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Mid Wales Regional Tourism Strategy

Red Kite (RJC)

http://www.tpmw.co.uk/index.php/download_file/view/138/110/ (edited, RJC.)

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Mid Wales Regional Tourism Strategy

Contents

1. Introduction

Tourism and the Mid Wales region

(.....)

Tourism is inordinately important to the region, contributing to local prosperity and quality of life across Mid Wales. Tourism already supports a significant number of jobs and injects much needed revenue into the economy. Gwynedd, Ceredigion and Powys rank 2nd, 4th and 5th amongst the 22 counties in Wales in terms of Tourism Economic Intensity which relates Tourism GVA to overall GVA2. It also supports the development of vital infrastructure and other economic activities.

Economic impact of tourism in Wales3
Mid Wales has received an average of 1.6 million trips over the last three years with related expenditure of £254m (UKTS). Mid Wales also received, around 80,000 overseas pa over this period (IPS).

GVA of tourism in the Mid Wales Unitary Authorities (2007):
• Ceredigion: £93m, 10% of the county's total GVA, supporting 4,100 FTEs.

• Powys: £122.2m, 7.6% of the county's total GVA, supporting 5,400 FTEs.
• Gwynedd: £206.7m, 11.6% of the county's total GVA, supporting 9,100 FTEs.
Based on the respective **STEAM models (2009),** it is estimated that approximately:
• 22% was spent in Ceredigion
• 52% was spent in Powys
• 26% was spent in Meirionnydd

This rural region needs to pursue tourism because, first, this is where its natural comparative advantage lies and, second, there are few alternative sectors given the uncertainties surrounding public sector employment and agriculture, the other mainstays of the regional economy. In addition, tourism:

• Supports cross-cutting services and infrastructure which benefit local people and can result in greater variety of cultural and leisure provision e.g. transport links, the range of shops and services, restaurants and bars, local heritage and cultural facilities; and

• Helps promote a positive image to the outside world which, in turn, can attract investment and make people feel better about the place in which they live.

The role of the regional tourism strategy in Mid Wales

It is important that tourism is developed and managed in such a way as to ensure longterm prosperity and success. Tourism is, however, a complicated industry involving the private sector, national and local government and various other interested parties.

(..... Big edit – my evidence could go on forever....)

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4. Tourism product and market issues in Mid Wales
From the consultations, observations, review of the documentation (particularly the Inland Tourism in Central Wales study) and the online survey, a range of issues impacting on tourism development across the Region have been identified.

A polyglot area

• Mid Wales extends over 80 miles (as the crow flies) from Porthmadog in the north to Crickhowell in the south and 50 miles from Aberaeron on the west coast to Presteigne on the English border;

• It is **not a homogenous physical area** being made up of the Cardigan Bay

coast (part), the Cambrian Mountains (part), Snowdonia (part), the more gentle rural areas of Montgomeryshire and Radnorshire and the wild, upland area of the Brecon Beacons;

• This local geography suggests **four natural tourism destinations** across the Region i.e. Ceredigion, the Brecon Beacons17, Snowdonia (part) and that part of Powys outside the National Park;

• The individual destinations within the Region vary in physical and social terms and although there are some common products and themes, **they differ in what they offer**; and • What the Region does have in common is a generally low population density living in a rural – but varied – landscape where agriculture dominates and there are **common problems associated with the rural economy**.

The Mid Wales product

Transport infrastructure

• Within the Region, **roads** are mainly single carriageway and the local geography means travelling times are relatively slow but with exceptions that can occur in Newtown and Aberystwyth, the roads are largely uncongested and the routes attractive. Driving is still a pleasure within the Region;

(.....)

Visitor satisfaction
Visitor Surveys29 show that Mid Wales is rated as a very good or excellent place to visit overall i.e. +/-90%. Most would 'definitely' re-visit the area and would definitely recommend the area to friends or family.
We are not aware of any formal research on the perception of Mid Wales or its individual destinations by non-visitors.

(.....)

The Mid Wales visitor market

(.....)

• The local resident population is relatively small. There are just 240,000 people living in the Region but there is a very large population living on the borders of the Region, in the North West, West Midlands and South Wales conurbations;
• Mid Wales attracts c1.75m staying visitors, 80,000 international visitors and 6.5m day visits each year31. Staying visitors are split between Ceredigion (36%), Meirionnydd (34%) and Powys (30%)32;

• The majority of visitors travelled by car to get to Mid Wales in 2009 (88%);

• Around 45% of trips to Mid Wales are taken in the July-Sept quarter; August has been the busiest month in each of 2009, 2008 and 2007 with 24%, 20% and 19% of all trips respectively. Tourism, as elsewhere in Wales, is markedly seasonal; • Mid Wales needs more visitors, particularly off-peak;

(.....)

• Day visitor statistics from STEAM are reported as 6.55m. The key point is that Powys attracts the major share (47%) with Meirionnydd attracting 32% and Ceredigion 21%. Powys and the Brecon Beacons in particular, can draw on the major urban areas of South Wales and the west of England.

Regional visitor profile33

(.....)

• In 2009 the average length of stay was 3.75 nights. Average spend per night was £38 and average spend per trip was £144;

(.....)

• The main driver for visits is the countryside and coast;
• 1-3 night holidays made up 44% of all 2009 trips. 4-7 night holidays made up 35% whilst
8+ night holidays accounted for nearly 4% of all trips in 2009;

• A high proportion of visitors to Mid Wales are from the West Midlands (31% in 2009) followed by residents of Wales (16% in 2009). There is a strong dividing line through the Region; those to the north tend to come from the Midlands and North West, those to the south tend to come from South Wales and the M4 corridor.
NB: The regional profile disguises many internal variations but statistics are not available at sub-regional level. It will be important for each destination to undertake its own analysis.

(.....)

• **Market changes**. The UK population is more or less stable in terms of numbers but it is ageing. The big change will be the increase in the over 65 age group. Traditionally this group has been more likely to take holidays and breaks at home and has been important for Wales with its strong walking and outdoor product.

(.....)

o Unemployment and reduced disposable income may constrain holiday choice for some; and

(.....)

• **Attitudes towards holiday taking** have changed considerably over recent years as consumers have become more sophisticated and experienced. Changes noted by commentators such as Henley Centre and others include:
o A shift towards consumers who are 'cash rich, time poor' – leading to shorter, more intensive holidays and added value;
o The search for authenticity and distinctiveness;
o The search for well-being and escape from a world where people are full-on, all the time;
o More discerning, sophisticated consumers who are widely travelled, know what they want and pride themselves in getting value; and
o Increasing importance of brands and third party recommendation in an era of seemingly limitless choice, fuelled by the internet.

• **The environment.** There is an increasing focus on climate change throughout government and business communities. There will be implications for biodiversity and there are likely to be significant shifts in farming patterns. Coastal erosion continues to have an impact. These factors will affect the Region's key resources. This concern is also reflected amongst tourists. The ramifications on tourism are likely to be:

o Increasing transport costs and growing awareness of the impact of travel might encourage people to stay closer to home;
o Sustainable transport options to and from destinations will become more important, which will mean a stronger role for public transport;
o The growing interest in green and ethical choices will begin to have an impact amongst a section of consumers; and
o Wales may see a warmer climate as a result of climate change, although more unpredictable weather is the likely scenario.

• **Increasing competition.** Low cost airlines, the growth of the internet and a period of prosperity have meant that over the past decade the world has become more accessible to a larger number of people. The choice of places and experiences is becoming ever greater, both at home and abroad, and these are eating into traditional markets and setting new benchmarks. Meanwhile, in this country, there are a number of competing destinations also seeking to exploit the domestic tourism market. In this environment, simply

keeping position and retaining market share becomes a challenge let alone breaking into new markets and developing new business.

• **Tourism prospects.**
Wales has a relatively limited share of UK inbound tourism and it has not shown much growth over the past decade. Domestic tourism, however, has been given a bit of a boost by the current economic situation – UKTS show an increase in visitors between 2008 and 2009 in Mid Wales (although STEAM figures for 2009 suggest a drop). Anecdotal evidence suggests business tourism overnight trips may be down as companies cut back on travel in the recession, but holiday tourism trips – if not spend - is up as more people have opted to holiday at home.

(.....)

NB. This is a very long report (53 pages) but I think I've made the point that Mid Wales is an important tourism destination for people from the West Midlands and elsewhere, who value its present relatively unspoiled character and provide a considerable income for its inhabitants. RJC.

http://www.ons.gov.uk/ons/rel/mro/news-release/census-shows-increase-in-population-of-the-west-midlands/censuswestmidlandnr0712.html

Census shows increase in population of the West Midlands

Part of News release, Census shows increase in population of the West Midlands Release
Released: **16 July 2012**

Jill Matheson, National Statistician.

The population of the West Midlands on census day (27 March 2011) was 5.6 million, an increase of 6 per cent from 2001 when it was 5.3 million. The Office for National Statistics (ONS) published the first results from the 2011 Census today.

By comparison the population across the whole of England and Wales increased by 7 per cent to 56.1 million, the largest growth in population in any 10-year period since census taking began in 1801.

http://www.huffingtonpost.co.uk/natasha-shearer/work-related-stress-business_b_3545476.html

The Huffington Post

As Work Related Stress Costs UK Economy Nearly £6.5bn Each Year, What Steps Should Businesses and Employees Be Taking?

By Natasha Shearer, 05/07/2013

The astounding cost of work related stress to the economy reached a massive £6.5bn last year, demonstrating how prevalent an issue stress in the workplace has become in the UK.

Last year there were 10.4 million days lost to stress, with the cost of 'sick' days being £618 meaning workplace stress totalled £6,427,200,000. With presenteeism also on the rise, meaning employees coming to work disengaged, tired, unmotivated and too stressed to work, businesses could see these costs rise if they don't take action.

So, what is causing these high numbers of work related stress cases?

We all need a certain amount of pressure to function well as pressure helps people to reach their peak efficiency. Research shows that pressure can increase our energy and drive to meet deadlines and achieve targets. However, where do we draw the line? Prolonged, intense pressure can lead to stress which negatively impacts our physical and psychological health.

We also need to remember that often too little pressure, or insufficient work over a sustained period, can also result in stress related issues. Too little work or unchallenging work can ultimately lead to 'rust out' which is similar to 'burn out'. Low performing employees may suffer from boredom - everyone needs a challenge to stimulate them and give them a sense of identity and value. Everyone has different thresholds - what one person would consider positive actions, i.e. motivating and pressure, another many find completely overwhelming.

It seems unnecessary to include the rest, but the value of anything that enables workers to find weekend peace and quiet is obvious.

http://www.hse.gov.uk/statistics/causdis/stress/stress.pdf

Stress and Psychological Disorders in Great Britain 2013 *(extract).*

Introduction

The information in this document relates to Health and safety statistics for 2011/12. The document can be found at: www.hse.gov.uk/statistics/causdis/stress/ Work-related stress is defined as a harmful reaction that people have to undue pressures and demands placed on them at work. By its very nature, stress is difficult to measure and HSE have three different data sources from which to conduct analysis. The preferred data source used by HSE for calculating rates and estimates for stress, depression or anxiety (referred to as stress hereafter) is the ONS Labour Force survey. In addition to this, HSE also collects data on work-related stress through the THOR GP scheme. The annual Psychosocial working conditions survey is also available, which was conducted between 2004 and 2010. This measures elements of the HSE Management Standards.

Stress has consistently been one of the most commonly reported types of workrelated illness cited in the national Labour Force Survey (LFS) conducted by the Office for National Statistics (ONS). Based on the LFS, the estimated cases of work-related stress, both prevalence (total) and incidence (new) cases have remained broadly flat over the past decade.

The latest estimates from the Labour Force Survey show:

The prevalence of stress in 2011/12 was 428 000 cases (40%) out of a total of 1 073 000 cases for all work-related illnesses.

