

Blaen Bran  
Felindre  
Llandysul  
Carmarthenshire  
SA44 5XT  
01559-371274



2<sup>nd</sup> February 2006

Mr E. W. Bowen  
Head of Planning,  
Carmarthenshire County Council  
40 Spilman Street,  
Carmarthen,  
SA31 1LQ

Ref :- Objection to Planning Application No W/09828

Dear Mr Bowen,

The Blaen Bowi Action Group has been formed to enact a formal communication channel between local residents, Carmarthen County Council, and other interested parties concerned with the wind farm development known as Blaen Bowi Wind Farm, Capel Iwan, near Newcastle Emlyn.

This letter represents the formal objection from the Blaen Bowi Action Group, in respect to the current planning application for the extension to the existing wind farm at Blaen Bowi, Capel Iwan, application No. W/09828.

Many of the following issues contained within this documented objection, are borne from real experiences, and are as a direct result of interaction with the existing three turbines which have been sited on the hill of Moelfre for some 3 years. Therefore they represent facts, not "opinions or claims", nor predictions or estimates, but real facts.

We ask that you consider all the detailed issues and to recommend refusal of this application.

The Blaen Bowi Action Group Object for the Following Reasons.

1. **Noise Issues** [ See pages 2-5 ]
  - A] **Airborne Radiated Energy**
  - B] **Seismic Radiated Energy [ Infrasound ]**
  - C] **Noise Nuisance and Disturbance – Tonal Noise**
2. **Health Issues** [ See pages 5-7 ]
3. **Television Reception Interference** [ See pages 7-8 ]
4. **Visual Amenity** [ See pages 8 – 12 ]
5. **Shadow Flicker** [ See page 12 ]
6. **Property Devaluation** [ See pages 12 – 13 ]
7. **Public Health and Safety** [ See pages 13 – 18 ]

## 1. Noise-

The term noise is defined as irregular fluctuations accompanying a transmitted signal, and is more simply understood when called radiated energy.

When in relation to wind farms, *noise* is then divided into two simple forms of radiated energy; airborne radiated energy and seismic radiated energy.

The study of these energies is extremely complex, and requires an acute, intense understanding of many science and mathematical disciplines which are then needed to interpret the end product of which we all know as noise.

Because of the complexity and subsequent controversy relating to this subject, this section needs to be divided into three, so as to define and clarify three separate points of objection which are; Airborne radiated energy (audible noise), Seismic radiated energy (infrasound / in-audible noise) and Nuisance and disturbance.

### *A)-Airborne Radiated Energy*

The existing wind farm installation at Blaen Bowi has generated many letters of complaint with regard to the type of noise that one can hear, audible noise or air-borne radiated energy, that is and has, emanated from the wind turbines at this site.

This has given grave cause for concern, considering that these letters of complaint are from residents who live within and up to, a radius of at least 2 kilometres from the site of the existing wind farm.

The concerns are compounded by the fact that the developers and their associates, along with and including publications and promotions from the British Wind Energy Association, state categorically that no significant noise is emitted from modern turbines, and any noise that is reported is mainly down to personal perception.

As was stated in the opening paragraph of this letter, the details and make-up of the experiences with the existing wind farm development are borne from facts, not perceptions; representatives from Carmarthenshire County Council have witnessed the noise problems.

Given that the noise and it's effects that these residents suffer in spite of the guidelines and advice laid down in "*The Working Group on Noise from Wind Turbines (1996)- Assessment and Rating of Noise from Wind Farms (ETSU-R-97)*", it is clear that an extension to the existing wind farm by a further three turbines, will have a cumulative effect, therefore exacerbating their problem.

The site of Blaen Bowi wind farm and its proposed extension is topographically and geographically extraordinary in its make up. The geographical features of the hill that the site stands on, present anomalies which are not covered by the DTI publications "*The Working Group on Noise from Wind Turbines (1996)-Assessment and Rating of Noise from Wind Farms (ETSU-R-97)*" ( these guidelines are published form information gathered as a result of scientific measurements carried out in controlled environments

with noise emissions at heights of 10metres generated over flat, linear surfaces, not deep cut glacial valleys as in the Moelfre topography.) . This is supported by new scientific evidence from Professor Van den Berg of Gronnigen University, Netherlands, (who was a contributing author of the DTI compilation "*Wind Power in the UK, 19th May 2005*), as per a report to the DTI & Sustainable Development Commission.

Faced with this fact, the guidelines laid down within ETSU-R-97 cannot be used for this geographical siting, and it makes the proposed development and positioning of the extension of three extra wind turbines at Blaen Bowi inappropriate, by default, as the current planning criteria and the TAN 8 criteria cannot be met in full, as laid down within **Policy CU5 Carmarthen District Local Plan:- Wind Energy Development (e).** "**proposals should not lead to a significant increase in noise levels to the detriment of nearby residents;**" However, the existing turbines have lead to a significant increase in noise levels, in spite of planning permission and or consent conditions laid down by Carmarthenshire County Council Planning Department clearly, to the detriment of nearby residents, therefore, the proposals for an additional three turbines at Blaen Bowi wind farm, would certainly lead to a further significant increase of *unacceptable* noise levels, to the detriment of nearby residents.

