From:
Sent:
To:
Subject: Submission re : Inquiry on non fossil fuels energy

Submission No: 86

Submission by Mark Duchamp 27 June 2007

To: **House Standing Committee on Industry and Resources**

Re: **Inquiry into the development of Australia's non-fossil fuel energy industry**

Dear Sirs,

I wish to submit a few comments.

Of importance is the premise on which public energy policy is based : *"Wind power is an excellent source of renewable energy" - Minister's Foreword to : National Code for Wind Farms – A Discussion Paper, May 2006* - There is much to be said about this statement, but I shall come back to it later, and start with a few considerations on the negative impacts this industry will have on Australians and their environment.

1 - BUSHFIRES

Wind turbines are known to catch fire. Various press articles evidence this propensity:
Nov 11, 2005 7:34 pm US/Central (AP) Slayton, Minn. , USA.
A South Dakota man died and two people were injured Friday in a wind tower fire in southwestern Minnesota. The Murray County sheriff's office received a call just before 10 a.m. reporting the fire at a wind tower east of Chandler, Minn., and that one person had fallen. Benjamin James Thovson, 26, of Sioux Falls, S.D., died at the scene. He fell about 210 feet, Deputy Randy Donahue said. The other two were able to climb down and escape, but were taken to a local hospital. When help arrived, Donahue said, ***"the wind generator was engulfed in flames."***

Full article here:
http://www.iberica2000.org/documents/EOLICA/SUNDRY_ARTICLES/Man_Dies_In_Wind_Towe

Here is another, from Australia this time :
Monday, 23 January 2006. 14:28 (AEDT)Monday, 23 January 2006. 13:28 (ACST)Monday, 23 January 2006. 13:28 (AEST)Monday, 23 January 2006. 14:28 (ACDT)Monday, 23 January 2006. 11:28 (AWST)
Engineers from Melbourne will today begin inspecting the scene of a $3 million fire at the Lake Bonney wind farm.
Yesterday afternoon's blaze began in a turbine located near Tantanoola.
While the flames were initially contained at the top of the structure, falling debris caused the fire to

spread to the grass below.

And another, from California:
Firemen climb 213-ft tower in rescue
December 07, 2004
Two electrical workers were treated and released at Buena Vista Regional Medical Center last week after they were rescued following a fire at one of the MidAmerican Energy turbines just south of Schaller.
The workers were doing electrical work on a control panel inside the 213-foot turbine support tube. Firefighter Armon Haselhoff said the department received the call at 7:35 p.m. and responded to the turbine site where the doors were shut "to keep the oxygen from feeding it" since the tube could potentially have acted as a chimney.
Full article here:
www.zwire.com/site/news.cfm?
newsid=13505645&BRD=1304&PAG=461&dept_id=180485&rfi=6
or here:
www.iberica2000.org/documents/EOLICA/SUNDRY_ARTICLES/Turbine_fire_California_2004.do

And there are many more. In Germany, for instance, a number of fires caused by wind turbines are reported here:
http://members.aol.com/fswemedien/ZZUnfalldatei.htm
see also a bushfire being started by a turbine here:
http://members.aol.com/fswemedien/feuerwehr.htm

In California, an article in the Tri-Valley Herald of California reports 40 fires in one year at the large Altamont Pass windfarm, 90% of them caused by wind turbines:
www.iberica2000.org/documents/EOLICA/PHOTOS/ON_FIRE_36_TIMES_IN_ONE-YEAR.JPG

And a webpage in the UK maintains a record of wind turbine accidents. It states: ***"Fire is the second most common accident cause in incidents found... A total of 38 fire incidents were found in the data"***
http://www.caithnesswindfarms.co.uk/pages/accidentData.htm

and:
http://www.caithnesswindfarms.co.uk/Downloads/Accidents%20_Jan2006.pdf

It must be borne in mind that about **400 litres of oil** are stored in each nacelle*, to lubricate the moving parts.
* the nacelle is what houses the turbine, atop the tower.
When a malfunction develops in the electrical components, or when lightning strikes, this oil may catch fire. The result can be seen on the following picture, where a ball of fire (burning oil) falls to the ground:
www.iberica2000.org/documents/EOLICA/PHOTOS/ON_FIRE_1.pdf

