Semi-detached, fully wrapped up

Despite good intentions, homeowners are often put off energy-efficiency improvements because of the cost or mistrust of government schemes. But a Manchester co-op is showing just how much can be achieved, says **Sarah Roe**

There's nothing remarkable looking about Dom and Kerstin McCann's house. Nestled among a row of traditional 1920s terraces on a side street close to Heaton Park in north Manchester, this attractive red-brick building with its small, neat front garden appears identical to its neighbours and could be anywhere in the city.

A thin white strip on the side of the building is the one sign from the front that this home is actually one of the most innovative properties in Manchester. It's a sign that the rear and side of the house are covered with 140 millimetres of insulation, and a walk round to the back reveals solar panels on the roof catching the dwindling rays of a dreary winter's afternoon.

The McCanns' house is one of 12 properties selected by Manchester-based Carbon Co-op to showcase the best standards of energy efficiency. The building has been retrofitted to bring it up to the government's low carbon-guzzling standards set for 2050.

When Dom closes the front door behind him, the house feels cosy and calm. It is effectively covered in a big duvet of insulating cellulose, and has an extra thermal groundsheet made of 300mm of wood-fibre under the floor. Triple-glazed windows lock out draughts and noise, while vents keep the air circulating.

"The house looks so ordinary still but it's actually extraordinary," smiles Dom. The £30,000 works were just completed in time for the winter and he and Kerstin are enjoying their new draught-free home.

"This house was always really cold," he remembers. "We would have the heating on full blast but it just didn't work."

Fuel bills for the three-bedroom house used to be £950 per year but in the years to come they hope that the combination of electricity generated by the solar panels and lower heating costs thanks to the high levels of insulation will cut their bill to a third of the original figure.

The couple are part of a small but growing community of people in Manchester who have joined together to keep warm, save money and help the environment. Carbon Co-op has 300 members who benefit from the joint buying power and shared expertise of a group.

The McCanns had access to cheaper deals from contractors and suppliers, and they had confidence that Carbon Co-op – a non-profit environmental organisation – would help them find the materials and contractors to do the best job. Carbon Co-op also helped to fund the work through grants and provided an interest-free loan, available for the 12 owners in the pilot project.

According to Jonathan Atkinson at Carbon Co-op, the task to update Britain's draughty housing stock is huge. Homes built after 2005 have to meet the energy efficiency standards set for 2050, but the rest of an estimated 24 million homes are leaking heat.

He knows that when it comes to houses, most people are understandably cautious about making changes, particularly when they involve thousands of pounds

of debt. This was demonstrated by the low take-up of the government's Green Deal Home Improvement Fund, in which only 2 per cent of people assessed for improvements actually went ahead with the work.

It helps if people can experience the changes first hand and get advice from someone local. By showcasing the 12 pioneers, Atkinson hopes to convince homeowners that ordinary houses can be truly innovative without looking radically different. Carbon Co-op arranges open days around the properties and owners also spread the word to neighbours who have similar problems in their own houses.

In Rusholme, Carbon Co-op member Rob Jones and his family wanted to show other people on their street how a typical local house could be transformed into a draught-free, low energy-consuming home. They had exterior and interior wall insulation, as well as solar panels fitted on the roof, and hope the £35,000 modifications to their four-bedroom house will cut bills to between half to two-thirds of their former level.

"The reason we did it was partly to demonstrate what was possible," he said. "People didn't feel it could be done with the type of houses we've got in this area. The result is a bit underwhelming but that's good as it shows it doesn't destroy the house."

Now Carbon Co-op is bringing its grassroots, people-oriented approach to social housing, which forms a substantial part of Britain's out-of-date housing stock. Members have recently started working with a housing association in Salford to show how people can save money by being green. Tenants who join the scheme can benefit from low-cost measures to reduce their bills, including energy-efficient light bulbs, draught excluders and a shared handyman service to help provide lower prices on small jobs that help to reduce energy use.

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Atkinson says that tenants can distrust flashy green technology – and rightly so. Many housing associations installed air source heat pumps to meet government energy-efficiency targets but they actually led to higher bills for many tenants as the system needed well-insulated homes to work well.

Carbon Co-op works with the tenants to find out the kind of small measures that will help make homes feel less draughty and cut costs. It hopes landlords will install solar panels as well as other features showcased by the 12 energy pioneers.

It's the sum of all the small parts that is the key to a energy-efficient house, says Atkinson, and that can be surprisingly low-tech. The retrofit homes may meet mid-21st century standards but their materials are old-school – wood fibre for the insulation and wood for the window frames. "Wood fibre is a 25-year technology in Germany. It's tried and tested so we're not risking something new on people's walls," he explains. "It's the putting together of all the features that is innovative." m

The McCanns' home in north Manchester takes shape as an energy-efficient showcase

GREEN DEAL

Last month the Department of Environment and Climate Change released new funds for its Green Deal Home Improvement Fund, which offers grants to homeowners and landlords to help with the costs of installing energy-efficiency measures. Up to £5,600 is available to households in England and Wales to help with the cost of installing energy-saving measures such as solid wall insulation, double glazing, boilers, and cavity wall and floor insulation.

Despite the attractions, take up of Green Deal in the past has been low. In 2013 the government offered loans to homeowners, who repaid them over 10-25 years through their electricity bills. The repayments were guaranteed to be as much as or less than the savings made. Yet fewer than 2 per cent of households assessed for the Green Deal signed up.

"Green Deal is a good idea but it's badly managed and badly implemented," says Jonathan Atkinson of Carbon Co-op. "People don't trust Green Deal and the providers of Green Deal. They felt there was something duplicitous about a loan attached to your fuel bill and [at up to 10 per cent] the interest on the loan was quite high."