Because of the complaints from local residents regarding the audible noise, the Environmental Health Department of Carmarthen County Council have instigated an investigation into the situation.

It is the understanding of the Blaen Bowi Action Group, that some noise monitoring has been undertaken at two properties near to the wind farm.

Although concerned with the existing wind farm installation, we (the action group) feel that the recent monitoring and the subsequent findings will have a bearing on the current application.

#### *B) - Seismic radiated energy (Infrasound)*

This subject, when called by its 'common name' of *infrasound*, seems to cause many people to retract in disbelief of its existence or, appears to make people very dismissive of the effects that this form of energy has on the human being and dwellings.

Such structures as wind turbines, individually and collectively absorb and re-radiate wind energy at all times.

Various attempts to forecast various selected aspects of this total dissipation have been made by both the manufacturers and their preferred consultants.

Real measurements have undoubtedly been made, but are hard to come by, as 'commercial confidence' issues are invoked.

Presumably such figures were properly available to the Carmarthen County Council's planning officers and the adjudicating committee when they overturned the recommendations of there own experts in granting planning permission for the erection of the wind farm at Blaen Bowi in January 2001.

Our government has imposed a seismic sanitary radius of 50km around subterranean nuclear test sensing sites.

Sufficient academic papers warn of the effect of low level continuous summated neural stimulation upon a selected portion of the exposed population. The research is variously on hand.

If the received level of such summated energy upsets sensing transducers; then the total neural effect on the more sensitive and pattern selective various and distributed peripheral organs of the human sensory system is likely to be obnoxious to some significant selected proportion of the population unable to escape.

Accordingly, the Carmarthen County Council would be wise to invoke the legal term of 'Precautionary Principle', and suspend all further wind farm developments; providing immediate and adequate compensation for those within a proper 'sanitary radius' of existing wind farms; unless of course, the council could provide dispassionate accepted research and actual measurements of the total radiated energy envelope against human neural sensitivities, to the contrary.

Because of the controversy regarding this subject, some local residents have commissioned their own investigations into seismic radiated energy using recognised methodologies, seismic equipment and paraphernalia specifically designed for this process. Results from these investigations are pending release.

We, the Blaen Bowi Action group object to the proposed extension of the existing wind farm at Blaen Bowi, as it would contravene **UT6 – Wind Energy, CDUP Pre-Inquiry Proposed Changes November 2003 :-**

***“ It is the policy of Carmarthenshire County Council that proposals for wind turbines, wind farms or groups of wind turbines will be permitted provided that the following criteria are met in full”;-***

***(v) Proposals should not lead to a significant adverse increase in risk or nuisance to, and impacts on the amenities of, nearby residents or other members of the public arising from wind turbine operation, shadow flicker, safety risk, radio or telecommunications interference;***

***(vi) No turbine should cause demonstrable harm to, have an adverse effect on the amenity of any residents.***

B] - Noise nuisance and disturbance

Since the Blaen Bowi wind farm has been operational, the noise that has emanated from it has been the cause of disturbance to nearby residents, constituting a significant nuisance.

This has been brought to the attention of the County Council, by individual complaints, some of which are the subject of an investigation by the public protection department.

The form of these complaints, have had a connecting thread, which shows that the disturbance has and is, of such significance, to adversely affect their day to day living and enjoyment of their own property.

This noise has various forms; sometimes a “whooshing” is experienced. This happens during the day, but is much more discernable during the night, when even with windows closed; one property’s owners experience a continuous “thwump” or pulsing sensation within their bedroom!

This pulsing sensation is also experienced by another property owner. When walking around their property, the pulsing, beating noise begins to cause a “heavy pressure”, which is “felt” rather than heard.

Another noise which gives cause for concern is a whining sound which comes from the turbines. This noise has been referred to by the noise consultant who is employed by the developer, as tonal.

During the current investigation which was instigated by the Environmental Health Department, and on the invitation of their officers, the developer’s noise consultant attended two properties, Blaen Bran and Plyg-y-Rhiw.

Whilst at Blaen Bran, the whining noise was very evident and was heard by the noise consultant and the Environmental officers. The consultant then stated, in the presence of these officers, that “they [the turbines] should not make that whining noise which is tonality noise “

The owners of Blaen Bran have suffered this noise since July 2002.

Once again, if an extension to this existing source of disturbance were to be approved, the increase of unacceptable significant disturbance would become unbearable.

Within the original planning application and part of the environment statement was a note from Nordex, the turbine manufacturers, that included the statement “tonal content – no clear audible tonal penalty “assuming that means no constant loud tonal noise then clearly that statement is not accurate and in our view therefore misleading as decisions were taken to erect these turbines taking into account this information.

Within the environmental statement for the current application is another document from Nordex which is rather confusing but considering that the original statements were not true, how can the current statements be accepted? Also, should not the existing tonal noise problem be resolved before any further development is considered?

