



Electric avenue

David Garrity looks at how electric heating is becoming the environment's greatest ally as housing associations look to contribute to the UK's efforts to reduce carbon emissions.

With heat accounting for around 47% of the UK's total carbon emissions, it is clear that we need to adopt an entirely new approach to its provision. However, unlike other countries, we have not yet fully embraced the potential of electric heating – despite obvious sustainability benefits when combined with renewable energy. The government unveiled possible routes to a low carbon economy in its recently published *2050 pathways analysis* and it is clear that a substantial level of heating, transport and industry will be required to move towards electrics as we harness a decarbonised grid to fuel our nation.

Against this backdrop, electric heating systems have a vital role to play – offering a smooth transition between energy sources as we cease to be a nation dependent on fossil fuels. Homeowners and tenants will be able to take full advantage of suppliers moving to low- and zero-carbon electricity over the coming years. As we move to low carbon new-build homes and improved HLP

values, many dwellings will only require heat in certain areas of the property and at specific times of day. Controllability therefore becomes as important as efficiency in a system, both to prevent energy wastage and to ensure the homeowner or tenant achieves maximum thermal comfort.

Measuring efficiency

As a result, the latest generation of electric heating systems are not only 100% efficient, turning every £1 spent on fuel into actual heat, but also 100% effective – ensuring heat is only delivered when and where it is needed. The inability to fully reflect the benefits of enhanced control systems was one of the many failings identified by the Zero Carbon Hub in its recent report *Carbon Compliance for Tomorrow's New Homes*.

The report also focused on the SAP's use of current emission figures and how these were likely to distort product specification as they do not reflect the

potential decarbonisation of the grid – with the recommendation that the current figures be replaced with a projected 15-year average and updated annually.

As well as being a compliance tool to measure the carbon performance of new homes, SAP is also a powerful driver in terms of how industry delivers energy and carbon reductions and will therefore strongly influence the product mix required for a building to be classed as zero-carbon. With such a crucial role in shaping future homes, it is vital that appropriate standard assumptions underpin an effective calculation methodology.

However, investment in a new compliance tool alone will not bring about the results the Government desires. Education and the resulting changes in behaviour to limit energy usage are equally as crucial. Key to this will be altering the UK's current mindset, which views heating in absolute terms. Instead of the heating system being either 'on' or 'off' homeowners and tenants need to start thinking about when and where they actually need heat.

Following the publication of *Warm Homes, Greener Homes*, it is also clear that social housing will continue to take the lead in environmental performance. A new obligation on energy companies to save a fixed amount of carbon will translate into investment in loft, cavity and solid wall insulation along with innovative eco-upgrades with the emphasis firmly placed on helping the most vulnerable

members of society.

Key to the success of the new strategy will be a close working relationship between energy companies, local authorities and housing associations. The trust between a HA and its tenants will be especially crucial, enabling it to market the proposed improvements to an audience which may be unfamiliar with the technology on offer and its long-term benefits in terms of warmer homes and reduced fuel bills.

Varied housing stock

Due to the wide variety of housing stock in the UK there is no 'one-size-fits-all' approach to energy efficiency, which is why it would be good to see heating manufacturers invited to work closely with these partnerships. This will not only give decision-makers access to experts who have provided similar heating solutions in the past, but will also help to identify systems that will cause tenants the least disruption.

We also welcome the new Warm Homes standard, proposed in response to the need for improved standards in rented housing. The new standard will focus on

building fabric and heating systems with the aim of raising the SAP rating of social housing from 59 to at least 70 and radically reducing emissions and energy bills for tenants. A specific emphasis on 'warmth' underlines the Government's aim to eradicate fuel poverty by 2018.

One of Scotland's leading housing associations, Prospect Community Housing, has already embraced the benefits of modern heating technology by specifying a solution devised and implemented by Heat Electric. Estates Service Officer, Steven



McDiarmid, explains: "We hadn't been happy with our night storage heaters for some time and, after looking into the Heat Electric system, we could see it would be considerably more economical – particularly when running on Economy 10. The bonus for our tenants is that the heat is completely controllable and can be altered according to their needs. We have just completed three pilots in 100 properties and we now only install radiators when and where they are needed."

In conclusion, it is the ability of electric heating systems to deliver heat in highly focused areas at specific times set against the backdrop of a decarbonised grid that make them the ultimate energy saving heating solution both now, and in the future.

● David Garrity is managing director of Heat Electric.

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