Burning droplets may also be dispersed over a large area by the moving blades.
Here are more pictures of turbines on fire (select photo album "Turbines on fire"):
http://mark-duchamp.spaces.msn.com/PersonalSpace.aspx

Bushfires may also occur during the construction phase, as recognized by **Meridian Energy**, the promoter of the Makara windfarm in New Zealand: ***"The greatest potential risk to the plant communities within the study area is considered to be fire."***
www.meridianenergy.co.nz/WindProjects/project+west+wind/proj+west+wind.pdf (page 36, section 8.2.1).

Conclusion on the first section:
The above provides conclusive evidence that wind turbines are a significant fire hazard.
To mitigate this risk, windfarm promoters can only offer "fire fighting readiness". But we know only too well that, once a fire has started, things can rapidly get out of control, especially in a sun-parched land such as summertime Australia.
Can this country afford multiplying its forest fires (which release enormous amount of C02) ?
Especially in view of the reservations to be had about the usefulness of this form of energy? (see last section).

2 - IMPACTS ON BIRDS.

2.1 Birds in General

The blades of wind turbines appear to be rotating at a leisurely pace, but their tips may travel at speeds up to **300 kph.** We find it hard to believe, and need to use a calculator to convince ourselves (1). But birds have no way of knowing, and their first lesson usually kills them.

Much money has been spent to find a solution to the problem, by the wind industry, by individual developers, and by public administrations. But none of the proposed solutions proved effective. In the process, however, studies have been made to try and quantify this bird mortality : here is a selection.

A) Cordelia, Solano County, California.

S. Byrne monitored a **solitary** wind turbine for one year, starting in 1992: "The mortality adjusted for scavenger removal and detectability suggests an actual mortality during the study as high as **54 birds.**" - footnote (2)

Yet it was **not a particularly busy avian area**: "Findings indicated relatively low rates of waterfowl movements and nocturnal songbird migration over the wind turbine site" . And the author adds: "Migration rates were considerably lower than those recorded in the eastern United States."

This example is remarkable on various counts:

a) We are dealing with a solitary turbine. It should be easy for birds to fly around it. But the mortality evidenced by Byrne shows that even a single machine is not easy to avoid. **This invalidates the claim that wind turbines having ample space between them will cause insignificant mortality.**

b) Searches were conducted 5 days a week during nocturnal migrations (and once a week thereafter). **This explains why more carcasses were found than at other monitored windfarm sites in the US**, where searches were conducted less frequently.

Another reason: searching under a single turbine, it is likely that the field workers did **a more thorough job** than when they have a whole windfarm to search.

Scavengers are quick to learn that dead birds are to be found under wind turbines. Dr Lekuona relates the presence of well-travelled fox paths on windfarm grounds in Navarre, Spain (3). Scavenger-removal tests are performed to take scavenging into consideration; but it is far from being an exact science. Besides, in their tests surveyors sometimes use road-kills that have been frozen for months. But well-fed scavengers patrolling the windfarm daily may show a preference for freshly killed victims bearing no human or road scent: this could distort the results.

Daily searches are particularly crucial when rare species are at stake. For example: let us suppose that three Tasmanian wedge-tailed-eagles were killed at a given windfarm in a given year, and their bodies were removed by scavengers between the weekly searches. - The report will show : zero eagles among the victims, **even if scavenger-removal tests were conducted.** Whatever correction factor is applied, with a zero body-count the end result will always come out as nought.

Scavengers are a factor. But we have to consider other agents that may be removing the dead birds: windfarm employees, and **eagle-trophy collectors** or traffickers. The former were probably the ones who buried a plastic bag containing the remains of various griffon vultures at a windfarm in Aragon, Spain. Those who found it, half-unearthed by a fox or some other cause, had the good sense to take a picture:
www.iberica2000.org/Es/Articulo.asp?Id=2968 see second picture, and translation of Spanish text just above: SLAUGHTER AT PEDROLA III

As for the traffickers, they are growing in numbers: I am told that eagle feathers, talons and skulls are being actively traded on the black market. This poses another problem: it is possible that traders would offer money to windfarm employees for such goods. And so might their employers, for a different reason: destroying embarrassing evidence - as in the above example of the buried "body bag".

