Research: Wind power pricier, emits more CO2 than thought

Source: http://sci.tech−archive.net/Archive/sci.energy/2008−07/msg00041.html

- *From*: Bill Ghrist <notmyname@xxxxxxxxxxxx>
- *Date*: Thu, 03 Jul 2008 21:20:07 GMT

'Windfarm output is never zero. Sometimes it's less'

By Lewis Page

Fresh contenders have entered the UK wind power debate, as a turbines expert funded by the Renewable Energy Foundation publishes an investigation into a hotly−disputed subject − the variability in output to be expected of a large UK windfarm base.

In a just−released article for the journal Energy Policy, titled Will British weather provide reliable electricity?, consulting engineer Jim Oswald and his co−authors model the output to be expected from a large, 25+ gigawatt UK windfarm collection of the type the government says it would like to see in service by 2020. Wind is generally seen as the renewable technology best suited to the UK climate, and so it forms the bulk of most renewables plans for Blighty.

One of the most frequent criticisms levelled at wind power is variability. That is, when the wind drops (or blows too hard) the windmills stop spinning and you get no power. To begin with, Oswald simulates the output rises and falls that might result from a lot of windfarms distributed around the UK by using Met Office archived data from different points up and down the land. Many wind advocates have argued that with enough windfarms, widely enough distributed, you would get more reliable power output as some windmills would always have wind.

Oswald's analysis says this isn't true, with calm conditions across pretty much all the UK being fairly regular events.

Analysis from 1996 to 2005 shows similar results: large, rapid, and frequent changes of power output being common occurrences ... any national power system has to manage under the worst case conditions likely to occur ... These are not extreme cases, whose frequency is so low as to render the events negligible. Rather, these are representative ...

If the government succeeds in building its mighty 25 gigawatts of wind base by 2020, according to Oswald's Met Office data−based model its output will dip to pretty much nothing fairly routinely.

The next line of defence for wind advocates is normally the idea of hooking up the UK's grid with high−capacity links to those of other European nations, creating a "Supergrid" with wind so widely spread that output would be sure to even out. But Oswald has bad news for that idea, too. He compares his modelled UK big−wind output with that which has been produced in recent times by other European wind bases, particularly the substantial German/Danish one.

Read the rest of the article here:
http://tinyurl.com/6gsodb
.