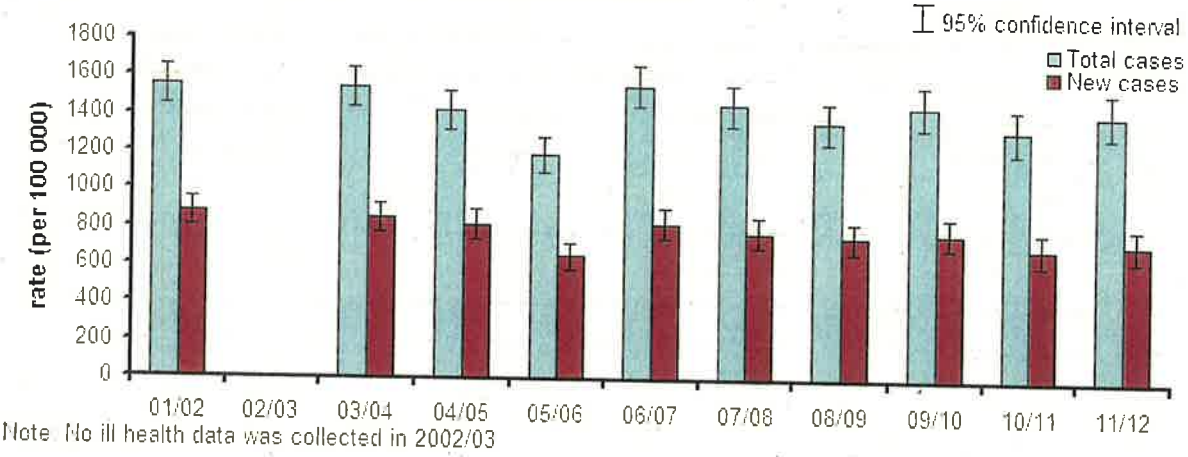

Figure 1. Prevalence and incidence rates of work-related stress, depression or anxiety in GB.

Working days lost

Work-related stress caused workers in Great Britain to lose 10.4 million working days in 2011/12 based on the LFS data. Male workers accounted for an estimated 4.6 million days off work whilst female workers accounted for an estimated 5.8 million.

This represents a decrease in annual working days lost since 2001/02, when it was 12.9 million days in total. On average, each person suffering from this condition took 24 days off work. This is one of the highest average days lost per case figure amongst the recognised health complaints covered in the LFS (see: www.hse.gov.uk/statistics/lfs/swit1.xls).

Large size workplaces were estimated to have significantly higher days lost per worker than both medium and small size workplaces in 2011/12. Of the three workplace sizes, only the medium size has a statistically significantly lower rate in 2011/12 when compared to the figures in 2003/04.

The average annual working days lost officially certified as due to mental ill health under THOR GP between 2008 and 2010 is 6.2 million. This represented 57% of the total of all reported days of sickness under THOR.

Whilst the figure recorded under THOR is lower than the estimates provided by the LFS it represents only the official diagnosis by those medical practitioners involved in the THOR scheme.

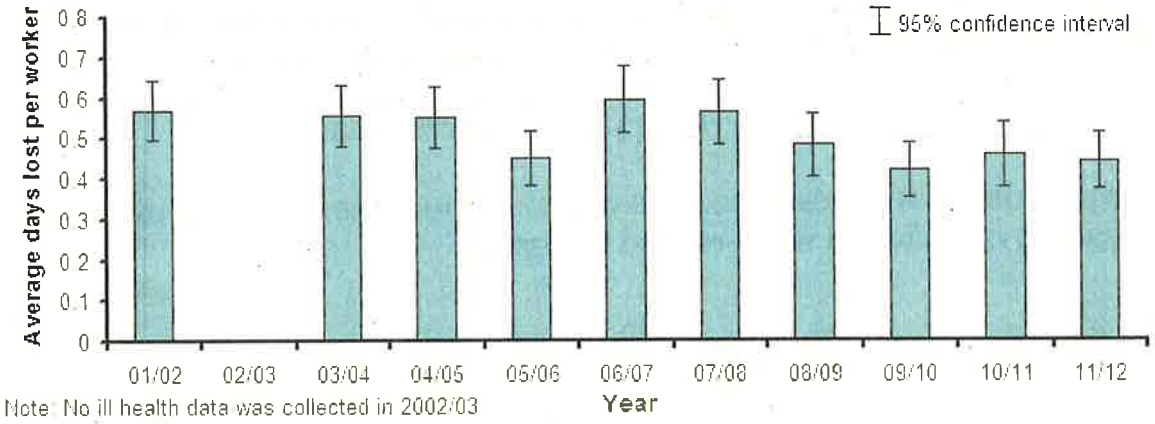

Figure 4 Average working days lost per worker (Labour Force Survey)

For further information relating to stress and working days lost see;
www.hse.gov.uk/statistics/lfs/swit1.xls
www.hse.gov.uk/statistics/lfs/strage3.xls
www.hse.gov.uk/statistics/lfs/strsize2.xls

www.hse.gov.uk/statistics/lfs/strsize4.xls
www.hse.gov.uk/statistics/lfs/strsize6.xls
www.hse.gov.uk/statistics/tables/thorgp01.xls

I've complied with the following.

http://www.nhs.uk/nhsengland/NSF/pages/Mentalhealth.aspx

NB. For many people, access to unspoiled countryside is extremely important for good mental health. This file is not only evidence of the critical importance of good mental health but of the huge cost to the economy of mental ill-health.

In other words, can we afford the cost of significantly altering - or as many believe ruining - countryside vital to so many for overcoming the stress of the working week?

National service frameworks and strategies

Mental health outcomes strategy

A new mental health outcomes strategy was published in February 2011. The strategy aims to provide better mental health for all and to increase the amount of people recovering from mental illness.

Read the full strategy, No health without mental health: a cross-government mental health outcomes strategy for people of all ages on the Department of Health website.

Although the strategy was well received, there is a clear consensus that further work is needed. The NHS is undergoing reforms to its public services and this provides an ideal opportunity to raise the profile for mental health and wellbeing within the new system and also to define how new organisations can contribute to this important agenda.

The new implementation framework was published on July 24 2012 to accompany the mental health outcomes strategy, it has three central aims:

1. It sets out how progress will be monitored and reported and how the range of outcome measures currently available will be built upon in future.
2. It makes a series of recommendations for local and regional organisations to take forward.
3. It details a series of national commitments to support implementation.

The framework:

- is for everyone with a role in improving mental health locally; not just health and care services

- translates the strategy's vision into specific actions, setting out the contribution that specific organisations can make
- outlines what the new health and care system will mean for mental health
- shows how improving mental health will help organisations meet their broader objectives

The Health and Social Care Act 2012 makes it explicit that mental health problems should be treated as seriously as physical health problems. The draft Mandate to the NHS Commissioning Board recognises the importance of putting mental health on a par with physical health, and tasks the NHS Commissioning Board with developing a collaborative programme of action to achieve this.

During the period of this government (2010-14), the numbers of people benefiting from Improving Access to Psychological Therapies (IAPT) services have continued to increase, with 528,000 people entering treatment in 2011/12 compared to 182,000 in 2009/10. These new services are achieving recovery rates of over 45% and are on track to meet recovery rates of at least 50%. In 2012, £32million was invested in training new therapists to meet the demand.

The Operating Framework for the NHS in England clearly states that the NHS is expected to continue expanding access to psychological services as part of the commitment to full roll-out of the IAPT programme by 2015.

The NHS Outcomes Framework 2012/13 contains three improvement areas relating specifically to mental health:

- premature mortality in people with serious mental illness
- employment of people with mental illness
- patient experience of community mental health services

For many of the indicators which relate to all patients, improving outcomes for people with mental health problems will be a crucial element of success.
The Royal College of Psychiatrists has been commissioned to lead work, involving a wide range of professionals and other organisations, to find practical ways to ensure mental health is treated equally to physical health.

The economic cost of mental illness

The wider economic cost of mental illness in England has been estimated at £105.2 billion each year. This includes direct costs of services, lost productivity at work, and reduced quality of life.

The cost of poor mental health to businesses is just over £1,000 per employee per year, or almost £26 billion across the UK economy.

In 2008/9, the NHS spent 10.8% of its annual secondary healthcare budget on mental health services, which amounted to £10.4 billion. Service costs, which include NHS, social, and informal care costs amounted to £22.5 billion in 2007 in England.

http://www.esrc.ac.uk/news-and-events/press-releases/27148/enjoying-the-great-outdoorsnatures-own-stress-buster.aspx

Economic and Social Research Council

Enjoying the great outdoors – nature's own stress buster.

funded by the ESRC and carried out by Valerie Gladwell at the University of Essex.

Nature has beneficial effects that help us cope with stress at work, according to new research funded by the Economic and Social Research Council (ESRC). The research highlights the power of the 'great outdoors' to improve both physiological and psychological wellbeing.

Nature has beneficial effects that help us cope with stress at work, according to new research funded by the Economic and Social Research Council (ESRC). The research, conducted by Dr Valerie Gladwell at the University of Essex, highlights the power of the 'great outdoors' to improve both physiological and psychological wellbeing.

"The modern era has brought a decline in levels of physical activity, accompanied by huge increases in physical disability and diseases, as well as an increase in cases of mental ill-health," says Dr Gladwell. "Today, not only are rates of obesity, diabetes and cardiovascular disease on the rise, but levels of potentially damaging psychological stress are also reportedly higher."

"The value of nature has long been considered to be advantageous to human health. Early examples of this come in the form of urban parks established by wealthy philanthropists during the 19th century, and in the gardens incorporated into hospital designs. Our research supports this, demonstrating an association between improved health outcomes and engagement with surrounding 'green space'."

A series of five studies were set up by the researchers to explore the physiological and psychological benefits of nature, and the response to stress during and after viewing nature in simulated and real environments. Individual perceptions of green space surrounding home and work environments were examined, as well as how individuals interact with green space and its impact on their health.

One specific study measured how a group of people recovered from a stressful task after they had viewed slides showing scenes of nature. Results showed that recovery from the stressful task was improved compared to when the scenes were of unpleasant built-up environments.

In a separate study, a walk in "green" environments at lunch time enhanced restorative sleep the following night. Furthermore, if individuals walked regularly in a "green" environment, they showed significantly lower levels of blood pressure and perceived stress after just eight weeks.

"It's widely accepted that nature is good for us, but we're still trying to delve into what it does for us and why," concludes Dr Gladwell. "However, our research has shown that 'green' environments can be an effective stress buster. If we can encourage more people to enjoy the great outdoors it may help increase their levels of physical activity and, therefore, could also be a powerful tool to help fight the growing incidence of cardiovascular disease."

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Notes for editors

1. This release is based on the findings from 'Green exercise: The combined effect of the environment and exercise on cardiac and psychology health' funded by the ESRC and carried out by Valerie Gladwell at the University of Essex.
2. The project explored the physiological and psychological benefits of green exercise and the response to stress during and recovery from exercise in simulated, real and after a period of training in different environments. The barriers of individuals exercising in these potential restorative environments were assessed using a survey.
3. A British Heart Foundation funded PhD student assisted in this research.
4. The Economic and Social Research Council is the UK's largest organisation for funding research on economic and social issues. It supports independent, high quality research which has an impact on business, the public sector and the third sector. The ESRC's total budget for 2012/13 is £205 million. At any one time the ESRC supports over 4,000 researchers and postgraduate students in academic institutions and independent research institutes.
5. The ESRC confirms the quality of its funded research by evaluating research projects through a process of peers review. This research has been graded as good.

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http://www.dailymail.co.uk/home/moslive/article-1350811/In-China-true-cost-Britains-clean-green-wind-power-experiment-Pollution-disastrous-scale.html#ixzz2vaZQ5LPw

In China, the true cost of Britain's clean, green wind power experiment: Pollution on a disastrous scale

By SIMON PARRY in China and ED DOUGLAS in Scotland

Created 7:32 PM on 26th January 2011

This toxic lake poisons Chinese farmers, their children and their land. It is what's left behind after making the magnets for Britain's latest wind turbines... and, as a special Live investigation reveals, is merely one of a multitude of environmental sins committed in the name of our new green Jerusalem

The lake of toxic waste at Baotou, China, which as been dumped by the rare earth processing plants in the background

On the outskirts of one of China's most polluted cities, an old farmer stares despairingly out across an immense lake of bubbling toxic waste covered in black dust. He remembers it as fields of wheat and corn.

