

Submission by Dr John R. Etherington to the Senate Community Affairs Committee Inquiry into **The Social and Economic Impact of Rural Wind Farms**

My name is Dr John R. Etherington and I am the author of "The Wind Farm Scam" published by Stacey International in 2009. The book has sold well and is now in its second reprint. I write from the UK to express my objection to the further expansion of the wind power industry which I believe to be largely counterproductive for reasons outlined below.

I held the post of Reader in Ecology in the University of Wales until retiring in the early 1990s. My academic qualifications are a BSc and PhD in Ecology gained from Imperial College, University of London in the 1950s-60s. Much of my subsequent research and teaching was in the field of environmental chemistry and physics. I first wrote about the impact of human activity on carbon dioxide emission and "greenhouse-warming" in my book 'Environment and Plant Ecology' published in 1975 and re-edited in 1982. I was a co-Editor of the Journal of Ecology from 1988 to 1991.

Though the Inquiry is to examine the "The Social and Economic Impact of Rural Wind Farms" this can only be done by reference to the reasons which are used to justify the building of wind farms and to the objections raised by a substantial opposition.

As the title of my book, "The Wind Farm Scam", indicates, I strongly believe that wind power is unable to provide either predictable quantities of electricity when it is needed, nor can it displace fossil fuel use and CO<sub>2</sub> emission to the extent which is claimed, as the provision of backup generation to buffer its intermittent inputs to the electricity distribution system will substantially erode this displacement. E.ON UK has indeed suggested in a submission to the UK House of Lords that "90% or more of intermittent renewable generation such as wind will need to be backed up by more flexible fossil-fired capacity to help ensure that sufficient generating capacity is available at winter peak." (Reference & note1).

In the UK both government and the wind power industry have attempted to deny the need for and problems posed by backup generation. However a recent UK House of Lords "written answer" reverses this position by admitting that "DECC's analysis of supply capacity and projections of the growth of wind energy take into account the need for, and cost of, back-up capacity" (DECC - Department of Environment and Climate Change). See Reference & note 2.

These failings are compounded by problems of cost. Because the load factor (capacity factor) of wind power is below 30% the capital cost of providing 1.0 MW of wind generation is over three times the capital cost per installed MW of wind power. For a fossil fuelled or nuclear station operating as base-load supply at 80% to 90% load factor the cost per achieved MW power output is considerably less. Similarly, the per MWh cost of providing backup is much greater for wind as the substantial "ready to generate" thermal capacity is by definition not able to pay for its own costs.

In a free market, this high capital cost of wind power would prevent any wind farms from being built (Reference & note 3). However there is no country in the world with extensive wind power where some form of subsidy, tax relief or other financial reward is not used to facilitate the expansion of wind power. In all cases this support is at consumer-expense or taxpayer-expense, dependent on mechanism. In the UK our Public Accounts Committee has described this as having "the effect of transferring substantial sums from consumers to the renewables industry...[but this] does not appear on electricity bills and is not explained to consumers." Many of the secondary impacts of wind power such as potential health issues and destruction of landscape value are justified by the industry by statements that climate

change and energy security are of overriding importance, I contend that this is not the case. If wind power cannot do what is promised then it is a false argument to use such justification.

Rather than write more here I attach a brief chapter summary of my book and direct particular attention to Chapter 3, No wind, low wind – intermittent generation; Chapter 4. Financing the impossible and Chapter 5. Do wind turbines abate carbon emission?

My submission is too late for a copy of my book to be submitted in supplementary evidence, but in case it may be useful to the inquiry I would willingly airmail a copy of "The Wind Farm Scam" as a supplement to this email submission.

John R. Etherington, BSc, PhD, ARCS, DIC

#### References & notes

1. E.ON UK. 2008, submission to the House of Lords Select Committee on Economic Affairs 4th Report of Session 2007–08 The Economics of Renewable Energy. Written Evidence (E.ON UK) p.104.

2 Hansard 02 February 2011

<http://www.publications.parliament.uk/pa/ld201011/ldhansrd/text/110202w0001.htm#11020256000358>

3. Statement by Paul Golby, the chief executive of E-ON UK that: "Without the renewable obligation certificates nobody would be building wind farms." (Daily Telegraph 26/03/2005). The "Renewables Obligation" is the UK system for consumer-financing and enforcing the purchase of wind power (and other renewable electricity)