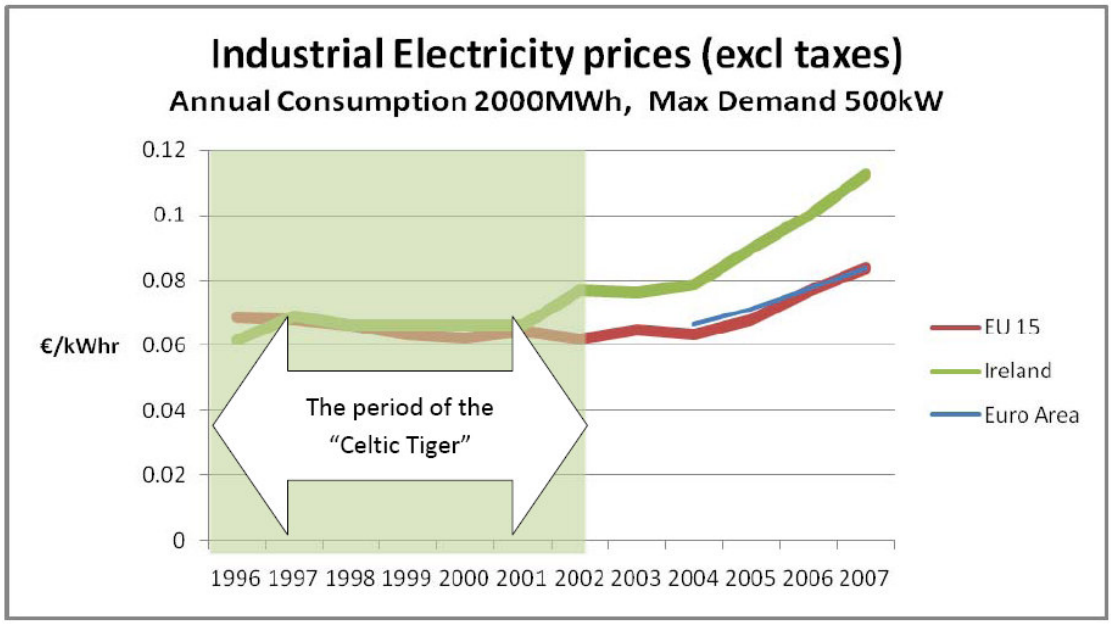
To: Office of Commissioner of Environmental Information
From: Pat Swords BE CEng FIChemE CEnv MIEMA

Re: CEI/10/003 Your Letter of 24/2/2010 – Request to indicate what information you consider should be held by the IDA and why you are of the view that there is a proposed programme relating to wind energy generation.

Date: 25/2/2010

In the late nineties the Irish electricity market was deregulated and an era of construction of new power generation capacity began. Approximately half of Ireland's power generation was replaced with new power plants, many 1.5 times more efficient than the ageing plants they replaced. So why are our electricity prices soaring and diverging rapidly from the EU norm?



Source: Irish Academy of Engineering June 2009 Submission to Joint Oireachtas Committee on Climate Change and Energy Security.

The Irish Engineering Profession (Irish Academy of Engineering) in their Submission to the Irish Government's Green Paper on Energy 2006 warned against "refuge in fanciful solutions instead of policies that result in electricity prices that are well within the EU range and trending positively". It is important to realise that the Irish grid will function perfectly with zero wind energy installed on the system. The sole purpose of wind energy is to provide environmental benefits related to reduced use of fossil fuels. However, at what cost and could this be done more effectively using different technologies?

Instead of having one power grid our Administration is now providing economic subsidies and incentives to build a second one that will only produce any significant electrical power when the wind is twice our average strength. Which basic maths would tell you doesn't happen very often. Basic maths would also tell you that if the wind speed is halved the power output from the turbine goes down by a factor of eight. Basic observation also confirms that the wind just so happens to go up and

down. So now we have our new efficient power stations operating in 'urban driving mode', revving up and down and burning more fuel. Worse still we need to build even more new gas fired power stations, at best 70% as efficient but with the capability to modulate as the wind goes up and down.

In October 2008 the Government announced:

- *Minister for Environment, John Gormley T.D. has announced a revised ambitious target for renewable penetration in the electricity sector. The new target of 40% is a significant increase from the previous goal of 33% and exceeds considerably both current EU targets of 20% and the UK's current target of 15%.*

  The Minister said: "One of the most effective ways of reducing our national greenhouse gas emissions is to generate as much electricity as possible from renewable sources rather than from fossil fuels. The previous Government adopted a target that 33% of electricity consumed would be from renewable sources by 2020. Today I can confirm that the Government has now agreed, on the recommendation of my colleague, the Minister for Communications, Energy and Natural Resources, Eamon Ryan, T.D. to increase this target to 40%. The target is underpinned by analysis conducted in the recent All Island Grid Study which found that a 40% penetration is technically feasible, subject to upgrading our electricity grid and ensuring the development of flexible generating plant on the electricity system."

It had been estimated that 6,000 MW of wind energy on the grid is feasible based on All Ireland Grid Study:

- http://www.dcenr.gov.ie/Energy/North-South+Co-operation+in+the+Energy+Sector/All+Island+Electricity+Grid+Study.htm

Although many would doubt this is technically achievable without running the risk of severe instability and frequent blackouts on the grid and this point was highlighted in the Irish Academy of Engineering's Submission to the Joint Oireachtas Committee on Climate Change and Energy Security.

