

Expert Witness

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

I am Director of Development and Regeneration at United Welsh Housing Association; I am a chartered surveyor (MRICS) and have over 30 years' experience of working in the Construction Industry.

I have a keen interest in the built environment and have been interested in the 'green' agenda for well over 20 years. I have project managed many schemes that aim to reduce carbon impact in a variety of ways, from the use of materials through to minimising energy requirements.

I am also interested in how building our new homes in this way can also contribute to our local economies in Wales – by promoting use of local materials and local labour (having grown up in the Valleys, I know how this can have a big impact).

Homes should be safe places for people, and by that, I mean that they should promote well-being for those living in and around them. They should be comfortable, affordable (fuel poverty should not be an issue) and places in which people can thrive. Homes should also be in tune with their environment and should definitely seek to minimise their impact on our planet.

New homes should be built to:

Reduce Construction Impacts (otherwise known as Embodied carbon). I believe that key to this is using natural and, preferably, locally sourced materials. We need to start planning ahead for this.

Reduce operational energy, by being built to maximise solar gain (orientation of properties), to high air tightness standards (so we are heating homes and not the outside air) and to super high levels of insulation. I think that MMC (modern methods of construction) is key to this. And by this, I mean by building homes to the highest possible standard – such as in a factory setting. This can increase the quality of our homes, reduce waste during construction and improve the working conditions for people (particularly compared to working on a construction site in all weathers).

Increase renewable energy supply – using on-site generated energy (such as from solar panels and perhaps small wind turbines). This energy could be stored in batteries for future use or



could be sold back to the grid. Managing energy is also key to maximise outcomes from using renewables. Also, using clean energy means not using the more traditional gas boiler. Offset remaining carbon – as mentioned above, if the homes generate excess energy then this can be sold to the grid and used to offset carbon that couldn't be negated during the build process. Woodland planting is also something that would be favourable to me – and it also feeds back into the first point above.

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

There are challenges to building in such as way. Some of which are:

- Building homes that 'leak' less means that how we ventilate our homes is key. If we build in this way, but don't properly ventilate our homes then we could be storing up health issues. Ventilation may also mean regular maintenance too – what might be working well in year one also needs to be working in year 10.
- Following on from this, will new technologies mean that it costs us more to maintain our homes?
- Renewables themselves (solar panels / batteries) are very high in embodied carbon.
- Building to these standards is more expensive – does that mean that we have to build less? In which case, what about the housing need?
- Utilising solutions that are alternative to gas can be more costly. Currently gas is by far the cheapest fuel available – even compared to innovate solutions such as ground source heat pumps. Which is why it is vital that properties firstly reduce the amount of energy required to heat them in the first place.
- People have to change how they live in properties in order to minimise their energy use – even in an ultra-efficient zero carbon building.

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.

I think that the journey to zero carbon is just that – a journey. We clearly need to move forward at some pace in order to have an impact on climate change, but we do need to take a stepped approach. I also think that learning along the way is key. How we approach this now will likely be very different in 10 years time. Technology is fast developing as is our knowledge, and we need to make sure that we are capturing this at each step of that journey.