Yan Man Jia Hong is a dedicated Communist. At 74, he still believes in his revolutionary heroes, but he despises the young local officials and entrepreneurs who have let this happen.

'Chairman Mao was a hero and saved us,' he says. 'But these people only care about money. They have destroyed our lives.'

Vast fortunes are being amassed here in Inner Mongolia; the region has more than 90 per cent of the world's legal reserves of rare earth metals, and specifically neodymium, the element needed to make the magnets in the most striking of green energy producers, wind turbines.

Live has uncovered the distinctly dirty truth about the process used to extract neodymium: it has an appalling environmental impact that raises serious questions

over the credibility of so-called green technology.
The reality is that, as Britain flaunts its environmental credentials by speckling its coastlines and unspoiled moors and mountains with thousands of wind turbines, it is contributing to a vast man-made lake of poison in northern China. This is the deadly and sinister side of the massively profitable rare-earths industry that the 'green' companies profiting from the demand for wind turbines would prefer you knew nothing about.
Hidden out of sight behind smoke-shrouded factory complexes in the city of Baotou, and patrolled by platoons of security guards, lies a five-mile wide 'tailing' lake. It has killed farmland for miles around, made thousands of people ill and put one of China's key waterways in jeopardy.
This vast, hissing cauldron of chemicals is the dumping ground for seven million tons a year of mined rare earth after it has been doused in acid and chemicals and processed through red-hot furnaces to extract its components.
Rusting pipelines meander for miles from factories processing rare earths in Baotou out to the man-made lake where, mixed with water, the foul-smelling radioactive waste from this industrial process is pumped day after day. No signposts and no paved roads lead here, and as we approach security guards shoo us away and tail us.
When we finally break through the cordon and climb sand dunes to reach its brim, an apocalyptic sight greets us: a giant, secret toxic dump, made bigger by every wind turbine we build.
The lake instantly assaults your senses. Stand on the black crust for just seconds and your eyes water and a powerful, acrid stench fills your lungs.
For hours after our visit, my stomach lurched and my head throbbed. We were there for only one hour, but those who live in Mr Yan's village of Dalahai, and other villages around, breathe in the same poison every day.
Retired farmer Su Bairen, 69, who led us to the lake, says it was initially a novelty – a multi-coloured pond set in farmland as early rare earth factories run by the state-owned Baogang group of companies began work in the Sixties.
'At first it was just a hole in the ground,' he says. 'When it dried in the winter and summer, it turned into a black crust and children would play on it. Then one or two of them fell through and drowned in the sludge below. Since then, children have stayed away.'
As more factories sprang up, the banks grew higher, the lake grew larger and the stench and fumes grew more overwhelming.
'It turned into a mountain that towered over us,' says Mr Su. 'Anything we planted just withered, then our animals started to sicken and die.'
People too began to suffer. Dalahai villagers say their teeth began to fall out, their hair turned white at unusually young ages, and they suffered from severe skin and respiratory diseases. Children were born with soft bones and cancer rates rocketed.
Official studies carried out five years ago in Dalahai village confirmed there were unusually high rates of cancer along with high rates of osteoporosis and skin and respiratory diseases. The lake's radiation levels are ten times higher than in the surrounding countryside, the studies found.
Since then, maybe because of pressure from the companies operating around the lake,

which pump out waste 24 hours a day, the results of ongoing radiation and toxicity tests carried out on the lake have been kept secret and officials have refused to publicly acknowledge health risks to nearby villages.

There are 17 'rare earth metals' – the name doesn't mean they are necessarily in short supply; it refers to the fact that the metals occur in scattered deposits of minerals, rather than concentrated ores. Rare earth metals usually occur together, and, once mined, have to be separated.

Villagers Su Bairen, 69, and Yan Man Jia Hong, 74, stand on the edge of the six-mile-wide toxic lake in Baotou, China that has devastated their farmland and ruined the health of the people in their community

the health of the people in their community

Neodymium is commonly used as part of a Neodymium-Iron-Boron alloy (Nd2Fe14B) which, thanks to its tetragonal crystal structure, is used to make the most powerful magnets in the world. Electric motors and generators rely on the basic principles of electromagnetism, and the stronger the magnets they use, the more efficient they can be. It's been used in small quantities in common technologies for quite a long time – hi-fi speakers, hard drives and lasers, for example. But only with the rise of alternative energy solutions has neodymium really come to prominence, for use in hybrid cars and wind turbines. A direct-drive permanent-magnet generator for a top capacity wind turbine would use 4,400lb of neodymium-based permanent magnet material.

In the pollution-blighted city of Baotou, most people wear face masks everywhere they go.

'You have to wear one otherwise the dust gets into your lungs and poisons you,' our taxi driver tells us, pulling over so we can buy white cloth masks from a roadside hawker.

Posing as buyers, we visit Baotou Xijun Rare Earth Co Ltd. A large billboard in front of the factory shows an idyllic image of fields of sheep grazing in green fields with wind turbines in the background.

In a smartly appointed boardroom, Vice General Manager Cheng Qing tells us proudly that his company is the fourth biggest producer of rare earth metals in China, processing 30,000 tons a year. He leads us down to a complex of primitive workshops where workers with no protective clothing except for cotton gloves and face masks ladle molten rare earth from furnaces with temperatures of 1,000°C.

The result is 1.5kg bricks of neodymium, packed into blue barrels weighing 250kg each. Its price has more than doubled in the past year – it now costs around £80 per kilogram. So a 1.5kg block would be worth £120 – or more than a fortnight's wages for the workers handling them. The waste from this highly toxic process ends up being pumped into the lake looming over Dalahai.

The state-owned Baogang Group, which operates most of the factories in Baotou, claims it invests tens of millions of pounds a year in environmental protection and processes the waste before it is discharged.

According to Du Youlu of Baogang's safety and environmental protection department, seven million tons of waste a year was discharged into the lake, which is already 100ft high and growing by three feet each year.

In what appeared an attempt to shift responsibility onto China's national leaders and their close control of the rare earths industry, he added: 'The tailing is a national resource and China will ultimately decide what will be done with the lake.'

Jamie Choi, an expert on toxics for Greenpeace China, says villagers living near the lake face horrendous health risks from the carcinogenic and radioactive waste.

'There's not one step of the rare earth mining process that is not disastrous for the environment. Ores are being extracted by pumping acid into the ground, and then they are processed using more acid and chemicals.

Finally they are dumped into tailing lakes that are often very poorly constructed and maintained. And throughout this process, large amounts of highly toxic acids, heavy metals and other chemicals are emitted into the air that people breathe, and leak into surface and ground water. Villagers rely on this for irrigation of their crops and for drinking water. Whenever we purchase products that contain rare earth metals, we are unknowingly taking part in massive environmental degradation and the destruction of communities.'

The fact that the wind-turbine industry relies on neodymium, which even in legal factories has a catastrophic environmental impact, is an irony Ms Choi acknowledges.

'It is a real dilemma for environmentalists who want to see the growth of the industry,' she says. 'But we have the responsibility to recognise the environmental destruction that is being caused while making these wind turbines.'

It's a long way from the grim conditions in Baotou to the raw beauty of the Monadhliath mountains in Scotland. But the environmental damage wind turbines cause will be felt here, too. These hills are the latest battleground in a war being fought all over Britain – and particularly in Scotland – between wind-farm developers and those opposed to them.

Cameron McNeish, a hill walker and TV presenter who lives in the Monadhliath,

campaigned for almost a decade against the Dunmaglass wind farm before the Scottish government gave the go-ahead in December. Soon, 33 turbines will be erected on the hills north of the upper Findhorn valley.

McNeish is passionate about this landscape: 'It's vast and wild and isolated,' he says. Huge empty spaces, however, are also perfect for wind turbines and unlike the nearby Cairngorms there are no landscape designations to protect this area. When the Labour government put in place the policy framework and subsidies to boost renewable energy, the Monadhliath became a mouth-watering opportunity.

People have been trying to make real money from Scottish estates like Jack Hayward's Dunmaglass. Hayward, a Bermuda-based property developer and former chairman of Wolverhampton Wanderers, struck a deal with renewable energy company RES which, campaigners believe, will earn the estate an estimated £9 million over the next 25 years.

Each of the turbines at Dunmaglass will require servicing, which means a network of new and improved roads 20 miles long being built across the hills. They also need 1,500 tons of concrete foundations to keep them upright in a strong wind, which will scar the area.

Around half of them are in Scotland. First Minister Alex Salmond and the Scottish government have said they want to get 80 per cent of Scotland's electricity from renewables by 2020, which means more turbines spread across the country's hills and moors.

Many environmental pressure groups share Salmond's view. Friends of the Earth opposes the Arctic being ruined by oil extraction, but when it comes to damaging Scotland's wilderness with concrete and hundreds of miles of roads, they say wind energy is worth it as the impact of climate change has to be faced.

'No way of generating energy is 100 per cent clean and problem-free,' says Craig Bennett, director of policy and campaigns at Friends of the Earth.

'Wind energy causes far fewer problems than coal, gas or nuclear. If we don't invest in green energy, business experts have warned that future generations will be landed with a bill that will dwarf the current financial crisis. But we need to ensure the use of materials like neodymium and concrete is kept to a minimum, that turbines use recycled materials wherever possible and that they are carefully sited to the reduce the already minimal impact on bird populations.'

But Helen McDade, head of policy at the John Muir Trust, a small but feisty campaign group dedicated to protecting Scotland's wild lands, also points out that leaving aside the damage to the landscape, nobody is really sure how much carbon is being released by the renewable energy construction boom. Peat moors lock up huge amounts of carbon, which gets released when it's drained to put up a turbine.

Environmental considerations aside, as the percentage of electricity generated by wind increases, renewable energy is coming under a lot more scrutiny now for one simple reason – money. We pay extra for wind power – around twice as much – because it can't compete with other forms of electricity generation. Under the Renewable Obligation (RO), suppliers have to buy a percentage of their electricity from renewable generators and can hand that cost on to consumers. If they don't, they pay a fine instead.

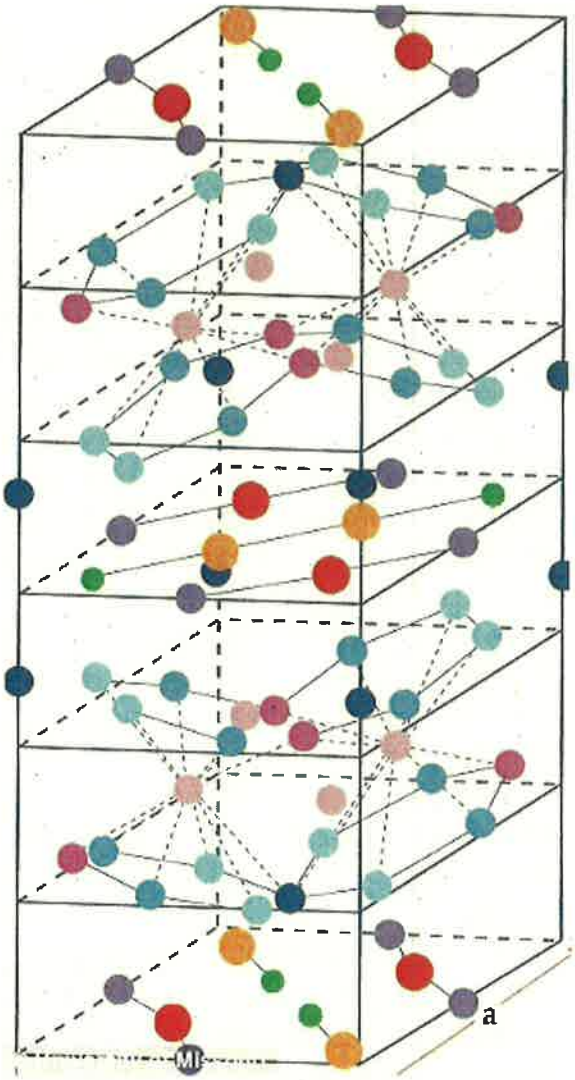
There's a simple beauty about RO for the government. Even though it's defined as a tax, it doesn't come out of pay packets but is stuck on our electricity bills. That has made funding wind farms a lot easier for the government than more cost-effective energy-efficiency measures.