- Submissions to the Joint Oireachtas Committee (including Irish Academy of Engineering and mine - Pat Swords BE CEng FIChemE CEnv MIEMA): http://www.oireachtas.ie/viewdoc.asp?fn=/documents/Committees30thDail/J-Climate_Change/Submissions/document1.htm

The IDA as a public body has legal obligations relating to dissemination of Environmental Information, see in particular Articles 1 and 7 of Directive 2003/4/EC. Furthermore Article 2 clearly defines energy and cost benefits and other economic analysis and assumptions as information on the environment. The request for information on the environment followed an Irish Times Article attributed to Chief Executive Officer of IDA:

- http://www.irishtimes.com/newspaper/weekend/2009/1205/1224260115584.html

The IDA failed to respond to the request instead writing to me to explain on the 15th December that the article was misquoted from other publication "*in which the potential of Ireland as a source of wind power is clear. The capacity factor for*

onshore wind turbines – the measure of the time the turbine is actually cranking out power – 35% in Ireland. This compares with a European average of 25%"

I confirmed that my original request stood and it was only natural that this could be clarified in terms of:

- The economic impacts of the wind energy programme;
- Its costs;
- The subsidies required for job creation and industrial grants;
- The resulting electricity prices;
- The loss of competitiveness in other manufacturing sectors and resulting job losses;

In particular given that the IDA is the State Agency responsible for industrial development and the CEO of the IDA is clearly making public statements promoting the **potential** of Ireland as a source of wind power.

Note: While I was sent a letter on the 17th December that had allegedly been sent to the Editor of the Irish Times in order to correct the original article, repeated checking of text in the Irish Times related to the IDA never revealed any corrections and clarifications. Therefore as far as the Irish Public is concerned what reflects the position of the CEO of the IDA is:

- *"Onshore wind turbines could account for 35 per cent of our energy needs and Ireland has the highest wave energy resource in Europe".*

The IDA clearly highlighted in their replies of 12th January and 1st February that:

- IDA Ireland will work to repeat its success in other sectors to attract mobile foreign direct investment in the Clean Technology sector to Ireland.

- IDA Ireland is obtaining regular information from reliable sources including the Department of Communications and Natural Resources, Eirgrid, ESB, SEI, Minister Ryan's Green Report and other Government Policy Documents.

Given the above and the statements disseminated to the Irish Public I completely fail to understand why my simple request for information can't be answered. I mean it can't all be just spin that has no factual basis that is being disseminated to the Irish Public to achieve a political objective?

What is even more disturbing is as an engineer I completely fail to understand where "*the measure of the time the turbine is actually cranking out power – 35% in Ireland. This compares with a European average of 25%"* came from. It must have come from some of the reliable sources quoted above from the letter of the 1st February. However, if one considers Section 4.4 (e) of the Eirgrid Generation Adequacy Report 2009 – 2015, which was published in December 2008, then one gets some nice text and the graph below:

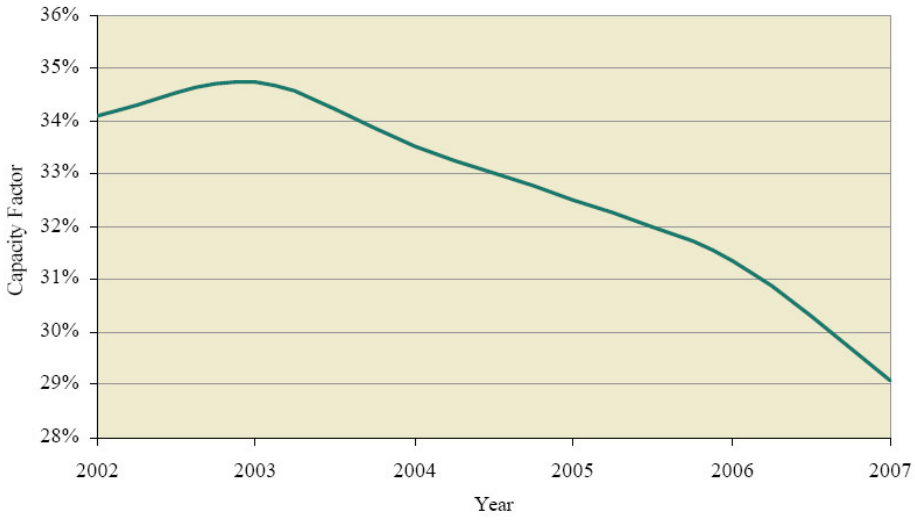


Figure 4-7 Average capacity factor for installed wind capacity.

From Section 4.4 (e) of Eirgrid Generation Adequacy Report 2009 – 2015:

Furthermore Eirgrid in their latest Generation Adequacy Report published in December 2009 acknowledges that 2007 was a bad wind year and proposes an average Capacity Factor of 31.2% for future calculations.

- http://www.eirgrid.com/media/Generation%20Adequacy%20Report%202010-2016.pdf

So why can't the IDA with all their technical resources and interfaces to other Government Departments and Public Bodies answer some very simple questions related to statements their CEO made? Why are they clearly using false information relating to wind turbine availability? What is the technical basis for the press releases they are writing, which clearly are of enormous significance with regard to legal obligations under Directive 2003/4/EC relating to dissemination of information on the environment to the widest possible systematic availability?