

One thing we have learnt this week-Demark carbon free

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All this week BBC Radio 4's consumer programme "*You and*

Yours" has been visiting Denmark which has pledged to go carbon free by 2050. As the rows over energy prices in the UK continue in the new year, the programme decided to visit a cold country to compare notes. There are a number of differences between Denmark and the UK. For starters most newer houses are better insulated with their current building regulations being far higher on energy efficiency. However, there is still a problem with old housing stock. In fact in this part of the programme as they were speaking to a British person I thought they were talking about the UK as she described how cold and energy inefficient her terraced house was. It was however in Denmark. This person does have another option which she was considering that is not generally available in the UK. That is to connect to district heating. Up to [60% of Danes](#) are linked by pipes to small combined heat and power plants (often found in the centre of cities). Interestingly in Denmark as far as energy bills were concerned there was not a great deal of difference. Bills were about the same as here. Being on district heating was slightly cheaper though (and has to be by law). The companies are also not for profit. Some of the fuel used in these is renewable such as straw, others are fuelled by non-recoverable waste. They are also experimenting with passiv and micro-generation technologies for new houses to create houses that generate more energy than they use. They call these latter houses "active houses". Denmark is also nearer to being carbon free by the use of renewable electricity, not only from combined heat and power but also wind. About 50% came from renewables last year, here was probably about 15%. In another effort to go carbon free the Danes are aiming to phase out fossil fuel driven cars. Copenhagen has pledged to go carbon free by 2020. Much of this relies on fossil fuel driven car phase out, but on this despite very large numbers of people cycling, they seem to be struggling. Copenhagen also have a slightly bizarre way of measuring it which is to calculate emissions saved by renewables and subtract the total traffic emissions from this. When the difference is zero they are carbon free. This is not a valid way of calculating it. What can we learn from the Danish experience?

- Since energy costs are about the same critics of renewables in both countries cannot claim that they will lead to extortionate energy costs. Although Denmark is colder, so relatively their costs might be lower. Part of the problem is that district heating is cheap to run but expensive to build. There are some large schemes in the UK one of the biggest is in Sheffield. "*You and Yours*" had a look at this scheme. The main cost is the first mile or so of pipes, beyond that its relatively cheap to add more people on. Its of course also disruptive to build. As fossil fuels rise in cost Denmark should gain, although its unlikely energy prices will be cheap, just relatively cheap. One huge advantage of district heating is fuel flexibility.
- Both countries have old energy inefficient housing stock and this is a problem. Passiv house and micro-generation technologies may help.
- Getting people out of their cars and cutting energy use is a problem in any developed (and now some developed countries).

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