These factors will make it increasingly difficult to be informed of the true bird mortality at windfarms.

c) Moving blades, at night, are difficult to see - worse still in overcast conditions. Rain is an aggravating factor for visibility, and wind makes avoidance action more difficult. As a result, night-migrating songbirds run into windfarm rotors as they do into traditional obstacles: power lines, guy wires, tall buildings' windows, etc.
Many get killed, as evidenced by the single Cordelia turbine - see also Nasudden (section on Sweden below), San Gorgonio (another section below), etc.

And during the day, some birds are actually attracted by the wind turbines. This is due in part to the mice, rabbits, and other small mammals that proliferate under them. Freshly-upturned topsoil makes for easy burrowing around the turbines' concrete bases, and cleared woodlands turn into grasslands - i.e. rodent habitat. **This abundance of prey attracts raptors**, which are often surprised by the swift-moving blade tips, and get killed. This has been amply demonstrated at Altamont (see section C below).

d) The Byrne monitoring survey yielded the highest-known bird-kill rate in the United States: 54 birds/turbine/year. This was not due to high avian activity, but to daily visits to a single turbine (instead of weekly or monthly visits to a number of them). Yet, **the Byrne report was promptly shelved** and forgotten, evidencing a will to downplay the impact of windfarms on birds.

Today, the windpower industry wants us to believe that bird mortality at American windfarms is no higher than 2 birds per turbine/year. This claim ignores the Byrne study, and bases itself on

complacent studies of lesser quality. In England and France, a consultant ornithologist popular with the wind industry claims mortality to be below 1 bird/turbine/year, while in countries like Belgium, Spain and the Netherlands more rigorous ornithologists have estimated mortality to be, **conservatively,**
20 birds/turbine/year (Everaert, Lekuona) and **46 birds/MW/year*** (Winkelman) (see: footnote (1) sections 4, 5 and 7).

**Modern land turbines have an installed capacity ranging from 1 to 3 MW each. The bigger they are, the larger the area swept by their blades, the higher they reach into the sky, and the more birds they kill. They revolve more slowly, but with their longer arms blade-tip speed is maintained at 150-300 kmh, depending on the wind.*

To understand the near-zero mortality estimates, one must reflect on the following: looking for dead birds under wind turbines is one of the easiest jobs in the world - for someone without a conscience. For **the less birds the searcher finds, the happier the employer** (in most cases). And happiness of the boss is a must for being hired again, and again, and again. Some ornithologists must be making their bosses very happy, for their names are attached to many windfarm studies. - It takes a lot of integrity to do a proper job under such circumstances, and the above ornithologists from Belgium, Spain and the Netherlands are to be commended.

And this month, a report was published that invalidates the claim by AWEA (American Wind Energy Association) that US windfarms only kill 2 birds/turbine/year : see footnote (22) :
PRETENDING THERE HAVE BEEN 125 CASUALTIES WHEN THERE WERE ACTUALLY 8,400

e) The world will soon have one million wind turbines. At 54 birds/turbine/year, that's **54 million birds to be killed yearly, in addition to hundreds of millions** who fall victims to power lines, guy wires, lead, pesticides, chemicals, guns, nets and traps, egg snatching, cars, cats, windows, buildings, loss of habitat etc. Then we must add the millions of casualties from the additional power lines needed by the windfarms . And we already know that power lines are big killers (6).

Other human structures, and actions, have already caused bird populations to decrease worldwide. Can we afford putting more deadly obstacles where they fly ?

The mortality will only ease as birds become rare. Experience shows **there is no learning curve** : see the case of Altamont, still killing plenty of birds after 20 years of operation - (C) below .

B) San Gorgonio windfarm, California.

Raptors-kills were the first to make the headlines in the US. But a study by McCrary, 1986 evidenced that passerines (song birds) were also being killed in numbers at San Gorgonio: ***"an overall estimate of as many as 6,800 birds killed per year, most of them nocturnal passerine migrants."***
Many water birds are on the list as well. (5)

The industry claimed that the death of 6,800 birds per annum at San Gorgonio, out of millions of migrants, was "biologically insignificant". What they did not say is that the **cumulative effect** of hundreds (thousands ?) of windfarms across the US will indeed be significant.

