

Cynulliad Cenedlaethol Cymru | National Assembly for Wales
Y Pwyllgor Newid Hinsawdd, Amgylchedd a Materion Gwledig
Climate Change, Environment and Rural Affairs Committee
Ymchwiliad i Dlodi Tanwydd | Inquiry into Fuel Poverty
FP 15
Ymateb gan : Ysgol Pensaerniaeth Cymru, Prifysgol Caerdydd
Evidence from : Welsh School of Architecture, Cardiff University

This response to the fuel poverty inquiry is based on a piece of work, Homes of Today for Tomorrow STAGE 2: Exploring the potential of the Welsh housing stock to meet 2050 decarbonisation targets, that was produced in support of Welsh Government's Existing Housing Decarbonisation programme.

The work responds to the question "what steps the Welsh Government should take to ensure that new-build homes, as well as existing homes, are highly energy efficient to prevent them causing fuel poverty in the future?"

The primary aim of this research was to understand the degree to which the nature of the existing Welsh housing stock could contribute towards the development of a pathway to decarbonisation, while also considering energy costs and affordable warmth. The Welsh housing stock was split into a representative taxonomy of recurring dwelling 'types' was using multiple data sources. These typologies were then used to explore the impact of key retrofit actions upon the Welsh housing stock, by modelling each dwelling type in 1990, in 2018 and in 2050 to produce capital cost, carbon emissions, ongoing energy costs and overheating for each of time periods. Capital costs also included potential ongoing maintenance costs. Consideration was also given to changes in the national energy supply network. Further decarbonisation of centralised energy supply could have an impact on decision making as to where to invest and also on overall energy costs.

Outcomes for different levels of retrofit across the Welsh housing stock as a whole have been calculated and how this could deliver decarbonisation has been evaluated. Findings establish the degree to which key metrics such as dwelling type and physical characteristics influence both the retrofit strategy

adopted and its effectiveness, and highlight other influential factors – notably tenure, setting and primary energy source.

Recommendations are made in terms of the level of retrofit likely to be needed to meet targets for decarbonisation by 2050, while also giving due consideration to affordable warmth and energy costs for households in different types of homes. Links are established between the nature of the existing housing stock and reasonable targets for retrofit. These recommendations are intended to inform decision making around an appropriate pathway for decarbonisation of the Welsh housing stock.

Recommendations

From our work to explore decarbonising pathways for the Welsh housing stock we believe the following recommendations are relevant to this inquiry.

Overall

Cleaner, lower carbon primary energy supply from centralised energy system will inevitably increase energy tariffs. Action must be taken to reduce household primary energy use to protect vulnerable households from rising energy bills.

Trends in fuel poverty should be monitored, to ensure that an acute increase in fuel poverty is not a consequence of cleaner primary energy supply.

Retrofit strategies that upgrade services must be accompanied by an uplift in dwelling fabric to an acceptable standard to diminish increases in energy costs and fuel poverty

In detail

The UK Government must be lobbied to ensure that energy supplied by the national grid exceeds 60% clean energy by 2050 to achieve carbon emission targets. However, this will inevitably result in an increase the cost of energy.

In the likely event that the costs associated with cleaner energy supply are passed on to households, there could be considerable increases in householder energy costs, and corresponding increases in fuel poverty. Action must be taken to protect vulnerable households to ensure that a consequence of increased costs of cleaner energy is not an increase in fuel poverty.

Under a transformational change of the housing stock where decarbonisation is achieved through improvements in energy supply and services alone, the significance of retrofitting the existing housing stock relates less to decarbonisation targets and more to the need to avoid increases in fuel bills for occupants, and a consequent increase in fuel poverty.

A minimum standard for dwellings built before 1919 should be set to provide achievable targets. While the reduction in carbon emissions would not meet decarbonisation targets, carbon reduction can still be achieved without impacting unduly on historic character and such work would help to reduce increased fuel costs and consequently fuel poverty. Dwellings built before 1919 whose exterior appearance does not contribute to a locally distinctive character should be taken beyond this standard, which achieves a SAP rating of 71.