



Cynulliad Hinsawdd
Climate Assembly

Expert Witness Template

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What is your passion / specialism / position on solutions to the climate crisis?

My presentation is based on more than 30 years' experience in providing advice on energy efficiency and running retrofit programmes, as well as dedicated research on this issue at Cardiff University (Phd).

- UK housing stock is relatively old and energy inefficient. As a result they use a lot of energy to keep warm enough in winter, and are a significant contributor to carbon emissions. Added to this is our dependence on a range of electricity-consuming appliances such as those for lighting, cooking, laundry, communications and entertainment.
- To remedy this situation, we must build new homes to be very energy efficient, in fact zero carbon. We know how to do this technically, and the more it is done the better we will get at it.
- But we are replacing housing stock very slowly – so we also have to massively improve energy efficiency of (and reduce carbon emissions from) existing homes. This is much more difficult, not least because people are living in them and most are privately owned.
- To do this we have to take account of all of these technologies:
 - Thermal insulation
 - Low carbon heating and hot water
 - Energy efficient lights and appliances
 - Microgeneration
 - Controls for time, temperature, humidity
- Some of this is stuff that can actually save enough money back on energy bills to pay for itself in just a few years – and that kind of work has been supported by different programmes over the years. These are 'quick wins' like cavity wall and loft insulation, high efficiency gas boilers. These can be done as one-off measures and will little disruption.
- But to reduce emissions as much as we need to means going a lot further, and this isn't so easy to justify just by savings. It's actually to save the environment and us. This needs investment with a longer-term perspective. These measures are generally more expensive and disruptive, involving more labour.



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- BUT – there is a really positive opportunity here – if these measures are included in other work that people want or need, the extra cost and disruption can be marginalised. People are getting local building trades in frequently to do work on their homes, so there are LOTS of opportunities.
- So - it's important to make sure that mainstream building trades are included in the retrofit push – supported with any additional information and training, access to the right materials, and site-specific advice on using different technologies. Involving local building trades in retrofit programmes gives them the chance to learn the details of these measures, which they can take to other jobs. They can then be the frontline in delivering retrofit.
- There are other benefits to involving these local businesses:
 - Creating local jobs
 - Local builders know the local vernacular and how these buildings work
 - Local building trades tend to depend on their reputations for work: so they need to take care of quality, and can be more easily followed up if there are problems (compared to big corporations with sub-contractors, where it sometimes seems as if no-one feels accountable).

Thinking about critics and/or alternative views to that which you have put forward above – what would others say about your perspective and idea?

These are some of the concerns that are raised about this approach:

- It costs too much – where can we get the money to do this?
 - The construction sector do not have the knowledge and skills to do this
 - Not wanting to change the appearance of the house, especially if it has historic character
 - Builders all being too busy – not being able to get people to do the work
 - Worries about work causing new problems such as damp or overheating
- It is better technically to do a complete energy efficient and low carbon renovation in one go, than step by step.

Use this final part of your presentation to help Assembly members better understand your position in relation to others and what that means for addressing the question that they have been set.

Retrofitting homes is a big part of what we need to do to address the climate emergency, and is also the most effective long term solution to fuel poverty. Working with local building trades businesses to deliver this, in any public programmes that are run, brings benefits to the local economy, local jobs, local businesses – and makes sure that local building trades people have the experience, confidence and track record to keep delivering the retrofit challenge over the years to come.