In **Scotland**, where 400 windfarms are to be built, windpower agents insist on analysing the impact of each project on a case-by-case basis, "on its own merits", in isolation from the big picture. It is easy to understand why : **a nationwide study of the cumulative impact of 400 projects would prove the impact on many bird populations to be unsustainable.**

The case-by-case approach is also called **"salami slicing".** It is a trick as old as corruption .

C) The golden eagles of Altamont Pass, California.

Several studies evidenced a high mortality of raptors at this very large windfarm inland from San Francisco. In 2002 ornithologist Grainger Hunt (7) estimated, very roughly, that 40 to 60 golden eagles were being killed by the blades yearly.

This was quite conservative, as shown in a critique of the report (8) . More recently, a detailed study, performed by Dr. Smallwood and Karl Thelander, **put the mortality at 116 golden eagle per annum**, once adjusted for detection and scavenging (9).

Being a rich hunting ground free of territorial adults, Altamont is being visited by eagles from the Western States and even Canada, mostly young ones. Dead eagles are replaced by newcomers, who in turn get killed by the rotors. The windfarm acts as an **ecological trap**, a population sink for eagles and other raptors, and birds in general.

An estimated kill rate of 116 per annum yields **an accumulated mortality of more than 2,300 eagles** since the windfarm began operating in the early 1980's.

Thelander & Smallwood denied this was exceptional, or an effect of the old lattice-tower turbines. Tubular-tower models kill even more birds, including protected raptors: *"It appears that factors other than tower type play more of a role in whether a particular turbine is associated with one or more fatalities, such as prey distribution about the tower's base, physical relief, and presence of declivity winds. Regardless,* ***the number of fatalities at tubular towers was higher than at horizontal lattice towers"***. (10)

And the mortality risk is the same at other windfarms. Population abundance is greater at Altamont, that's all: *"**Adjusting for local relative abundance**, the existing data indicate that **most wind energy generating facilities have an equal impact on the local raptors.**"* (11)

This is corroborated by the study made by Dr. Lekuona at the request of the Navarre government, **Spain** : in one year, **368 tubular-tower turbines killed 7,105 birds, including 409 griffon vultures** and 24 other protected raptors: golden eagles, eagle owls, booted eagles, sparrow hawks and kestrels (19).

Regarding other raptors, Altamont takes a heavy toll as well: 300 red-tailed hawks, 333 American kestrels, 380 burrowing owls, etc. **yearly** (12). Cumulatively, that's over **20,000 raptors** since the early 1980's, mostly from species that are protected by law.

Other victims include doves (3,230 p.a.), larks (2,670 p.a.), ducks, blackbirds, gulls, swallows, herons, ravens etc. But golden eagles and other raptor mortality are what made the Altamont Pass windfarm particularly infamous.

D) Sweden.

From a PIER Study of the California Energy Commission (2002):

"In a summary of avian impacts at wind turbines by Benner et al. (1993) bird deaths per turbine per year were as high as 309 in Germany and 895 in Sweden." (13)

895 kills/turbine/year is a very high number. I suppose the turbines monitored by Benner et al. were located on a migration route, or an otherwise busy avian area. I was not able to obtain the original report (generally, incriminating evidence such as this one tends to disappear from the Web), but the authors of the PIER study obviously did see it at the time. In any event, these statistics are significant. They illustrate the fact that windfarms can kill very many birds. And this is logical, if we stop to think that even obstacles as obvious and immobile as are smokestacks can cause birds to die by the thousands :

*"**On 23 September 1982**, 1,265 birds (30 species from an **estimated kill of 3,000**) were collected below **chimneys** at the Crystal River Generating Facility, Citrus County, Floridac. **On 24 September, an estimated 2,000 birds** were involved in chimney collisions"* . Maehr, D.S., A.G. Spratt, and D.K. Voigts. 1983. Bird casualties at a central Florida power plant. Florida Field Naturalist 11:45-68. (14)

Windfarms-anywhere advocates use this sort of example to prove the point that conventional power facilities can be just as deadly. But what they won't say is that windfarms cannot replace conventional plants, which are needed to balance the random intermittency of wind-produced electricity. So the birds killed by wind turbines **must be added to** those colliding with smokestacks - plus those killed by power lines, guy wires, cars, domestic cats, windows, buildings, chemicals, poachers, habitat loss, etc.

