

Getting our houses in order

by John Beddington

Protesters occupy airports. But old fashioned loft insulation is more important than stopping flying

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This year will see unprecedented attention given to climate change. Boosted by new political will in Washington, our political leaders will begin to sign up to emissions reductions far tougher than Kyoto. In November Britain passed a legally-binding commitment to an 80 per cent cut in emissions by 2050. Barack Obama has promised to follow suit. But still, a major rethink about the way we use energy is urgently needed.

Where should we put in most effort? The conventional wisdom says it's all about cars, planes, and wind farms. Both the media and climate change protesters, who last month shut down Stansted airport, help cement this view. But air travel contributes a few per cent to global emissions. Meanwhile activities in British homes and offices make up more than half. If we really want to sustain the planet, we must first fix the buildings where we live, work and play. On 26th November, the government office for science, which I run, published "Powering our Lives," a report arguing that we need a new drive to turn our old, inefficient building stock into the low-carbon homes of the future.

Most buildings are carbon hungry and energy intensive. But our new homes will be better. The government has introduced targets to make all new buildings carbon neutral by 2019. But come 2050, seven in ten British buildings will be the same ones we have with us today. And large-scale demolition is not a serious option.

Thankfully, it isn't difficult to upgrade most buildings. The methods are surprisingly prosaic. Only a third of British homes have good loft insulation. Even modest improvements, when combined with modern boilers, can cut energy use for heating by over 30 per cent. And compared to ambitious "micro-generation" installations--new ways of producing power in small amounts, close to home--most of these measures pay their way relatively quickly.

This is one reason few entirely new high-tech "green jobs" will be created by refitting our buildings. There may be some from the marriage of building design with IT. But what we really need is plenty of traditional electricians, plumbers and

building service engineers. Insulation will still be insulation.

Green jobs will also come in other professions, like planning. Bringing down emissions also means changing the way government uses regulation. Today, we offer incentives for better-insulated buildings, including sound initiatives with names like "Warm Front." But people are simply not taking them up quickly enough.

Why not? We lack a compulsory energy-efficiency code for existing buildings. There is no incentive for landlords or tenants to improve our 2.6m privately-rented homes. And we have our own ingrained cultural ideas about what the atmosphere in a building should be like. In 1970 the average temperature inside the home was 12 degrees centigrade. By 2002 it was 18.

Changing demographics, meanwhile, add to energy demand. A quarter of British households are now single occupancy--that's 7m, rising to nearly 10m over the next two decades. Many of these people will also be elderly, with those aged 65 and over increasing by 6m in the next 20 years. Many will feel the cold during winter.

Government must do more to push households and firms to act. The first step should be an improved package of subsidies and rebates, backed up by a promise to introduce new compulsory regulations within 3 to 5 years. We must also change confused or contradictory rules--like the VAT difference between refurbishment and new buildings, which makes it more cost effective for developers to demolish and rebuild rather than refurbish.

And we need to be imaginative. We put our cars in for their annual MOT. Why not do the same for our buildings? The current energy-performance certificates only influence behaviour when a house is being sold (and, given the many other reasons for choosing a home, often not even then). Instead, government should introduce an annual assessment for all homes.

Rules could be changed to encourage energy companies to experiment too. For instance, if energy suppliers provided heating as a service, rather than just charging for every unit of gas, they would have a new incentive to support every scrap of insulation that could be squeezed into homes.

Greater efficiency can also come from local government, who could run pilot schemes--such as "private-wire" electricity networks. (These are already used in big airports, drawing on small-scale generators to keep themselves going.) Investment costs for local systems, like a small windmill, could be shared with neighbours, while government could provide incentives like a cut in stamp duty for those involved. We know this can work. The German "Zukunft Haus" pilot programme that ran between 2003 and 2005 slashed energy consumption by more than 80 per cent in 1,000 homes.

But borrowing from the Germans isn't enough. We also need to reduce the emissions from our day-to-day tasks. Our factories and offices are full of things demanding power, and Britain's energy system is poorly designed to move to a system of decentralised energy generation. Wind, solar, biomass and local heating networks all have great local potential. But they run up against our centralised national grid. We must open it up.

History shows that such problems can be overcome. But we don't have time for lengthy contemplation. The message is clear: none of us can afford to leave buildings out of the climate change debate. It's easy for people to think that if they recycle, fly less, and cycle to work, they are being "greener than thou." But, as with any important war, the battle begins at home.

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