The effect that living within such close proximity to a wind farm development has been highlighted by the case of at least one local family, who felt that moving away was the only option open to them as a means of escaping the source of the disturbance. However, this option is not a solution to the problem for all, for various reasons including the financial implications and family upheaval. This drastic response is totally unacceptable.

## **2 . Health Issues**

There have been many cases that have come to the fore, of local residents suffering from a range of health issues.

In each case, there is a similar range of symptoms and effects. It transpires that, each of those suffering, that we know of, live within at least 2 kilometres of the existing wind farm site of Blaen Bowi.

The symptoms include; severe headaches, nausea, palpitations, giddiness / dizziness, daytime somnolence and disrupted sleep patterns, minor epileptic episodes, severe lack of concentration and increased anxiety.

In each case, the symptoms, if taken individually or combined, could be explained by other medical conditions, *but*, the very nature of the amount of people suffering these symptoms and exhibiting their effects leads to more than a coincidence. Moreover, in each case, the people concerned did not exhibit or suffer these symptoms prior to July 2002, which is when the existing wind farm became operational (medical histories can be examined to support this information).

To all the residents who are suffering these symptoms, the effects are quite unbearable. In one case, a family has had to take the extreme measure of moving away from a farm, which has been occupied continuously, by several generations of the same family. This property is only 1 kilometre from the wind farm, and now that the people concerned have moved away, their health has improved with no continuation of the similar symptoms!

This is clearly an unacceptable measure to be forced to take to alleviate health problems which are sourced by an interloping factor. In many cases, other residents will not have this option to consider because of financial constraints, and frankly, the need for this option should not be necessary.

It has been scientifically and medically proven (*World Health Organisation*), that low-level frequency noise, *Infrasound*, has a dramatic effect on the human body. Even in small dose levels, these symptoms are exhibited by sufferers.

A GP in Cornwall, Dr Amanda Harry, has carried out research into the effects on the health of local residents living close to the Bears Down wind farm. Padstow, Cornwall.

Dr Harry stated that "*People demonstrated a range of symptoms from headaches, migraines, nausea, dizziness, palpitations and tinnitus to sleep disturbance, stress, anxiety and depression.*"

Dr Harry also commented, that "*low-frequency noise, travels further than audible noise, is ground-borne and is felt through vibrations. Some people are having to leave their homes to get away from the nuisance yet, despite their obvious suffering, little is being done to relieve the situation, and they feel that their plight is ignored*"

Similar problems have been found by Dr Bridget Osborne, a doctor in Moel Maelogan, a village in North Wales, where three turbines were erected in 2002.

She has presented a paper to the Royal College of Practitioners detailing similar circumstances with residents from her area.

In view of the information outlined within this letter regarding the sufferance of many local residents within the vicinity of Blaen Bowi Wind Farm ( Existing), and the current investigations of similar health problems among residents of other communities who live close by wind turbine installations in other parts of the United Kingdom and abroad, the Blaen Bowi Action group strongly object to any future development at Blaen Bowi Wind Farm including the current plans for extending the size of the wind farm by another three turbines.

The grounds for this objection are thus summarised;

There is serious and significant evidence to imply suspicion on the cause of numerous health complaints exhibited by local residents within the vicinity of the existing wind farm

at Blaen Bowi, to cite the cause and source of these health issues as the turbines at Blaen Bowi Wind Farm.

To increase the size of the wind farm by a further three turbines without a thorough and detailed independent medical and scientific investigation and inquiry could cause further harm and therefore be seriously prejudicial to the health and well being of local residents.

This therefore, would be in contravention to the policies of Carmarthen County Council We, the Blaen Bowi Action group object to the proposed extension of the existing wind farm at Blaen Bowi, as it would contravene **UT6 – Wind Energy, CDUP Pre-Inquiry Proposed Changes November 2003 :-**

***“ It is the policy of Carmarthenshire County Council that proposals for wind turbines, wind farms or groups of wind turbines will be permitted provided that the following criteria are met in full”;-***

***(v) Proposals should not lead to a significant adverse increase in risk or nuisance to, and impacts on the amenities of, nearby residents or other members of the public arising from wind turbine operation, shadow flicker, safety risk, radio or telecommunications interference;***

***(vi) No turbine should cause demonstrable harm to, have an adverse effect on the amenity of any residents.***

### **3, TV Reception Interference**

Many residents still have problems with their TV reception due to the turbines at the Blaen Bowi Wind farm.

Many residents that are affected are elderly, who will not make an official complaint even though television is their main form of entertainment.

Following a petition of complaints regarding this issue, WindJen did pay for some residents to have new aerials, but, it does not prevent some interference.

Unfortunately there are many residents in Newcastle Emlyn, Felindre, Saron and Rhos for example, who continue to have interference caused by the wind farm.

WindJen also claim that many residents now receive channel 5 due to the changes instigated by them. Unfortunately, this is not an accurate statement.

Considering the existing problems caused by the Blaen Bowi Wind farm, it is clear that an extension to the wind farm of a further three turbines, will create significantly more problems of interference with TV reception. Residents should not have to suffer these problems and it is clearly in contravention of the policies of Carmarthenshire County Council.