Here is another piece of information, long buried but finally confirmed by **Malcolm Ogilvie**, senior ornithologist member of the Scientific Advisory Committee to Scottish Natural Heritage (a government body): in 1983 at the Nasudden windfarm, Sweden, **on a foggy night, a single wind turbine killed 49 birds** (J.Karlsson, Vindkraft Faglar publication). An article by Steve Percival also confirms the information, though he puts the number at 43 birds (both documents are available upon request).

E) Germany.

This country has the highest installed windpower generation capacity in the world (17 GW); yet, bird mortality is not being monitored. Says the German bird society NABU: *"Collision rates have only rarely been studied with appropriate methods (e. g. with controls of scavenger activities). Particularly in Germany such studies are missing."* (15)

One is bound to conclude that the Greens, who were in charge of the environment in the Schroder coalition government, did not favour transparency in matters of bird mortality at windfarms. Will this change with the new government?

In her electoral campaign, Angel Merkel did pronounce herself against windfarms. But her failure to obtain a majority in Parliament forced her to compose with the socialists .

In any event, we have that figure of 309 birds per turbine per year provided by the Benner report (see section D above). And we also have the following: ornithologist **Bernd Koop**, based on monitoring studies conducted in Holland by Winkelman, estimated there would be **60,000 to 100,000 bird collisions per 1,000 megawatts of installed capacity**, in Germany, **annually** (16).

Applying his estimate to the country's 17,000 MW, we obtain: **1,020,000 to 1,700,000 bird collisions per annum**. And the closer we are getting to territorial saturation, the lower the chances for migrating birds to find safe routes through the maze, especially if we add the deadly power lines.

Already, birds in Germany die in great numbers from collisions with 70,000 km of high-tension lines that criss-cross the country: **30,000,000 birds per year** is an extrapolation found in Hoerschelmann,

Haack & Wohlgemuth, based on a study along 4.5 km of power lines - electrocutions excluded - published in 1988 (17).

The cumulative effect of power lines that existed before, plus about 16,000 wind turbines, and yet more power lines to connect the windfarms to the grid, will be severe. The impacts on migrating birds will be felt in other European countries, as well as Africa.

It is characteristic that the NABU report does not mention the Benner et al. figure of 309 birds/turbine/year, nor does it mention the Bernd Koop extrapolation. This downplaying of bird mortality by a bird society is a constant in today's world where **the wind industry is the number one employer of ornithologists, and a generous provider for bird societies** (18).

2. 2 Raptors, and eagles in particular

Raptors are prone to be struck by wind turbine blades, for a variety of reasons:

- They make use of the wind for soaring and gliding, thus saving precious energy. This takes them to places that are windy even when most of the land is without wind: ridges, hilltops and mountain slopes, where declivity winds give them the required lift. These are precisely the places chosen by windfarm developers to install their ware, for the same reasons.

- They are attracted by prey that prosper under wind turbines - see the reasons given above (in section A,c, paragraph 2).

- Like humans, they are fooled by the slow-moving appearance of the blades. Little do they realise that **the tips can travel 100 metres under 2 seconds.** (1)

- When their eyes focus on the prey, they don't pay much attention to mechanical things like wind turbines.

