

Ladies and gentlemen,

This letter is in support of those from whom you will be hearing direct evidence in the future, and victims of adverse effects from Industrial Wind Turbines - wherever they are installed.

The World Health Organisation is held in great respect for its ability to support the aims of those who seek to publicise any failures of governments and authorities responsible where matters of adverse health impacts are concerned. I have watched the global evolution of problems surrounding the technology of wind power for over ten years now. In 2012 I had the privilege of submitting a complaint involving wind power to UNECE's Aarhus Convention Compliance Committee on behalf of my Community Council, which resulted in the UK being found in breach of Article 7 of the Convention. It has become clear that the vital precautionary principle cited by both the UN and EU is being forgotten.

There comes a point in world affairs where, in order to avoid being guilty of wilful blindness, it is necessary for those who can make a difference, to act to correct the source of problems arising. This is especially true when a technology is being imposed upon populations helpless to resist, in the absence of due diligence for prior safety checks and proof of claims made. Wind power provides an excellent example of how perfectly admirable aims to improve the planet's air quality by removing toxic chemicals produced by some industrial processes, have been hijacked by vested interests wholly intent on profiting from the *climate of fear* produced by often grossly misleading or incorrect statements. This is exacerbated by organisations supporting a 'green' agenda neglecting to ensure that what they are supporting or proposing is:

1. Based on accurate and up-to-date facts.
2. Always open to examining all new and relevant peer reviewed reports – even if these challenge a majority held view.
3. Always bearing in mind that a consensus view is not always correct.
4. Ensuring that political lobbying does not cause honest research to be ignored.

I am therefore setting out views from both a British and global perspective. Although there are other environmental impacts and effects, the issues of adverse noise effects and problems of water contamination/pollution emanating from wind turbines are of equal importance. So if we examine the adverse health issues connected to Industrial Wind Turbines, (IWT's) there is in existence vital and fresh information on a subject which has been systematically ignored by authorities to date - or subjected to efforts by opponents to discredit valid findings. The renewable energy technology of wind power has health issues which are already affecting many world-wide and the numbers are rising. It is abundantly clear that all claims of ignorance of the adverse health effects caused by industrial wind turbines are no longer valid and therefore **complacency is not an option.**

So with apologies for the level of reading involved to acquire a good overview, it is sincerely trusted that the following links and information, albeit providing only the 'tip of the iceberg,' will be closely examined:

<http://the-law-is-my-oyster.com/2015/09/16/research-into-wind-turbine-infrasound/>

The letter in the following link is from a practising clinician, who has first hand knowledge of the problems, and seniority within the profession:
<http://waubrafoundation.org.au/resources/hallstein-dr-w-ltr-famlouth-zoning-board-appeals/> . In addition, the special permit for the turbines was denied by the Falmouth Zoning Board, because of the documented serious damage to the health (and human rights) of the residents.

During investigations for a court case against the Charities Commission in Australia, it was revealed that some Australian health departments are well aware that, crucially, some people can become sensitized to low frequency noise and may find it "unbearable". It has also emerged from close scrutiny of ETSU-R-97 that they were also well aware that people do not get used to wind turbine noise. It is important to acknowledge that there is currently (to our knowledge) no empirical, anecdotal or research evidence that people get used to wind turbine sound - and all the clinical reports seen demonstrate clearly that once sensitized, people will experience increasing sensitivity and worsening symptoms unless they can get away from the source of the pulsing low frequency noise. To repeat - all around the world, once sensitized, no one gets used to wind turbine noise, but instead health deteriorates as their sensitization and therefore their biological responses increase. See pages 40-42 of:

<http://www.hayesmckenzie.co.uk/downloads/ETSU%20Full%20copy%20%28Searchable%29.pdf>

Two useful interviews are also now available:

1. With Professor Alec Salt
<http://www.2gb.com/article/alan-jones-%E2%80%93-professor-alec-salt>
2. Sky News - between Alan Jones and Senator Chris Back, (who is both a parliamentarian and a Vet, who is well aware of the health problems with industrial wind turbines). See:-
<http://www.youtube.com/watch?v=dUI64O5PeoU>

In addition, Dr. Chris Hanning, formerly Consultant in Sleep Medicine, University Hospitals of Leicester, had an article published in the *British Medical Journal* 2012;344:e1527 doi: 10.1136/bmj.e1527 (Published 8 March 2012) extract below:

“The evidence for adequate sleep as a prerequisite for human health, particularly child health, is overwhelming. Governments have recently paid much attention to the effects of environmental noise on sleep duration and quality, and to how to reduce such noise.¹ However, governments have also imposed noise from industrial wind turbines on large swathes of peaceful countryside.”