'If you want a grant for an energy conservation project on your house,' says Helen McDade, 'the money comes from taxes. But investment for turbines comes from energy companies.'

Already, RO adds £1.4 billion to our bills each year to provide a pot of money to pay power companies for their 'green' electricity. By 2020, the figure will have risen to somewhere between £5 billion and £10 billion.

When he was Chancellor, Gordon Brown added another decade to these price guarantees, extending the RO scheme to 2037, guaranteeing the subsidy for more than a quarter of a century.

It's not surprising there's been an avalanche of wind-farm applications in the Highlands. Wind speeds are stronger, land is cheaper and the government loves you.



One unit cell of Nd2Fe14b, the alloy used in neodymium magnets. The structure of the atoms gives the alloy its magnetic strength, due to a phenomenon known as magnetocrystalline anisotropy

'You go to a landowner,' McDade says, 'and offer him what is peanuts to an energy company yet keeps him happily on his estate so they can put up a wind farm, which in turn raises ordinary people's electricity bills. There's a social issue here that doesn't get discussed.'

By 2020, environmental regulation will be adding 31 per cent to our bills. That's £160 green tax out of an average annual bill of £512. As costs rise, more people will be driven into fuel poverty. When he was secretary of state at the Department of Energy and Climate Change, Ed Miliband decreed that these increases should be offset by improvements in energy efficiencies.

It's a view shared by his successor Chris Huhne, who says inflation due to RO will be effectively one per cent. Britain's low-income families, facing hikes in petrol and food costs, will hope he's right.

Individual households aren't the only ones shouldering the costs. Industry faces an even bigger burden. By 2020, environmental charges will add 33 per cent to industry's energy costs.

Jeremy Nicholson, director of the Energy Intensive Users Group, says that, 'Industry

is getting the worst of both worlds. Around 80 per cent of the contracts for the new Thanet offshore wind farm (off the coast of Kent) went abroad, but the expensive electricity will be paid for here.'

Our current obsession with wind power, according to John Constable of energy think-tank the Renewable Energy Foundation, stems from the decision of the European Union on how to tackle climate change. Instead of just setting targets for reducing emissions, the EU told governments that by 2020, 15 per cent of all the energy we use must come from renewable sources.

Because of how we heat our houses and run our cars with gas and petrol, 30 per cent of electricity needs to come from renewables. And in the absence of other technologies, that means wind turbines. But there's a structural flaw in the plan, which this winter has brutally exposed.

Study a graph of electricity consumption and it appears amazingly predictable, even down to reduced demand on public holidays. The graph for wind energy output, however, is far less predictable.

Take the figures for December, when we all shivered through sub-zero temperatures and wholesale electricity prices surged. Peak demand for the UK on 20 December was just over 60,000 megawatts. Maximum capacity for wind turbines throughout the UK is 5,891 megawatts, almost ten per cent of that peak demand figure.

Yet on December 20, because winds were light or non-existent, wind energy contributed a paltry 140 megawatts. Despite billions of pounds in investment and subsidies, Britain's wind-turbine fleet was producing a feeble 2.43 per cent of its own capacity – and little more than 0.2 per cent of the nation's electricity in the coldest month since records began.

The problems with the intermittency of wind energy are well known. A new network of cables linking ten countries around the North Sea is being suggested to smooth supply and take advantage of 140 gigawatts of offshore wind power. No one knows for sure how much this network will cost, although a figure of £25 billion has been mooted.

The government has also realised that when wind nears its target of 30 per cent, power companies will need more back-up to fill the gap when the wind doesn't blow. Britain's total capacity will need to rise from 76 gigawatts up to 120 gigawatts. That overcapacity will need another £50 billion and drive down prices when the wind's blowing. Power companies are anxious about getting a decent price. Once again, consumers will pay.

Wind power's uncertainties don't end with intermittency. There is huge controversy about how much energy a wind farm will produce. Many developers claim their installations will achieve 30 per cent of their maximum output over the course of a year. More sober energy analysts suggest 26 per cent. But even that figure is starting to look generous. In December, the average figure was less than 21 per cent. In the year between October 2009 and September 2010, the average was 23.6 per cent, still nowhere near industry claims.

Then there's the thorny question of how many homes new installations can power. According to wind farm developers like Scottish and Southern Electricity, a house uses 3.3MWh in a year. Lobby group RenewablesUK – formerly the British Wind

Energy Association – gives a figure of 4.7MWh. In the Highlands electricity usage is even higher.
Last year, a report from the Royal Academy of Engineering warned that transforming our energy supply to produce a low-carbon economy would require the biggest investment and social change seen in peacetime. And yet Professor Sue Ion, who led the report, warned, 'We are nowhere near having a plan.'

So, against the backdrop of environmental catastrophe in China and these less than attractive calculations, could the billions being thrown at wind farms be better spent? Undoubtedly, says John Constable.
'The government is betting the farm on the throw of a die. What's happening now is simply reckless.'

The British energy market is a hugely complicated and ever-changing landscape. We rely on a number of different sources for our energy - some more efficient than others, some more polluting than others.

Critically, government cost figures do not include subsidies, whereas our measure shows precisely how much money a power station receives for each megawatt-hour (MWh) it produces, which includes the price paid for the energy by the supplier and any applicable subsidy. This is an instant measure of an energy supply's cost-efficiency; the lower the figure, the less that energy costs to produce.

Note: figures relate to UK energy production. Approximately seven per cent of our electricity comes from imports or other sources

http://www.telegraph.co.uk/news/uknews/8948363/1500-accidents-and-incidents-on-UK-wind-farms.html

The Telegraph

1,500 accidents and incidents on UK wind farms

The wind energy industry has admitted that 1,500 accidents and other incidents have taken place on wind farms over the past five years.

The scale of incidents is equivalent to almost one a day.
By Edward Malnick and Robert Mendick, 11 Dec 2011.

The figures – released by RenewableUK, the industry's trade body – include four deaths and a further 300 injuries to workers.

The scale of incidents – equivalent to almost one a day – emerges following the publication of dramatic photographs showing one turbine which had crashed to the ground in a field near a road and another exploding into flames, caused by 150mph winds which buffeted Scotland and northern England last week.

Charles Anglin, RenewableUK's director of communications, stressed that last week's incidents were caused by "freak weather". The organisation said that no member of the public had ever been hurt as a result of a wind turbine accident.

A dossier of incidents, compiled by a campaign group opposed to wind farms, includes cases where blades, each weighing as much as 14 tonnes, have sheared off and crashed to the ground.

Residents living near a wind farm have reported sheltering in their homes when lumps of ice were thrown from blades from a 410-ft high turbine near Peterborough, Cambridgeshire.

One manufacturer of wind turbines admitted one of its models had a defect – understood to be caused by a faulty braking system that meant the blades could fly off – that led to hundreds of turbines being ordered to be shut down in September by the Health and Safety Executive.

The company, Proven Energy Ltd, based in Scotland, went into receivership shortly after.

Blades attached to smaller domestic wind turbines have also become detached and hit buildings – in one case penetrating the roof of a cabin used as an office.

Campaigners claim that the incidents show that "some parts of the country are too windy for turbines". Most turbines automatically shut down when the wind speed rises above 56mph because at that speed they can become unsafe.

In September a blade flew off a wind turbine on the roof of a new car park at Lister hospital in Stevenage, Hertfordshire, hitting a staff member's car.

Last year a 140-turbine wind farm near Glasgow was temporarily shut down after a 14-tonne fibreglass blade broke off in windy conditions and landed at the base of its tower.

Two years ago, a 50ft turbine collapsed in the playground of a school on the Island of Raasay off the coast of Scotland, and in the same year a blade on a 190 ft wind turbine in Rotherham owned by Sheffield University broke in strong winds, prompting an investigation by its manufacturers.

The incidents were compiled by the Caithness Wind Farm Information Forum, which campaigns against turbines in Scotland and publishes accidents - backed up by media reports - on its website.

RenewableUK said the deaths had been recorded in 2009 and 2010.

One involved a maintenance worker in Scotland who had become 'tangled' with the driveshaft of a turbine while the other three deaths took place during construction of onshore and offshore wind farms.

Chris Streatfeild, RenewableUK's director of health and safety, said: "No members of the public have ever been injured or harmed in the reports we have received.

"The risk to the public is one in 100 million. You are much more likely to be injured by a lightening strike than by a wind turbine."

Mr Streatfeild said RenewableUK had recorded 1,500 incidents over the past five years, many of which were very minor. Of those, about 18 per cent - or close to 300 incidents - led to an injury, again usually very minor.

He said planning and safety rules meant turbines were always at a certain minimum distance from roads and homes, reducing further the risk to the public. He said the number of fires and structural collapse each amounted to just a 'handful'.

Mr Anglin said last week that wind farms had an "excellent health and safety record", adding: "In stressful situations any power equipment may develop faults, and that's true of gas, nuclear, oil, and is also true of wind."

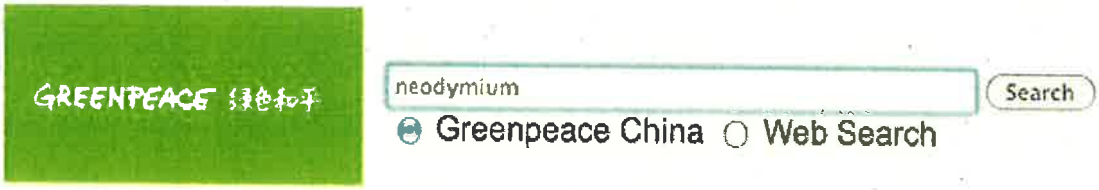
The Health and Safety Executive (HSE) said last week it was "extremely difficult" to assemble a "complete picture of reported incidents at wind farms" because accidents are not recorded by industry type.

The HSE said its figures showed three fatal accidents between 2007/08 and 2009/10 and a total of 53 major or dangerous incidents in the same time frame. An HSE spokesman said wind turbines were classed as machines rather than buildings or structures and that there was no obligation to report mechanical failures.

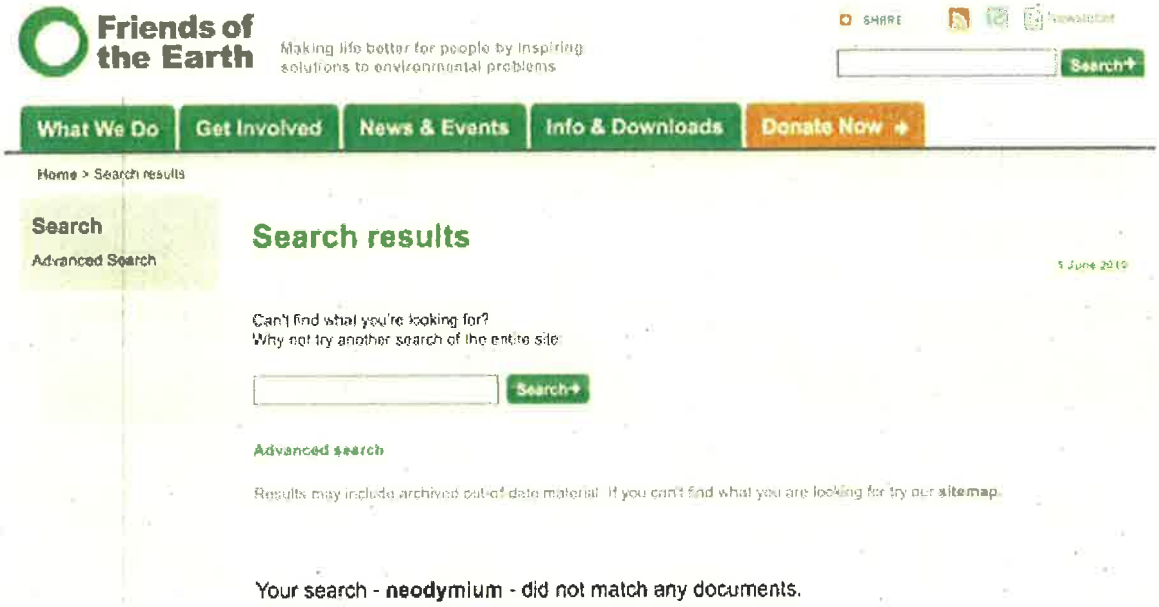
Angela Kelly, chairman of the Country Guardian, a national network of anti-wind farm campaigns, said: "We have been aware of accidents on wind farms for years but the new figures released by the industry's own trade body are particularly alarming.

