

# POWER POLITICS

Are we groping towards an answer to our energy problems and will we find it before the lights go out wonders Peter Jackson

We stand poised on the edge of a revolution in energy production, but, as with all revolutions, there is no clear consensus on the way forward.

It's an ill wind that blows no good but in the case of offshore wind we have yet to find an agreement on just how much good it's going to do.

There are those who argue that the Crown Estate's issue of Round 3 licenses for offshore wind production – particularly at Dogger Bank off our own coast – presents the region's offshore wind industry with the kind of opportunity it has not seen since the discovery of North Sea oil.

The requirements for producing up to 7,000 turbines - 100 - 180m high – are compared to building several warships a week. In fact, it is possible that the North East and, indeed the UK, has missed the boat as far as manufacturing is concerned. We were leaders in onshore turbine manufacture years ago but a familiar British story of early technology failures and lack of government support meant that the development and manufacturing baton was passed to Denmark and Germany. However, nobody expects any manufacturer to build these huge structures overseas and ship them back to the UK. Rather they will set up manufacturing, or at least assembly plants, here and, while the profits may go abroad, the jobs will be created in the UK. Not only that, but there will also be a huge amount of work for companies in the offshore supply chain, in shipping, cable laying, maintenance and so on – more than enough work to keep everybody busy for a long way into the future. So, surely the offshore industry is straining at the leash to take advantage of this forthcoming bonanza? Well, no, not quite. While the profits might be enormous, there

are, for many, difficulties unresolved and questions unanswered. "One of the problems with offshore wind is that a lot of people think it's too risky at the moment," says Professor Phil Taylor of Durham University, who holds the chair of electrical distribution networks and smart grids. "The track record so far is that you get a lot of failures in offshore wind farms and you are forever having to go out and make repairs and service them, so investors are very cautious and they are looking for consultants to do a lot of due diligence work to tell them that their investment is safe. "There have been a few horror stories out there of cables failing and then not being able to get out there for three months to make repairs because of bad sea conditions. A lot of what we have done is to take onshore wind turbines and just put a stronger lick of paint on them and stick them out offshore and then we are surprised when we get failures in that very tough environment." These uncertainties are making much of the offshore supply chain reluctant to commit to investment in offshore wind, certainly not

before there is a conviction that the finance is in place, whether in the shape of private investors, government subsidy or some form of co-financing. This creates something of a Catch 22 situation, with investors being unwilling to commit until they are sure the supply capacity is there. As George Rafferty, chief executive of NOF Energy, says: his organisation and his members are giving a greater priority to nuclear power, where future development seems less problematic. There are also the familiar criticisms that wind turbines are useless when the wind does not blow and – less frequently pointed out – when the wind blows too hard so that they have to be shut down to avoid damage. But, the proponents of offshore wind will counter that such sceptical reluctance ignores the real success of Round 1 projects such as the North Hoyle Wind Farm, off the North Wales coast, which has achieved high generation capacity, and that it also ignores some of the realities of power generation in the UK. There is a minimum demand for power, which is constant, a base load which is ideally >>

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provided by inflexible power stations such as nuclear power stations, running very efficiently at maximum output. Demand, however, above that base load, varies all the time creating peaks – during the breaks in episodes of Coronation Street when several million kettles go on – and troughs. Happily, one of the characteristics of wind power is that it is highly flexible and power generated from wind can be ramped up or down extremely quickly. And, when the wind stops blowing, there is always back-up in the form of say gas-fired power stations.

It is further argued, that, in the future, it will be possible to store the energy provided by wind in the form of compressed air stored in deserted salt mines, for use at times of peak demand when the wind is not blowing. Also, for those who believe that nuclear power provides a more immediate solution to our problems, it must be remembered that it is many years before new stations will come on stream, we long since lost our technological edge in nuclear power and we do not have our own sources of uranium.

The proponents of offshore wind argue that the drivers behind it, most notably the political will and the governments need to meet renewable targets, are so powerful that it will

happen; that the opportunity for UK suppliers is there to be grasped.

As Andrew Mill, chief executive of NAREC says: "If the UK companies don't do it, if George's (Rafferty) members don't respond, we'll buy the turbines from Germany or from Denmark as we did for onshore wind and we'll lose the jobs."

Whatever the arguments over the short-term financial and commercial viability of offshore wind, there is consensus that the UK must develop a broad mix of energy sources in order to meet environmental targets, to ensure sufficient capacity and to secure an energy supply which will not be subject to the whims and vagaries of international politics.

But, even if total consensus is reached on what that mix should be, and, even if we move forward with a mix of offshore wind and nuclear, there remains a problem and it is a particularly acute problem for the North East. As the North East Chamber of Commerce, NECC, has pointed out in its recent Energy Policy Report, the National Grid capacity in the region is insufficient. The Grid levies a charge on energy generators for connection, use of the system and engineering works, and these charges vary depending on location.

According to the NECC, average charges in

Northumberland are set at £11.73 per kw and for the rest of the North East at £9.85, higher rates than in any other area of England and, when this is compared to an average charge of 36p in Hertfordshire or 25p in Kent, we are saddled with a massive disincentive to generate power in the North East.

James Ramsbotham NECC chief executive says: "Because the National Grid operates as a monopoly it tends to control things through the prices it pays to receive the power – supply-side pricing, which, unless you are a monopoly, you can't do - and therefore because they want power in the South and not in the North, they pay providers and generators more for the power they deliver in the South than they do in the North."

Any generators wanting to set up in the North East will not only be disadvantaged on price but will have to pay substantial sums towards the infrastructure required to connect this power to the Grid. According to the NECC, there are at least four businesses which have plans to build generation facilities on Teesside, but all of them are being held back by lack of access to the National Grid and this is threatening billions of pounds worth of investment and the creation of thousands of jobs.

So, generating wind power on Dogger Bank is all very well, but it will not contribute to our energy needs unless it can be plugged into the National Grid.

Ramsbotham says: "It's a big issue and Lord Mandelson has acknowledged this following a meeting he had up here last year when we put it to him that people were talking about offshore wind but no-one has yet designed the ring main that needs to go round the country to link it all up, or indeed where they are going to bring the energy ashore."

There is nothing then that is simple about energy policy in the UK and one must pity the politicians who have to make the decision and make those decisions quickly. It might seem that the Fates have conspired against us in confronting us with the problems of climate change and rapidly depleting fossil fuels at a time when the technological questions are not fully answered. There is, of course, no coincidence about this: the technology has not been fully developed, because it has not been fully needed – until now.

Where we are unfortunate is that the solutions to the problems that face us will demand massive spending and, sadly, governments – especially our own – are facing empty coffers for years to come.

Even if government and industry do come up with the solutions – and they will because they have to – the rest of us are still left with a big challenge.

In the words of Professor Taylor: "Demand is driving all of this and if we let energy consumption grow at the rate it is growing now and at which it is predicted to grow in the future, it almost doesn't matter what we do on the supply side; we're in trouble." ■

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