



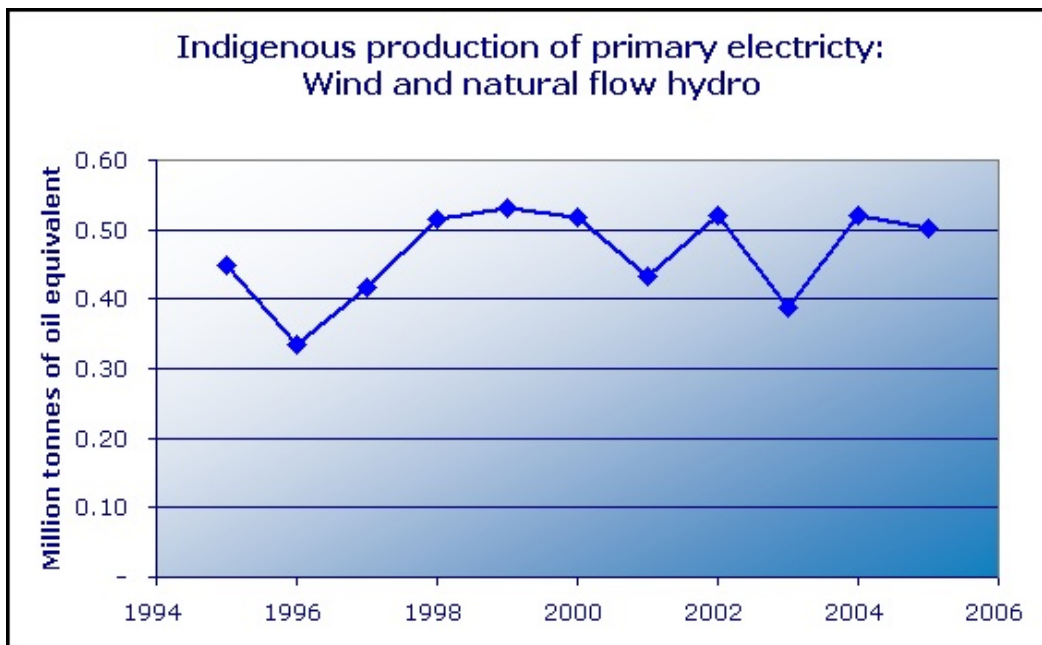
Renewables contribution not increasing?

Posted by [Chris Vernon](#) on March 5, 2006 - 12:13pm in [The Oil Drum: Europe](#)

Topic: [Alternative energy](#)

Tags: [electricity](#), [energy](#), [hydro power](#), [united kingdom](#), [wind power](#) [[list all tags](#)]

We reported [yesterday](#) that the amount of energy generated by wind and natural flow hydro (this category also includes solar PV) had recently fallen. Given the amount we hear about renewables in the UK I and several others were under the impression that renewable generation must be rapidly increasing. It seems however that for primary electricity production at least this just isn't the case.



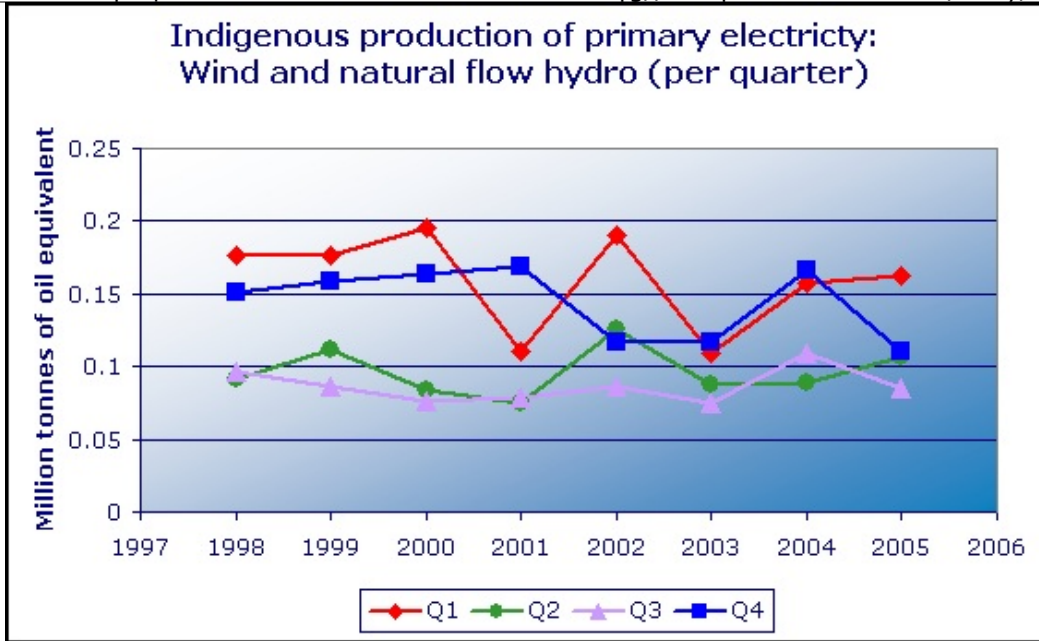
(Source: DTI [Energy Trends 1.1](#))

0.5 million tonnes of oil equivalent isn't a lot of energy in the grand scheme of things, it's 5,815GWh.

According to the [British Wind Energy Association](#) the UK has a total installed wind generation capacity of 1338MW and according to the [International Small-Hydro Atlas](#) the hydro (excluding pumped storage) capacity is 1349MW, a remarkably similar figure.

Generating 5,815GWh in a year from this 2687MW capacity would require an average availability factor of 25% which seems plausible.

Why was quarter 4 of 2005 10.4% lower than quarter 4 of 2004? Looking at the data on a quarterly basis shows that this drop wasn't unusual.



(Source: DTI [Energy Trends 1.1](#))

Curiously the quarterly data states that quarter 4 of 2005 produced 0.11Mtoe (33.8% less than 2004) yet the Oct/Nov/Dec 2005 monthly data states 0.15 Mtoe (the 10.4% drop). Maybe the inconsistencies are due to this latest data being provisional but these points can be made:

- There are large annual and quarterly variations
- Q1 and Q4 generate two thirds more energy than Q2 and Q3
- Total contribution hasn't increased over the last seven years

One serious question remains unanswered though - why hasn't the primary electricity contribution from wind, hydro and solar PV increased at all over the last seven years?

I believe the answer lies in how hydro and wind are lumped together in the total energy statistics. Considering wind alone, the electrical output has shown 19% year on year growth between 1996 and 2004. This quadrupling was from a very low installed base and is lost in the noise when added to hydro. If and it's a pretty big if, this growth rate can continue wind could overtake hydro by 2009 and by 2020 be generating 30TWh per year, 8% of today's electricity production.



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