A further document by him is attached.

It should be noted that the British Medical Association (BMA) refused to allow their members to be updated on recent research when this was requested prior to their 2014 AGM. They have consistently refused to answer, as has the Royal College of General Practitioners, questions put in respect of their involvement (financial or otherwise) with the wind industry. As the BMA Constitution confirms (<http://www.bma.org.uk/working-for-change/international-affairs/human-rights>) that human rights issues **are** a BMA concern, they were referred to pages 22 – 26 of the document “**Leave no Marks**” by the Physicians for Human Rights, where the clinical consequences and the legal precedents relating to torture from sleep deprivation and sensory bombardment from noise and light are clearly elucidated. Torture is a human rights issue, so too is sleep deprivation and sensory bombardment. This is precisely what many rural residents living near wind turbines in the UK (and globally) are experiencing and have been reporting since Dr Amanda Harry’s survey, conducted back in 2003.

Letters to the BMA organisation and Chairman can be found at:

<http://www.windsofjustice.org.uk/2014/08/analysis-of-open-letters-to-the-british-medical-association/>

One letter to the BMA Chairman is attached.

Clearly the adverse health effects suffered by those living near Industrial Wind Turbines are real, as confirmed by Mike Stigwood who is one of the country's – if not the world's – leading experts on wind turbine noise. His ground-breaking research into amplitude modulation and other noise impacts from turbines on residents up to **10km** from wind farms supplies some of the strongest scientific evidence to date for the environmental cost of windfarms. See his *presentation in video and pdf form* at: <http://scotlandagainstspin.org/2013/12/wind-farms-noise-sacrifice-rural-minorities-mike-stigwood/>

Adequate coverage by the media involving Freedom of Speech (FoI) questions on these subjects is rare and investigative journalists willing to research more complex issues are even rarer. Witness the zero coverage of my past and current FoI dialogue with the Civil Aviation Authority (CAA) on radar and wake turbulence issues from IWT's built near International Airports (all data is available upon request). Unfortunately, the propaganda, spin and rhetoric coming from the wind industry is beginning to sound alarmingly similar to the tactics once used by the tobacco lobby. We have the Waubra Foundation to thank for a great deal of information and research, which some of the links now following provide:

<http://waubrafoundation.org.au/2014/craig-kelly-wind-turbine-industry-copies-tactics-tobacco-lobby>

People exercise their right to smoke and choose to do so with prior knowledge of potential health effects. People are being forced to live near industrial turbines - they have no choice - their human and legal rights are being ignored.

An important document recently released by former Waubra Chairman Peter Mitchell relating to human rights is attached.

Governments across the world continue to deny that living too close to industrial wind turbines is having any impact on the health of their citizens. Reaping excessive subsidies on offer for an inefficient energy source does nothing but reward vested interests involved. Impacts upon the local population, environment or wildlife are treated as 'acceptable' with any valid protests made often over-ruled using the well worn excuse of it 'being in the National Interest.' Nothing could be further from the truth. They are in essence becoming collateral damage with their lives sold to the highest bidder.

Anyone faced with the threat of an unwanted wind farm proposal faces years of anguish, financial burden and in many cases life in a property that has become almost impossible to sell because few people want a home near a wind farm. So the option of escape is non-existent. This is all **before** any wind farm is built. When that happens, with no realistic or enforced set back distance from homes, many residents find their quality of life is destroyed as they try to cope with **lack of sleep, constant noise and shadow flicker** and the very real illnesses those conditions can cause. See :- [Insomnia as a risk factor for ill health](#)

Some end up trapped in a home they cease to enjoy living in because they cannot afford to move. Some move away temporarily just so they can sleep and those that manage to leave find

symptoms disappear. Also, with multiple wind farms come the grid upgrades, giant pylons and huge sprawling substations – **all of which** can affect **the health** of the people who are forced to live near them.