We, the Blaen Bowi Action group object to the proposed extension of the existing wind farm at Blaen Bowi, as it would contravene **UT6 – Wind Energy, CDUP Pre-Inquiry Proposed Changes November 2003 :-**

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**public arising from wind turbine operation, shadow flicker, safety risk, radio or telecommunications interference;**

***(vi) No turbine should cause demonstrable harm to, have an adverse effect on the amenity of any residents.***

#### **4. Visual Amenity-**

The landscape of West Wales has changed dramatically over the last 300,000 years. This process has created the hills, mountains, shallow and deep cut valleys, along with other geographic and topographic wonders which have come to represent all that is Wales.

With the advent of the present inter-glacial period nearly 15,000 years ago, the dramatic changes which preceded it have slowed down to a gentle crawl.

Over the last 6,000 years, man has modified, segmented and built upon this landscape to mould it and to yield to his own needs, leaving indelible marks in the form of burial mounds and structures.

Industrialisation has left its mark too; deforestation for various needs; Intense sheep farming for the woollen industry; mining for metals, minerals and coal; Just a few of the ways that man has industrialised the land and left scars and indents.

Because of these scars and indents, we have learnt by past mistakes and errors that these can and will despoil the wonderful landscape which we have grown to love, and now supposedly try and protect. These have caused us to quantify our resources and protect our landscapes and views, and to recognise the amenity value that they hold for all of us.

With this in mind, in order to protect the landscapes which we now hold so dear and which we also treat as assets for encouraging tourists, many different planning laws and guidelines have been devised and implemented to protect the landscape amenity of which we now have.

Most of the buildings and structures which we have now are in keeping with the local environs. Their shape, form, size and scale, are regulated by these rules and guidelines which are there to work on our behalf.

The erection of 46m high white structures with rotating blades is not in keeping with the local environs. This has been demonstrated with effortless ease by the three structures which are already in existence on the hill of Moelfre (Blaen Bowi). These three structures are prominent on the sky line and spoil the silhouette of one of the highest points within at least a 10 kilometre radius.

In December 2000, the head of planning for Carmarthen County Council recommended refusal for the three turbines because the development contravened;

EN 3 Dyfed Structure Plan

EN 18 Dyfed Structure Plan

CU 4 Carmarthen District Local Plan

CU 5 Carmarthen District Local Plan

CC 7 Carmarthen District Local Plan

W 2 Dyfed County Council Supplementary Planning Guidance

W 4 Dyfed County Council Supplementary Planning Guidance

Now 2005, some of these policies have been renamed and or have been superseded by new documents and policies. But, in the whole, the policies and their content are still pertinent and relevant to this current application.

The argument of renewable energy is not in question here. We, The Blaen Bowi Action Group, are like the majority of the population, fully aware of the need for renewable energy projects; we know that we owe it to ourselves and our future generations to protect what we have now and for what we will need for our future, but at what cost?

The economic history of Wales has been extremely chequered in its history. West Wales population expanded due to industrial growth in the past. Farming for foodstuffs; milk, lamb and mutton; wool and timber, coal and metals, all have had lasting effects on the landscape and the people who survive on it. Economically, the majority of these have declined over recent years. West Wales' main source of income and the source of economic growth is now tourism. Time and time again, Carmarthenshire County Council have been at the forefront of advertising campaigns and other forms of promotion advocating tourism, the need to sell our beloved countryside, rolling hills and unspoilt wilderness areas to the tourist.

Recently, Carmarthenshire has been quoted as being "The Garden of Wales" an accolade which we all, who live in Carmarthenshire and its surrounding areas, are proud.

The Blaen Bowi Action Group posted a petition towards the middle of last year. Admittedly the very nature of the petition was in its essence against the erection of any future turbines, but, it was aimed at local people only and it wasn't well publicised. It was only posted in five locations and for a short period only.

The end result was quite an eye opener. The petition contained various comments from different local people; some expressing there disgust at the turbines, some expressing there frustration at the possibility of an extension to the site, and a handful of people in favour of them.

One entry on the petition which was posted at the Petrol Station at Pensarnau, near Newcastle Emlyn stands out. The entry is from a couple who were on holiday from Pontypridd at the time visiting this area, it reads; "Don't want to see these when on holiday"!

Unfortunately, it would be extremely difficult to interview every tourist who visits this area to get their opinions documented, but from an unpublicised local petition, having a comment like that is quite an eye opener.

How many other tourists may feel the same? Will that couple return to the area again? Will they use the many Bed and Breakfast / Hotel establishments again?

The local tourism industries rely heavy on the tourist as their main form of income. This spills over and has a knock on effect with other industries such as restaurants, public houses, petrol filling stations, gift shops and many more along with the suppliers of stock.

The local economy could be seriously affected. This comment from a tourist is connected to the existing Blaen Bowi wind farm, Imagine how it will be if the existing wind farm at Blaen Bowi where to be extended by an extra three turbines? A cumulative effect comes into play if the Blaengwen Wind Farm is given an approval at appeal along

with the Rhos Garn development just across the border in Ceredigion, which is only a few kilometres away?

