Starting the heat pump journey

Heat pumps are not unknown territory. But says Daniel Neasham, the Future Homes Hub's head of sustainability and performance, there is much to consider when building with the technology for the first time

As of Q1 2026, 31% of new build homes in England included heat pumps. The Future Homes Standard, published in March, mandates low carbon heating and while no homes have yet been built to it, heat pumps will be chosen for most projects.

That figure is heartening: this is not unknown territory and part of the sector has moved early. Heat pumps are a proven technology after all, and we have been installing them and learning lessons for decades without a wave from the stick of national regulation.

But it could also justify concern. We have a long way to go—and plenty could still go wrong for those building with heat pumps for the first time. Early adopters may be out of the woods, having hit a few branches along the way, but what lessons can the rest of the sector learn?

Through the working groups we convene, the Future Homes Hub hears a wide range of industry perspectives. Chaired by Charlotte Lee of the Heat Pump Association (HPA), our heat pump implementation group has met for more than 18 months, addressing stickier challenges to deployment under the FHS and learning from those already delivering heat pumps.

Not just a boiler swap

A common lament from homebuilders is that they "shoehorned" heat pumps into existing designs and processes. They failed to evolve procurement and relied on quality assurance built around a simpler product. Their messaging to customers did not make clear that heat pumps must be operated differently to perform well.

Heat pumps are a fundamentally different technology to the gas boilers they will replace. Operating at lower temperatures and with less capacity "overhead", systems are more sensitive to inaccurate or unco-ordinated design and deviations from the design during installation. This must be intimately understood.

Successful homebuilders recognise that heat pumps are not a like-for-like replacement. They have refined their product, procurement and processes to fit the technology.

Evolve your design

Successful early adopters consider heating as part of a wider, holistic design iteration exercise. Rather than retrofitting heat pumps into legacy home designs, they evolve their product to suit low-temperature systems.

Collaboration is essential. Bringing together the heating designer, architect and energy assessor, with input from the procurement team, produces a co-ordinated, compliant design that fits the cost plan.

Design must happen up front rather than on site, and must account for fabric specification, equipment space allowances and constraints including power supply and exclusion zones. It should be optimised alongside the energy assessment, then locked in and protected through delivery. A single responsible heating designer allows any proposed changes to be technically reviewed before agreement.

Partnerships and procurement

Housebuilders also stress the importance of investing in partnerships with manufacturers, installers and designers: strong relationships create a mutual interest in successful delivery. Having a trusted partner to call when an unforeseen problem arises cannot be underestimated. It can also avert an adversarial approach to resolving issues.

Partnerships are supported by good procurement. Procurement teams must be stakeholders in design and understand the risks of swapping components within a finely tuned system without technical review. Heating systems cannot be treated as another product in the hunt for efficiencies. Make sure equal means equal before approval.

The competency challenge

While some installers already specialise in heat pumps, others are still on the journey or lack the demand to justify upskilling. The resulting variability in market capability warrants an entry on the risk register.

Installers must develop their employees and provide ongoing system-specific training. Business-level certification schemes such as MCS help drive standards and good practice. However, the transitional skills landscape means homebuilders must assure themselves of the competence of individual installers, plumbers and electricians before appointment, and ensure appropriate supervision throughout installation.

The commissioning engineer's critical role as final technical gatekeeper demands competence and experience. They must understand how the components work together as a complete system—and put their name against it in the documentation.

Manufacturers and consultants can help deliver additional assurance, which is particularly valuable at the start of a phase and during commissioning.

Bringing customers on the journey

The success of the transition to low carbon heating will be defined by the customer. Addressing technical, competency and operational challenges provides the foundation for a positive customer experience.

Heat pumps run most efficiently by operating steadily, with effective controls. Customers used to gas-heated homes must change habits to unlock savings, and this requires good communication.

Customers need guidance, beginning before occupation and culminating in a high-quality handover, intuitive information packs and attentive post-occupancy care. Without it, there is a risk of mismatched expectations—and unnecessary callouts.

Happily, we find that where heat pumps are delivered well and customers are supported, they love their heat pump homes.

Start early, start together

The heat pump journey has its challenges. But it offers something more valuable than simply compliance: future-ready homes that delight customers. What matters is that we move together as a sector and de-risk delivery at scale by learning from experience gathered.

The Hub is working to ensure these lessons are heard. We encourage everyone to view and share the guidance from our Future Homes Standard Ready campaign, including our heat pump guidance also available on our website. **hb**