

Low carbon housing: the challenge

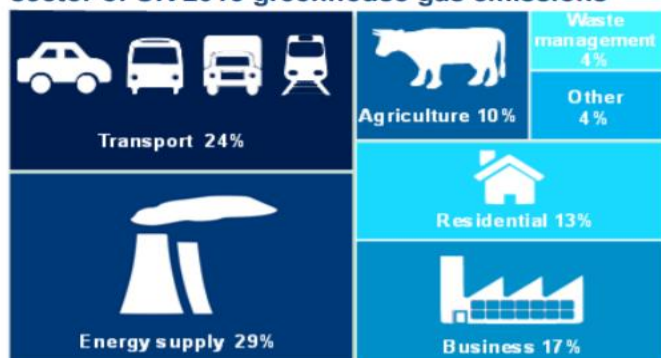
To assess the Welsh Government's progress in relation to low carbon housing and to consider what needs to be done to ensure the Welsh Government achieves its commitments to meet energy efficiency and emissions reductions targets. We will explore:

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

Although the HBF accepts that all housing can play a role in reducing carbon emissions we note that when you consider the statistics available, housing is only 13% of the UK carbon emission so the impact is likely to be minimal (see table below). Any such impact needs to be considered in terms of the benefits v's the risk that an increase in building standards in Wales could make Wales a less attractive environment in which to develop and thus lead to a reduction in the number of new private homes in Wales being built.

Department for Business, Energy & Industrial Strategy UK greenhouse gas emissions national statistics and Greenhouse gas emissions

Energy supply remains the largest emitting sector of UK 2015 greenhouse gas emissions



Other includes Public and Industrial Process sectors (the Land Use, Land Use Change and Forestry (LULUCF) sector is excluded from the sector statistics above as it acted as a net sink of emissions). Please note the percentages above do not sum to 100% due to rounding.

Energy supply and waste management sectors experienced the largest reductions in emissions from 2014 to 2015

	2014-2015 % change	1990-2015 % change
Energy supply	↓ 12%	↓ 48%
Waste management	↓ 7%	↓ 73%
Business	↓ 3%	↓ 26%
Other	↓ 1%	↓ 72%
Agriculture	↔ 0%	↓ 17%
LULUCF	↑ 1%	↓ 229%
Transport	↑ 2%	↓ 2%
Residential	↑ 4%	↓ 17%

LULUCF has a large percentage decrease from 1990-2015 as emissions in this sector have gone from being a net source in 1990 (5.7 MtCO₂e) to a net sink of emissions in 2015 (-7.4 MtCO₂e).

Further information: <https://www.gov.uk/government/collections/final-uk-greenhouse-gas-emissions-national-statistics>

Enquiries: ClimateChange.Statistics@beis.gov.uk

Responsible statistician: Amanda Penistone Tel: 0300 068 8090

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

Although the HBF does not have any specific comment to make on this issue it does note that the ability to provide warranties to home owners when new technology is provided needs to be considered. Further depending on the type of intervention, particularly if it includes nonstandard construction methods, the ability to raise a mortgage could be affected.

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

The WG Household estimates 2017 indicate there are 1.34m households in Wales with the WG New House building stats indicating that 119,088 new homes were built from 2010-2016. If you consider these as the more modern energy efficient homes they are only 9% of the total number of homes. The HBF suggest that this highlights the importance of dealing with carbon emission from older homes, which are not only far less efficient but are also the main element of the housing stock in Wales. The occupiers of this older stock are also more likely to be the people suffering from fuel poverty. The poor performance of the existing housing stock in Wales is highlighted by the recent HBF report [YOUVE GOT THE POWER WALES](#) which shows that the cost saving on energy in a new home in Wales is £170 a year more than in England at £806.

- *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;*

The HBF does not believe that there is currently enough known about the available technology to deliver at scale including both the cost implications to builders and the customer reaction. The HBF is aware of the SOLCER house having visited it a number of times, we do not believe that housing the same as this could currently be delivered at scale, both due to planning restrictions, and customer reaction. By way of example the orientation of the SOLCER house is critical to obtaining maximum performance and if all sites were to have to be designed around a set orientation it is likely that less houses would be delivered on most sites. There may also be an issue around warranties associated with this new technology.

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

Firstly HBF would ask why 'transformative change' is required. We currently build around half the number of new homes needed in Wales, will the 'transformative change' suggested increase this level of production? Or as suggested elsewhere in this submission result in less homes being built.

Building new homes is very challenging in many locations in Wales for a number of reasons, but in terms of the homes delivered by the private house builders [latest WG statistics 'New House Building September 2017' show that 78% of new homes are delivered by the private sector] the main issues faced is around viability. This is a result of a combination of new homes costing more to build in Wales and sales values in many parts of Wales being much lower than across the border. Added too this the challenging ground conditions faced on many sites and in particular the number of allocated brown field regeneration sites in Development Plans which are often considered to be the most sustainable location for new housing. Any increase in build costs is only likely to lead to

greater viability issues, which could result in both a lower number of affordable homes and less private new homes being delivered.

- *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?*

No comment.

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

The HBF would suggest it is currently difficult to answer this question as until the types of technology to be used at scale are known then it is difficult to understand the skills required and available. However, presuming new skills will be required, as is often the case with new technology, there will be a lead in period of at least 3 years to allow for people to be upskilled either through college courses or apprenticeships. In terms of the South and North East of Wales the proximity to the border with England is a factor when it comes to the availability of skills, however if we are building differently in Wales then we will potentially no longer be able to rely on movement across the border to help fill any skills gap.

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

The HBF have no specific suggestions as we believe that the evidence we have submitted in this response and previously to other consultations would suggest that changes are not currently required. However we do consider that Building Regulations is the most appropriate way to impose any changes that may be deemed appropriate. We do not support, as seen recently in some Local Development Plan Inquiries, attempts to impose local requirements through planning policies.

- *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).*

The HBF believes that based on the national figures identified in the answer to the first question, as transport is 24% of the annual energy use nearly double that of new homes, the provision of energy efficient infrastructure is the key to shaping new communities to be more energy efficient. The location and orientation of development could also be a key factor depending on the technology used (see comments above regarding the SOLCER house).

The HBF has also attached their recent report 'You have the Power' which concludes that a purchaser of a new home in Wales saves around £806 a year in the cost of energy.

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