

Wind Status Report

January 2007



UK breaks the 2 GW barrier

Executive Summary

- *UK wind is now a mature industry capable of delivering rapid growth*
- *2 GW capacity installed, equivalent to 4% of domestic consumption*
- *Wind energy will be key in meeting Government's 10% 2010 target*
- *The UK is falling behind by around 2% on its renewables targets*
- *Slow determination times are unduly delaying potential new capacity*
- *A potential 6% of UK electricity supply is held up in the onshore planning*
- *Consent for an additional 660–1,000 turbines or 2 GW onshore is needed to meet almost half the UK's 2010 target, or 4.5% of supplies*
- *This 2 GW of capacity must be consented by the end of 2007 in order to be built by 2010*

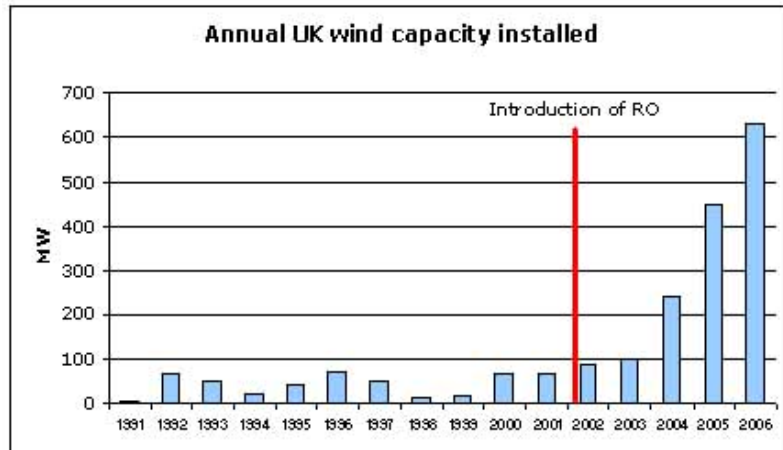
Building the first gigawatt in 14 years

The first commercial wind farm in the UK was commissioned at Delabole in Cornwall in 1991, comprising 10 turbines with a project capacity of 4 megawatts (MW). Throughout the 1990's there was a slow and steady delivery of 50 new wind farms, and by 1999 the installed operational capacity was 344 MW, averaging 38 MW of new operational capacity per year. During this period the Non-Fossil Fuel Obligation (NFFO) was introduced, which provided premium payments for renewables-generated electricity over a fixed period, with contracts awarded to individual generators. It took a further five years for the UK to reach an installed capacity of 1,000 MW, or 1 gigawatt (GW), of wind energy in April 2005; 890 MW of which was from onshore installations (107 projects) and 124 MW was offshore (3 projects).

In January 2000, the Government announced an aim for 10% of electricity to come from renewable sources by 2010. This was restated in the February 2003 Energy White Paper: Our energy future – creating a low carbon economy.

In April 2002 the pace of the wind industry moved up a gear, following the Government's introduction of the Renewables Obligation (RO) as the market support mechanism to replace NFFO.

The RO requires licensed electricity suppliers to source a specific and annually increasing percentage of the electricity they supply from renewable energy sources and is the primary delivery mechanism for the Government's 2010 target.



The current target is 6.7% for 2006/07 rising to 15.4% by 2015/16. At present the UK is falling behind with just 5% of supply coming from renewable energy sources in January 2007, and delays in planning decisions for wind energy projects remains a primary reason for this deficit.

Between 1991 and 2007, alongside an increase in installed capacity, wind turbine technology has advanced. Early turbines were of the order of 300 kilowatts (kW), compared with today's modern turbines which have reached 3 MW of capacity and above – a 10-fold increase in power rating. BWEA data shows that the average number of turbines required to generate 1 MW of wind energy has decreased 6-fold between 1991 and 2007 with fewer turbines needed to achieve the same amount of installed capacity. If Delabole were to be built with modern turbines, only 2 would be needed to achieve 10 MW – five times fewer machines.

A second gigawatt in 20 months

Following the achievement of the UK's first gigawatt of wind energy in 14 years, the second gigawatt has now been completed in just 20 months, comprising 1,696 MW onshore and 304 MW offshore developments.

The 2 GW milestone of capacity provides:

- 5.3 billion units of electricity
- 1.5% UK electricity supply (4.6% domestic consumption)
- Electricity capacity for 1.1 million homes, 4% of UK households, or one third of London's homes, or almost half of Scottish homes
- the equivalent of 4.6 million tonnes of carbon dioxide emission reduction
- equivalent to taking 1.5 million cars off the road

The wind energy industry is a now firmly placed as a mature industry and leads as the renewable energy sector capable of delivering significant capacity, both now and beyond 2010. It is widely recognised that in order for the Government's 10% target to be met by 2010, the wind industry will have to deliver the lion's share of renewable energy capacity.