"Developers seem to have ignored the fact that some parts of the country are too windy for turbines."

SEARCHING FOR THIS TOPIC ON VARIOUS ORGANISATIONS' WEBSITES



Your search - **neodymium** - did not match any documents.



I tried this myself.

Mining for smartphones: the true cost of tin [PDF]

www.foe.co.uk

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Mining for smartphones: the true cost of tin [PDF]
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as TVs and phones as it's difficult to extract. **Neodymium** makes phones' speaker, microphone and vibration possible in the form of small but powerful magnets.
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www.foe.co.uk/sites/default/files/downloads/tin_mining.pdf

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www.foe.co.uk/resource/reports_on.../res_eff_conference.pdf

Resource use conference write up - Friends of the Earth
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Dec 2, 2010 ... If the 2 billion cars are electric vehicles, 2-4 million tonnes of scarce metal **neodymium** would be required (100-200 times the current mine ...
www.foe.co.uk
www.foe.co.uk/resource/reports_on.../res_eff_conference.pdf

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A bit more info because Foe uses Google and a bit less tidy because I can't do a screenshot, but all the difference found is an unconnected use.

http://www.lenntech.com/periodic/elements/nd.htm

Neodymium

Neodybium dust and salts are very irritating to the eyes.

Neodymium is mostly dangerous in the working environment, due to the fact that damps and gasses can be inhaled with air. This can cause lung embolisms, especially during long-term exposure. Neodymium can be a threat to the liver when it accumulates in the human body.

Environmental effects of neodymium

Neodymium will gradually accumulate in soils and water soils and this will eventually lead to increasing concentrations in humans, animals and soil particles.

With water animals neodymium causes damage to cell membranes, which has several negative influences on reproduction and on the functions of the nervous system.

http://www.fairfaxcounty.gov/nvswcd/newsletter/phyto.htm

Phytoremediation—Using Plants to Clean up Polluted Soil

(Included because of the difficulties of cleaning up soil once neodymium poisoning from burnt turbines has occurred – replanting whole hills with special plants is unlikely to be practical, is it?)

(Conservation Currents, Northern Virginia Soil and Water Conservation District, Feb 2004)

Polluted soil poses a severe problem for both ecosystem health and land development. Because soil lies at the confluence of many natural systems, soil pollution can be spread to other parts of the natural environment. Groundwater, for instance, percolates through the soil and can carry the soil pollutants into streams, rivers, wells and drinking water. Erosion can create the same problem. Plants growing on polluted soil may contain harmful levels of pollutants themselves, and this can be passed on to the animals and people that eat them. Dust blown from polluted soil can be inhaled directly by passersby. Additionally, in an urban setting such as Fairfax County, polluted soil makes valuable open land unusable for parks, recreation or commercial development.

Despite the benefits of cleaning polluted soil, remediation often never takes place because of the cost and effort of the work. Both soil minerals and soil pollutants carry small electric charges that can cause each to bond with each other, thus making polluted soil very hard to clean. Additionally, soil is a dense medium. This causes excavation of polluted soil for off site treatment or disposal to be very expensive because of the time, labor and heavy machinery necessary to do the job.

http://savetheeaglesinternational.org/releases/denouncing-misrepresentations-from-wind-industry-30-june-2012.html

Denouncing misrepresentations from the wind industry

THE WORLD COUNCIL FOR NATURE

www.savetheeaglesinternational.org

Save the Eagles International

JOINT MEDIA RELEASE.....June 30th, 2012

CONSERVATION ORGANIZATIONS DENOUNCE MISREPRESENTATIONS FROM THE WIND INDUSTRY

The World Council for Nature **(WCFN)** and Save the Eagles International **(STEI)** object to misrepresentations spread by the wind industry, in particular those appearing in the CBC article of June 27th on the Campobello Project (1). It is indeed incorrect to say that some wind turbines cannot kill birds or bats because they move too slowly.

The turbine in question in the article, to be erected in the path of eagles and ospreys on Campobello Island, NB, has blades moving at 226 km/h at the tip. A 2-ton blade travelling at that speed will kill these living treasures, and any other birds or bats that happen to fly too close to the rotor. The windpower spokesman quoted in the article also argues that cats and buildings kill more birds than do wind turbines. But the

question being asked by WCFN and STEI is: do cats and buildings kill eagles and ospreys? – They don't, but wind turbines do (2).

Blade speed:

The first wind turbine to be installed on this small island in the Atlantic Flyway, where many thousands of birds stopover during their migrations, is an Aeronautica 47-750. According to the company's specifications published on Internet (3), this turbine has 23.5-meter long blades with a tip speed of "62 – 63 m/s at full load". In plain language, this is an optimal speed of **223-226 km/h**: 63 meters per second x 60 seconds = 3780 meters per minute x 60 minutes = 226,800 meters per hour, ie 226 km/h

Says Mark Duchamp, who speaks for both WCFN and STEI: "Brian Kuhn, spokesman for Associated Wind Developers, was **spreading misinformation** when he said "the turbine's propellers move too slowly for birds to crash into them" (1). Kuhn also pretends that birds crash (stupidly) into wind turbines, whereas the truth is that they get whacked by blades coming from above their heads, or under their bellies, at 226 km/h. Clearly, the blades do the killing. "Birds crashing into wind turbines" is a wording frequently used by agents of the wind industry and, like the term "wind farm", has been carefully crafted to project a **misleading image of harmlessness** for the industry."

The cats-and-buildings-kill-more-birds argument:

WCFN and STEI do not deny that domestic cats, buildings, cars, telecommunication towers, power lines, and other man-related hazards are responsible (for the moment) for more bird deaths than are wind turbines. But this is an invalid justification, explains Duchamp, because:

- Nobody should be allowed to kill eagles "because power lines kill more of them". It is completely absurd, and a measure of the sophistry being used by the wind industry to excuse their killings.

- **Windfarms cause more power lines to be built**, often in sensitive natural habitats, decimating more endangered birds like (for instance) great bustards in Spain (4).

- In a world where so many birds are being killed because of human activities, with their numbers dwindling as a result, wind turbines are the **legendary drop that spills**

the glass. They already are (spilling the glass) for some endangered species such as the Tasmanian Wedge-tailed Eagle (6), the Great Bustard (4), etc. Save the Eagles International has warned the international community about this threat (7).

- Bird species that found a haven far away from the usual man-made hazards are now being invaded by wind turbines in their own natural reserves (e.g. IBA's and national parks, as on Campobello Island). It is irresponsibility bordering on madness, or more simply, **a perverse form of pork-barrel politics** – perverse in the sense that it doesn't benefit communities, but harms them instead.

- Cats and buildings mostly kill common birds, like sparrows, finches, thrushes, etc. whereas wind turbines and their power lines kill eagles, falcons, cranes, and other rare birds.

- **Cats, cars, buildings etc. don't kill bats, but wind turbines do, millions of them yearly** (5), whose dwindling populations are of conservation concern. It so happens that bats are attracted by turbine vibrations, and/or by insects attracted by their lights. This will have dire consequences on agriculture, causing an increased use of pesticides, with more bird deaths and higher food prices as a result.

- The number of wind turbines throughout the world, if the industry has its way, will be multiplied by 10-20 times. Wind turbines will be omnipresent. Hundreds of thousands of kilometers of new high-tension lines will be built just for them. These are as deadly to birds as are the windfarms themselves, especially to large birds like eagles, geese, cranes etc. **There won't be any safe place for bird life**. Many bird and bat species will become extinct as a result, with unfathomed consequences for the conservation of the natural world as we know it, and things that depend on it like our agriculture.

Conclusion:

When asked why bird societies have not warned the world about these dangers, Mark replied: "ornithologists need an income like anyone else. The tragedy is that they can only get one from the wind industry or the government, and of course they can't bite the hand that feeds them. On the other hand, WCFN and STEI have no financial ties with anyone. We are unpaid volunteers, so we can tell the truth."

Contact:

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President, Save the Eagles International, www.savetheeaglesinternational.org
Chairman, World Council for Nature, www.wcfn.org

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(2) – Eagles killed by wind turbines: http://www.iberica2000.org/Es/Articulo.asp?Id=3071

– Ospreys killed by wind turbines: http://savetheeaglesinternational.org/?page_id=843

(3) – Specifications of wind turbine Aeronautica 47-750:
http://aeronauticawind.com/aw/library/Spec_Sheet_Norwin750-54_new.pdf

(4) – **40 to 60 great bustards killed by the power lines of the Villasilos windfarm, Spain.**

This compares to a previously estimated population of 260 individuals, immatures included, for the whole province of Burgos. The Villasilos area being the principal habitat in the province for these 10-14 kilo birds, where most of them show up at one time or another, the windfarm is actually acting as an ecological trap, a population sink for this endangered species. This is how "carefully" the wind industry places its windfarms. – STEI http://savetheeaglesinternational.org/?page_id=947

(5) – **6-18 million birds and bats killed yearly by 18,000 wind turbines in Spain:**
http://www.seo.org/2012/01/12/seobirdlife-presenta-una-nueva-guia-para-la-evaluacion-del-impacto-de-parques-eolicos-en-aves-y-murcielagos/

(6) – **The Tasmanian Wedge-tailed Eagle is being driven to extinction by windfarms:**
www.iberica2000.org/Es/Articulo.asp?Id=4382

(7) – Wind turbines already driving some species to extinction:
http://savetheeaglesinternational.org/

www.savetheeaglesinternational.org
Save the Eagles International

MEDIA RELEASE of April 16 2012 –

Windfarms: bird mortality cover-up in the UK

The British public is being misinformed regarding bird mortality at wind farms, denounce Save the Eagles International (**STEI**) and the World Council for Nature (**WCFN**). It is contrary to fact to pretend that these industrial structures are "carefully sited" so as to avoid risks to birds and bats. It is equally false to allege that grouse and other ground-nesting birds don't mind laying their eggs under wind turbines, or that raptors avoid these dangerous areas.

In a recent article, The Guardian states: "Studies in the UK had found evidence that birds of prey in particular avoided wind farms" (1). But if you look closely at the picture shown in the article, you'll notice that the two birds flying between the turbines are raptors, red kites in fact, which were reintroduced in the UK at great cost. "So! – they avoid wind farms, eh?" – quips STEI's President Mark Duchamp.

(Reference no 22. RJC)

In Germany, where a few wind farms have been loosely monitored for bird and bat mortality, the government has disclosed the number of carcasses reported so far: 69 eagles, 186 kites, 192 buzzards, 13 harriers, 59 falcons, 12 hawks, 7 ospreys, plus hundreds more birds of all sizes and even more bats (2). "These figures are just a small sample of the ongoing massacre", comments Duchamp, who cites this example: "Ubbo Mammen, an ornithologist commissioned by the German government, estimates that 200-300 Red Kites are being killed yearly by wind turbines in Germany" (3). These machines are driving many rare species into extinction, warns Mark.

In the UK, few raptor deaths leaked through what STEI calls "the windfarm cover-up": three red kites, one osprey, and one sea eagle. "Officially, the eagle died of a heart attack", mocks Duchamp. "In the UK, wind farms are not being monitored for bird mortality: this is how the issue is being kept from the public's eye. Scavengers and wind farm employees dispose of the dead bodies, so it is extremely rare for a dead eagle or osprey to be found by some nosy trespasser."

Birds and bats are being slaughtered by the million in other countries. In Spain, the ornithological society SEO/Birdlife recently estimated that the 800 Spanish wind farms were killing between 6 and 18 million birds and bats a year (4). Unlike birds killed by cars and cats, these include eagles and many other rare species.

