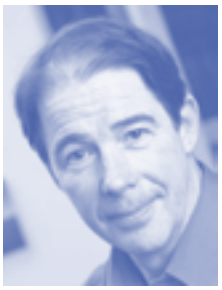
Why Wind Power Does Work

Jonathon Porritt, Chairman of Sustainable Development Commission gives highlights of their latest report on wind energy.



The Sustainable Development Commission (SDC) believes wind power can and should be a major contributor to the UK's efforts to reduce emissions of carbon dioxide from electricity generation. This is the conclusion of our recently published report, *Wind Power in the UK*, which aims to provide local decision-makers, such as planners and councillors, with a comprehensive guide to the key issues surrounding onshore wind power development in the UK. The report is accompanied by a much smaller booklet aimed at a general public audience.

The SDC believes that the development of wind power needs to be part of a wider renewable energy programme that includes both large and small-scale technologies, combined with much greater energy efficiency, and policies to reduce emissions from business and transport. However, the report recognises that wind power is one of the most developed and cost effective renewable energy technologies, which looks set to become a leading contributor to the UK's renewable electricity targets. It is therefore essential that the planning system works effectively to minimise delays, and accurate information is essential for this to happen. The report aims to provide clarification on issues such as intermittency, CO_2 abatement, cost, landscape, noise, and the impact on birds, so that future proposals can be judged on the basis of sound information rather than outdated myths. Some of our findings are highlighted below.

Intermittency

The variability of the wind is often used as an argument to dismiss the output of wind turbines as unreliable, insignificant and inefficient. This has become a key element in the various anti-wind campaigns, so it's critical that the facts are well understood so that misrepresentation does not occur. The report describes the electricity system in some detail before explaining how wind is integrated into a system where demand and supply vary continuously, often with sudden and large changes. We show that wind plant does indeed displace some conventional plant, so there is no need for 'additional' or 'dedicated' conventional capacity to provide 'backup' for when the wind isn't blowing as is commonly assumed.

CO_2 Abatement

Claims are often made that wind turbines take many years to 'pay back' the energy used in their manufacture and construction. This has become one of the more preposterous and overblown claims advanced by opponents of wind power. Our report looks at the available evidence on the energy balance of wind turbines, and concludes that the payback period is most likely in the region of 3-10 months. In addition, the CO_2 associated with a small increase in balancing services as a result of wind's variability has been shown to result in a 1% carbon penalty, meaning that 99% of the output from wind farms reduces emissions.

Cost

The chapter on cost aims to show the complexity of this issue, and the variety of different costs that are often discussed. The generation cost of wind at good sites is increasingly competitive, but this is hidden by the Renewables Obligation. We also look at the likely 'system cost' of incorporating 20% wind power, which is shown to represent an increase in bills of 3.8% with gas at current prices.

Landscape

The report is clear that landscape and visual issues are highly subjective, with limited ability to influence peoples views. However, we point out that the effects of serious climate change on landscapes could be widespread and dramatic. This fact must be balanced against concerns over the visual impacts from wind turbines, which are temporary structures with a limited environmental impact when compared to conventional energy sources. What's more, public opinion on this is nothing like as hostile to wind power as opponents make out. In fact, there are large majorities in favour in most surveys, including surveys of opinions in communities living near wind farms.

Noise

Although noise is often raised as a concern, the evidence shows that modern wind turbines are much quieter than previous technologies, with the noise at 350 m equivalent to the noise inside a quiet bedroom. With good siting, noise should not be a serious problem for local communities.

Birds

The evidence on birds and other wildlife is that with good initial siting, comprehensive (and fully implemented) Environmental Impact Assessments and early consultation, negative environmental impacts can be avoided. The UK has so far avoided the mistakes made on a couple of well-known overseas developments that resulted in significant bird collisions, and this record must be maintained.

The full report or a booklet for householders can be downloaded from www.sd-commission.org.uk/wind. □