

Submission for the Inquiry into UK energy policy market failure over rising prices & supply threats from Susan Crosthwaite author of DIRECTIVE 2004/35/CE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 on environmental liability Article 12 Request for Action

That the UK energy policy is in turmoil makes this inquiry essential in the light that there is a growing awareness of the entirely predictable economic disaster unfolding.

1. The predictable grid instability from too great a penetration of renewables was predicted a few years ago by Electrical Engineer Paul Miskelly's analysis published in a peer reviewed journal (accessible here: <https://stopthesethings.com/2013/09/04/where-will-you-be-when-the-lights-go-out-for-good/>) and then various reports and warnings by various others since then.

There has been a "perfect storm" in South Australia over their recent winter months where the reality of energy price escalations because of very high spot prices of electricity when the wind stops blowing (and as a result of the high penetration of wind power, base load power supply is at risk).

For the last three years W. Europe has got a 'free ride' with strong westerlies in the winter and the cold Easterlies only moving in later in Spring. This is not going to last and when the cold snap comes, it will be a lot worse than the Australian situation below, as it will go beyond power price spikes to actual extended blackouts:

<http://www.theaustralian.com.au/opinion/columnists/judith-sloan/energy-price-reveals-folly-of-renewables/news-story/8a18dd4b193039ec6b6138e682192e55>

Unfortunately for many politicians they cannot recognise or accept that there is a slow moving train wreck rapidly approaching them.

That scepticism was perfectly encapsulated during the June 2016 **Financial Times Energy Transformation Strategies event in London**, when speakers questioned the data surrounding renewable penetration and the ability of wind and solar power to replace baseload capacity.

<http://www.powerengineeringint.com/articles/2016/06/sceptical-power-industry-urged-tochange.Html>

• *“The greatest risk to the world economy today is that the (fossil power) sector becomes so battered that it doesn't invest enough to maintain. There is a populist belief in renewables, but are we considering the unbelievable risk of holding that position? We may destroy a system without something sustainable in the aftermath.”*

Costs are soaring, many so called 'first world' Member States simply no longer have sufficient reserves of reliable base load generation capacity and will experience significant blackouts with a return of the winter weather similar to that experienced in 2010.

Furthermore, right around the EU rural communities are enraged about the massively obstructive and intrusive developments being forced upon them. This is what you get when the EU implements an energy policy based on populism, completely without analysis of merits and impacts, and comp completely by-passing the legal framework for public participation in decision-making.

2. Engineers past and present correctly argue that our energy system needs to be engineer, not market led. The negative influence that vested interests and their lobbyists have had are now being paid for and it might take a really severe winter to show just how much.

The system of ‘**connect and manage**’ was devised by Ed Miliband in office, and implemented by the coalition Government as one of its first actions in office, almost certainly with no-one in power understanding its implications. Essentially, round about 2010, National Grid (NG) were still trying to be engineers. Windfarms were coming along with planning permission and wanting to connect to the grid. NG was saying, “no you can’t, not until we have the kit in place. We are not going to connect you just now because it won’t work”. In some cases it was going to take up to 8 years until the transmission was in place to connect the windfarms without risk to the system. The wind industry didn’t like it and lobbied Government. who said to NG “go on, just connect them, and manage.” And that means; “Connect anyway even though it is foolish in engineering terms and it will cost a fortune”

<http://www.nationalgrid.com/NR/rdonlyres/093614C6-E56B-43C6-BAE0-4B8CBB5FE0D2/61872/ConnectandManageQuarterlyReport010413to300613v10.pdf>

The dis-benefits are fully explained by Stuart Young in **Balancing Mechanism and Connect and Manage Constraint Payments to Windfarms**

<http://www.windsofjustice.org.uk/wp-content/uploads/2014/12/SY-Briefing-Note-on-Constraint-Payments-3Jan-2014.pdf>

Professor Jack Pontin points out the risks of pursuing the current renewables targets to both the economy and to energy security in this submission

<http://www.windsofjustice.org.uk/2014/08/are-there-risks-to-energy-security-in-scotland-under-present-energy-policy/>

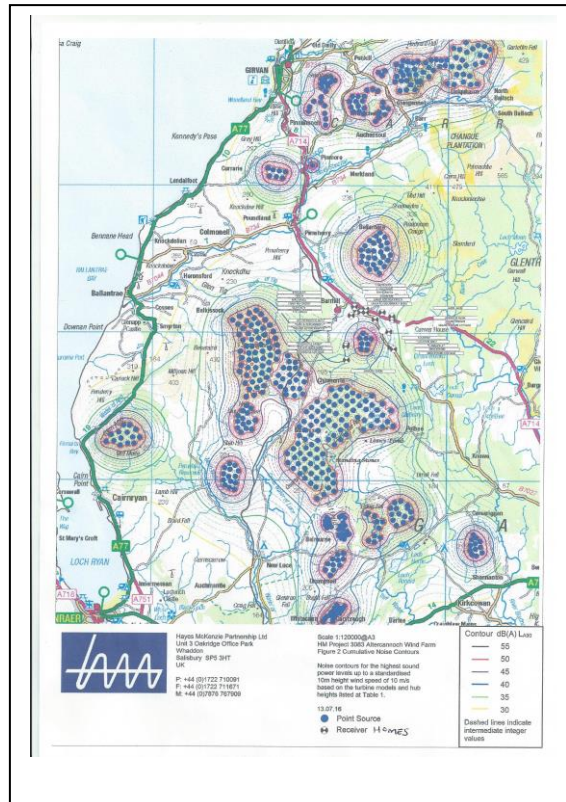
In respect of constraint payments, the site of the Renewable Energy Foundation:

<http://ref.org.uk/energy-data/notes-on-wind-farm-constraint-payments> has revealed the shocking facts on the escalating cost of constraints payments to wind operators. **It is clearly unsustainable that according to the National Grid, turbine operators have received more than £255 million not to produce power since payments began in 2010.**

3. The cost to the UK is also the cost to the environment and to the health of those forced to live in close proximity.

Some are trapped in homes that they wish to sell, but now are unsellable, and many are constantly battling against yet another windfarm application. This is happening throughout many parts of Scotland as more of these industrial windfarms become operational.

The map (taken from the public domain for the current Altercannoch Windfarm planning application) shows the impact of Cumulative Noise Contours on Barrhill and surrounding communities.



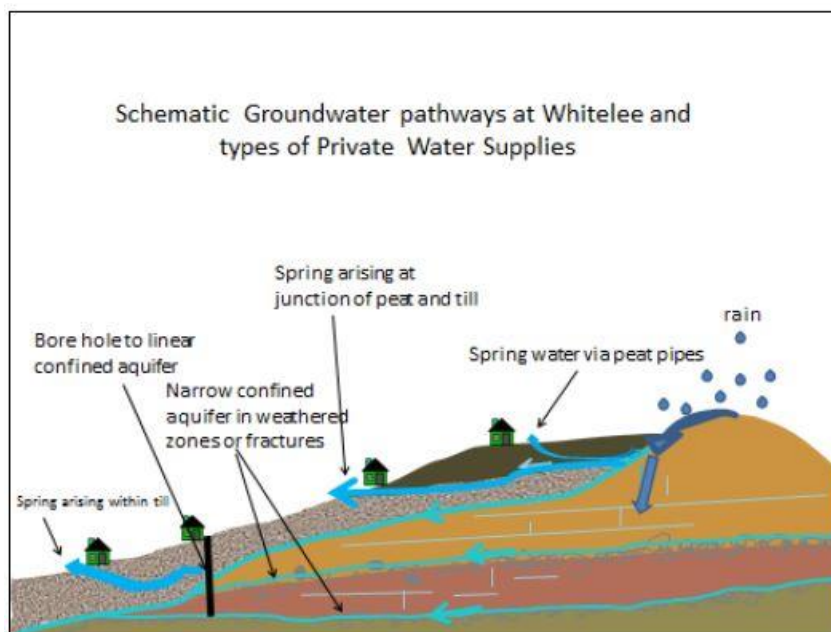
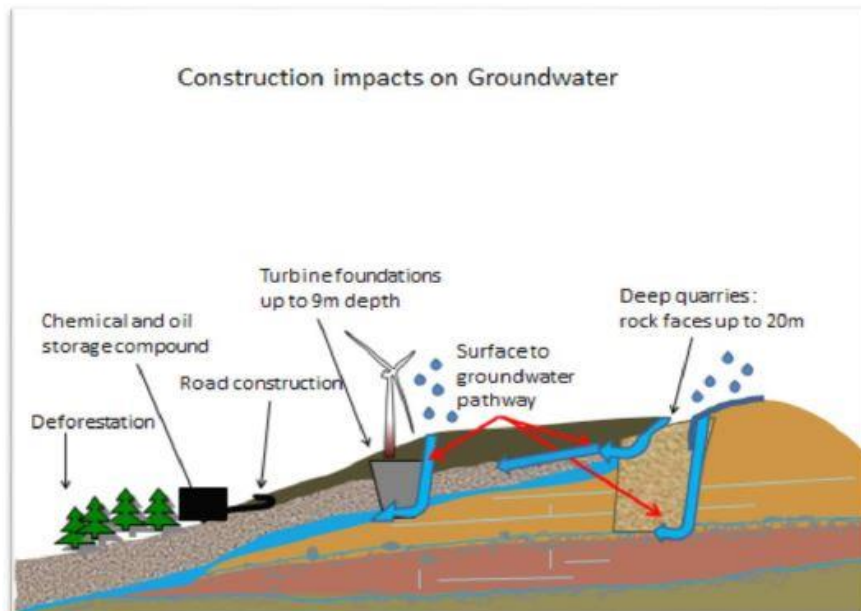
From new research and evidence provided to the World Health Organisation (WHO) via the letters to be found at: <http://www.windsofjustice.org.uk/2016/08/update-on-windfarm-noise-issues-and-the-guideline-development-group-for-the-who-environmental-noise-guidelines-for-the-european-region/> for the Inquiry members to examine, the urgent need for this aspect to be considered is backed by the Open Letter's 148 signees in particular showing the high level of medical and engineering professional concern supporting the requests it delivers.