Although the Australian National Health and Medical Research Council has finally instigated proper research into wind power effects, the furore which followed the Australian Medical Associations' dismissal of adverse health effects from wind turbines has backfired to an extent rarely seen.

Expert analysis, peer reviewed studies and further evidence can be found at:
<http://waubrafoundation.org.au>.

Responses to the Australian Medical Association's Position Statement can be found here:
<http://waubrafoundation.org.au/resources/ama-statement-responses-concerned-professionals-citizens-impacted-residents>

Dr Sarah Laurie (Chief Executive Officer of the Waubra Foundation) reveals the clear and urgent need for the technology of wind power to undergo the kind of health monitoring which should have been put in place long ago. Her Open Letter to the AMA is at:
<http://waubrafoundation.org.au/resources/open-letter-ama-their-position-statement-wind-farms-health-2014/>

As evidenced by the work of Steven Cooper e.g. attached reports featured in the 2015 170th meeting of the Acoustical Society of America, '**Wind farm infrasound – Are we measuring what is actually there or something else?**' and '**Soundscape of a wind farm – The Cape Bridgewater experience**' - it is no longer legitimate to ignore reports and peer reviewed studies, supported by good evidence, of damage to health from being forced to live in proximity to wind turbines. Further wind development should cease until claims of ill health are ***thoroughly investigated and crucial monitoring programmes are put in place for people already at risk.***

Where these effects are consequently found to exist, turbines responsible must be removed as has been required by the Portuguese High Court in the Portuguese case. See:
<http://www.asjp.pt/2013/06/08/supremo-da-razao-a-vitima-de-aerogeradores> The site belongs to the Association of Portuguese Judges.

THE SUPREME COURT AGREES WITH VICTIMS OF WIND TURBINES

The judgement upheld the claim of the family affected and the agreement invokes the "right to rest, to sleep and to tranquillity" and imposes upon the São Julião Wind Development a payment of 30 thousand euros to the family of Ricardo Teixeira Duarte which corresponds to approximately 3% of the requested value.

N.B. It is of additional and serious concern that no official monitoring of farm stock (or wild animals for that matter) living and breeding in close proximity to IWTs has been carried out. This has been confirmed in respect of the UK by a Freedom of Information request. The evidence and reports provided e.g. <http://wcfm.org/2014/03/31/windfarms-vertebrates-and-reproduction/> is both shocking and a graphic illustration of why such monitoring is now essential. Of particular note is the Portuguese vet's thesis involving the Supreme High Court ruling to which I have just referred.

Alun Evans, Professor Emeritus Belfast University, has stated in his full report, see: <http://principia-scientific.org/wind-farms-and-health/>.... that '*In conclusion*, there are serious adverse health effects associated with noise pollution generated by wind turbines. It is essential that separation distances between human habitation and wind turbines are increased. There is an international consensus emerging for a separation distance of 2 km, indeed some countries are opting for 3 km. **The current guideline on separation distance is based on ETSU-R-97 and is manifestly out of date.** It is only relevant to the small turbines of that era. The vastly increased scale of today's turbines means that the current recommendation on turbine separation is grossly inadequate.' It should be noted that due to more recent findings – a separation distance of 2/3 km is still inadequate and should be greatly increased to around 12 km.

An important expert report from Alec N. Salt and Jeffery T. Lichtenhan

Department of Otolaryngology, Washington University School of Medicine, St. Louis, Missouri. A Acoustics Today, Volume 10, Issue One, Winter 2014. The pdf can be downloaded from (pdf icon at top of page – go to p.20):

<http://scitation.aip.org/content/asa/journal/atdy/10/1/10.1121/1.4870173>

Or: [Acoustics Today - Washington University in St. Louis](#)

Further valuable reports are at:-

[http://www.scottish.parliament.uk/S3_EconomyEnergyandTourismCommittee/Inquiries/THARPAL AND INTERNATIONAL RETREAT CENTRE.pdf](http://www.scottish.parliament.uk/S3_EconomyEnergyandTourismCommittee/Inquiries/THARPAL_AND_INTERNATIONAL_RETREAT_CENTRE.pdf)