But in the UK, bird charities hold the wind industry in great esteem, on account of global warming but also for their financial contributions to bird research, notes STEI. Hence the new study by researchers from the RSPB and BTO, which was just hailed by The Guardian in these terms: "Windfarms do not cause long-term damage to bird populations, study finds" (1). But raptors have been excluded from the study, remarks Duchamp. "As for the few bird species that were considered, the research is anything but convincing; besides, other studies have shown opposite results". Mark remembers that, years ago, an RSPB officer wrote the following about the Edinbane project: "they (red grouse) have been known to collide with turbine structures and have shown population declines associated with windfarm developments elsewhere" (5).

The BBC, referring to the same study, recently proclaimed: "Wind farms 'not major bird mincers' " (6). STEI wonders how this conclusion may be drawn from such an inconclusive and suspicious study, whose scope is not mortality, and only targets the "density" of selected non-raptor species. As for earlier claims that wind farms in the UK are "carefully sited", Mark notes that many have been placed in the worst possible locations, where they will mince Scottish eagles into extinction: Eishken (aka Eisgein or Eisgen), Pairc, Pentland Road, Edinbane, Ben Aketil, various eagle ranges in Argyll, etc. "Hypocrisy and deceit are rampant," laments Duchamp.

Contact:

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Chairman, World Council for Nature
www.wcfn.org

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(2) – German statistics:
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scroll down to the following links appearing in a box:
Vögel (birds) in Europa
Vögel in Deutschland
Fledermäuse (bats) in Europa
Fledermäuse in Deutschland

(3) – Germany: 200-300 Red Kites killed by wind turbines yearly.
See post scriptum here —> http://www.iberica2000.org/Es/Articulo.asp?Id=4282

(4) – SEO/Birdlife: 6 to 18 million dead birds and bats a year:
http://savetheeaglesinternational.org/?page_id=770

(5) – See section 5, GROUSE POPULATIONS:
www.iberica2000.org/Es/Articulo.asp?Id=3583

(6) – BBC article: http://www.bbc.co.uk/news/science-environment-17694256

This release was published in a number of online media.

Eagles and wind farms : mortality statistics

(3071)

THREE MILLION WIND TURBINES WORLDWIDE WILL CAUSE THE EXTINCTION OF MANY EAGLE SPECIES

This paper is not only about eagles killed by windfarms. It also questions the attitude of the RSPB*, the Sierra Club and the Audubon Society regarding birds and wind turbines. These criticisms, sadly, apply to most bird societies and conservation NGOs in the western world.

*Royal Society for the Protection of Birds

Above: golden eagle decapitated by a rotor blade at a wind farm in the State of Aragon, Spain. Courtesy of El Sekano ---> LINK

Please report any link turned defective to: save.the.eagles@gmail.com

Some people ask me: why are birds "so stupid" that they collide with such highly visible structures? - Here are a few thoughts that come to mind:

- birds do not crash into wind turbines. They get whacked by the huge blades.

- Wind turbines are deceptive: the blades appear to be moving slowly, **but their tips actually travel at 150-300 km/h.** (1) Birds don´t realize the harmless-looking structures are actually lethal.

- Cars are highly visible too, yet we tell children to be very careful when crossing the street. How do we tell the birds to be careful with wind turbines?

- What about car accidents? Cars are driven by highly intelligent homo sapiens. Are they "so stupid" that they can´t avoid running into other cars, or even static trees and walls?

- How can we expect less intelligent creatures to evaluate the speed and trajectory of **fast-moving blade-tips that travel on an orbit?**

- The blades can strike from above, from below, even from behind.

It is easier to understand how collisions happen thanks to the following video of a griffon vulture being struck by a turbine blade. It is clear that the bird doesn´t realize it has entered a dangerous zone: VIDEO - Griffon vulture struck by a blade in Greece

Raptors are prone to being struck by wind turbines for a variety of reasons. For instance, it was found that **they are actually attracted** to these dangerous structures. **The "avoidance factor"** is an entirely different thing. We shall broach these interesting subjects in the DISCUSSION further below. But first let´s review the statistics.

WIND FARM MORTALITY - GOLDEN EAGLES ("GEs")
(Aquila chrysaetos)

- In 2004, based upon carcasses found, it was scientifically estimated that 2,300 golden eagles have been killed by the large wind farm at Altamont Pass, **California**, in its first 23 years of operation (2). Today, eight years later, the toll would be well over 3,100 if the killing had continued at the same rate. But more recent studies show it has come down from 116 to about 75 a year (Dr S. Smallwood). That´s because the California population of golden eagles is dwindling under the effects of this carnage. Yet, Altamont Pass is being repowered with new, bigger wind turbines that will prolong the killing of eagles for another 25 years. See the comments of Save the Eagles International: Golden Eagle to become extinct in US

- GEs are also being killed by wind farms in the **State of Navarre, Spain** (Lekuona report, Department of the Environment, Government of Navarre, 2001). (3)

- They are being killed by wind farms in the **State of Aragon, Spain** - see the picture shown above.

- They are being killed by wind farms in the Province of Soria, Spain. Two carcasses were found in 2006 (Spanish wildlife magazine Quercus, nº 252, page 82).

- They are being killed by wind farms in the **Province of Albacete, Spain** : a carcass was found at the Bonete wind farm, according to a complaint registered with SEPRONA, the environmental law enforcement agency. (4)

I live in Spain, but the news of bird collisions that reach my desk represent only a tiny fraction of Spanish wind farm casualties, or indeed the world´s. The authorities are covering-up this sort of information as best they can, and most of the ornithologists who know something must keep silent: a standard clause in their contracts explicitly prohibits them from disclosing bird mortality information. It is also their best interest, if they want to be hired again in the future. The wind industry is not only their main employer: it has also become their main source of funding for general studies involving birds: e.g. the MIGRES Foundation in Andalusia. In short: the industry knows how to win the hearts of ornithologists. And this is not only happening in Spain - see this telling picture ---> THE $100,000 CHEQUE

What´s more: the trickle of information that used to feed my statistics has kept shrinking until it stopped almost completely. This was engineered in 3 stages : first, **wind farm employees started to routinely remove bird carcasses without reporting them**. I wrote an article about this in 2006 (5). This was confirmed 3 years later by **the Spanish Ornithological Society (SEO/Birdlife)** (6). Then, an ornithologist who used to publish pictures of dead birds at wind farm sites stopped doing so. Finally, I was banned from the main ornithology forums. **The cover up of bird mortality at Spanish wind farms is now effective at 99%, as it is in France or in the UK (in Denmark, it is effective at 100%).**

- Golden eagles are being killed by wind farms in **Sweden**: I was advised of a carcass found at the Nasudden windfarm. Later I received an email from Måns Hjernquist, Chairman of The Ornithological Society of Gotland, advising me of **the casual finding of a dozen dead eagles** (GEs and WTEs) killed by wind farms on the island of Gotland (7). Actual mortality is *"most likely much higher"*, says Dr. Hjernquist.

He later wrote to me as follows: *"We have also received reports of areas under wind turbines being "cleaned" from dead birds and bats, again if true (which one might suspect it is) making the statistics very conservative."*

Thus, the burying of hard evidence is not only happening in Spain. It is likely to be a world-wide policy, and would explain why fewer and fewer carcasses are being found at wind farm sites - for example at **Braes of Doune, Scotland,** where a monitoring study is under way.

- GEs are being killed by wind farms in the State of New Mexico, USA --->
NEW MEXICO

- Golden eagles are being killed by wind farms in the State of Washington --->
WASHINGTON

- GEs are being killed by wind farms in Scotland : various specimens happen to have disappeared where windfarms were built. Scottish officials and their ornithologists deny this, but the evidence is there, some of it in a letter from the Scottish administration itself (sic!). I have provided the evidence here ---> LINK

Opacity about wind farm mortality is just as thick in the UK as it is in France and Denmark. It permits the Scottish government to forge ahead with its plan to erect wind farms anywhere at all, including Important Bird Areas, Special Protection Areas, and eagle breeding territories. This violates EU environmental legislation, but **the European Commission** is turning a blind eye - "green" politics oblige.

As a result, golden eagles will go extinct in the UK . Save the Eagles International have denounced the scandal here ---> Scottish government, European Commission guilty of ecological vandalism.

RSPB executives are, after politicians, the most profitable allies of the wind industry: their approval is the moral caution that permits the wind farm onslaught against our wild lands. They went as far as renting their name to a utility company (Scottish & Southern Energy) which selled a "green" product: "RSPB energy", whose name implied that wind farms are harmless to birds. Yet wind farms are already killing several million birds (and bats) across the world each year ---> Chilling Statistics

The public is thus convinced that wind turbines are harmless to birds, supported as they are by the RSPB and most bird societies. In so doing, **their managements are actually co-sponsoring the destruction of biodiversity.** See our comments on the RSPB here ---> RSPB executives are causing severe harm to bird life
and here ---> RSPB HYPOCRISY

They replied to the letter from Save the Eagles International, and both letters were published in **The Scotsman.** We sent a second letter to expose the duplicity of their counter-arguments, but unsurprisingly it was not published. Here it is ---> MORE ON RSPB HYPOCRISY

This letter had to be short, so we could not reply to the following claim from Mr. Housden : *"There have been very few bird deaths at Scottish windfarms".* So we'll reply to this allegation here and now : there may appear to have been very few bird deaths, but isn't that because **wind farms in Scotland, contrary to other countries, have NOT been monitored for bird mortality** ? If one doesn't look, one doesn't find, isn't that so ? Even casual findings have been scarce, but that could be explained by wind farm employees removing bird carcasses as they do in Spain, and apparently in Sweden and other countries too. Remoteness, hard-to-walk-on peat bogs, and access barriers also play their part in keeping the public out of many wind farms.

Still, in spite of the cover up, we were able to find out about a few eagles that mysteriously "disappeared" at Scottish windfarms ---> Covering up the death of eagles at Scottish windfarms

We also found that there was **evidence of high grouse mortality at Scottish wind farms, so much so that populations are diminishing.** In a letter obtained under the **Freedom of Information Act**, and written by none other than a senior RSPB officer, Dr. Alison MacLennan, on the subject of the Edinbane wind farm we read on page 4 under "Wader and red grouse interest" : ***"they (red grouse) have been known to collide with turbine structures and have shown population declines associated with windfarm developments elsewhere"*** (10)

This, compared with the above quote from another Senior RSPB officer, Mr. Housden - *"There have been very few bird deaths at Scottish windfarms"* - **is proof enough of duplicity on the part of the RSPB.**

Besides, how can one even dare pretend this when wind farms are not being monitored ? (except for red kites at Braes of Doune, but see our remarks below on that particular case). Mr. Housden does not say : *very few bird carcasses have been found at Scottish wind farms*, which would leave an element of doubt. He asserts in a definitive manner : "There have been very few bird deaths etc. ". **So either he doesn´t know about the letter from Dr. Alison MacLennan saying the opposite, or he is lying to the public.** Whatever the case, his statement is helping wind farm developers kill even more birds in Scotland, and elsewhere in the whole of Europe and as far as Australia, for if the RSPB says "carefully sited" (aren´t they all?) wind farms kill very few birds, why worry ?

Housden finished his statement with these weasel words : *"... and this is precisely because the RSPB has fought so hard to stop the most damaging proposals".* For those of us who know better, this allegation doesn ´t wash: the bird charity has not fought nearly hard enough to stop devastating proposals such as Edinbane, Ben Aketil, Eishken etc. which are now built or being built ---> Scottish government, European Commission guilty of ecological vandalism.
Their fight against Lewis was the only one where they "fought hard", and we explained why: they were forced to do itby mounting criticism against their scandalous policy of helping bird-killing wind farms instead of fighting for bird conservation. They had to save their reputation.

The same duplicity is being evidenced presently regarding a large project on Shetland island, which is a strategic staging post for birds migrating to and from Norway and the Arctic as well as an important breeding area for protected bird species. The project goes against the RSPB declaration that ***"wind farms must be located away from narrow migration routes and important feeding, breeding and roosting areas."*** Irresponsibly, the RSPB argues that by keeping the turbines away from certain areas problems will be averted. But if one looks at the RSPB bird sensitivity map of Scotland (14), the whole island is classified "high-sensitive". A few isolated tiny points are "medium sensitive" but it is obvious that this won´t work. The poor visibility conditions often prevailing on the island will make collisions unavoidable, and the wind turbines are not even located in accordance with those points. Yet the RSPB only registered the usual conditional, bogus, face-saving objection: ***"Shetland´s RSPB officer Pete Ellis said yesterday (Friday): "We would not object on principle, although we may have to put in a conditional objection to keep everything legal"*** (15). As a result, planning consent will be granted, and countless migrating birds will be killed thanks to the RSPB´s conditional-only objection.