The effects would be quite devastating on a community which is largely dependent on the income that tourism affords.

The holidaymakers that we turn away from our area because of the visual amenity that we are destroying with turbines, could quite easily decide to holiday abroad in say Spain or France or even further a field to the Americas'. This would necessitate the need to fly. Air travel has already been proven as the biggest contributor to global warming. What is the idea behind having renewable energy projects? To help counteract the effects of global warming.

These comments are based on a genuine concern regarding a negative impact on tourism due to the wind farm at Blaen Bowi.

The effects that the three existing turbines have on the existing caravan and touring site at Moelfryn, Capel Iwan need to be mentioned.

The owners of the caravan site attended a meeting of the Blaen Bowi Action Group. At this meeting, they expressed their frustration, disgust and alarm, that the County council allowed the existing structures to be erected, and have expressed similar feelings at the prospects of having the wind farm extended by a further three turbines. They have stated that their business has shown the effects of having the existing turbines in operation.

Prior to the turbines being erected in 2002, clients would re-book after a visit to their site, as their stay was enjoyed so much because of the peace and tranquillity along with the outstanding scenic views.

Now, since the erection of these turbines, clients are now not re-booking. Clients have commented to the owners that their peace has been "Shattered" and their "sleep disturbed" and that over all their visual amenity is impaired and or destroyed.

As I am sure you would agree, this must be very worrying for the owners, and one can appreciate their alarm at the prospects of having three more turbines sited on the hill above their caravan site.

On the south western flank of Blain Bowi wind farm, is another caravan park, the Cwmgelli Farm Caravan Park.

This is now a "ghost village" of caravans. It begs the question as to why the caravan park is now non-operational. Were the owners and operators of the park put out of business by the erection of the wind farm? Were they bought out or offered some form of financial recompense from the developers to cease trading so as to ease the way for the development? Or were they prudent enough to get out while the going was good or may be some other reason?

Although some of these statements may be pure conjecture, armed with the knowledge of how the caravan site at Moelfryn is being affected, it does appear to be a big coincidence that Cwmgelli is now defunct!

The tourist industry is only one face of this massively multi-faceted description and use of the term *Visual Amenity*.

Personal visual amenity is also affected by this wind farm.

There are various properties whose visual amenities are significantly affected by the existing wind farm of Blaen Bowi on Moelfre.

There is however, one property whose visual amenity is severely affected by the wind farm, Blaen Bran.

The owners of Blaen Bran, also members of the Blaen Bowi Action group, have continually sought communication and answers in general with the Carmarthen County Council and the developers WindJen, since the erection of the existing wind turbines in 2001, but alas with very little satisfactory outcome (although at the time of writing, communication channels have been opened with the County Council).

Their visual amenity has been affected to such a degree, that their property has devalued by a considerable some because of the significant effects of the wind farm.

The owners of Blaen Bran have expressed their total frustration and anger that they are so significantly affected by the turbines, that they are experiencing extreme difficulties in carrying out their chores and tasks around their property.

The owners have sought professional advice and applied for various financial grants and bursaries to carry out woodland regeneration projects on their land. This was to aid their objective of returning their woodland back into indigenous Welsh wet woodland.

This would entail extensive woodland work such as woodland thinning and tree planting schemes to achieve this goal.

Unfortunately, they have been hindered significantly in undertaking this work due to the various effects of the wind farm, such as noise disturbance and severe visual intrusion which has impeded the owners in spending valuable time upon their property.

When attending the property at Blaen Bran, one is almost immediately struck by the very essence of a Welsh country cottage small holding. Breathtaking views of outstanding natural beauty are presented in the form of a panoramic vista over the depths of the Teify Valley and the hills and mountains beyond. It becomes immediately apparent why someone would want to move to this property and a major contributory factor as to why the owners decided to move there.....the epitome of *visual amenity*.

You can then begin to understand the term *loss of visual amenity*, when you are met with the immediate shadow of the wind turbines at Blaen Bowi, which is only a little over 700 metres away.

Virtually all three of the existing wind turbines are fully in view when standing at over 60% of their property.

On warm summer days, when the optimum time for relaxation and recreation need to be taken advantage of by sitting or entertaining on their patio or in their garden, the owners find it extremely difficult to relax, as the view of the turning turbines is so distracting that they decide to retire or feel that they have to get away from their property to escape the

significantly overpowering turbines. This is only if the turbines are not making any noise, as this in itself impedes their enjoyment of their property!

Theirs' is not the only case of loss of visual amenity, but is the best example to explain the real meaning and definition of the term.

Many other properties are also affected; properties which lay on all aspects of the hill of Moelfre, from Penboyr, to Saron; from Maudlands to Capel Iwan, the effects are the same, **Loss of Visual Amenity**.

