

Climate Change Begins at Home – Presentation by Justine Mallinson – Severn Wye Energy Agency May 21

Questions:

Does the term 'retrofit' put people off taking steps?

Most people do not understand what retrofit means, so yes, I am often met with a blank look when it is mentioned. When explained to people, especially combined with a home visit, in my experience people get really excited about being able to take positive steps that will benefit both themselves and the environment. People do not want to waste energy in their homes and when they understand the principles behind retrofit it really drives them to do something to bring permanent change.

The 'heat loss' example suggested 45% energy loss through wall and just 5% through the roof. Is it therefore much more important to insulate walls ahead of the roof space?

I think I answered this yesterday evening, but just to reiterate – insulating lofts is a cheap and easy fix. Wall insulation is more technical and a lot more expensive. Obviously as explained last night, if you insulate walls then more energy is lost through the loft and vice versa (but not more energy than would have escaped through the roof!) In an ideal world we would be able to do both, there is always a balance between what needs to be done, what you can afford to do, and the best thing to do.

How do those of who don't know a lot about insulation cut through the marketing and find the best product for our home?

First you need to investigate your property a little and decide whether it is 'vapour open' or 'vapour closed'. As a general rule of thumb, properties that have cavity walls are vapour closed i.e. the walls do not need to allow vapour/ moisture to pass through. Knowing your property type is important. I mentioned the National Self Build and Renovation Centre in Swindon (ecomerchant.co.uk) – they have exhibitions and events and courses to educate and inform. Again there is always a balancing act between your desires and your wallet!

Synthetic insulation materials are always cheaper and more readily available from local building supply channels, and tradespeople are familiar with them, so it is easier to find a builder that will work with them. They can be used in vapour open houses, but the detailing and installation needs to be correct to ensure that there are no unintended consequences.

Obviously having a retrofit plan by a qualified assessor/ coordinator can tell you the best course of action and ensure that products suggested are compatible with your property type. If you want to look at natural insulation products then there are various websites – Ty Mawr Lime (based in Brecon), Thermafleec, Ecological Building systems, Natural Insulations, to name but a few.

Hopefully, when the world is 'fully open' again we will be able to have some face to face meetings and I will be able to bring a selection of insulation products for everyone to see and touch and discuss.

What are the top 2 or 3 things that a DIYer could do to conserve energy in their home e.g. Extra loft insulation? Draft proof doors?

This is an interesting question, I would recommend that you ensured that after your loft and draught proofing was done that you check that there is no damp any where on your property. Check your guttering and downpipes, easiest to do when it is raining of course, but tell tale signs would be discolouration on your brickwork or moss or plant life growing anywhere. Damp walls mean an increased heat loss in that area.

Lofts are easy if you have standard construction. I have a dormer bungalow with lots of first floor living and void space with sloping walls and it is difficult to know where to start. Any guidance booklets or resources?

Yes, I agree. Sloping ceilings are what we in the trade call 'hard to treat', meaning that they require specialist treatment and cost more. The payback for doing so is high though. Depending on the age of your property and the condition of the plasterwork, insulation boards can be added on top of existing plaster, as long as there is enough room. This guide by the National Insulation Association (www.nia-uk.org/media/1214/nia_atma-riri-guide-v10.pdf) goes into more depth about the way to insulate sloping ceilings and stud wall – but it does tend towards synthetic insulation products. It is perfectly feasible to install natural products in the same way.

How can we get your involvement in a visit?

You can contact our advice line directly (Warm and Well) on 0800 500 3076 or email us at warmandwell@severnwyve.org.uk

It seems completely bonkers to me that we have a situation with the grid where there's not enough capacity to electrify everything, and also large scale solar/wind is being rejected because the grid can't cope with it. We need to decarbonise, digitise and decentralise all at the same time, do you see this happening at a grid level fast enough?

This really is the million dollar question and I haven't got an easy answer. There is much work to be done. Ofgem, in their document, *The Decarbonisation of Heat*, suggests that 'by 2050, it is quite possible that other technologies not currently available will be important – we should expect technological developments to surprise us', which is not altogether reassuring. Reducing energy demand by improving efficiency is high on their agenda.

Regen (a not for profit company specialising in low carbon solutions), in their paper, *The Decarbonisation of Heat*, (<https://www.regen.co.uk/wp-content/uploads/Regen-Heat-Paper-WEB2-Single-Page.pdf>) say: 'While the peak load challenge can be mitigated by smarter and more flexible energy solutions to an extent, there will inevitably be a requirement for significant long-term investment in electricity generation and storage assets, and for greater network capacity, especially on the distribution networks. The cost of this investment, how it will be financed and how it is finally reflected through to consumers' and businesses' energy bills, needs to be determined.' Again, improving energy efficiency by retrofitting is championed.

Grid capacity is based on peak demand and there is work to change patterns of domestic energy consumption away from peak times and the roll out of smart meters is part of this. At present a smart meter can show you what you are using and when you using it, but when enough houses have smart meters installed then excess energy in the grid can be used on an individual basis moving away from only using at peak times. I personally believe that home working will also change the ratio of peak demand on the grid.

'Demand Side Response' is a technological initiative to enable large scale energy users to respond to a need to enable more power to the grid at a moment's notice when needed.