

Pwyllgor Newid Hinsawdd, yr Amgylchedd a Seilwaith /  
Climate Change, Environment and Infrastructure Committee  
Datgarboneiddio tai / Decarbonisation of housing  
DH05\_AA

Ymateb ychwanegol gan / Additional evidence from Linc Cymru

## **Follow up questions from the Climate and Infrastructure committee**

### **1. To what extent is it feasible for all social housing to achieve EPC (Energy Performance Certificate) A or equivalent by 2030?**

It is technically feasible to retrofit most houses to achieve EPC (Energy Performance Certificate) A or equivalent, however the construction details of certain property types lead to an excessively disproportionate position in terms of cost vs EPC gain to complete the final elements of work. The below example does not include the final elements to push to EPC A but gives an indication of the extent of work required to achieve a high EPC C.

Lincs work under the Optimised Retrofit Programme (ORP) 1 has identified that the traditionally built pre-1919 properties will not achieve EPC A after investing ~£30,000.00 (EEM alone). These properties will achieve a high C rating. However, there will be a significant reduction in the carbon. This property archetype is classed as tough to treat.

For example, a pre-1919 mid terraced property in Baneswell, Newport has the existing energy performance of:

SAP D58  
Heat 209kWh/m<sup>2</sup>/yr  
CO2 56Kg/m<sup>2</sup>/yr

By installing the following Energy Efficiency Measures (EEM) at a cost of ~£30,000.00 (Excluding enabling works):

Intelligent Energy System  
Loft insulation top up  
Draft proofing / Airtightness  
Ventilation  
Internal Wall Insulation  
Upgraded windows and Doors  
Air Source Heat Pump  
Hot Water Cylinder  
Battery Storage  
PV

The energy performance is estimated to be:

SAP C78

Heat 79kWh/m<sup>2</sup>/yr

CO2 12Kg/m<sup>2</sup>/yr

The above demonstrates that although the EPC/SAP score is still short of EPC/SAP of A 92 the energy demand and CO2 have been reduced. To take this property to EPC A some extremely intrusive and high cost works for minimal EPC improvement would need to be carried out.

It is important to bear in mind that traditionally built pre-1919 properties represent over a 1/3 of the Welsh housing stock and 80% of existing properties in Wales will still be here in 2050. As a Social Housing Provider, Linc pre-1919 properties represent a 10% proportion of its stock.

The EPC A by 2030 target is ambitious and currently seems unachievable. It places significant financial pressures on RSL's to complete the works, impacting on their ability to invest in new homes, regeneration of communities, broader poverty reduction initiatives, tenant support among other important social measures. Should the target be aligned to RSL business plans and the ability for the supply chains, manufacturers and skilled workforce to be established, RSL's would be able to continue to meet the global needs of Welsh Government and society in general. An alternative option could include setting a target date for carrying out building evaluation / surveys and gathering data on properties by say 2025/6. This would mean that social landlords should be able to demonstrate, by 2025/6 a comprehensive route map to Zero/low Carbon. The ORP funded pilot projects are currently still being explored, and ongoing test and learn pilots due to complete over 2022/2023. Learning from these pilot projects will tie up neatly with the gathering of data on existing properties to truly inform the correct approach and map to achieve zero/low carbon homes.

Having a short target date could place pressure on making decisions that create less significant outcomes for tenants and buildings and harm the building fabric or the manner in which it performs. For example, if we were to rush in and carry out what is high value energy efficiency improvement works such as Air Source Heat Pump installation, only to then understand the gas grid could be utilised for clean/green hydrogen the high-cost installation of the Air Source Heat Pump could have been avoided with a straightforward boiler swap to accommodate hydrogen gas.

## **2. What are your views on the need for a new independent quality assurance scheme for housing retrofit measures? How should such a scheme be developed?**

There is already an independent quality assurance scheme, Trustmark. Trustmark provide the quality assurance for works being delivered in accordance with PAS (Publicly Available Specification) 2035. PAS2035 is a comprehensive retrofit standard specification and a requirement set by Welsh Government for ORP funded projects. Linc have worked with a consultancy firm and, to undertake the pre-construction building evaluation works in accordance with PAS2035 alone costs ~£3,000.00 - £5,000.00 per property dependant on pathway, it is highly likely that social landlord decarbonisation projects will fall in Path C which is the higher end of this scale. Project coordination and evaluation are not included within the cost.

Another quality scheme for retrofitting energy efficiency measures is Enerphit. The Passivhaus standard for existing buildings. Linc are currently working on a project with Wood Knowledge Wales, funded through ORP2 which is looking at the difference between Enerphit and PAS2035. This project runs until March 2023 when a true comparison of process, resource and cost can be concluded.

## **3. How can the financial challenges facing social landlords, particularly in recouping a proportion of the financial saving from energy efficiency measures, be addressed?**

There are still several innovative and creative projects exploring the financial challenges as part of the funded Optimised Retrofit Programme. Power purchase agreements could be an option and is a concept currently being explored at Linc. This is where a system, such as PV and Battery are installed on estate. PV and Battery are provided at no cost, including ongoing maintenance and replacement of the system but the energy provided at a fixed cost. The intention to provide a lower energy cost to the resident, some of which could be shared with the landlord. This solution is a win for the tenant as the cost kWh will reduce, the RSL (registered social landlords) can generate an income through sharing the reduced energy cost to the tenant and the 3rd party provider has a continuous income. This would not be suitable for all properties and would depend on the energy generation from the PV.

Solar PV array in-conjunction with agreed fixed energy feed in tariffs such as Octopus energy, could in theory recoup an income whereby some of the energy generated by technologies are not used by the resident. So, if for example a user does not require the amount of solar which has been generated, and the battery is at capacity. The sale back to the grid could be an income retained by each individual social landlord and utilised to repay some of the initial and ongoing costs for the technology. It is important to note, that feed in tariffs is well below what the cost per kWh is charged by the energy company, sometimes between 20-30p kWh difference. This presents a challenge as the feed in will not be significant to recoup all associated costs and if a

user's energy demand is high, there is a possibility that there will be no costs recouped. There is also the complexity around the resident having an agreement with both the RSL (registered social landlords) and energy company for supply charges and feed in repayments.

I reiterate that there may not be any financial savings to share, depending on how energy is consumed within the property. The cost-of-living crisis is something that needs to be looked at in conjunction with energy improvements and potential savings. Increasing the rent to cover any EPC gain only transfers the affordability issue to rents rather than energy.

#### **4. How does funding for decarbonisation programmes need to change to factor in ongoing maintenance and servicing costs and technology costs e.g. for IES (Intelligent Energy Systems), mechanical ventilation, air source heat pumps.**

Funding for installation on new technologies should consider the whole life cost and not the initial upfront installation cost. This should include maintenance regimes in line with manufactures recommendations and subsequent complete removal and disposal. Costs would also need to consider improvements or alterations to network connectivity, an increasing demand for smart technologies will necessitate improvement to the communications networks. To run a gateway for the ORP2 programme it would cost an initial set up charge of £80,000 covering 344 properties, with an ongoing cost of £6,000.00 p/y This would be to receive the information from the IES (Intelligent Energy Systems). The later ongoing charge equates to an additional £17.44 per property per annum. This may be a small cost but coupled with the ever-rising inflation costs and need to retrofit at scale. This figure again highlights that the initial install being c30k per property is one issue, but the continuous upkeep and associated costs also need to be factored in. If these were all added to rental income, it would put residents into further poverty which is a what we strive to avoid. Similarly, if these were added in as service charges there could be affordability issues for our tenants.