The problem of planning: approval rates & decision delays

At present there is nearly 8 GW of capacity held up in the onshore planning system, equivalent to nearly 6% of potential UK electricity supply. A further 7% of potential supply is awaiting decision or due to be submitted for consent from offshore projects. Despite this promising capacity the critical issue in meeting the Government's 2010 target is to deliver timely planning decisions for the onshore projects that are required to make the greatest contribution. The countdown to 2010 is now on: planning consent must be in place by the end of 2007 in order for projects to be built in time to contribute to the 2010 target.

At a time when the need for prompt decision making has become urgent, local authority decision delays at have increased for the fourth year running; in 2006 it took local authorities an average of 16 months to determine wind farm applications - the statutory time period for decisions is 16 weeks. Approval rates are a second factor dictating the contribution onshore wind can make to 2010. And the story is the same as for decision delays: approval rates have declined from previous years at a time when consents are essential. With respect to both large onshore (50 MW) and all offshore applications (which are determined by DTI or the Scottish Executive) local authorities are putting forward objections, which trigger lengthy and expensive public enquiries, further reducing the prospect of meeting the UK's 2010 target.

Further issues affecting the delivery of wind energy both onshore and offshore is the need for sufficient grid capacity and the impact of aviation objections, both of which BWEA is taking an active role to address.

There is 8 GW of onshore capacity in planning; many of these projects have awaited a decision for a number of years: in order to deliver the required contribution to the 2010 renewable energy target, only a quarter of these projects need to be consented by the end of 2007.

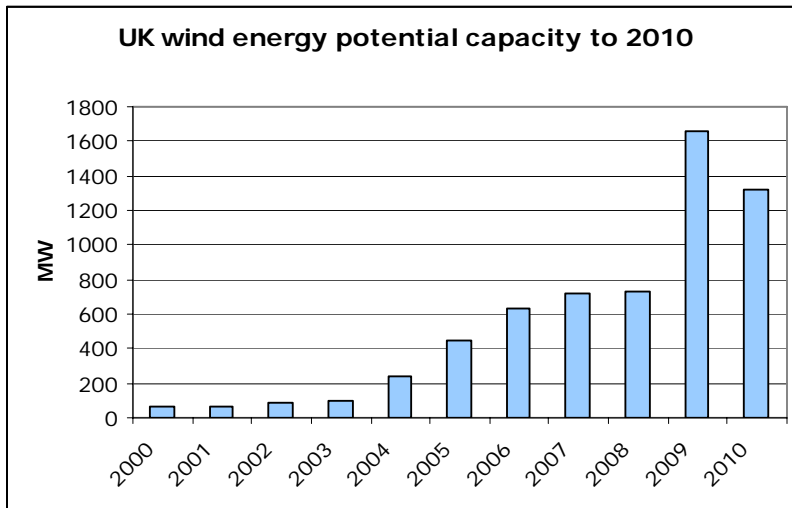
From here to 2010

It is anticipated that offshore wind will also make a significant contribution of 1,000–1,500 MW equivalent to 1% of UK supply by 2010, gearing up to a potential delivery of up to 11,500 MW by 2020.

Onshore wind is expected to make the largest single contribution to the 2010 target. In order to deliver the total 6,000 MW of potential that BWEA estimates the sector could contribute, consent for an additional 2,000 MW is needed by the end of 2007, equivalent to an additional 660 to 1,000 modern 2-3 MW wind turbines. This additional necessary capacity, plus

existing operational and consented capacity, would meet about half of the UK 2010 renewable electricity target (4.5% of UK supply), and would result in the installation of approximately 3,500 turbines in total (about twice the current number installed).

The graph below shows potential year on year build of projects that are currently under construction, consented or in the planning system and expected to be consented based on planning approval history. The bulk of capacity is projected to be built out in 2009 and 2010; however this depends on achieving timely consents for projects in planning - by the end of 2007 at the latest.



Summary

- 2 GW of wind energy provides:
 - 1.5% UK electricity supply (4.6% domestic consumption)
 - Electricity for 1.1 million homes (one third of London's homes or just under half of Scottish homes)
 - 4.6 million tonnes of CO₂ emission reduction, equivalent to 1.5 million cars off the road
- A potential 6% (7,940MW) of UK electricity supply is held up in the onshore planning system
- The UK is falling behind its Renewables Obligation target; around 5% of electricity supply currently comes from renewables, however the RO target for 2006/2007 is 6.7%.
- Onshore wind is expected to make the largest single contribution to the Government's target of 10% of UK electricity supply to come from renewables by 2010
- A further 3,200 MW of potential is awaiting consent offshore, but is held up due to a combination of financing, consenting and grid issues, which BWEA is working to address
- In addition to operational and consented capacity, consent for an just an additional 660-1,000 turbines or 2,000 MW capacity onshore is needed to meet almost half the UK's 2010 target - 4.5% of total UK electricity supply
- This 2,000MW of capacity must be consented by the end of 2007 in order to be built by 2010