# National Assembly for Wales
# Environment and Sustainability Committee
# EEFP 21
# Inquiry into Energy Efficiency and Fuel Poverty
# Response from: Wales Low/Zero Carbon Hub (WLZCH)

Grŵp Carbon Isel / Di-garbon Cymru
Wales Low / Zero Carbon Hub

**Wales Low/Zero Carbon Hub (WLZCH) written evidence to National Assembly for Wales' Environment and Sustainability Committee Inquiry into Energy Efficiency and Fuel Poverty in Wales**

1. Introduction to Wales Low/Zero Carbon Hub

1.1 The Wales Low/Zero Carbon Hub (WLZCH) was established in 2009 to take forward the work of reducing carbon emissions from the built environment and help meet Welsh Government targets. The WLZCH delivers practical steps to help bring about change, investigates the technical aspects and works with Government and industry to help mainstream low/zero carbon thinking.

1.2 Constructing Excellence in Wales facilitates the work of the WLZCH, providing administrative support and coordinating its own activities to drive real change in the Welsh built environment.

1.2 The WLZCH welcomes the opportunity to provide oral evidence on energy efficiency and fuel poverty on behalf of the built environment sector at the Environment and Sustainability Committee.

**Progress towards meeting the Welsh Government's statutory targets for eradicating fuel poverty in Wales by 2018.**

2. Fuel poverty in Wales

2.1 Increases in income and energy efficiency savings in the housing stock have been largely counteracted by rising fuel prices, and this has led to the increase in the number of fuel poor households.

2.2 Since 2008, rising fuel prices have outstripped increases in household income and improvements in energy efficiency leading to an estimated 54,000 more households in fuel poverty in 2012. The percentage of households in fuel poverty has risen from 26% to a projected 30% in 2012. It is assumed that the housing stock has not changed significantly over time and the total number of households in 2012 remains broadly the same as in 2008.

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| Year | Number of fuel poor households | % of total |
|---|---|---|
| 2008 | 332,000 | 26% |
| 2011 | 365,000 | 29% |
| 2012 | 386,000 | 30% |

Source: BRE, 2012

2.3 The average household energy bills have increased by 33 per cent since 2012, exceeding £1,200 per annum and twice the average bill five years ago. High energy prices in Wales are compounded by poor housing stock quality, high incidence of low income and poverty in addition to households' lack of access to mains gas.

2.4 Wales has the second highest level of households using carbon intense fuels (i.e. oil and coal) in the UK, after Northern Ireland. In Wales, 19% of the population are considered off grid (from mains gas, electricity, or water), a total of 253,000 households[1].

**The impact of the Welsh Government's existing energy efficiency programmes (NEST and Arbed) and UK Government initiatives such as Green Deal.**

3. Making an impact: Improving Existing Stock

3.1 Energy efficiency measures have been proven to be the most sustainable solution to address the cause of fuel poverty – they receive lower funding compared to income and fuel price support schemes[2]. Additionally energy efficiency improvements can deliver multiple benefits, not only with regards to environmental and economic issues but also impacting social aspects[3]. It will be a more profitable investment in public budget to support the delivery of improvements in the energy performance of a building (BPIE, 2014)

3.2 Wales has the oldest stock profile in the UK where eighty per cent of the 2050 building stock already exists (BRE, 2013). There are approximately 1.25 million homes in Wales, 700,000 properties are classified as "hard to treat". The costs of achieving a lasting reduction can be prohibitive, with all property types requiring not only extensive improvements to the performance of the fabric of the buildings, but the use of multiple technologies, such as air source heat pumps, solar hot water panels and photovoltaics. The resulting cost of these measures being in the region of £12k to £28k per property. If these indicative costs were to be replicated across Wales, then the sum of investment required to address just the hard to treat properties would be in the region of £8 billion.

