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Why we need Low Impact Homes to help mitigate Climate Change

Nearly ten years ago I wrote 'Local Sustainable Homes' a guide to creating low-impact homes that drew on the experience of many individuals and communities to show just what homes fit for the future should be like. Unfortunately, such homes are still a rare exception and most builders are still part of the problem rather than part of the solution to climate change. Time is rapidly running out but there are still good reasons for building better homes.

Whatever we do, no matter how quickly we cut carbon emissions and reduce our dependence on fossil fuels, climate change will continue to have devastating effects. It's already too late to avoid some extremely serious consequences of global warming but that doesn't mean we should do nothing and one area where making changes now will have a big impact on our future is in housing.

In the UK around 30% of all energy use is in domestic buildings. The building industry also uses vast quantities of raw materials and produces around half of all pollution. Cement alone is responsible for 8% of all CO2 emissions. Despite these environmental costs millions of people live in homes they can't afford to heat and are impoverished by high rents or mortgages. This can't go on.

Some options are no longer viable. Fifty years ago the answer may have been a massive programme to build 'zero carbon' homes that are so well insulated they do not need space heating and meet other energy requirements from renewable sources such as solar PV and solar thermal systems. The problem is that such homes typically use high energy materials, a problem highlighted by

the Architects Journal who are campaigning for the refurbishment of existing buildings. While the energy savings are worthwhile in the long-term we no longer have the luxury of a long-term. We should be reducing carbon emissions by more than 10% a year - Every year. You can't replace our housing stock and reduce carbon emissions at the same time.

More sustainable housing is just not sustainable!

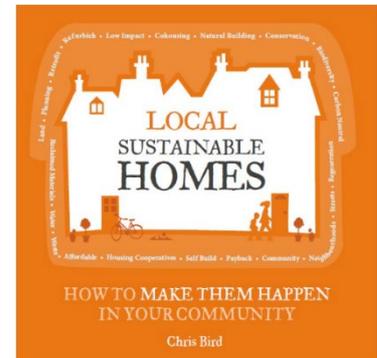
So what can we do? Fortunately, we still have some good options. Well over 80% of the homes we have now will still be in use by 2050 so it makes sense to make them energy efficient and fit for the extreme weather conditions we know are coming. Most homes

are insulated with high energy materials that add to carbon emissions but there are low energy alternatives that actually store carbon. Sheep's wool (plenty of that in Cornwall), hemp, wood fibre and recycled paper are all good choices. These materials all add to the thermal efficiency of buildings without taking years to repay the carbon 'debt' involved in their manufacture. They lock carbon into the structure of buildings and are not polluting like polystyrene and the polyisocyanurate (even the name sounds toxic) used in products like Celotex.

So, we need a crash programme to retrofit existing homes, a campaign for 'new tricks from old bricks' that mobilises people and local resources in a way previously seen only in wartime (or pandemics?) Not only would this cut carbon emissions in the short term but also end fuel poverty for the millions of households spending more than 10% of their income on electricity and gas.

What else? We also need new homes. Not accommodation for holidaymakers or second homeowners but affordable spaces for people without homes or living in properties that are simply too difficult to retrofit. But these need to be homes that have an impact on carbon emissions in the short term. A number of choices can help with this: build close to where people work to reduce travel, use low energy local materials and recycled and repurposed materials where possible, eliminate waste, limit the size of homes (no ecomansions!) and allow space for people to grow their own food.

Using low impact materials would also be a real boost for local farmers. Hemp is an excellent building material and growing it can help restore depleted soils. Straw is another agricultural product that could be used extensively and there are award winning strawbale homes all around the UK to prove the point.



Wool has already been mentioned as an insulation material and burning wood is the last thing we should be doing with any trees that are felled.

All these options have been available for decades but inertia in the building industry and choices based on short-term profit rather than good environmental practice means change is far too slow. The planning system is also a big obstacle. I'm not suggesting giving free reign to builders and developers as the government seem to want but allowing communities to get quick and inexpensive planning consent for low impact developments is essential. The 'Transition Homes' development of 26 low impact affordable homes in Totnes is still in the planning stage after nearly ten years. What a wasted opportunity!

The Covid 19 pandemic has demonstrated just how quickly change can happen. As we start to regenerate our economy we need to build with very different priorities and not just carry on with the same old mistakes.