

Could wind power the world?

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Could wind power the world? That's the claim made in a new

report from the International Energy Agency (IEA). The IEA got Imperial College London to do the analysis. They reckon that that offshore wind could meet more than 18 times our current electricity demand worldwide, that is 420, 000 TWh per year. The IEA also claim that offshore wind matches the capacity factor of gas fired plant for electricity generation, is less variable than solar PV and therefore is suitable for baseload generation. There does seem to be something in this.

Offshore wind even a couple of years ago was regarded as extremely expensive. Costs have plunged and the generation levels have proved better than thought. In our [book](#) we were relatively cautious about the technology, largely due to the costs at that time. These have fallen. David MacKay was very cautious in his book "Sustainable Energy — without the hot air". He lowered the resource to a third of the area available. The Centre For Alternative Energy have given offshore wind a higher total than us or David MacKay. It does seem that we may have underestimated the potential. The IEA have ignored places with windspeeds of less than 5m/s and large chunks of offshore capacity where there are other uses such as marine parks. There is one however one change that might explain some of the increase the capacity. That is floating turbines. These are tethered to the seabed and not fixed. This increases the potential ocean areas massively where turbines can be sited into deep water. A few caveats. No one least of all the IEA is suggesting we just use windpower to electrify our world. There are times when the wind drops and the resource may not always be in the right places. Nevertheless this does show that even if only a half or a quarter of the potential capacity could be utilised the resource is huge. Neil

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