We also know that 3 red kites were casually found by the public at UK wind farms : two in Wales, one in Scotland. This prompted the monitoring of the **Braes of Doune** wind farm, north-east of Glasgow. **We have commented on this suspect monitoring, and on the improper use being made of it by the RSPB** ---> The Red Kite : decimated by wind farms in the EU

Wind farms have already killed **millions of birds** in other countries (14) but officially almost none in France and the UK, and none at all in Denmark. Logically, this means **one of two things: a way has been found to make birds avoid wind turbines in the UK, France and Denmark, but they won´t tell other countries, or bird mortality is being covered up more efficiently in the UK, France and Denmark.**

WIND FARM MORTALITY - WHITE-TAILED EAGLES ("WTEs", or "SEA EAGLES")
(Haliaeetus albicilla)

- WTEs are being killed by wind farms in Germany : from the Spring of 2002 to January 2011, the carcasses of 57 sea eagles have been reported to the Brandenburg State Bird Conservation Centre. Actual mortality is thought to be higher because some carcasses may have disappeared due to windfarm employees hiding the evidence, to scavengers, or to collectors and traffickers**. And only a fraction of wind farms are being searched, fewer still in a systematic manner.
BRANDENBURG STATISTICS
A record of reported carcasses from other species may also be found in this document : for example 146 red kites, 15 black kites, 2 ospreys, 5 harriers, 165 buzzards, 4 peregrine falcons, 18 geese, 13 swans, 22 storks, 33 ducks, 42 kestrels, etc.
This represents the "camel´s nose" (Japanese equivalent of tip of the iceberg) of mortality at wind farms in Germany, which amounts to over a million birds yearly (13).

** Traffickers in eagle parts : talons, skulls and feathers are being sold on the black market.

- WTEs are being killed in Sweden: 3 collisions have been reported to me. The pictures of one of them are

available here :

- DEAD SEA EAGLE

- WHERE IT WAS FOUND

- THE UNLIKELY KILLER A 3-TURBINE WINDFARM

It is worth noting that it doesn´t take a large wind farm acting as a barrier (or a maze) to kill an eagle. The collision may have happened in poor weather or visibility conditions, but it could also be that **the bird was attracted to the turbines** (see the reasons for this attraction in DISCUSSION below).

Other WTE collisions in Sweden : from Dr. Hjernquist we know that a dozen eagle carcasses were casually found under wind turbines on the island of Gotland - some of them WTEs (7).

Who knows how many other eagles were killed by Swedish wind farms, and how many will be in the future? As is the case with most other bird charities around the world, the **Swedish Ornithological Society** seems to take little interest in this matter. We are the sad witnesses of a conflict of interest that has turned many bird societies into **silent partners of crimes against biodiversity**. For there is a fine line between an accident and a wildlife crime: it is one thing to kill protected birds accidentally while driving a car; it is another to erect giant bird-chopping machines in their remaining habitats, some of them legally protected (e.g. Pentland Road wind farm within the Lewis Peatlands Special Protection Area; Eishken wind farm within Important Bird Area UK 224) - all the more when there are alternative locations elsewhere.

- WTEs are being killed by wind turbines in Japan. First, an article from the Sierra Club alerted to the death of 3 of them --->JAPAN
Note : the Sierra Club is not reporting bird kills of that nature any more. Has their support of wind farms become more important to them than defending biodiversity? They even endorsed the partial dismemberment of California´s wildlife stronghold, **the Tejon Ranch**, for the benefit of residential complexes and a trucking hub with warehouses and other facilities. A financial deal was negotiated by the Sierra Club, California Audubon, the NRDC, EHL and the PCL. Obviously, the RSPB is not the only NGOs having inverted their priorities...

This invites a question : who empowered some NGO´s to, in essence, sell the world´s wildlife habitats for money ? Technically, they only sell their approval of developments (or lack of meaningful opposition to them) ; but the effect is the same : money comes their way, and biodiversity pays the price.

On January 4, 2007, an article in the Japanese press puts the total of WTEs killed at 6, **plus one osprey** :
6 eagles killed

Then an article written by scientists mentioned 7 WTE wind farm victims on Hokkaido between February 2004 and January 2007 (8).

In September 2008, I was advised by a Japanese biologist that, over several years, he had autopsied 13 WTEs killed by wind turbines. By law, carcasses of protected birds must be sent to his laboratory. He sent me pictures ---> PICTURES OF THE KILLS

- WTEs are being killed by wind turbines **in the Netherlands :**
WTE MORTALITY NETHERLANDS

- WTEs are being killed by wind turbines in Norway:
In June 2006, the RSPB sent a press release announcing that 9 WTE carcasses had been found at the Smola wind farm --->RSPB

QUESTION : Why did the RSPB report these kills ?
- The RSPB are a cornerstone of the UK´s aggressive wind farm policy, and as such they don´t normally report bird collisions with wind turbines on their web page or to the media. For example they never reported most of the bird collisions we have published in "Chilling Statistics", even though these come from official monitoring studies duly referenced. Nor did they publish available eagle collision statistics from Germany or

Tasmania, let alone private reports from Sweden or Australia, and articles from Japan or the US, which we published on Iberica2000.org. They did report the first news of bird collisions which came out in the nineties : at Altamont Pass (California) and Tarifa (Spain). After that they basically stopped reporting this sort of news : these could have a negative effect on their reputation in view of the RSPB´s activism in favour of wind farms.

But special circumstances were at play regarding the eagle kills in Norway: we had denounced a first eagle collision on the Wind Turbines Birds forum (9). Then, a birder from Norway told the discussion group that there had been more than one. As the RSPB had been officially advised that the actual number of deaths was nine, it would have been risky for their reputation to withhold the information : hence their press release.

But three years have passed, and we haven´t heard anything more from the RSPB about eagles killed by wind turbines in Norway. Yet they are participating in the monitoring and mitigation of the Smola wind farm, and eagles keep being killed there regularly. So why the silence ? We can only conclude that they would have reported a success (no more deaths), but prefer not to report a failure. **This is unethical on their part, and harmful to the conservation of the Scottish eagles** . If it´s not possible to make eagles avoid wind turbines at Smola, then it is the duty of the RSPB to firmly and vehemently oppose windfarm projects where eagles fly in Scotland. But we know they don´t do that either ---> RSPB HYPOCRISY

At **Save the Eagles International**, our purpose is to protect wildlife, not the developers ; so we have no reason to suppress mortality statistics. Here are the latest regarding Smola : *"The 2009 report from the teem* (sic) *of ornithologists monitoring eagle mortality at Smola reports as follows : It is clear that the considerable amount of bird collisions, especially White-tailed Eagle*
as duly monitored only since 2006 proves that this risk was initially underestimated ***(26 casualties in 3 years)."***

"Arguing that only the local population is affected is in contradiction to the results of movement analysis of individually marked birds. Especially immature White-tailed Eagle can explore larger sections of the Nordic coast, where also a series of power plants is build or under study. Data were presented by NINA that the reproduction rate with the actual artificial mortality ***could cause a decrease at population level."***

"In view of future wind farm development along the Norwegian coasts I hope that the conflicting experience of Smøla will lead to an integrated approach based on scientific evidence, international conservation responsibilities and full respect for the precautionary principles." (10)

Thus, in 3 years of monitoring they have found the carcasses of 26 WTEs killed by the 68 turbines on Smola island. More were killed at the wind farm on nearby Hitra island (11). A number of eagles were also electrocuted by power-line pylons : six were found at Smola in 2009 alone (11). This is useful information when it comes to assessing the collision risk for WTEs in Scotland, where 250 wind farms and their power lines are being planned, some of them in areas where WTEs are seen flying regularly. So why are the RSPB management withholding these findings from the public ? If they don´t really care about what happens to the Scottish eagles, **are they short-sighted enough to think that this won´t hurt the credibility of the bird society in the long run ?**

Above: one of the white-tailed sea eagles killed by the Smola wind farm in Norway.

From the pictures of the NINA 2009 report (11), we can see the research center established on Smola and the state-of-the-art monitoring equipment available to the ornithologists (the avian radar unit). The monitoring was set to last 4 years, but it could be extended further. Edinbane and Ben Aketil, in Scotland, will also provide jobs to ornithologists. And so will Eishken and other wind farms where eagles will be killed. The negotiation of monitoring contracts, "land management", "adaptive management", and other useless but juicy mitigation schemes, is the reason why so many objections put up by bird societies are conditional rather than firm and definitive. This happens in America as well, to wit the withdrawal of MA Audubon´s objection after millions of dollars were pledged by the developer of the Cape Cod offshore windfarm to mitigate the killing of thousands of migrating birds yearly - much of this money will actually pay the salaries and expenses of a selected handful of ornithologists.

We offer these examples as proof that badly-sited wind farms can be a source of jobs for the profession (though admittedly not all of them come with lobsters for dinner, as the one pictured in the NINA report). So why should bird societies firmly oppose badly-sited wind farms, if they are the ones that are most profitable for a few well-connected ornithologists ? Smola and Lewis were objected to robustly, it must be said, but they are the exceptions that confirm the rule ; in the vast majority of cases, in the conflict of interest affecting bird societies and the ornithology profession, money comes out winning, and biodiversity conservation becomes a joke. We leave it to NINA, the RSPB, and the Audubon society to prove us wrong by killing new and harmful projects, such as Stacain in Scotland, Turkey Hill in the US, or those on the string of Norwegian-coast islands where they would kill countless migrating birds and sea eagles.

WIND FARM MORTALITY - STELLER´S EAGLES
(*Haliaeetus pelagicus*)

I am not aware of any wind turbine victim among that large eagle species from Kamchatka (slightly bigger than the GE or even the WTE). But here are the words of a Japanese ornithologist about the construction of a wind farm at a migration hot spot on Hokkaido :

"My recent most concerning is about the project of a wind farm at the Soya peninsula where is very important migration and stop-over site not only for White-tailed and Steller´s Sea eagles but also for the other various birds. I have brought up this problem to ministry of the environment and also appealed to public, but the reaction proceeds weakly. This wind farm is under construction now."
JAPAN

WIND FARM MORTALITY - SHORT-TOED EAGLES (STEs)
(*Circaetus gallicus*)

The SEO/Birdlife report on Tarifa (1995) is the first evidence we have of eagles of this species falling victims to wind farms (12). A subsequent study in the same area (**Tarifa, near Gibraltar**) by the environmental association Agaden reported **6 STE found to have been killed by the Tarifa turbines over the years.** (13)

Another association, Gurelur - www.gurelur.org - sent me a picture of an STE killed at a **Navarre wind farm**. See photo here: Chilling Statistics

And a picture of an STE killed by a wind farm **in the State of Aragon** may be seen here:
EL-SEKANO
Two carcasses were actually found at the Campo de Borja wind farm :
TWO YOUNG EAGLES KILLED

Another STE carcass was found at a wind farm in the **Province of Tarragona, Spain** :
EUROPA PRESS. 16.07.2008

And another was found in the **Province of Castellón, Spain**. Having solicited information from the Valencian government, an association received the following reply : in a period of 10 months, the province's 273 wind turbines had killed 121 griffon vultures and one short-toed eagle. So that's one more eagle to be added to

the list. Only 6 bird species were covered by the request, so we don't know, for instance, about golden eagles.

