

Intermittency

Written by Administrator
Thursday, 07 May 2009 14:27 -

Myth 5. "Wind power isn't reliable "

Fact: Yes it is. There is actually a lot of confusion about the reliability of different sources of electricity. No power stations are able to operate all the time without stopping. Many so-called reliable sources such as nuclear plants suffer from unexpected 'outages' when reactors must be shut down, often at short notice, for essential safety maintenance.

Unreliability of this kind is far harder to deal with than the intermittency of wind power, as the amounts of electricity involved are generally much higher. By comparison the variation in output from wind farms distributed around the country is scarcely noticeable.

A great advantage of wind power is that the available wind resource is much greater during the colder months of the year, when energy demand is at its highest. And the wind will never stop blowing everywhere in the UK at once! At present the National Grid can be operated effectively and economically with up to 20 per cent of the electricity capacity being provided by variable energy sources such as wind. At the levels being considered over the next few decades for wind energy production, such variability can easily be accommodated by the grid system.

It is true that we could never rely on wind turbines alone to provide for all our electricity needs. But there are storage technologies we can use, such as pumped storage hydro power schemes (where water is pumped up-hill, thus acting like large batteries for the electricity system).

In future, hydrogen offers a potential way of storing electricity from wind power. Excess wind power can be used to produce hydrogen through electrolysis, and then hydrogen can be turned back into electricity using a fuel cell, as and when it is needed.

New Zealand has a 50% wind factor, twice that of Europe, so we have a massive resource waiting to be used. And in the future, our electricity could come from a mix of complementary sources - balancing wind power with hydro, thermal, wave, tidal, solar and biomass.

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For more information: see the BWEA factsheet ["What happens when the wind stops blowing"](#)

Plus: [Here](#) is how the inventor of one of the first wave power machines [answers that question](#)