

Decarbonising our social housing



What lessons and best practice can the UK learn from Europe?

The UK has a target of reducing net carbon emissions to zero by 2050. Existing housing stock poses a threat to this target, accounting for around 40% of emissions. Property owners, whether they are individual households or national social landlords, must retrofit their homes to meet net zero. This research looks at the current agenda in the UK and progress being made within the sector. We then look to our European neighbours to see what best practice we can apply at home.

Achieving net zero by 2050 feeds into housing associations' long-term asset management strategy. Based on current costs analysis, we estimate that the housing sector needs £3.5 billion of investment per year to achieve net zero carbon. Improving energy efficiency will come at a huge cost. But there are positive long-term implications with savings for tenants and benefits for landlords. Supported by the Government's 10-point plan, improving energy efficiency of existing homes can form a key part of our economic recovery, generating thousands of green jobs for the sector and the opportunity to train residents.

How efficient is current stock?

Energy efficiency has improved across all tenures in the last decade. Social rented homes perform the best. 60% of housing association dwellings were rated between EPC A and C and 50% of local authority dwellings. This is compared to 29% of owner occupiers and 33% in the private rented sector, according to the 2018/19 English Housing

Survey. Social rented stock also proved the least expensive to run with average modelled energy costs of £637 compared to £995 in the private sector. Households in social rented homes are more likely to have smart meters and a higher proportion have cavity wall and loft insulation.

The biggest challenge for the sector is tackling heat. 85% of all housing uses gas central heating. The Government is promoting a fabric first approach: improving insulation, ventilation and upgrading the heating system including the use of heat pumps. Insulation measures have proved cost effective and long lasting in reducing energy demand.

The National Energy Efficiency Data Framework 2020 report estimates the median reduction in gas consumption resulting from improvement measures in 2017 ranges from 4.2% for loft insulation to 12.6% for solar technology and 18.9% for solid wall insulation.

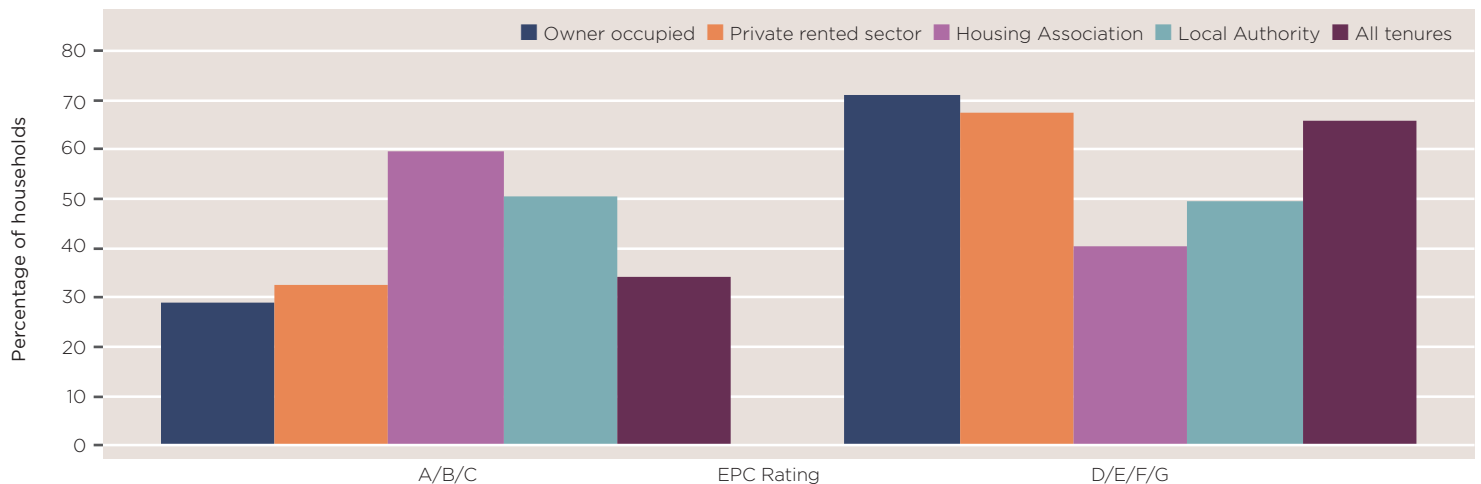
Policy environment

In June 2019, under the Climate Change Act, the UK committed to a target of net zero CO2 emissions by 2050. This will require the housing sector to remove any reliance on fossil fuels in existing homes. According to Savills Housing Sector Survey 2020, reaching net zero carbon standards by 2050 is a key long-term concern for the sector. Providers viewed availability of grant and government policy as the biggest constraints to meeting this target.

Details were released in November 2020 on the Government's 10-point plan to progress towards net zero emissions, establishing the foundations for a green industrial revolution: creating up to 250,000 green jobs and stimulating long term economic growth. Positioning the green agenda at the centre of economic recovery, this 10 point plan will mobilise £12 billion of government investment to develop clean technologies, new industries, supply chains and jobs in the regions, addressing the levelling up agenda. £500 million has been allocated to developing hydrogen power, supporting industry to begin a pilot hydrogen town by 2030. There is also a focus on making homes and buildings more energy efficient by scaling up, supporting 50,000 jobs by 2030 as well as a target to install 600,000 heat pumps yearly by 2028.

