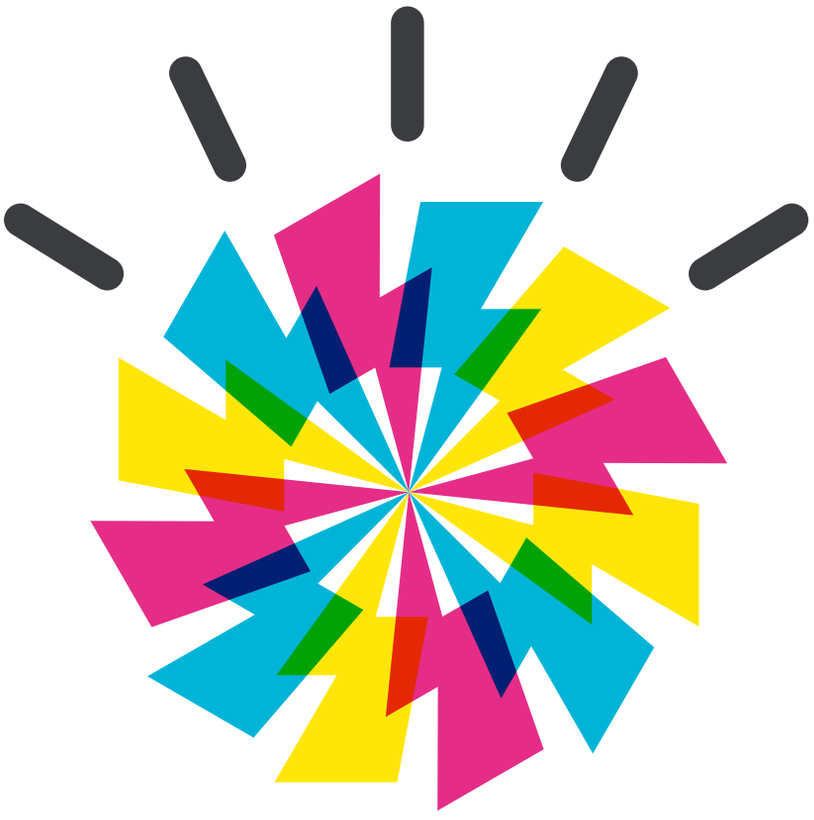

Smart meters for a smarter planet.

Blackouts. Power cuts. Economic recovery at risk. The prospect of not having enough energy to go round is unthinkable. Yet if the UK continues to use energy at the current rate, demand could outstrip supply as early as 2016.

Clearly we have to develop new energy sources, but increasing supply is only part of the equation. A more immediate and cost-effective strategy is to encourage consumers to use less, particularly at times when energy is most expensive to supply. This would also help the energy industry reduce its emissions.

Simply increasing the price of power is unlikely to reduce consumption, but fortunately there is another option. As our world gets more intelligent, interconnected and instrumented, smart meters can give consumers better information about their energy use and its cost, encouraging them to change when and how they use power.

They also give suppliers a way to develop intelligent time-of-use tariffs that encourage customers to delay consumption until demand is low and costs fall. This can help cut energy bills, lessen the likelihood of power cuts, and reduce greenhouse gas emissions – a fantastic win-win-win scenario.

In Holland, IBM works with energy company Nuon on just such a project. In a pilot test of smart meter-based energy management systems in 500 households, energy use is monitored, targets set and usage patterns influenced by various beyond-the meter-services. The next phase of the pilot will also include switching off unnecessary appliances. Anticipated savings average 14% on electricity and 9% on gas – that's around £200 a year for an average household. In another study, participants who responded to real-time prices reduced peak power use by 15%.

The technology for nationwide energy monitoring already exists. When the UK government asked energy consultants Hildebrand to scale up its energy monitoring solution for all UK homes, they worked with IBM's software laboratory near Winchester. Together they created a solution that can collect, store and analyse huge volumes of data – 50,000 data points per second – making it scalable to millions of homes. This enables real-time analysis and optimisation of electricity usage for households – a vital step in making our energy system smarter.

Developments like these will become increasingly important as smart meters and smart grids start to transform the way we supply and use energy. So let's do it. Let's build a smarter planet.

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