

MORE SUSTAINABLE ENERGY SYSTEM



Successive UK governments have committed themselves to making our energy system more sustainable. But their plans to do this are seriously flawed.

Specifically, they are making five key mistakes.

The first is to believe that only large energy companies can deliver meaningful quantities of low-carbon energy, and that the contribution of local government or community groups will just be window dressing.

The regional government of Upper Austria is just one of many examples proving that this needn't be so. Home to 1.4 million people, it has promoted (and subsidized) renewable heat.

As a result, it now boasts over one million square metres of solar thermal panels, 35,000 wood pellet stoves, 30,000 heat pumps and 12 biomass power stations, running mainly on waste wood from the area's own forests. Many public buildings have been connected to district heating systems, and over 4,500 jobs have been created.

The UK's second mistake has been arm-twisting energy suppliers into reducing their customers' energy use. But these firms make their profits from generating electricity, trading in energy markets and supplying gas and electricity to customers. Mandating them to install energy efficiency goes against their nature. It also lacks credibility with customers, who are suspicious of any company trying to persuade them to buy less of their product.

A much more effective approach is demonstrated in Vermont. There, the state government has awarded an NGO a contract (funded by energy suppliers) to run a new initiative called Efficiency Vermont. This seizes opportunities to reduce energy use which utility companies themselves would shun, such as working with architects to re-orientate new buildings so their windows face the sun.

A third mistake is the belief that the best way to cut emissions from heating buildings is to replace gas with heat pumps that use low-carbon electricity.

We believe large-scale district heating using combined heat and power (CHP) is better in many densely populated locations.

Take Copenhagen, where nearly all homes are heated by district heating from burning waste or using large, efficient power stations like the 1GW Avedøre CHP plant. Unlike a ‘power-only’ plant operating at 50% efficiency, the CHP variety can utilise 95% of the energy in the gas in winter. And in time, it could be fitted with carbon capture and storage – making its output truly zero carbon.

Britain’s fourth mistake is the notion that only large corporations can finance innovative (and risky) new measures. Again, though, the evidence doesn’t bear this out. The first wind farms in Germany and Denmark were sponsored by non-corporates. One of the world’s first offshore wind farms – the 40MW Middlegrunden in Copenhagen – is jointly owned by 8,000 local residents and the municipal authority. This local buy-in meant it was up and running within four years of the application being submitted.

The fifth mistake is the belief that consumers will adopt energy efficiency voluntarily. The voluntary Green Deal programme will soon be the main mechanism for improving existing homes. But will householders really take this up? Take-up rates for previous voluntary schemes have been disappointing.

A simple alternative is to make it compulsory. The city of Berkeley, California, has successfully applied its mandatory Residential Energy Conservation Ordinance for 30 years. This requires residents to install energy efficiency measures (costing up to \$2,000 in total) whenever they renovate or transfer ownership of their homes. As a result, energy use has been cut by up to 20%.

Of course, big energy companies with big balance sheets have their uses: we still need major investments in offshore wind, tidal and wave power, as well as carbon capture and storage.

But local solutions must be dramatically scaled up. To achieve this, local government should be made responsible for planning community energy programmes.

New national laws may also be needed. After the 1970s oil shocks, for example, Denmark made it compulsory for properties to connect to district heating systems once they are constructed. This transformed the economics of district heating. In the UK, this approach is being used at the Olympic Park in London. The Olympics will showcase British excellence. Perhaps they will also spur us to rethink our approach to delivering green energy.

Source: <http://thisbigcity.net/want-a-more-sustainable-energy-system-heres-five-mistakes-to-avoid/>