

## EMR – are we going to put supply before demand again?

The government's consultation exercise on electricity market reform (EMR), released in December, is likely to be the start of major changes in the UK power sector. Ministers have made it clear that they want the changes that flow from the consultation and the White Paper, expected in April 2011, to be as radical as those of the privatisation of the industry in the 1990s. Charles Hendry, Energy Minister, has said: 'We are creating a new electricity market and it's the biggest change for 30 years in this sector.'

The problem that the government is addressing through the reform process is to ensure the UK has adequate electricity supplies, while meeting ambitious decarbonisation aspirations driven by EU targets, and without placing an unacceptably large burden on consumers.

Around 25% of UK electricity generating capacity is due to close by 2020, UK gas production is declining and an increasing share of gas consumed will have to be imported. It takes about ten years to build a new nuclear plant, zero-emission generation technologies such as wind or solar require subsidies and the main renewable technology, wind, is intermittent. All of this is wrapped up in a market dominated by the 'big six' energy suppliers, with the perception at least of large-scale consumer dissatisfaction with suppliers and energy prices, as well as large-scale social problems such as fuel poverty. Essentially, government is trying to solve a trilemma – balancing security of supply, energy prices and emissions – and ensure that the estimated £200bn investment to build new capacity is made available.

Energy management or efficiency, (which includes demand management, demand response and distributed generation – collectively known as D3), has long been the Cinderella of energy policy, perennially being an afterthought or an add-on to energy policy rather than at the centre of things. D3 contributes to reducing the constraints in all three dimensions of the trilemma; it lowers total energy costs to the consumer, it reduces emissions and it improves security of supply – whatever the source of supply, and as such it needs to be given greater priority. Now, with the consultation on electricity market reform underway, there is a once in a generation opportunity for the UK to put D3 on a similar footing as energy supply and reap large economic and environmental benefits.

### Potential for energy efficiency

Over the last three decades, many studies have shown that the economic potential for improved energy efficiency is not being fully realised and that a number of organisational and financial barriers exist to achieving the full potential. Despite the efforts of govern-



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ment agencies and schemes such as the EU ETS and the CRC Energy Efficiency Scheme, the potential for improved energy efficiency remains huge, probably around 30% of total energy use.

Organisations such as 3M and Toyota, which have identified D3 as a profit opportunity, have made dramatic improvements in energy efficiency year after year. 3M's programmes have yielded impressive results, reducing pollution and energy use as well as being profitable. Between 2000 and 2009, the company reports that it reduced its total greenhouse gas emissions globally by 77% (these are absolute numbers not relative to production). In the US, 3M achieved a 79% reduction in greenhouse gas emissions between 2002 and 2009.

Case studies from 3M and others from around the world illustrate that the real major barrier to improving energy efficiency is the mindset where it is an add-on cost to business, rather than a profit opportunity. In most organisations, even some of the best, energy efficiency is still seen as a necessary activity driven by regulation and a minor role – rather than as a major opportunity for profit. Based on three decades of experience, I would go as far as to say that making energy efficiency a profit centre always leads to major – and surprisingly good – results. Failure to do this condemns it to a backwater of the organisation which, although it produces effective savings, never fulfills its full potential.

Investment in D3 has time and time again been proven to be cost-effective without subsidies – unlike low carbon generation. Encouraging D3 also has the potential to spark new business models based on supplying energy services rather than energy, creating innovation, economic growth and new

jobs. In order to achieve more of the potential for D3 we need to design market mechanisms that turn energy efficiency into a scaleable and investable industry. If this can be done it is likely to attract new entrants that are not traditionally part of the energy sector, such as facilities management companies, as well as major appliance manufacturers and communications companies, which have an obvious interest in technologies such as demand response, and of course investment from the capital markets.

### Disruption not an option

The government clearly wants to enact radical reform in the electricity market and is highly motivated to do so – being in office and allowing electricity supply disruptions is not an option – failure in the energy supply system is highly likely to lead to the failure of any government. EMR is the best opportunity in a generation to redress the imbalance of energy policy between energy supply and energy demand and create a stronger, large-scale energy efficiency industry. The government should take the opportunity to introduce truly radical reforms that aim to level the playing field between supply and demand. Markets for 'negawatts' need to be created.

Possible mechanisms for creating markets for negawatts are known and used elsewhere. They include: obliging energy suppliers to meet a certain level of demand from verified energy efficiency projects in a similar way to the way that the Renewable Obligation requires a certain amount of renewable generation; the establishment of energy efficiency power purchase agreements; and demand response auctions. Although there are issues of verification and persistence which need to be addressed, the tools to do this are well known and proven. Properly monitored, measured, verified and maintained efficiency projects do create a long-term persistent utility grade resource which would then be investable in the same way as a generation asset.

Although the EMR documents do reference demand and load management there is a real risk that, once again, these subjects are accorded second billing rather than the central part they deserve. There is a real danger that government, particularly under pressure from the energy companies, will miss the unique opportunity of EMR to finally put demand on the same footing as supply in the energy equation. Companies and individuals with an interest in the subject should respond to the consultation document. ●

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