

## **Report submitted by Cllr Chris Cochrane on the visit to Westmill Wind Farm**

On 8 October 2012, Cllrs Jeans, McLennan and myself visited Westmill Wind Farm, which lies northeast of Swindon. It was a foggy, autumnal morning; the 5 wind turbines were hardly visible behind the hedgerows as we approached by car from the A420 Shrivenham by-pass and along the B4000. Apparently they have a diameter of 62 metres and a tip height of 81m. The windmills were turning slowly in the light airs and only became audible above the traffic noise as we approached them on foot (roughly as in Westmill 1 attached). It turned out that each was producing about 20-30% of their rated output of 1.3 Megawatts.

They have a grey, sintered finish to tone them down against the sky and to reduce reflections of sunlight. Their footprint on the land was very small and there was no reason for the farmer not to cultivate or graze the land right up to the windmills (Westmill 2). Interestingly, there is a 5 Megawatt solar array next to the windmills i.e. producing a smaller power output than the 6.5 MW wind farm (see faint grey line, to George's right in Westmill 2, below the tree line). It almost entirely covers the ground, rendering it pretty useless for agriculture (Westmill 3 and 4).

Next to the substation of the Wind Farm there were a couple of small, containerised wind turbines, perhaps rated at 0.005 Megawatts – perhaps enough for one Farm. They were rotating much faster than the main wind turbines – apparently the best aerodynamic power extraction is achieved at similar tip speeds whatever the turbine size – and lacked the clean lines of the main wind turbines (Westmill 5). We concluded that the separation distances cited in the recent amendment to the Wiltshire Core Strategy are over-simplistic and worthy of amendment.

We also enquired as to the financial case for a hypothetical Wind Farm to serve an isolated rural community of about 500 homes and a few farms. The most efficient solution would perhaps be a single, 56m diameter turbine set high, with a tip height of 102m. It might cost £1.2 million but would generate a net income of £0.35m per annum at sites with the same wind average wind speed as that at Westmill. If the installation included an Uninterrupted Power Supply – basically batteries and some switching electronics – it would protect the resilience of the community in spite of local failures in its National Mains Power feed. Once trained, locally based technicians could undertake routine maintenance. So, such projects would be consistent with Wiltshire Council's policies for Community Resilience and Rural Employment.