## 5. Shadow Flicker

The environment statement refers to assessment of the potential for shadow flicker to properties within 600 metres of the turbines. This is a misleading statement as residents in property further than 600 metres from the existing wind farm of Blaen Bowi, suffer with shadow flicker. At Blaen Bran which is similar to another local property, they get shadow flicker at times but the house is 750 metres from the nearest turbine, it seems that the report gives the impression that you cannot get shadow flicker beyond 600 metres, Clearly another inaccurate claim contained within the environmental statement which accompanies the current planning application.

Example from Blaen Bran;-

*“At times when sitting in the lounge you can see the shadow of the turbine blades turning, although this is the opposite side of house to the turbines. When the sun is in a certain position e.g. summer evenings, the blades cause a flickering which affects the eyes and is very annoying so that the blinds in the lounge must be shut; and also shut the bathroom door [ window facing the turbines ] as the flickering comes as such, down the stairs. This flickering is also in the rear bedrooms.”*

Why should people have to suffer with shadow flicker?

A similar scenario is repeated at Penrallt Farm, which is over 1km away from the wind farm. At this property, the environmental statement fails to acknowledge any form of problem. Surely this is misleading?

We, the Blaen Bowi Action group object to the proposed extension of the existing wind farm at Blaen Bowi, as it would contravene **UT6 – Wind Energy, CDUP Pre-Inquiry Proposed Changes November 2003 :-**

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## 6. Property Devaluation

The Royal Institute of Chartered Surveyors published a report in 2004 / 2005 *Impact of wind farms on the value of residential property and agricultural land*.

This document was designed to be a study of the possible implications of wind farm developments within proximity to housing, and is not a document which was intending to give any political message, for or against.

Contained within this report, is sufficient evidence to call into doubt the claims by the BWEA, Wind Farm Developers, and other exponents of wind turbines, who all claim that there is no negative impact on property prices.

60% of surveyors across the UK report a negative effect.

40% of surveyors across Wales report a negative effect.

One example of how properties are affected is that of District Judge Michael Buckley, referring to a house in Marton, in the Lake District; - "*Wind farms can ruin the peace of the countryside and destroy the value of nearby homes*", the judge ruled.

The ruling was the first of its kind and damages the wind energy industry's assertion that it is "*a myth*" that property prices are affected.

The judge said "*that the noise, visual intrusion and flickering of light through the blades of turbines reduced the value of a house by a fifth*"

"*The effect is significant and it has a significant effect on the property*" he said. "*It is an incursion into the countryside. It ruins the peace*".

Homes local to Blaen Bowi have already lost value due to the existing wind farm; additional turbines will result in a more severe reduction in the value of those properties most affected.

We, the Blaen Bowi Action group object to the proposed extension of the existing wind farm at Blaen Bowi, as it would contravene **UT6 – Wind Energy, CDUP Pre-Inquiry Proposed Changes November 2003 :-**

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We understand that County Councils have reduced the council rates for properties close to wind farms.

## **7. Public Health and Safety**

A cause for great concern is the proximity of the nearest turbine to the B4333.

The existing turbine is approximately 100m away from this road.

Although not an A class trunk road, the B4333 is a very busy *main* road.

It carries a variety of vehicles, from local traffic; small cars and tractors and farm machinery, to heavy goods vehicles and through traffic, enough to class it as a main road by any standards.

Written within the ES (10.4.2.3), this states; Indeed, the British Wind Energy Association (BWEA) report that; *“In over twenty years of operating experience and with more than 50,000 machines installed around the world, no member of the public has ever been harmed by wind turbines”*

This statement is extremely misleading and intended to suffuse and suppress any doubt in public opinion and perception toward wind farms.

Since March 2005, there have been at least three major incidents involving wind turbines within the UK, as far as we know. This does not include the rest of the world!

One incident involved a turbine at Crystal Rig wind farm in Scotland, where a turbine (identical to that at Blaen Bowi!) shed a blade which had shattered due to high winds. The wind speeds at the time of the incident were similar to that which is experienced at Blaen Bowi, and sometimes stronger.

The debris from this turbine spread over a considerable distance, and it is only by pure fortune, that no one was injured on this occasion, as the turbine was sited away from any right of way or road or any dwelling.

Another turbine at a wind farm in Scotland caught fire. This happened just before Christmas 2005, and was referred to as a freak accident!

Just after Christmas 2005, another accident happened with a turbine at the Cold Northcott wind farm, Launceston, Devon. This wind farm is in close proximity to the A 395, which had to be closed while the incident was being dealt with. Another freak accident? Another rare occurrence?

It was extremely fortuitous, that no member of the public was injured or killed in any of these incidents; moreover, it was extremely lucky!

