



Current affairs

As the Government unveils possible routes to a low carbon economy in its recently published '2050 pathways analysis' it's clear that a substantial level of electrification of heating, transport and industry will be required in the coming years 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. Through them, homeowners will be able to take full advantage of suppliers moving to low and zero carbon electricity over the coming years while also limiting their overall energy usage through their superior controllability.

However, unlike other countries, we have yet to fully embrace the potential of electric heating despite it providing a clean, green and sustainable heating solution when combined with renewable energy. While the recent SAP and Part L consultations saw some progress in this area, the ability of the most innovative electric heating systems on the market to provide precision heating has yet to be fully reflected in the national calculation methodology. This is despite it being widely recognised that improvements to control systems can reduce carbon emissions from heating and hot water by over 20%, while also reducing fuel bills for homeowners.

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.

Controls also encourage occupants to modify their behaviour, such as by turning the thermostat down or

David Garrity looks at the role electric heating will play in the buildings of tomorrow.

programming radiators to only come on in certain rooms at certain times. The importance of empowering the end user to reduce their carbon footprint and fuel bills was recognised in the recent Code for Sustainable Homes consultation with the proposal to reward developments that incorporate a way for residents to clearly see, understand and monitor their energy usage for heat and hot water with an additional three credits.

The latest generation of electric heating offers fingertip time and temperature control on a whole house, predefined zone and individual room basis enabling the creation of a bespoke heating schedule for that particular property. As a result, such systems as ours 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' which examined the role of SAP in delivering low energy / zero carbon homes.

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

Plumbing & heating



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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 the future homes in which we live it’s vital that, going forward, 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.

Moreover, heat remains a basic human necessity and consumers want a system that is not only proven, but with which they are comfortable. Electric heating systems therefore have the added advantage of being an established heating method with a track record of delivering heat on demand. And, while consumers may not yet be as familiar with new developments such as heat pumps and electric water-filled radiators, they are likely to have first hand experience of storage, panel and convector heaters.

Electric water filled radiators have, for example, been designed to give consumers maximum control over the output of their heating system and come in a familiar guise. While each unit might look like a conventional radiator, a built in boiler, pump and thermostat trans-

forms each into a self contained central heating system. Wall mounted on brackets and plugged into any 13 amp socket, the system requires no pipework — immediately eliminating this form of energy wastage — and can be used with the Economy 10 tariff to further reduce heating bills. The systems also come with a range of control options enabling the homeowner to create a heating schedule that accurately reflects the needs of their family.

The message is therefore clear: electric heating is no longer the environment’s greatest enemy; in fact it could well become its greatest ally as we harness the natural resources at our disposal to heat our homes and businesses. However, for this change to take place we need to look long term and encourage the ongoing innovation in the electric heating arena to ensure that, when it replaces gas as our main source of heat, the best possible products are available for specification.

For builders’ merchants the immediate challenge is to prepare for the electrification of heating by understanding the issues that surround the move away from fossil fuels, the regulatory backdrop that will drive the transition and, most importantly, how these new technologies can benefit their customers.

The move to electric heating will not be an easy transition as gas central heating is ingrained in the nation’s psyche. Forward-thinking organisations therefore have the perfect opportunity to position themselves as the experts in this field by beginning the customer education process early and ensuring that they can provide the relevant advice, guidance and products right now.

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