(this may not always work as a live link but will if you copy and paste it)

<http://www.windturbinesyndrome.com/2014/medical-school-research-team-confirms-wind-turbine-infrasound-can-produce-wind-turbine-syndrome-usa/?var=cna>

<https://www.wind-watch.org/documents/owen-black-affidavit-re-wind-turbine-syndrome/#.UzoKwQaU0zc.facebook>

Over 10 years at least 64 workers exposed to dangerous chemicals have contracted chronic illnesses at Siemens wind turbine factory in Denmark: <http://www.windaction.org/posts/44934-siemens-employees-chronically-ill-from-dangerous-chemicals-at-turbine-facility#.Vy3svlQrIdV>

Claims of ignorance of the adverse health effects caused by industrial wind turbines are no longer valid and therefore **complacency is not an option.**

Water Contamination issues.

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.

For example, the quality of rural Private Water Supplies in Scotland during the construction of the 215 turbine Whitelee wind farm (very near Glasgow International Airport) was almost a thousand times more polluted in terms of bacterial count (over 700,000 coliforms/100 ml), than the worst results for untreated raw water used for rural drinking water in a recognised third world country (by WHO standards) i.e Mozambique and the Limpopo river in 2004 (870 coliforms/100ml).

It currently seems acceptable for the Scottish Government to condone the pollution of drinking water supplies for rural inhabitants as a result of allowing and promoting windfarm developments to occur on public and private drinking water catchment areas. For more on this issue and an

excellent video from Dr. Rachel Connor see: <http://www.windsofjustice.org.uk/2015/11/water-contamination-and-windfarm-construction-update-and-what-you-can-do-about-it/> and <http://www.windsofjustice.org.uk/2016/04/the-120million-question-did-britains-biggest-windfarm-contaminate-water/>

Dr. Connor is communicating with the UK water authority SEPA over contamination caused by the construction of Whitelee windfarm - but is experiencing difficulty. She has pointed out that the developer, Scottish Power Renewables (SPR) allegedly failed to comply with planning conditions (conditions 6.8 and 6.9) which required it to monitor groundwater in a statutory protected drinking water catchment area (The Water Environment (Drinking Water Protected Areas) (Scotland) Order 2013) during construction of the Whitelee windfarm Extensions and failed to follow the advice of its own environmental consultants to continue to monitor groundwater on the original windfarm site in view of the recorded adverse quality changes and the appearance of significant levels of synthetic semi-volatile and volatile chemical compounds in groundwater.

Given that there has been no continued monitoring of Private Water Supplies, which only occurred between 2006 to 2012, and taking SEPA's comment of '*in order to determine whether it is satisfied that the request has demonstrated in a plausible manner that **environmental damage or an imminent threat of such damage exists***' - Dr Connor has requested clarification as to whether SEPA will be judging whether pollution of drinking water supplies and the hydrological environment which occurred in the past, during the windfarm construction which ceased four years ago, will be judged by examining monitoring results from the present (if such results for groundwater and PWS became available). There is a danger here from SEPA's comments to Dr Connor (quoted above), that the use of semantics will obscure the actual evidence of previous harm to the hydrological environment and damage to public and private water supplies from the multitude of monitoring results conducted by Scottish Water, SEPA and the developer, as well as Glasgow University between 2005 to 2009.

The effects of the bacterial water pollution are likely to have caused or contributed to recorded illness in the consumers of those private water supplies at that time. The effects of chemical contamination on those water supplies and consumers are unknown and may occur in the future, but the change in the public raw water quality from the Whitelee site has led to Scottish water **abandoning** two reservoirs and a recently upgraded water treatment works in favour of bringing 'clean water' to the area from over 20 miles away, at a cost of £120 million pounds to the taxpayer.

However SEPA decides to assess plausibility, it is clear that adverse effects on human health and finances **did occur**, which coincided with the building of the adjacent, single largest construction project in Scotland at the time.