[1] Source: Off Grid Energy: An OFT market study, OFT Oct 2011
[2] Source BPIE Alleviating Fuel Poverty in the EU: Investing in home renovation – A sustainable and inclusive solution, 2014
[3] Source IEA: Evaluating the co-benefits of low-income energy efficiency programmes, 2011

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3.4 At the current rate of investment in fuel poverty schemes Wales would require over 500 years of financing to improve the energy efficiency of the existing solid walled stock only and will not address the issues posed by other construction forms in existence in Wales.

3.5 The UK Government's Green Deal initiative appears unlikely to deliver the carbon savings predicted in its early forecasts. Recent figures released by DECC indicate that the predicted carbon savings will be less than those anticipated. Early improvement measures set in place by the UK Government such as the Energy Commitment initiatives have provided improvements, but reported issues have become more widespread as measures introduced in these schemes were not always undertaken with the correct level of assessment or expertise. There are growing instances of cavity walls in Wales being insulated that if assessed using the British Standard should never have been undertaken due to the level of severe exposure in the west of the UK. The issue of solid wall insulation, if not considered correctly has the potential to replicate these problems and issues. There are problems with the solid wall insulation industry, for example there is no national standard for assessment, surveying or installation. The cumulative effect of these short comings can result in properties which are of a construction type where only certain measures are applicable, or are not in a suitable state of repair or water tightness being selected for external wall insulation without due consideration. This can often be attributed to a lack of impartial and easy to understand guidance and the tools necessary to ascertain potential risk.

**Implementation to date by the major energy suppliers of the Energy Company Obligation (ECO) and other measures to alleviate fuel poverty in Wales.**

4. ECO

4.1 The latest ECO features available from DECC indicate a poor take up in Wales up to 2013. See appendix 1.

4.2 Although no data is available on the type of ECO schemes implemented in Wales, it is understood that recent changes to the requirements set out by Ofgem to the utility providers has resulted in a significant move away from the expensive measures being supported under ECO.

5. Achieving targets

5.1 Even with the advent of schemes such as Arbed and Nest the figures of households in fuel poverty are increasing, so it can be assumed that the funding level is not sufficient to combat fuel poverty by the given target date, many of these factors may be outside of the

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WG control such as fuel price increases[4]. To address this Welsh Government will need to look wider than the measures and incentives that are currently in place.

5.2 To fully address fuel poverty Welsh Government will need to give consideration to the delivery of retrofit solutions at very large scale. To achieve the targets established there will need to be a mechanism to accelerate the scale of carrying out appropriate and well considered retrofit works, acknowledging that current levels of funding may be inadequate. For example, Arbed is the UK's largest retrofit scheme. To address the increase in the number of fuel poor households between 2011-2012 would require x17 projects at the scale of Arbed annually.

5.3 By procuring standard solutions intelligently at very large scale significant cost reductions can be achieved. Cost reductions are essential, but will not deliver on their own. Wales needs to create a national programme for retrofit that integrates technical, behavioural, social, financial and policy actions to deliver. For the most part the construction of Wales' homes can be matched to one of approximately 20 property types. By understanding the most appropriate retrofit solutions for each type a standardised approach can be developed to assessment and implementation to reduce the cost.

5.4 The development of a long term vision will enable industry to look forward and value engineer solutions, achieving in some cases a costs reduction of 70 per cent less[5].

5.5 The promotion of the relationship between improved energy efficiency and enhanced property prices is key to the wider adoption of retrofit measures. Current development methods do not adequately value the lifecycle impacts of buildings in any construction sector. This places low energy demand property with its potentially higher capital cost at a significant disadvantage. Working to rebalance this valuation can be achieved within the existing development framework. Methods vary for different sectors, for example for homes working with banks and building societies to develop mortgage offers that allow higher total lending against homes with lower energy demands (resulting in a lower overall monthly expenditure).

