

Response to HM Treasury's paper:
Green Technology Challenge: Consultation Document

28th September 2001

The British Wind Energy Association (BWEA) is the trade association for companies involved in the UK wind energy market. Established in 1978, it now has over 160 companies in membership, a three-fold increase in the past four years. Members include manufacturers of small and commercial scale wind systems and their components, wind energy development companies and wholesale generators and suppliers of electricity.

Nine companies joined the Association in August 2001 alone; both facts in no small part a reflection of interest from the energy industries at large in renewable (and in particular, wind) energy. A list of companies currently in membership is appended for your reference.

The Association welcomes the consultation and provides the following responses on behalf of it's members.



Nick Goodall
Chief Executive

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Section A: GENERAL

Name/Organisation and Address

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Q1. Are you prepared to allow your response or name to be quoted, or made available to the public?

A1.a Yes

Q2. Do you support the use of tax incentives as a policy instrument to encourage investment in environmentally friendly technologies?

A2.a Yes

A2.c Comments

We consider that tax incentives would be an appropriate and effective means of internalising the costs of environmental impacts, thus encouraging a shift to sustainable products and services and therefore investment in renewable energy technologies.

Q3. Do you agree with the proposed criteria for selecting environmental objectives for consideration under Green Technology Challenge?

A3.a Yes

A3.c Comments

Renewable energy technologies have an established role to play in meeting environmental objectives, compared with conventional plant which does not include the environmental costs of that type of generation. We note that fiscal measures to promote this recognition may be benefited by policy and strategic measures to ensure environmental objectives are met.

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Section B: ENVIRONMENTAL OBJECTIVES

Q4. Which environmental issues do you believe should be priorities for targeting through Green Technology Challenge? Why?

Climate Change

Land use

A4. Comments

Climate Change: Wind power has a demonstrated effect in the reduction of greenhouse gas emissions and will take a major role in the UK Government's drive to meet its commitments under the Kyoto Protocol.

Land use: The deployment of wind energy is an established diversification for the beleaguered agricultural community and is also suited to re-establish contaminated or brownfield sites.

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Section C: ENVIRONMENTAL TECHNOLOGIES

Q5. Do you propose any specific technologies to benefit from enhanced capital allowances in the Green Technology Challenge? Please list

A5.a Yes

A5.c Comments

The Association proposes that all wind turbines and related equipment, including blades, hub, rotor, generator, transformer, tower, foundations and connected electrical systems, for deployment onshore and offshore, both grid-connected and autonomous, should benefit from enhanced capital allowances.

This would make more attractive the economics of developing low-wind speed sites and onsite generation and provide opportunities for existing industry, such as oil and gas, while improving the security and diversity of the UK energy supply and creating employment.

Q6. How far does the technology proposed contribute to the environmental objective set out in section B?

A6. Wind energy technology will contribute directly to the Government's target of generating 10% of the UK's electricity supply from renewables by 2010, with demonstrated effects in reduction of carbon dioxide and other emissions.

Q7. Is there a specific market problem which investment in the proposed technology will help to address? Are there any areas of business and environmental performance that investment in the proposed technology will contribute towards?

A7. The UK electricity market favours large continuously operating centralised generation plant such as gas and coal-fired, and does not as yet take account of the external environmental costs associated with these conventional technologies. Wind energy by its nature will be intermittent and decentralised and therefore cannot benefit from the same economies of scale. This serves to make wind power less attractive to investors; by offering enhanced capital allowances this will help to overcome some of the disadvantages faced by wind power in the current electricity market place.

Q8. Please indicate why enhanced capital allowances (as opposed to regulation or public spending) are most likely to be an appropriate policy instrument for addressing the problem highlighted in response to question 7 above.

A8. Policy instruments to encourage renewable forms of generation are already in play or due to be introduced, namely the Climate Change Levy and the Renewables Obligation, but the benefits of these will accrue only once the plant is built and operating. The provision of enhanced capital allowances will

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attract project finance to the wind energy industry, with the improved cash flow allowing developers to bring on further projects more rapidly.

We note that the majority of companies in the renewable energy industry are small and medium-sized enterprises, and that the Government has already recognised the benefits of enhanced capital allowances to such companies, by allowing them to claim 40% of capital costs in the first year.

Q9. How could offering enhanced capital allowances for investment in the technology proposed in question 5 deliver real environmental improvements cost-effectively? (Please provide data if appropriate).

A9. Once built and operating, the costs of maintenance of wind power plant is low; using enhanced capital allowances to promote initial investment will encourage the establishment of an otherwise cost-effective technology which is likely to remain in operation for 20-25 years, with nominal decommissioning costs.

We note that the introduction of enhanced capital allowances would put no additional administrative burden on developers, compared with the administration costs to developers of implementing the Renewables Obligation.

Q10. Will investment in the proposed technology help meet regulatory requirements?

YES

A10. Investment in wind power technology will indirectly meet regulatory requirements by assisting in the reduction of carbon dioxide, sulphur dioxide and nitrous oxides at other sites.

Further to the domestic targets under the Kyoto Protocol, the UK will also be bound by the European Directive on renewable energy which will require Member States to set national indicative targets for the consumption of renewable electricity, in line with the overall objective of 12% of gross domestic energy consumption in Europe from renewables by 2010.

Q11. To what extent are financial constraints a barrier to investment in the proposed technology? What is the approximate cost of investing in the proposed technology? How does this compare with conventional plant and machinery in operation?

A11. Capital costs are a significant barrier to investment in wind energy technology, in comparison with the low operating costs. Capital costs are between £600-£750 per installed kW for commercial applications onshore, and 30-50% higher for offshore installations. Given economies of scale, small wind systems are similarly higher.

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This range compares favourably with coal fired plant (£750-£1000) and current nuclear plant (£1500-£2000) and only slightly more expensive than gas (£400-£600). However, external costs of generation aside, we note that onsite generation by other technologies is unusual so comparisons are not helpful. Equally, the public appetite for smaller, community-based schemes needs support.

Q12. How widely used is the technology you suggest relative to the potential market?

A12. The use of wind energy is wide in Europe, notably Germany and Spain, but low in the UK, in marked contrast to the extensive resource. The UK is the windiest country in Europe with over 40% of the available resource; the offshore resource alone has been estimated at 986TWh/yr, equivalent to nearly three times total UK demand, while the onshore resource is ca. 1500TWh/yr.

Q13. Do you have any other comments on the issues raised in this document?

A13. The Association would be pleased to meet representatives from the Treasury for further discussions about the application of enhanced capital allowances to wind energy technology.