

Wind farms 'are failing to generate the predicted amount of electricity'

By Charles Clover, Environment Editor

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The claimed benefits of wind energy are called into question today by a study that finds few wind farms in England and Wales produce as much electricity as the Government has forecast.

The first independent study to rate farms according to how much electricity they produce shows that wind farms south of the Scottish border are not generating as much as the Government assumed when it set the target of producing a tenth of Britain's energy from renewables by 2010 and 15 per cent by 2015.

Despite millions being spent on wind turbines, the study by the Renewable Energy Foundation shows that England and Wales are not windy enough to allow large turbines to work at the rates claimed for them. The foundation, a charity that aims to evaluate wind and other forms of renewable energy on an equal basis, based its study of more than 500 turbines now in operation on data supplied by companies to Ofgem, the energy regulator.

The study shows that even wind farms in Cornwall on west-facing coasts, which might be expected to be the most efficient, operated at only 24.1 per cent of capacity on average. Turbines in mid-Wales ran on average at only 23.8 per cent. Those in the Yorkshire Dales ran at 24.9 per cent and Cumbria 25.9 of capacity. The only regions with turbines operating at or above 30 per cent of capacity were in southern Scotland, which averaged 31.5 per cent, Caithness, Orkney and Shetland at 32.9 per cent and offshore (North Hoyle and Scroby Sands on opposite sides of the country), which came in at 32.6 per cent.



A wind farm in Scotland is efficient, but south of the border is not windy enough to allow turbines to work at the rates claimed for them

The report concludes that the most effective place to site the turbines is at sea near major cities where they can harness the greater power of off-shore winds without losing much of the electricity generated in transmission through the National Grid from remote areas such as the north of Scotland.

John Constable, an adviser to the foundation, said: "All the Government's targets are based on wind farms running at 30 per cent of capacity. It is quite clear that if they are built anywhere on land south of the border, the targets will not be met."

The foundation's report found some real "turkeys" in lowland England – some attached to the offices of high profile companies. Worst of all is the turbine close to the M25 at Kings Langley, Herts at the HQ of Renewable Energy Systems, the green energy division of Robert McAlpine group. This produces 7.7 per cent of the electricity it would if there was enough wind for it to run continuously at full power.

The study says the turbine at GlaxoSmithKline's pharmaceutical plant at Barnard Castle, Co Durham, which is in a built up area and uses second-hand turbines, operates at 8.8 per cent of capacity. "We are really talking about a garden ornament, not a power station. These are statements about the company's corporate social responsibility, not efficient generating capacity," Mr Constable said.

The foundation says that too much subsidy (£45.50 per megawatt hour under the renewables obligation which gives wind farms 60-70 per cent of their annual income) has encouraged wind development in poor sites. One house will need between three and five megawatt hours a year. Dr Ian Mays, managing director of Renewable Energy Systems, whose turbine scored lowest in the report, said: "Situated in low wind speed Hertfordshire, the RES turbine was never intended to generate huge amounts of electricity. But each unit it does generate is zero-carbon and you can't get much better than that."

A spokesman for the British Wind Energy Association accused the Renewable Energy Foundation of having an "anti wind agenda" and said it was "deeply suspicious" of the findings.

A plan for a wind farm on land owned by Mohamed Fayed at Invercassley near Lairg in Sutherland has been refused by Highland councillors. An appeal is expected.