It is becoming more evident, that having such large operational structures with such huge moving parts within close proximity to roads, public highways or dwellings, is dancing with risk

If this was to happen to the turbine which is nearest the B4333 at Blaen Bowi, the potential risk to loss of life or injury could be catastrophic, therefore we, the Blaen Bowi Action group object to the proposed extension of the existing wind farm at Blaen Bowi, as it would contravene ***UT6 – Wind Energy, CDUP Pre-Inquiry Proposed Changes November 2003 :-***

***“ It is the policy of Carmarthenshire County Council that proposals for wind turbines, wind farms or groups of wind turbines will be permitted provided that the following criteria are met in full”;-***

***(v) Proposals should not lead to a significant adverse increase in risk or nuisance to, and impacts on the amenities of, nearby residents or other members of the public arising from wind turbine operation, shadow flicker, safety risk, radio or telecommunications interference;***

***(vi) No turbine should cause demonstrable harm to, have an adverse effect on the amenity of any residents.***

## **Driver Distraction**

The Blaen Bowi wind farm site has no major A class roads within approximately 5km. This has been very clearly stated within the environmental assessment (ES) (paragraphs 10.4.2.10 - 10.4.2.13 respectively), which accompanies the current planning application. However, what the assessment quite clearly misses out is that an existing turbine is sited only 100m away from the B4333, Cynwyl Elfed – Newcastle Emlyn road.

This road, the B4333, although not classed as an A road, has significant amounts of traffic driving on it during the course of any 24hour period. It is used as an alternative to the A484, but the traffic levels are very similar and it is used as a more direct means of travelling between Cynwyl Elfed and Newcastle Emlyn.

Since the erection of the existing wind farm at Blaen Bowi, there appears to be a significant increase in the amount of accidents along this road, with a high proportion of these near the wind farm.

Since the wind farm has been erected, local residents who live on a small lane which skirts the wind farm on its northern side, have reported an increase of periods of diverted traffic, due to the accidents on the top road.

There is no evidence at present to suggest a cause for this 'phenomena', whether the siting of one of the wind turbines and its proximity to the road has any bearing on this, but, the Blaen Bowi Action Group are concerned that some, may be due to driver distraction and we would request that your office investigates further by asking the opinion of the local police.

At present there is only one turbine which lies' approximately 100m away from the road. If the application is granted to extend the wind farm by a further three turbines, there will then be three turbines within close proximity to the road.

Although coincidental in appearance at this stage, would it not be wise to halt any further development at this site until dispassionate proof is collated to dispel this theory?

## **Accident Data**

The environmental statement includes comments that indicate that turbines are completely safe and no evidence to date in the history of wind farm development of distraction impacts to vehicle drivers. We do not believe this statement to be accurate.

The following is data taken from the Caithness Wind farm Information Forum which we have included for your information.

### **Caithness Wind farm Information Forum**

#### **Wind Turbine Accident data to December 31 st 2005.**

*These accident statistics are copyright Caithness Wind farm Information Forum 2006. The data may be used or referred to by groups or individuals, provided that the source (Caithness Windfarm Information Forum) is acknowledged and our URL quoted at the same time. Caithness Windfarm Information Forum is not responsible for the accuracy of Third Party material or references.*

The attached table includes all documented cases of wind turbine accidents which could be found and confirmed through press reports or official information releases up to 31 December 2005. The wind industry is extremely

reluctant to make such data available, and because of this, data has been extremely difficult to obtain. Several Consultants from the UK and US wind industry have confirmed difficulty in obtaining such data, and CWIF believe that this compendium of accident information may be the most comprehensive put together to date.

Data in the detailed table attached is by no means comprehensive – it has little data from Denmark and Holland – two of the biggest wind turbine operators in the world. CWIF believe that what is attached may only be the “tip of the iceberg” in terms of numbers of accidents and their frequency. However, the data gives an excellent cross-section of the types of accidents which can and do occur, and their consequences.

It is noticeable that since about 1999/2000 data has been easier to find – presumably since the wide distribution of media via the internet. Numbers of accidents in the data reflect this, with an average of 30.1 accidents found per year from 1999 to 2004 inclusive, and only an average of 5.0 accidents found per year in the previous nine years (1990-1998 inclusive). With few exceptions, before about 1997, only data on fatal accidents has been found. Hopefully, future legislation will require operators to report all fatal and near miss accidents on an annual basis, as with other industries.

Data attached is presented chronologically. It can be broken down as follows:

### **Number of accidents**

Total number of accidents: 273

By year:

|      |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Year | 70s | 80s | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 |
| No.  | 1   | 8   | 2  | 1  | 3  | 3  | 3  | 3  | 9  | 16 | 5  | 32 | 25 | 11 | 52 | 32 | 33 | 34 |

### **Fatal accidents**

Number of fatal accidents: 34

By year:

|      |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Year | 70s | 80s | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 |
| No.  | 1   | 8   | 2  | 1  | 1  | 1  | 1  |    | 2  | 4  |    | 1  | 3  |    | 1  | 3  | 2  | 3  |

Fatal accidents include 4 transport/driver distraction accidents and 2 unconfirmed accidents from 1996.

These resulted in 35 fatalities:

- 29 were wind industry workers (maintenance/engineers, etc). Most common cause - falls from turbines.
- 6 were public fatalities, of which three were from road accidents attributed to “driver distraction of turbines” by police, one was from a road accident in which a driver was killed in collision with a turbine transporter, one was from an aircraft accident which hit a new and unmarked anemometer, and the remaining accident was the collision of a parachutist with a turbine.