An STE was maimed by the el Candán windfarm in **the State of Galicia, Spain** (11). The article reveals three things : 1) from the picture, it is easy to see that the eagle will never recover, having a severed wing. 2) the willingness of the newspaper to play down the incident : *" the eagle will be all right"*. 3) yet the journalist adds : *"in other occasions, and there have been quite a few according to their witnesses, the birds always died." ("En las ocasiones anteriores, y han sido bastantes según sus testimonios, las aves siempre mueren")*. But I was not able to obtain more information on these "other occasions". As I said, opacity in Spain is extreme.
MAIMED STE

And another STE casualty was recorded at the Suído wind farm in Galicia :
ARTICLE AND PICTURE

WIND FARM MORTALITY - BOOTED EAGLES
(*Hieraaetus pennatus or Aquila pennata*)

These birds were among the casualties found by Dr Lekuona in his **Navarre** windfarm mortality study. (3)

In **Castellón** too, evidence has surfaced of their mortality : --> Castellon ---> look for "águila calzada".

A carcass was also found in the province of **Albacete** killed by the power lines that link the windfarm of Carcelén to the national grid (personal commentary).

They are also being killed in Greece : *"On 4th of July (2008) a Booted Eagle (*Hieraaetus pennatus*) was found dead collided with a turbine situated in the SPA, GR 113001, Thrace, NE Greece. The one of the bird´s wings was broken and turned over. The bird was found 35 m far from the turbine. It is estimated that the collision episode happened 5-8 days before. The Eagle was collected with the help of the Environmental Police that were invited to certify the incident."* - Source : a local ornithologist.

WIND FARM MORTALITY - WEDGE-TAILED EAGLES ("WEDGIES")
(*Aquila audax*)

At Starfish Hill, South Australia, 2 "wedgies" were killed practically as soon as the 26 turbines became operative. Their bodies were found by the public ; and one more carcass was reported about a year later. Another dead wedgie was found at the Codrington wind farm, Victoria. These are casual finds, not the result of systematic monitoring. So there are undoubtedly many more collisions. At Woolnorth, Tasmania, a wind farm has been partially monitored (only 30% of its turbines) : **20 eagle carcasses have been found over 4 years.** Here is the comment of Stephen Debus, raptor specialist, PhD in zoology, University of New England :

"Smales & Muir (2005) Modelled Cumulative Impacts on the Tasmanian Wedge-tailed Eagle of Wind Farms across the Species´Range (Biosis & SymboliX report) predicted about one Wedge-tailed Eagle death per year across all of Tasmania (= seven wind farms), from collisions with wind turbines, on the basis that there was likely to be a 99% or greater avoidance rate. In practice there have been 12 eagle deaths in two years, and 20 in four years (i.e. an average of 5 per year), at the Woolnorth wind farm alone. ***Obviously something is wrong with the models or their inputs*** *(e.g. the 99% avoidance assumption) if the reality is* ***an order of magnitude above predictions.*** *That is, there might be tens of eagle deaths per year in Tasmania, not between one and ten, if the Woolnorth mortality rate is repeated across the other six wind farms."* (16).

These deaths are particularly significant because the Tasmanian Wedge-tailed Eagle is a sub-species listed as **"endangered", object of the Threatened Tasmanian Eagles Recovery Plan 2006-2010, and has less than 220 pairs surviving (www.environment.gov.au).** It is clear that the wind farms, added to the usual hazards (poison, power lines, habitat loss etc.) will drive the sub-species **to extinction.**

Eric Woehler, chairman of Birds Tasmania, said that the Woolnorth wind farm was acting as a "BLACK HOLE" : *"It´s killing eagles that were resident and drawing more in from the surrounding areas, so it will continue to be a black hole for these birds"* (17). In fact, every wind farm is black hole, or population sink : they not only kill resident birds, but others that happen to fly into the area.

Regarding the main species from continental Australia, it is at risk of being extirpated from the provinces building many wind farms : e.g. New South Wales, Victoria, and South Australia. These are being built without consideration for the eagles, as close as 300 metres from their nests (e.g. Challicum Hills windfarm), or where there is a high activity of sub-adult birds (e.g. Yaloak South windfarm, Victoria). Monitoring studies paid by developers may pretend the eagles are doing fine, but they would, wouldn´t they? We´ve seen such a case in Scotland : Beinn an Tuirc ---> JUNK SCIENCE

Above: wedge-tailed-eagle maimed by a turbine blade at the Starfish Hill windfarm, South Australia.
More pictures here

WIND FARM MORTALITY - BONELLI´S EAGLES ("BONELLIS") -
Hieraaetus fasciatus* or *Aquila fasciata

GEPEC, an ornithological association from **the State of Catalonia, Spain,** reported the following :

- In 2005 a Bonelli´s eagle was lured with a chicken, then shot and killed at close range in an area where a windfarm promoter wanted to erect a wind farm. The body was then deposited, in a defiant act, somewhere were it would be easily found.

Two month earlier, a pair of Bonellis had disappeared in the same general area. GEPEC thinks both incidents are linked to the windfarm project.
Article in Catalan

- In 2006, the male of a pair of Bonellis has disappeared in the area of **Coll de l´Alba, Catalonia,** possibly killed by a wind farm in the area.
Other article in Catalan

The Bonelli is a red-listed species, object of an "EU Action Plan" and of projects financed by the LIFE Nature Fund. **There are less than 800 pairs left in Europe, and they are fast disappearing.** Spain is their stronghold, but 16,000 wind turbines won´t allow them to survive very long. I warned the European Commission of this danger 7 years ago, showing how the Bonelli´s Spanish habitat was being invaded by lethal wind turbines. - That didn´t change anything. **The EC obviously cares more about protecting highly-ineffective, highly-subsidised yet redundant industries than it cares about protecting biodiversity.**

DISCUSSION

The above statistics are far from reflecting the whole picture. Only a handful of wind farms are currently being monitored for mortality across the world. Even in those cases, searchers can only find a small portion of the total number of victims : carcasses disappear rapidly, taken away by scavengers raising families near these providential food sources. And now windfarm employees are competing with them : not for the food, but to hide the evidence.

Bird societies find it financially beneficial to support the windfarm drive. They only say nice things about the wind industry and have stopped reporting eagle and other embarrassing collision statistics. "Omerta" clauses in monitoring contracts prevent ornithologists from talking about their findings. Their reports are influenced by windfarm developers, are sometimes edited, and rarely reflect the whole truth. Wind industry agents are monitoring what is being said on ornithology forums and who says it, and whistle-blowers are expelled. A great many ornithologists are now making a living working for windfarm developers or pro-windfarm government bodies. They are not keen to see a return to leaner times when jobs were scarce.

This will lead to a number of species being brought to near-extinction levels, which will trigger more studies, captive breeding and reintroduction programmes, all of which will further benefit ornithologists and bird societies. This could last forever, as the young birds will be released into habitats transformed into minefields... It´s a hopeless situation we are getting into : this is why it should be stopped before we get there.

The management of bird societies argue that it is more important to stop global warming. But there is ample evidence that wind farms have not helped reduce CO2 emissions where they have been built in large numbers (Denmark, Germany, Spain). The intermittency and unpredictability of wind is the problem, which causes a need for back-up by fossil-fuel power plants operating at reduced-capacity, actually producing more CO2 per Kwh than they usually do. See the book "The Wind Farm Scam" by Dr Etherington. As for man-made global warming, the jury is out on the issue. If you doubt that, Google this word : "Climategate".

We said earlier that we would discuss raptors´ "attraction" to wind turbines as opposed to "avoidance". The subject of attraction has been explained and documented in our Complaint to the European Commission ---> Scottish government, European Commission guilty of ecological vandalism. (search for the word "attract"). As for avoidance, there is a misunderstanding about its meaning. Most people think it reflects the fact that birds "avoid" flying through rotor-swept areas, or even that they avoid coming near wind turbines. We have seen that this is not based on fact, as collision statistics show - in this paper and that other one Chilling Statistics

So what is the "avoidance rate" collision models talk about ?
It is a rate calculated from the comparison between flight activity in the danger zone and actual collisions. This makes it a highly-subjective parameter, as flight activity depends among other things upon the size of the area that is chosen (see "HOW THE MANIPULATION WORKS") in our Complaint —> Scottish government, European Commission guilty of ecological vandalism.
Manipulating the avoidance parameter allows an eagle mortality prediction to drop for example from 137 to 15 (the case of the Edinbane project in Scotland). **So the predictions are unreliable by as much as one order of magnitude or more, yet they are being used over and over again with absolute cynicism.**

Mark Duchamp.....July 28 2006....presently being updated.

See also this article on bird mortality at windfarms (all species Included): Chilling Statistics

FOOTNOTES

(1) - Speed at the tip of the blades : click the link, then scroll down to Section "PRELIMINARY CONSIDERATIONS ON AVIAN MORTALITY" ---> LINK

(2) - 2300 golden eagles killed at the Altamont Pass wind farm : Dr. Smallwood & K. Thelander, Aug. 2004, Developing Methods to Reduce Bird Mortality in the Altamont Pass Wind Resource Area - SEE CHAPTER 3, page 73, TABLE 3.11, 1ST LINE : **"116.5 golden eagles p.a. adjusted for search detection and scavenging."** ---> SMALLWOOD
I have kept a copy in case the report is removed from the Web. I shall send it upon request (it weighs 12 Mb).

(3) - Golden eagles killed in Navarre : Lekuona report : Critical Analysis of 4 Reports on Bird Mortality at

Wind farm Sites. Mark Duchamp (2003) - SEE SECTION 1 ---> Birds and windfarms - Critical analysis of 4 reports on bird mortality at windfarm sites.

(4) - Golden eagle killed by wind farm in the province of Albacete --->ALBACETE

(5) - Windfarms slaughter vultures in Spain - Covering up the evidence.

(6) - Wind farm employees bury embarrassing evidence - DIRECTRICES PARA LA EVALUACION DEL IMPACTO DE LOS PARQUES EOLICOS EN AVES Y MURCIELAGOS - SEO/Birdlife (Dec. 2008) : ---> LINK

Excerpt :
" Se ha podido comprobar la ocultación de cadáveres por parte de trabajadores de los parques eólicos, tal vez pensando que su puesto de trabajo dependa de las aves que mueren en el parque, disminuyendo la tasa de mortalidad obtenida en los planes de vigilancia."

Translation : *" It has been ascertained that bird carcasses have been **hidden by wind farm workers**, thinking perhaps that their jobs depend upon the birds that die in the wind farm. This reduces the mortality observed by searchers in monitoring programmes."*

(7) - 12 eagles killed by wind turbines on the island of Gotland, Sweden ---> 12 eagles killed Gotland

(8) - "Risk management model of birds and a wind farm" - Shimada, Yasuo
Matsuda, Hiroyuki - Hozen Seitaigaku Kenkyu - November 2007.
Available upon request.

(9) - WIND-TURBINES-BIRDS-FORUM

(10) - Wind farms at the Smøla Archipelago - CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS - Standing Committee 29th meeting Bern, 23-26 November 2009 - Published by Council of Europe, ref. T-PVS/Files (2009) 17. (files17e_2009.doc)
DOWNLOAD the report

(11) - Norwegian Institute for Nature Research - NINA Report 505 "Pre- and post-construction studies of conflicts between birds and wind turbines in coastal Norway" (Bird-Wind) Progress Report 2009.
DOWNLOAD the report

(12) - SEO/Birdlife report on Tarifa wind farms : see chapter 2 of ---> Birds and windfarms - Critical analysis of 4 reports on bird mortality at windfarm sites.

(13) - Informe De Los Impactos Ambientales De Las Centrales Electricas Eólicas En El Termino Municipal De Tarifa (Cádiz) - Comisión de Energa de AGADEN. Septiembre de 1.999 – available upon request (600 kb – written in Spanish).

(14) - MAP : "Bird Sensitivity Map to provide locational guidance for onshore wind farms in Scotland" - RSPB Research Report No 20 - June 2006. Jointly funded by the RSPB and Scottish Natural Heritage ---> MAP on page 28 of document posted here

(15) - Bogus RSPB objection : "Shetland´s RSPB officer Pete Ellis said yesterday (Friday): "We would not object on principle, although we may have to put in a conditional objection to keep everything legal." ---> Bogus RSPB objection

(16) - Comment on Woolnorth eagle mortality by Stephen Debus, raptor specialist, PhD in zoology, University of New England ---> Woolnorth

(17) - Eric Woehler, chairman of Birds Tasmania : the Woolnorth wind farm is acting as a "black hole" ---> BLACK HOLE

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