

There's just not enough fresh air in East London

Doug King
Commentary

It was always going to be difficult for the Olympic Delivery Authority (ODA) to deliver economic wind power without succumbing to eco-bling. Urban wind power is never going to match the energy generation potential of wind in open country sites.

Generating electricity from the wind is dependent on the wind speed, which is affected by location. Stratford is not the windiest place in Britain. The Wind Energy Database maintained by the Department of Energy and Climate Change indicates that the location for the Olympic turbine is marginal for economic wind generation.

The reason for this is that wind speed is dramatically reduced over cities because of friction with buildings dissipating much of the energy as turbulence.

Looking at the boundary layer physics it would be reasonable to expect the generation potential of the Stratford turbine to be about only half that of an identical machine in open country. At the height of

domestic turbines the wind generation potential in urban areas is reduced to about 10 per cent of the open country maximum.

In the right locations wind power is an economically attractive form of renewable energy generation. However, large wind turbines are a significant investment and if the generation potential of a site is poor then wind energy developers will look elsewhere. This may explain why the ODA has failed to find a new



developer prepared to step in after the preferred bidder withdrew.

There are few other renewable technologies that can match wind power economically. One must hope the ODA enforces energy efficiency standards for the new buildings to reduce demand. This would be preferable to investing in expensive technologies to offset 20 per cent of unnecessarily high demand.

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