### **Human injury**

A further nine accidents regarding human injury are documented. Six accidents involved wind industry workers, and a further three involved members of the public. One was hit by thrown ice, one fell from 100m metre tower during an accompanied visit, and one flew his aircraft into a windfarm site.

### **Blade failure**

By far the biggest number of incidents found were due to blade failure. “Blade failure” can arise from a number of possible sources, and results in either whole blades or pieces of blade being thrown from the turbine. A total of 91 separate incidences were found:

By year:

| Year | 70s | 80s | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 |
|------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| No.  |     |     |    |    | 1  | 1  | 1  | 3  | 3  | 6  | 1  | 18 | 3  | 5  | 15 | 11 | 14 | 9  |

Nine incidents were reported in 2005. This data makes nonsense of the operator's statement regarding "a one off event" for the incident at Crystal Rig, Berwickshire, Scotland.

Pieces of blade are documented as travelling over 400m, typically from much smaller turbines than those proposed for use today. In Germany, blade pieces have gone through the roofs and walls of nearby buildings. This is why CWIF believe that there should be a minimum distance of at least 1km between turbines and occupied housing – and preferably about 5km to address other problems such as noise.

### **Fire**

Fire is the second most common accident cause in incidents found. Fire can arise from a number of sources – and some turbine types seem more prone to fire than others. A total of 38 fire incidents were found in the data:

By year:

| Year | 70s | 80s | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 |
|------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| No.  |     |     |    |    |    |    |    |    |    | 1  | 1  | 2  | 3  | 1  | 16 | 6  | 3  | 5  |

The biggest problem with turbine fires is that, because of the turbine height, the fire brigade can do little but watch it burn itself out. While this may be acceptable in reasonably still conditions, in a storm it means burning debris being scattered over a wide area, with obvious consequences. In dry weather there is obviously a wider-area fire-risk.

### **Structural failure**

From the data obtained, this is the third most common accident cause, with 37 instances found. "Structural failure" is assumed to be major component failure under conditions which components should be designed to withstand. This mainly concerns storm damage to turbines and tower collapse. However, poor quality control and component failure can also be responsible – the collapse in May 2005 of a brand-new 300 foot turbine in Oklahoma during light winds are a good example of this.

By year:

| Year | 70s | 80s | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 |
|------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| No.  |     |     |    |    |    | 1  |    |    |    |    | 3  | 6  | 9  | 2  | 8  | 3  | 2  | 3  |

While structural failure is far more damaging (and more expensive) than blade failure, the accident consequences and risks to human health are most likely lower, as risks are confined to within a relatively short distance from the turbine.

### **Ice throw**

Twenty incidences of ice throw were found (one of which has been classed as "human injury" above, in italics below):

By year:

| Year | 70s | 80s | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 |
|------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| No.  |     |     |    |    |    |    |    |    | 4  | 3  |    | 3  | 1  |    | 2  |    | 4  | 3  |

Ice throw has been reported to 140m.

These are indeed only a very small fraction of actual incidences – a report\* published in 2003 reported 880 icing events between 1990 and 2003 in Germany alone. 33% of these were in the lowlands and on the coastline.

### **Transport (non-fatal)**

Nine reported accidents – the worst being when a 45m turbine section rammed a house while being transported. Most involve turbine sections falling from transporters.

By year:

|      |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Year | 70s | 80s | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 |
| No.  |     |     |    |    |    |    |    |    |    |    |    |    | 1  |    | 3  |    | 2  | 3  |

The “2000” incident refers to a newspaper report which reports 73 accidents over 4 years along a 4km piece of road, and attributes them to driver distraction by turbines and thrown ice and blade pieces landing on and over the road.

### **Environmental damage**

Very few cases of environmental damage have been reported – the majority in the past three years. This is perhaps due to a change in legislation or new reporting requirement. All involved damage to the site itself, or reported damage to or death of wildlife.

By year:

|      |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Year | 70s | 80s | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 |
| No.  |     |     |    |    | 1  |    |    |    |    |    |    |    |    | 1  |    | 4  | 1  | 3  |

### **Other**

Other types of accident are also present in the data. Component failure has been reported under “other” if there has been no consequential structural damage. Lightning strikes have been included under “other” only when a strike has not resulted in blade damage or fire. A separate 1996 report\*\* quotes 393 reports of lightning strikes from 1992 to 1995 in Germany alone, 124 of those direct to the turbine, the rest are to electrical distribution network.

*\*\* (Data from WMEP database: taken from report “External Conditions for Wind Turbine Operation – Results from the German ‘250 MW Wind’ Programme”, M Durstewitz, et al, European Union Wind Energy Conference, Goeteborg, May 20-24, 1996)*

David Craig

Caithness Windfarm Information Forum

## **Conclusion and Summary**

The details contained within this objection letter are to be considered in their entirety, and should not be seen as final.

The Blaen Bowi Action group reserves the right to add to the formal list of objections as and when new evidence and information arises.

Thank you  
Yours sincerely

John Roworth  
Co-ordinator , Blaen Bowi Action Group