the ceiling downwards towards the floor which is at a lower pressure. When the air moves in this direction it absorbs some of the heat energy that would normally

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Energy Management

Highland Council energy management and how you can help

The Highland Council is determined that the Highlands will stay a place of natural beauty and is prepared to not only set an example of how it should be done but to also encourage others to work to keep it "green."

The Highland Council has adopted an Energy Management Plan as part of its corporate commitment to "greening" in-house procedures, with the objective to reduce energy consumption and carbon dioxide emissions in all its buildings by 15% by 2010. (It would be nice to think that it could reduce energy costs at the same time, but these have risen by more than 40% in the last year and show no sign of lessening.)

Every employee of the Council has a role to play in reducing energy use and the plan is to make staff aware that simple, and often, no-cost actions can be effective in reducing consumption. In fact instead of "many hands making light work" it is hoped that the Council's many hands will make lights "not work" by switching them off when not needed – and not only lights but computers, printers and all the other electricity guzzling equipment that is part of a modern business. And it's not just the Council, (and the Council Tax payer) that benefits! As staff see the advantages that energy management brings it is hoped that they will also take action in their own homes and that the message will spread to friends and partners and on to their offices and businesses. So in the end everyone will benefit, both financially and environmentally.



Apart from the usual management and committee reports it is also intended to make information on energy use available to the public by putting signs up in buildings, similar to those used on washing machines and fridges. These signs will appear gradually over the next year and will show how much energy each building uses. (A similar scheme which will apply to houses as well as public buildings is due to be introduced in Britain in 2008.)

How can you help

As if this was not enough staff are being encouraged to report any waste of energy in any council building whether they work there or not. In fact the Council would welcome such information from you and if you know of, or find, such a thing or just have an idea as to how energy can be saved then pick up a suggestion /comment card (Freepost) from any Council Service Point, Library or office and complete and hand it in or post it.

If you are interested in saving energy in your own home or business then call the Highland Energy Efficiency Advice Centre on FREEPHONE 0800 512012 for free advice on how to save energy and reduce your bills.

Reducing Energy - Reducing Costs - Reducing Carbon Emissions Increasing Our Share Of Renewables



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be lost through the roof construction and redistributes it within the hall. Another sustainable aspect of the roof construction is the insulation which is made from recycled newspaper. There are other energy efficiency measures included in the design such low energy lighting via LEDs and ultra compact fluorescent lighting as well as switching arrangements that will provide alternative levels of illumination.

Grantown Grammar's new sports facility was designed by Property and Architectural Services of The Highland Council and is due to be completed in October 2006. No doubt it will be recognised as an excellent example of a sustainable building.

The new sports facility under construction.

Energy Advice

The HEEAC on the internet

Since the last issue of HER there have been two significant changes to how the Highland Energy Efficiency Advice Centre is represented and uses the internet. In March a new forum was launched to help share ideas on tackling energy problems. The Highland Energy Forum is an online forum hosted by The Highland Council's Think-Net discussion site, www.think-net.org.

With soaring prices bringing energy issues to the fore, the new forum has been established by the Highland Energy Efficiency Advice Centre (HEEAC) to open up discussion on three aspects of the subject: How can we save energy? How can we help those who can't afford it? And how can we find new sources?

The launch of the new forum comes at a time when one Highland household in five is in fuel poverty. A household is considered fuel poor if it needs to spend more than 10% of its income on fuel to maintain an adequate standard of warmth. The new Highland Energy Forum has the aim of sharing ideas and best practice and there is an open invitation from the site to everyone to join in the discussion, to gather information from it or provide comment or ideas.

For more information, contact Alastair Campbell, HEEAC, 01463 703511 or e-mail alastair.campbell@highland.gov.uk

Secondly as part of the creation of the new Highland Council web site the energy advice pages have been updated in line with the new site design. The new pages continue to provide advice on energy efficiency, grants and renewables and also news on events that the HEEAC is organising across the Highlands. You can also complete an on-line home energy check to see what measures you could take in the home to help you reduce your energy consumption and your energy bills. To see the energy advice pages log onto www.highland.gov.uk/energy-advice.



Energy labelling - how did you rate that fridge freezer?

Energy	Fridge-Freezer
Manufacturer Model	
More efficient	
A	A
B	
C	
D	
E	
F	
G	
Less efficient	
Energy consumption kWh/year <small>(Based on standard test results for 24h)</small>	325
<small>Actual consumption will depend on how the appliance is used and where it is located</small>	
Fresh food volume l	190
Frozen food volume l	126
Noise <small>(dB(A) re 1 pW)</small>	
<small>Further information is contained in product brochures</small>	
<small>Norm EN 152 May 1998 Refrigerator Label Directive 84/532/EEC</small>	

Now that the summer has hopefully 'started' you may be thinking of a new fridge or freezer. If you are remember to look closely at the energy labels so that you can see which model is the most energy efficient. By law, the European Community Energy Label must be displayed on all new household products displayed for sale, hire or hire purchase. These products include fridges, freezers, and combinations, washing machines, tumble dryers, dishwashers, electric ovens, air conditioners and lamps. Fridges and freezers can now be identified by new A+ and A++ to show you which are the very best in terms of energy efficiency. The label also tells you how much electricity the product uses but actual savings will depend on how you use the product and how much you pay for your electricity.

You may also see on the label the European Ecolabel. If a product is awarded this mark it indicates that it has been



The European Ecolabel



Energy Saving Recommended logo

independently assessed and found to meet strict environmental criteria (considering more than just energy consumption), putting it among the best in its class.

Another good indicator of an energy efficient appliance is the 'Energy Saving Recommended' logo. This scheme has been developed by the Energy Saving Trust to provide customers with a simple method of identifying energy saving products. Each product must be individually registered with the scheme to use the logo. If you would like a copy of the Energy Saving Trust leaflet 'Look for the logo' please contact the HEEAC on FREEPHONE 0800 512 012.

A typical energy label for a fridge freezer.

Energy Advice

HEEAC on the road again

Each year the HEEAC has put together a programme of light bulb amnesties and energy efficiency events which are held across the Highland area. A light bulb amnesty gives households the opportunity to exchange a number of their old light bulbs for the new energy efficient bulbs which use about 80% less power. So far the HEEAC this year has held events in Ardesier and Strathy and intends to visit Dingwall, various areas of Inverness, Kinlochbervie, Skye, Durnish and Bonar Bridge. Dates for these events are to be confirmed but you can get the latest situation by looking up Events on the energy advice pages (www.highland.gov.uk/energy-advice) which will be updated regularly.



Competition shows keen interest in renewable energy



Sheila Wickens receiving her prize radio from Alastair Campbell, Local Support Team Co-ordinator at the Highland Energy Efficiency Advice Centre.

The last edition of HER featured a prize-draw competition where we asked readers of the HER to let us know what they had found of interest in previous issues and what topics would like to be covered in future issues. From the responses received the overwhelming request was for more information on micro-renewables and how they can make a contribution to the energy requirements of a home.

The main prize was a wind-up radio which was won by Sheila Wickens of Muir-of-Ord who liked the case study featured in the last issue and would like to see more information to help householders to decide on what renewable technology to invest in. Based on the feedback received through the competition the next issue of HER will include more advice on renewable technologies and the practicalities of incorporating such technologies into the home. Coincidentally, in May the Scottish Executive launched a new Planning Advice Note, Planning for Micro Renewables (PAN 45). It can be found at www.scotland.gov.uk/topics/planning/adviceguidance/pans.

Our next newsletter will be published in December 2006.

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www.highland.gov.uk/property/energy-advice

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