

The smarter use of smart meters by David Strong

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You may have noticed a flurry of [media interest](#) last week about the [Government's announcement that all homes are to be fitted with 'smart meters' by 2020](#).

This could be a much bigger deal than the press realise. Smart meters do offer a great opportunity to enhance consumer awareness and understanding regarding their actual (real-time) energy use in the home.

However, we're missing a trick to achieve even greater cost savings and to ramp up the carbon savings.

Smart meters can play a crucial role in what is known in the electricity industry as 'demand-side management' - the name for a whole host of techniques to balance out supply and demand in energy markets.

In some countries, demand-side management is achieved simply by switching off the electricity supply. Too much demand? Turn the whole system off! Clearly, this would be unacceptable in the UK. But we could adopt a more sophisticated technique, known as dynamic load manipulation (DLM), and this is where smart meters come in.

Invisible to consumers, DLM allows suppliers to reduce peak electricity demand and smooth the demand for power. This approach delivers **significant energy cost savings to consumers**, and could also enable a number of inefficient power stations to be decommissioned (with significant CO2 savings) because they would no longer be required to provide costly 'spinning reserve' to meet demand peaks. It would also help address the intermittency of power production from renewable energy sources.

The way it works is through constant two-way communication between the energy supplier and the consumer via the smart meter in the home, coupled with a smart plug-in controller for domestic appliances (tumble driers, washing machines, dishwashers, hot water heating etc) that can be set to turn on at certain times of day or night when the national demand for electricity is low.

Householders can choose to trigger their appliances to switch on automatically this way (by pressing a 'cost saving' button on the controller) or could choose to operate it at any other time (but pay a price premium at peak times).

The data the smart meters provide to the utility companies allows them to introduce much more flexible tariffs, offering significantly lower cost energy supply at non-peak times.

Two-way communication between the energy supplier and the consumer via a smart meter makes it possible to automate this.

There was a **hugely successful trial of this technology in the mid 1990's** (the system was called CELECT), but it was abandoned when the Regulator bowed to industry pressure not to require half-hourly metering of domestic customers.

The Government should force Ofgem to re-introduce the requirement half-hourly metering of domestic customers. This was what was originally intended when the electricity industry was privatised, but abandoned because of the cost associated with smart meters.

Now that all homes are to have a smart meter by 2020, there is no reason why we should not pursue these vital energy-saving benefits.