The Government launched the £2 billion Green Homes Grant scheme in September 2020. This lets private homeowners and landlords apply for up to £5,000 per property towards energy efficiency improvement works. Low income households are eligible for grants of up to £10,000. The programme also includes a £50 million Social Housing Decarbonisation Fund Demonstrator for 2,200 social housing retrofits. As part of the Government's 10-point plan, the Green Homes Grant scheme has been extended by £1 billion for a year after the initial programme became heavily over-subscribed. Arguably, the Government could provide longer-term support to encourage widespread retrofitting programmes.

Energy efficiency ratings by tenure



Source: English Housing Survey 2018-19

What can we learn from Europe?

European governments have introduced increasingly ambitious policies to promote building renovation and energy efficiency, supporting the continent in becoming climate neutral by 2050. The following examples show where UK providers can learn from Europe.

Netherlands

Net zero carbon target: 2050

Energiesprong transforms existing homes in the social and private sector into net zero energy housing. It completely wraps houses with pre-fabricated, insulated panel facades and fits insulated roofs with solar panels in addition to smart heating and cooling systems. These prefabricated refurbishments can be completed in a week and come with a 30-year warranty on energy performance. Energiesprong completed a pilot project of 10 homes on behalf of Nottingham City Council in which the homes were retrofitted with Energiesprong techniques. An additional phase is underway in Nottingham in addition to pilots in Essex and Exeter.

Lesson: Energiesprong shows that UK housing providers can use modern methods of construction to help retrofit existing homes. While expensive now, the cost of Energiesprong should decrease as it reaches scale.

Germany

Net zero carbon target: 2050

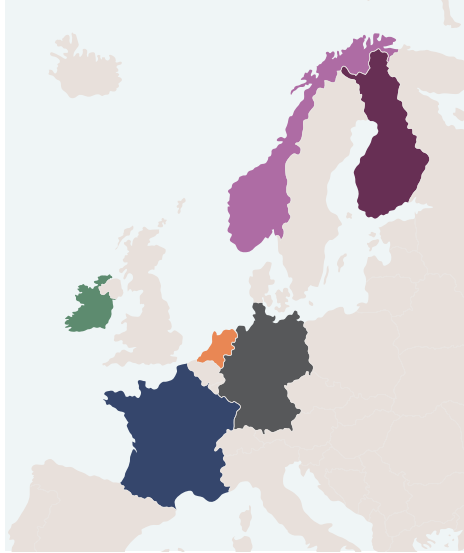
The German Government funds one in three housing retrofits through KfW, a government owned bank. KfW offers grants, subsidies, and discounted loans to homeowners, social landlords and local government to improve homes' energy efficiency. The bank also funds new homes that meet their efficiency standards.

Lesson: The UK Government could fund a similar programme of loans and grants supporting retrofits through the banks they own, such as Royal Bank of Scotland.

France

Net zero carbon target: 2050

France has allocated a third of its €100 billion post Covid-19 recovery package to fund a green recovery plan. An additional €2 billion of funding per year will support the MaPrimeRénov scheme, the main programme of public subsidies for retrofits. From 1st January 2021, grant funding will be available to all incomes and all houses irrespective of their energy performance. With a maximum threshold of €20,000 over five years, the amount of



grant is based on household income and the improvement measures required.

Lesson: Post Covid-19 economic recovery initiatives can address the sustainability agenda whilst also supporting the economy through investing in large scale retrofitting programmes.

Ireland

Net zero carbon target: 2050

Under the Climate Action Plan 2020, the Government has established a national retrofit taskforce to oversee the delivery of 500,000 retrofits by 2030. It has committed €286.5 million to retrofitting in 2021. The new national retrofit model plans to group retrofits of homes in the same area to reduce costs and share resources. The taskforce aims to encourage partnerships between private households, housing associations, local authorities and utility companies in local areas. This aggregate model is currently being piloted by local authorities in the Irish Midlands.

Lesson: Retrofitting homes will be quicker and cheaper if we set up partnerships between housing associations, local authorities, private homeowners and utility companies in the same area.

Norway

Net zero carbon target: 2050

Powerhouse is a new building standard originating in Norway that guarantees that buildings will produce more energy over their lifetime than they will use through construction, operating and demolition, reaching beyond the concept of net zero energy. Many projects have adopted the Powerhouse standard, both new build dwellings such as the Drøbak Montessori school and upgrades to existing stock such as the Kjørbo office buildings where energy demand was reduced by more than 86%.

Lesson: The Powerhouse standard shows it is possible to go beyond Net Zero carbon. This will help offset those homes that cannot be retrofitted to Net Zero standards.

Finland

Net zero carbon target: 2035

Helsinki's Energy Renaissance programme encourages energy retrofits in private stock through expert training, renovation subsidies and following the operating models in the public sector. In addition, the Helsinki Energy Challenge launched in February, a competition inviting innovations for decarbonising the city's heating.

Lesson: UK cities can follow Helsinki in setting more ambitious energy efficiency targets. They will need to set strict targets, provide examples of retrofitting and make public authorities accountable to encourage private residents to upgrade existing stock.

30 years to 2050

With just 30 years to 2050, this marks a key point for the housing sector to reposition itself, evaluate current stock profiles and consider long-term strategy. Addressing the energy performance of existing stock requires a variety of different approaches and scaling up of existing initiatives as well as more centralised support. Looking ahead, there are significant challenges for the sector many of which actually present as opportunities.

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