



ELECTRICITY MARKET REFORM

The UK's electricity market faces reform

It is 20 years since Britain's electricity industry was privatised. Contrary to the gloomiest predictions, supply has been reliable and private investors have put billions of pounds into the industry's infrastructure. And, contrary to occasional tabloid opinion, customers have gained, enjoying the benefits of competition between producers of electricity, a choice of competing suppliers and prices that have been below inflation.

Despite that, the government will publish a vital consultation on the future of the electricity market. It will not be bedtime reading for many people, but, the government's response to it in 2011 will affect every household and business in the land. The electricity companies will give it their full attention, because the government is contemplating the most significant changes to the industry since privatisation – changes which will worry some and please others.

Why is this happening?

Many ageing power stations have to be replaced, because they no longer meet EU air quality requirements (old coal- and oil-fired plant) or because they are at the end of their working life (old nuclear stations). At the same time, there are binding targets to be met – a) for the UK's self-imposed reduction in carbon emissions and b) to conform with the EU Renewable Energy Directive 2009, which means that, in the next nine years, about 30 per cent of the UK's electricity will have to come from renewable sources, predominantly wind power.

Could we just 'do nothing'? Yes, but, that would probably result in a greater dependence on the current 'cheapest solution' – new gas-fired power stations - slowing down the transition to low-carbon electricity and increasing dependence on gas imports, rather more than the government and many power companies think would be wise. Several companies want to build new nuclear power stations, which involve very high up-front costs and long build times, before they can deliver competitively-priced, low-carbon electricity. But, our present market does not look attractive to new nuclear investment, which, importantly, the government is also very keen on. It is similarly unattractive to 'carbon capture and storage' technology which, if it can be proved to work on a large-scale, could enable the UK to go on using fossil fuels in the next decade and in the longer-term, low-carbon future.

So, the requirements are:

- Replace ageing power stations - hardly a trivial matter, but not, in itself a reason for a major consultation
- Build, by 2020, a huge amount of renewable energy production, to meet the requirements of the EU Renewable Energy Directive – definitely not trivial, but, there is already a support scheme for delivering this. Having a large proportion of renewable energy on the system may well require market reform because of the characteristics of wind power (see below).
- Achieve the reduction in carbon emissions which the UK government made legally binding upon itself and which is monitored by the government-appointed Committee on Climate Change - this certainly does require *something* to happen.

Task	Market reform required?
Replace ageing power stations	No
Meet binding EU renewable energy target	Possibly
Achieve binding UK reduction in carbon emissions	Yes

The replacement of old power stations, the decarbonisation of the power industry and the expansion of the power network to accommodate this requires about £200 billion of new investment in the next decade and further huge sums in the 2020s. This represents an unprecedented level of investment in the industry. Furthermore, it has to come from private investors at a time when money is hard to come by and those that have it are understandably cautious about where they put it. There are many reasons for their caution. Experience of the recent financial crisis is an obvious one. Less obvious is that some of the technologies that they are being asked to put their money into are relatively new and seen as riskier than traditional stakes in utilities. Not only that, but, many of the technologies are under-pinned not simply by supply and demand, but, by public policy on environmental issues. Power industry investments are for the long term. Political horizons are closer, which means that public policy does not always offer them the stability that they require.

But, we already have a European regime for reducing CO₂ emissions. Doesn't it work?

The 'cap and trade' mechanism, the EU Emissions Trading Scheme (EUETS), limits Europe's CO₂ emissions, delivers a 'carbon price' and is meant to steer investment towards low carbon power production. The UK power industry has supported it for the certainty that it offers with regard to the emissions limit and for the efficiency that it delivers by allowing companies to trade their allowances. But, it offers little clarity beyond 2020 – it has been strong on the trading, but, weak on the capping.

The outcome is a low carbon price which signals that, at the moment, no great change in behaviour is necessary. Confidence that the EUETS would get tougher in the longer term was probably weakened by the unconvincing outcome of the climate change talks in Copenhagen in December 2009 and the 2010 talks in Cancun have done little to make up for that. Neither was it helped by the Renewable Energy Directive in 2009 – instead of leaving the EUETS carbon price to steer investment in power generation, the Directive removed much of the choice and prescribed a large part of the outcome - regardless of the readiness of the technologies concerned, or, of the other impacts of this approach – such as the need for the transmission network to be extended considerably.

A ‘floor price’ for carbon in the UK?

To try and reduce the risk presented by the failings of the EUETS, the UK government is looking at a carbon ‘floor price’. Electricity producers agree that something needs to be done. Developers of new nuclear power, for example, need the confidence that the carbon price will always be high enough to give low carbon nuclear power an advantage over higher-carbon technologies. The Government will need to decide how to do this and make the mechanism compatible with the EUETS. The Government will also consider an ‘Emissions Performance Standard’ for power stations – a measure which appears to cut across the intentions of the EUETS, that allows choice in what plant is run, so long as the overall cap is not exceeded.

Would a floor price be enough?

Almost certainly not. Other incentives for low carbon generation are likely to be put forward for debate. The Renewables Obligation, already supplemented by a ‘Feed-in Tariff’ for smaller-scale renewable energy schemes will be put in the spotlight. But, for support schemes like this to work, investors expect the rules to be clear and stable. In the last 20 years, we have seen several support schemes for renewables – the ‘Non-Fossil Fuel Obligation’, the first technology-neutral Renewables Obligation, then the ‘banded’ Renewables Obligation designed to give different levels of support to different technologies, then the Feed-in Tariff for smaller-scale renewables, now, perhaps, something new. Maybe a ‘Low Carbon Obligation’.

Why does having more renewable energy mean market reform?

With the forecast amount of wind power coming onto the system to meet our renewables targets - possibly 30,000 MW (that compares with the current total capacity of all of Britain’s power stations at about 80,000 MW) - the UK will also need some form of ‘back-up’ electricity production for times when demand is high and the wind is not blowing. It is likely that in the UK, most of the capacity will be filled by gas-fired power stations. But, will the current gas-fired stations be sufficient to do this, or, will new ones have to be built? If we do need new power stations, could companies invest confidently in these not knowing how often they might run (earning an income from electricity sales) in a system where wind power has become important? With this in mind, the government will be looking at the possibility of introducing a capacity mechanism – paying plant simply to stand and wait. This is not entirely new. In the

days of the England and Wales Electricity Pool (1990-2001) there was a capacity payment, but it fell into disrepute – the large customers of electricity objected to power companies getting paid ‘something for nothing’. It was one of the reasons why the Pool was abolished and the current ‘New Electricity Trading Arrangements (NETA)’ were introduced. Of course, if we have a capacity mechanism, someone has to decide how much is needed and what it is worth. Striking the right balance would not be a simple matter.

In this industry, ‘everything is connected to everything else’.

Unfortunately, we do not have a single, self-contained problem to resolve. If it had been as simple as that, it would have been fixed by now. But, in the electricity industry, everything is connected to everything else and so are the problems which mean that a market that has worked well cannot deliver the low carbon agenda. With a higher EUETS carbon price and clear and credible limits beyond 2020, the present market may have been able to deliver. But, that is not ‘where we are’.

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So, this is about encouraging investment in low-carbon electricity production and keeping the lights on. But, there are already reports about how much this will add to customers’ bills. The government and the industry will want to be sure that bills don’t rise by any more than they have to. So, the cost-effectiveness of whatever changes are made will be vitally important. The consultation is a huge challenge, which the electricity industry will take very seriously.

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