SEPA also points to the fact that their report is yet to be concluded and that alarmingly, **there is no time frame in which they are obliged to provide an answer**. So we still do not know by what 'yard stick' SEPA measures environmental damage; whether this relates to a peat slide that occurs today, or a current change in water quality or quantity in response to a precipitating event more than 5 years ago. SEPA was also given the responsibility of answering a 'Request for Action' relating to water contamination and pollution issues by the Scottish Government. Attached is a response from SEPA to the 'Request for Action.' Not only are all the areas of alleged contamination acknowledged, but it demonstrates the length of time they are taking to do anything about it. SEPA is therefore neglecting the potential for harm in current developments and are ignoring:

Environmental Liability Directive (ELD) 2004/35/CE Article 5:

'Preventive action

1. *Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures.*
2. *Member States shall provide that, where appropriate, and in any case whenever an imminent threat of environmental damage is not dispelled despite the preventive measures taken by the operator, operators are to inform the competent authority of all relevant aspects of the situation, as soon as possible.*
3. *The competent authority may, at any time:*
 - (a) *require the operator to provide information on any imminent threat of environmental damage or in suspected cases of such an imminent threat;*
 - (b) *require the operator to take the necessary preventive measures;*
 - (c) *give instructions to the operator to be followed on the necessary preventive measures to be taken; or*
 - (d) *itself take the necessary preventive measures.*
4. *The competent authority shall require that the preventive measures are taken by the operator. If the operator fails to comply with the obligations laid down in paragraph 1 or 3(b) or (c), cannot be identified or is not required to bear the costs under this Directive, the competent authority may take these measures itself.*

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy:

Whereas:

(1) Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such.

(11) As set out in Article 174 of the Treaty, the Community policy on the environment is to contribute to pursuit of the objectives of preserving, protecting and improving the quality of the environment, in prudent and rational utilisation of natural resources, and to be based on the precautionary principle and on the principles that preventive action should be taken, environmental damage should, as a priority, be rectified at source and that the polluter should pay.

(14) The success of this Directive relies on close cooperation and coherent action at Community, Member State and local level as well as on information, consultation and involvement of the public, including users.'

Of importance is also: the EU Water Framework Directive (2000) with any later amendments, and judgments/rulings etc. in relation to them. Of relevance is the recent EU court case on Bulgaria (see <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62014CA0141&from=EN>), http://ec.europa.eu/environment/water/water-framework/index_en.html and http://ec.europa.eu/environment/water/participation/map_mc/countries/bulgaria_en.htm

That the majority of informed people would not choose to live in proximity to turbines for many reasons is clear. **However, once alerted to recognised reports of ill effects, a primary reason would be the potential risks to their health and that of their families.**

Who and what is more important – people living in communities forced to endure avoidable health problems - or the zealous pursuit of renewable energy targets to the exclusion of all other

considerations, including the stated WHO goal that all people have a right to an adequate supply of clean safe drinking water?

It is clear that serious life threatening mental health consequences (i.e. suicide) of prolonged exposure to wind turbine noise as well as the acute cardiac effects including Tako Tsubo heart attacks are the biggest underestimated and underreported problems in terms of severity (and indeed may be multifactorial) but there are many other less "acute" problems which are much more common, and which predictably result from sleep deprivation and chronic stress (impaired immunity resulting in increased cancers and severe chronic infections, depression and anxiety, diabetes to name just a few).

The effects seen worthy of urgent consideration can be seen listed below:

1. Clinical medicine and the peer reviewed literature has long known that both chronic sleep deprivation and chronic stress (physiological and psychological) are detrimental for long term physical and mental health. One useful recent meta analysis which proves the association with cardiac illnesses and sleep deprivation is by Capuccio et al (see <http://wauubrafoundation.org.au/resources/sleep-duration-predicts-cardiovascular-outcomes/>) and other illnesses associated with sleep deprivation are also listed.
2. The effect on children and growing brains from wind turbine noise exposure especially at night is not specifically known, but unlikely to help their growth and development; see Dr Calvert's letter from Ontario for example (attached). Dr Nina Pierpont documented carefully the impacts on a cohort of children living in the families who had to leave their homes because one or more family member was badly affected - and it is clear that there are adverse impacts on both their sleep and their cognition and for some children there are other disabling symptoms; see here for Dr Nina Pierpont's study and the raw case data with the details for each child: <http://wauubrafoundation.org.au/resources/dr-nina-pierpont-submission-australian-senate-inquiry/> This carries particular weight because Dr Pierpont is a trained and practising paediatrician.

