

LCH 23

Ymateb gan : Sefydliad y Peirianwyr Sifil Cymru
Evidence from : The Institution of Civil Engineers Wales Cymru

Climate Change, Environment and Rural Affairs Committee's inquiry into Low Carbon Housing: the challenge

I refer to the **Climate Change, Environment and Rural Affairs** Committee of the National Assembly seeking information to inform their **inquiry into Low Carbon Housing: the challenge**

On Behalf of the Institution of Civil Engineers (ICE Wales Cymru) I am delighted to give input in respect of the questions raised.

- What role can housing can play in Wales' low carbon transition, including the potential positive impacts on greenhouse gas emissions?

Housing will play a large role in this matter; approximately third of carbon emissions is from the existing housing stock. It is considered that some 80% of 2050 housing stock is already in place in Wales. The challenge is to retro-fit existing housing.

- The development and availability of technology needed for highly energy efficient housing;

Technology is available for the development of highly energy efficient housing. However, there is a need to reduce energy demand before fitting/retrofitting technology and it is considered a fabric first approach to energy efficiency measures e.g. dry walls, good maintenance and appropriate insulation is the most effective energy solution. Technology should be used only to address any remaining energy needs. Where technology is requirement development should be focused on local solutions developed in Wales; an example would be local district heating schemes.

- What changes are needed to ensure that existing housing stock is as energy efficient as it can be?

It is considered that there should be a concentration on the maintenance of the existing housing stock; this will be challenging with more than 80% in private ownership. Incentives could be used to maximise the uptake of the initiatives to improve energy efficiency, however these incentives should be innovative, perhaps implementing the approaches suggested by the LENDERS report for mortgage lending linked to energy efficiency Any energy efficiency measures considered should be considered as part of a whole house approach and to maximum effective, for example an 'enveloping' scheme approach should be used and not individual properties.

Such measures where appropriate should extend to whole terraces.

- Whether it is possible and feasible to deliver low carbon, energy positive, affordable housing at scale in Wales and, if so, how this can be achieved;

It is possible for the delivery of low carbon, affordable housing at scale. Clarity is needed around the definition of 'low carbon' and 'energy positive' housing. Current housing delivery mechanisms may not be appropriate and it may be worth considering the role of councils in providing/facilitating the development of energy efficient housing. Local authorities offer an opportunity to develop homes for a wider range of benefits than profit. They would also be best placed to integrate infrastructure needs associated with the housing.

- What are the barriers to delivering transformative change in house building in Wales?

The dominance of the housing market by a small number of large house building companies is a real barrier to change in house building in Wales. This could be addressed by supporting a more diverse larger number and types of property developers. Key in Wales is the Wellbeing of Future Generations Act; this should be the primary driver.

Another barrier is the availability of the technology/methods (modernisation of house building), workforce and materials to address the new energy efficient housing. Consideration should be given to the Welsh Planning system, and if it can / does bring about good transformative change. Furthermore, NHBC and LABC guarantees do not cover the low carbon innovations. The Welsh Government could consider underwriting this gap.

- What is the role of Ofgem and the national grid in enabling grid evolution to accommodate new types of housing, and what are the challenges presented by decentralised energy supply?

Concerns are raised about the National Grid and it needs to be evolved to accommodate new types of housing. Decentralised/More localised systems and solutions need to be prioritised. Maintenance is a key factor to be considered for any alternative solutions.

- Whether Wales has the requisite skills to facilitate and enable change in the housing sector;

As above, the availability of the skills/technologies to deliver different methods, implications of an ageing and immigration heavy workforce (challenges of EU Exit) and resources/materials to address the new energy efficient housing does cause concerns and may be a barrier to the proposals. To facilitate and enable change, it needs skills in both the public and private sectors.

- What changes are needed to Building Regulations in Wales to accelerate progress towards 'near zero' energy standards and beyond?

Wales has the opportunity to be at the forefront of changing the Building Regulations and it is considered that this opportunity should be taken. We should examine if Wales is meeting the current Building Regulations i.e. are the current standards being met before raising the standards even higher? Appropriate enforcement / monitoring systems should be in place. Regrettably there are tragic examples of consequences when standards are not met.

- How communities can be planned and shaped to be more energy efficient and low carbon (including examples of good practice in Wales and further afield).

First, in Wales the vehicle for the approach needed is the Wellbeing of Future Generations Act. Appropriate well planned infrastructure needs to be in place in alignment with housing as an integrated approach.

Swindon's approach to the provision of solar panels is worthy of consideration: Swindon, the first council in the UK to offer bonds, showing a new way for local authorities to fund infrastructure. This raised £1.8million - The investment was structured to be open to anyone with a minimum of just £5 and offered an effective rate of return of 6% over its 20-year term. During the 3-month offer period it attracted an average of £18,000 in investment per day with one-third coming from the Swindon area.

In Austria, at Güssing a complete renewable energy solution is in place for the whole town. Energy provision was at the heart of the redevelopment of the town and appropriate infrastructure was in place for the housing – with positive results.

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Notes:

The Institution of Civil Engineers (ICE) was founded in 1818 to ensure professionalism in civil engineering.

It represents 90,000 qualified and student civil engineers in the UK and across the globe and has over 3,600 members in Wales

ICE has long worked with governments of the day to help it to achieve its objectives, and has worked with industry to ensure that construction and civil engineering remain major contributors to the UK economy and UK exports

For further information visit www.ice.org.uk and www.ice.org.uk/wales