The Scottish Government is the biggest single landowner in Scotland (not the landed gentry) owning the largest number of wind turbines on publicly owned land (mostly Scottish Forestry and Scottish Water), with rent of millions, paid for by UK electricity consumers (>90% in England and Wales) going directly into Scottish Government treasury. Unfortunately, as we all know, the Scottish Gov. now rely on renewables to fill the oil revenue gap. They are pushing for Alex Salmond's 'Scotland as the Saudi Arabia of renewables' at all costs - which includes the costs to the environment and Scotland's rural communities. So, there is a complete conflict of interest in that the organisation receiving direct benefit is also responsible for directly consenting the application; regardless of how much environmental damage is caused and whether the Aarhus convention is adhered to or not.

4. In respect of water contamination/pollution issues, wherever wind turbines are built on water catchment areas around the world, the potential for serious harm exists.

The 'Request for Action' was lodged with the Scottish Government and agencies in July 2015.

<http://www.windsofjustice.org.uk/2016/07/environmental-liability-request-for-action-on-water-contamination-review/>



Groundwater is an important resource, providing more than one-third of the potable water supply in the British Isles. In addition, it provides essential base-flow to rivers and wetland areas, often supporting important ecological systems. However, groundwater is vulnerable to pollution – especially because it is generally less apparent than surface water and the

potential impacts on groundwater are rarely observed and so tend to receive little consideration.

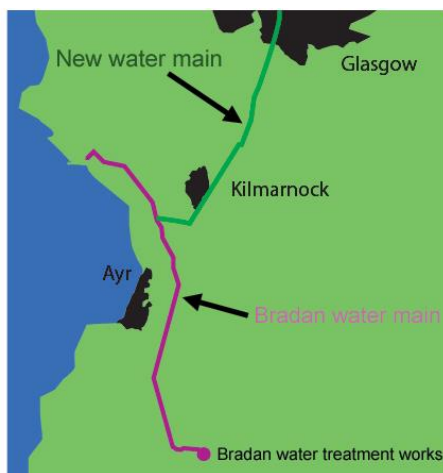
Groundwater pollution is problematic because aquifer pollution persists for long periods and is often very difficult and costly to remediate. It is generally more vulnerable to pollution by chemicals, metals, hydrocarbons and salts than by sediments, because particulate pollutants are naturally filtered during infiltration and recharge.

It is ironic that in trying to encourage renewable energy generation, developers, particularly encouraged by Scottish Government approval, are succeeding in tearing up areas of natural carbon regulation unsurpassed by anything in human technology. The sphagnum moss which drives peat formation holds significant amounts of water and releases it only slowly. This means it is held for long periods in the uplands before it finally filters towards the lowlands, so providing a degree of natural regulation which helps prevent downstream flooding also purifying the water before it enters the reservoirs and the rivers. Industrialisation, on this massive scale, of these pristine protected water catchment zones has led to deteriorating water quality for many people in Scotland. The Scottish Government has been complicit in promoting industrial scale exploitation of designated water catchment areas, by passing and promoting the legislation drafted in 2010 to allow commercial industrial windfarm development on publicly owned land, being owned by Scottish Water as well as Forestry Commission Scotland.

SEPA continue to delay with its assessment of the Request for Action and have just informed me that it will now be mid-November before anything is forthcoming. . SEPA is neglecting the potential for harm in current developments.

The public inquiry into water contamination of Whitelee3 should also have been ruled in November 2015 but the Scottish Government refuse to make a ruling.

The question as to why Scottish Water with a cost to the public purse of £120 million plus, has the need to bypass reservoirs which are close to windfarm construction



<http://www.scottishwater.co.uk/about-us/media-centre/latest-news/braden-water-supply-investment>

<http://www.scottishwater.co.uk/Investment-and-Communities/Your-Community/New-Ayrshire>

<http://www.scottishwater.co.uk/assets/domestic/files/investment%20and%20communities/new%20ayrshire/bradanpressbriefingnotefinal2.pdf>

Conclusion:

1. The inherent intermittency of wind, the enormous mechanical damage the dealing with this has on real generation assets, and of course the impact of grid controllability.
2. Not properly addressed in any way by the likes of the renewables advocates is the concept of Energy Return on Energy Invested, EROEI.

The proper consideration of the matters raised in any such study would have very serious implications as to the viability, both economic, and, far more importantly, the use of these technologies in the context of any serious attempts at decarbonisation.

That there is now clearly demonstrated a need for the continuous provision of backup of intermittent renewables by fast-acting, therefore fossil-fired, generation, shows that these renewables are hardly CO₂-neutral.