5.6 The Welsh Government has recently withdrawn its national planning policy on Sustainable Building Standards and TAN 22 this coupled with the step down from consulted energy emission reduction targets in Part L could create a loophole for relaxed environmental performance. It is not clear how Welsh Government plans to address the resultant gap. Historically, Welsh Government has positioned itself at the forefront of setting standards in the built environment it is feared that such actions will impact on the consistency of this drive and ultimately the delivery of a sustainable built environment free from fuel poverty.

[4] Source (http://wales.gov.uk/docs/caecd/research/130430-wales-fuel-poverty-projection-tool-2011-12-report-en.pdf).

[5] http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partl/approval/

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5.7 Many sectors of the industry raise concerns over the costs of delivering energy efficiency requirements but available data indicates that they can be delivered at no or little additional cost. Which when taken into consideration with the whole life benefits will create a more sustainable, affordable and cost effective built environment.

5.8 Wales has a low rate of renewable power capacity. Deployment growth in Wales has been slower than in the rest of the UK. Renewable schemes could be used to mitigate fuel price increases, especially in areas without mains gas.

Appendix 1: Wales ECO figures, DECC 2014

| **Area** | **Carbon Saving Target (CSO)** | **Carbon Savings Community (CSCO)** | **Affordable Warmth (HHCRO)** | **Total number of ECO measures delivered** | ***Valid percentage of ECO measures delivered*** |
|---|---|---|---|---|---|
| WALES | **8,566** | **3,765** | **19,478** | **31,809** | ***6.0*** |
| Isle of Anglesey / Ynys Môn | 28 | 14 | 141 | 183 | 0.0 |
| Gwynedd / Gwynedd | 115 | 18 | 221 | 354 | 0.1 |
| Conwy / Conwy | 375 | 41 | 758 | 1174 | 0.2 |
| Denbighshire / Sir Ddinbych | 155 | 49 | 696 | 900 | 0.2 |
| Flintshire / Sir y Fflint | 422 | 92 | 868 | 1382 | 0.3 |
| Wrexham / Wrecsam | 265 | 51 | 436 | 752 | 0.1 |
| Powys / Powys | 105 | 3 | 170 | 278 | 0.1 |
| Ceredigion / Ceredigion | 107 | 3 | 125 | 235 | 0.0 |
| Pembrokeshire / Sir Benfro | 505 | 79 | 321 | 905 | 0.2 |
| Carmarthenshire / Sir Gaerfyrddin | 269 | 79 | 879 | 1227 | 0.2 |
| Swansea / Abertawe | 462 | 199 | 1541 | 2202 | 0.4 |
| Neath Port Talbot / Castell-nedd Port Talbot | 602 | 210 | 1219 | 2031 | 0.4 |
| Bridgend / Pen-y-bont ar Ogwr | 307 | 234 | 1252 | 1793 | 0.3 |
| The Vale of Glamorgan / Bro Morgannwg | 484 | 61 | 719 | 1264 | 0.2 |
| Cardiff / Caerdydd | 1443 | 921 | 2331 | 4695 | 0.9 |
| Rhondda Cynon Taf / Rhondda Cynon Taf | 456 | 532 | 3211 | 4199 | 0.8 |
| Merthyr Tydfil / Merthyr Tudful | 43 | 152 | 637 | 832 | 0.2 |

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|---|---|---|---|---|---|
| Caerphilly / Caerffili | 773 | 408 | 1534 | 2715 | 0.5 |
| Blaenau Gwent / Blaenau Gwent | 92 | 192 | 734 | 1018 | 0.2 |
| Torfaen / Tor-faen | 649 | 100 | 509 | 1258 | 0.2 |
| Monmouthshire / Sir Fynwy | 280 | 1 | 189 | 470 | 0.1 |
| Newport / Casnewydd | 629 | 326 | 987 | 1942 | 0.4 |
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https://www.gov.uk/government/publications/green-deal-energy-company-obligation-eco-and-insulation-levels-in-great-britain-quarterly-report-to-december-2013