Professor Mariana Alves Pereira's work raises the issue of ILFN associated tissue damage from Vibro Acoustic disease, which has been confirmed in both humans and animals living near wind turbines, and in children exposed to other chronic sources of ILFN as well. This entirely justifies Professor Alves Pereira and Dr Nuno Castelo Branco's description of ILFN as a pathological agent. Wind turbines are an important and growing source of ILFN. (see <http://wauubrafoundation.org.au/resources/low-frequency-noise-presentation/> for a useful summary).

3. Suicide risk (eg for people badly affected by the noise, and people with pre existing Post Traumatic Stress Disorder) This has been a particular problem which was made public at Falmouth for a couple of residents: - this one is a letter from Barry Funfar. <http://www.windturbinesyndrome.com/2010/%E2%80%9Ci-am-not-the-only-one-who-has-had-suicidal-thoughts%E2%80%93triggered-by-this-turbine%E2%80%9D-massachusetts/> and this one is a good summary and shows how he has been treated : <http://www.windturbinesyndrome.com/2013/the-hero-the-story-of-an-extraordinary-man-mass/>

Here is another about an attempted suicide by someone else, also from Falmouth but that was not disclosed in the article :

<http://www.windturbinesyndrome.com/2012/jenny-took-enough-pills-to-end-her-life-the-true-story-of-a-wind-turbine-syndrome-victim-falmouth-ma/>

4. Sudden death from heart attacks which are either caused by an acute physiological stressor (Dr. Laurie strongly suspects an acute adrenaline surge in some cases) OR from the cumulative effect of sleep deprivation (note the Capuccio meta analysis above).

There have been credible public and private reports of sudden Tako Tsubo heart attacks in both Australia and Ontario - in the case of Australia there have been some from mining ILFN exposure in a quiet country environment, and also with exposure to operating wind turbines at two locations I am aware of. The usual precipitant is a "sudden severe emotional shock" but in none of these cases was such a precedent present. Bill Palmer, an Ontario Engineer, has mentioned his concerns about this in his letter to the AMA in Australia - <http://waubrafoundation.org.au/resources/palmer-william-ama-position-statement-not-consistent-with-code-ethics/>

Other pathology caused directly by an unexplained adrenaline surge is suggested by the diagnosis of acute hypertensive crises (again without the known antecedent of an adrenal tumour). These cases have been reported in both Australia (Waubra) and Ontario.

The human misery caused by the torture of chronically interrupted sleep is not as "dramatic" as the acutely suicidal patient, or someone with a Tako Tsubo heart attack, but is terrible in its impact - captured very well by both the descriptions of Dr Sandy Reider from Vermont (see his testimony to the Vermont Legislature - <http://waubrafoundation.org.au/resources/dr-sandy-reider-testimony-calls-for-moratorium-wind-farms/> for a very good description of what the sleep disturbance is like) and also by Dr William Hallstein from Falmouth, USA (previously mentioned).

It is respectfully suggested that the WHO urgently addresses the issues presented above, including the need to put the health of people dependent on what is a basic need for life, **clean water**, before binding climate change targets, which the Scottish and other Governments around the world pursue zealously to the exclusion of all else. Readers of this letter will note controversy raging between experts on many aspects of this subject, including the inevitable dismissals and counter claims – as in the whole debate on climate change. Those seeking the truth can be assured that where this aspect differs is that there is now, **beyond any reasonable doubt**, enough evidence for the rapid return to the 'precautionary principle' currently missing.

No governments or decision makers have the right to inflict upon the populations they are elected to serve, policies which have the potential and capacity to cause harm. There is a duty of care which is both irrefutable and morally sacrosanct.

Yours sincerely,

Mrs. V.C.K. Metcalfe. Community Councillor. Argyll. Scotland.

Enclosures:

- Dr. Hanning Comments. pdf.
- Human Rights and Wind Energy. pdf.
- Stephen Cooper Article.pdf.
- Soundscape of Wind Farms. Pdf.
- Open letter to Sir Sabaratnum A. pdf.
- Letter from SEPA re. RfA pdf.