



Moving away from fossil fuels

Description

In June 2023, the Scottish Government proposed a ban on gas boilers for new buildings which sets out to ban fossil fuel heating systems in all new homes built in Scotland from April 2024.

From this date, developers will only be allowed to use heating systems with no direct emissions, meaning that new homes will either need to be fitted with heat pumps or connected to low carbon heat networks.



This is a bold move towards meeting Scotland's

climate obligations, with Scotland's Minister for Zero-Carbon Buildings, Patrick Harvie, saying the change will be "essential" to Scotland's ability to meet its 2045 net zero carbon target. He believes the proposals to use heat pumps, solar and electric energy instead of gas boilers will "lead the way" in cutting emissions.

So what does this proposed gas boiler ban mean for the electrical industry? How will it impact householders? Will it future-proof new homes against rising energy costs? And crucially, will it succeed in cutting carbon emissions from Scotland's homes and buildings?

Future-proofing new homes

Installing a heat pump in a new home which has been designed specifically for the system can often cost less than retrofitting a new home.

Plan a heat pump into the initial build and it becomes an easier and more cost-effective solution. Plus homeowners can rest assured that there will be no need to switch heating systems as government regulations come into force for retrofit as well as new build properties.

Case study 1: New build

The owner of a newly self-built two-bedroom cottage opted for a low-temperature heat pump as part of an eco-friendly lifestyle design for his retired parents and a focus on maximum comfort, economy and efficiency.

The cottage in Normanton on Trent is on land owned by Mark Lewis, Managing Director of Airway Group, a Daikin Sustainable Homes Centre and air conditioning installer.

Mark was fitting the cottage for his retired parents and was keen to reduce their worries about heating costs. The entire build was conceived with an older couple in mind and is an eco-home, designed for low energy costs and no worries about heating.

The cottage's green credentials – just visible outside – included the 6-Class Daikin Altherma low temperature R-split air to water heat pump and a rooftop 3.0 kW solar photovoltaic installation that fed into the heat pump to enhance its overall efficiency.

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The heat pump served 11 underfloor heating zones downstairs, which were always open. A Daikin Madoka controller allowed small adjustments of the indoor temperature, when needed. The heat pump also served a 230-litre Daikin domestic hot water cylinder.

Mark said his parents like the new system because they don't have to worry about the cost, adding: “They're keeping the house very warm. The heating bill would have been high because they like their house at 23 degrees C. They would be the kind of people who would really be feeling the pinch at the moment.”

Planning Ahead

The proposed regulations will also have an impact on the decisions taken by homeowners when it comes to replacing existing boilers. So if their current gas boiler is starting to fail, what should they replace it with?

With the long-term shift towards heat pumps, and government incentives in place to ease the way, there seems to be a clear option.

The Home Energy Scotland Scheme is now offering homeowners in Scotland a standalone grant of £7,500 to install heat pumps, with enhanced measures also including an extra £1,500 for use in rural areas.

Case Study 2: Replacing oil

One couple who decided to take this step scrapped the oil-based heating system that came with their new rural home in favour of a Daikin Altherma high temperature air source heat pump.

Based on a traditional long cottage, the Holts' Willow Cottage is at the centre of a two-acre smallholding near Oswestry. After their old oil boiler broke down, the couple decided it was time for change. They duly contacted Paul Thorney of Oswestry-based Air2Heat Ltd, who recommended the R32-based Daikin Altherma 3 H HT heat pump – and the 10 class version to handle current and future demand for heating and hot water.

The Quiet Mark certified outdoor unit was positioned outside the boiler room, which housed the indoor floor standing unit, integrated with a 180-litre hot water cylinder.

The cottage will have some additional underfloor heating installed when all the renovations are complete, but the heat pump will continue to serve most of the existing radiators.

As a result, the cottage has a much-reduced carbon footprint. A further benefit is that the R32 refrigerant in the new-technology heat pump has a much lower global warming potential (GWP) than earlier gases.

Meeting net zero by 2045

How this new legislation will impact the house-building industry has yet to be seen. However, it's clear that this plan to ban gas boilers from new buildings is an ambitious move to slash carbon emissions.

Scotland won't meet its target of being net zero by 2045 unless bold steps are taken. The urgency of moving away from fossil fuels and cutting carbon emissions has never been clearer and Scotland – and its electricians – have a key role to play in the net zero energy revolution.

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