Wedge-tailed eagles ("wedgies"):

At Starfish Hill, South Australia, 2 "wedgies" were killed practically as soon as the 26 turbines became operative. Their bodies were found by chance by the public; and one more carcass was reported about a year later. Another wedgie got hacked at the **Codrington windfarm**, in Victoria. And four more were killed, of the rare and endangered Tasmanian subspecies, at the **Woolnorth** windfarm, Tasmania. Some monitoring is done at that windfarm: 10 turbines are checked, out of 32. So , the other 22 turbines may have killed more yet... and the windfarm is to be extended... **This is very bad news for the Tasmanian Wedge-tailed Eagle, a sub-species with only a small number left: any loss is significant.**

These are just the kills that have been reported to me from Australia , but it is reasonable to expect that others have occurred, and were not reported.
Here is a picture of a maimed wedgie at Starfish Hill:
http://www.iberica2000.org/documents/EOLICA/PHOTOS/BIRDS_KILLED_BY_WINDFARMS/9-tailed_eagle_Australia.jpg

That and 54 other pictures of stricken birds may be viewed here:
http://spaces.msn.com/mark-duchamp TO ENLARGE: under the pictures, select an album (in this case "birdkills matanzas"), then click "comments". You can then view the pictures one by one or as an automatic slideshow at your chosen speed . Other albums include: turbines on fire, accidents, visual impact, and humour.

Golden eagles (GE's):

- It is estimated that 2,300 golden eagles have been killed so far by the very large windfarm at Altamont Pass, California see above, section C) "The golden eagles of Altamont Pass, California".

- GE's are being killed by windfarms in **Navarre**, Spain (Lekuona report, Department of the Environment, Government of Navarre, 2001). (19)

- Golden eagles are being killed by windfarms in Aragon, Spain - various monitoring reports, Department of the Environment, Government of Aragon. The picture of a GE decapitated by a turbine blade is shown here:
http://blog.sekano.org/index.php?s=aguila+real&searchbutton=Go%21 near end of page - also shown in the slideshow: http://spaces.msn.com/mark-duchamp
(see instructions above, end of WTE section)

- A golden eagle was killed by a windfarm in Albacete, Spain (probably the tip of the iceberg, as for the others).
http://www.nodo50.org/ecologistasclm/ab/noticias/naturaleza/CarcelenParalizar.htm

- **Golden eagles are being killed in Sweden** : I was advised that a dead golden eagle had been found at the Nasudden windfarm. See "Sweden" in the next section on white-tailed eagles.

- Golden eagles are being killed in the State of **New Mexico**, USA.

www.iberica2000.org/documents/EOLICA/BIRD_MORTALITY/2_eagles_killed_New_Mexico.doc

- GE kills in Scotland: the two resident eagles at the Beinn Ghlas windfarm have disappeared (killed, most likely). At another windfarm, Beinn an Tuirc, the eagles failed to reproduce ever since the windfarm was built. Finally, one of the eagles was killed a few months ago. And we don't know if the original resident pair was not killed, then replaced by newcomers... More here:
www.iberica2000.org/documents/EOLICA/BIRD_MORTALITY/Critique_Beinn_an_Tuirc_report.rt

The Scottish government is determined to forge ahead with projects sited on eagle ranges, including those within Important Bird Areas and Special Protection Areas, in violation of European Directives. The avian impact assessments produced by the windfarm developers themselves predict (conservatively) the death of 15 eagles here, 50 eagles there, etc.

There are 400 windfarm projects in the pipeline for that small country, whose scenic landscape attracts many tourists. Eagles and ospreys are part of the excitement for visitors. But it is clear that conservation of wildlife and protection of the landscape are taking a backseat in the gold rush for windfarm subsidies, windfarm community payments, windfarm rents, windfarm environmental studies, windfarm avian impact assessments, and windfarm monitoring contracts.

The RSPB (Royal Society for the Protection of Birds) say that windfarms should be sited "appropriately", but fail to act when they are not. They are among the staunchest supporters of the Kyoto treaty, and of wind turbines. Meanwhile, Scottish & Southern Energy is selling **"RSPB Energy"** (read: wind energy) to consumers who think the RSPB endorsement is proof that windfarms are safe for birds. A fee is paid to the RSPB for each client who signs up an electricity contract, with a bonus on anniversary dates up to 6 years - and double the amount if the consumer also signs up for gas (21).

We used to call this a conflict of interest, when the word "ethics" still meant something . The RSPB know of the danger for the Scottish eagles (and other rare birds), but they support the plan to "turbinise" Scotland. Yet, it has been demonstrated that windfarms sited where eagles fly can wipe out Scotland's eagle populations. See:
www.iberica2000.org/documents/EOLICA/BIRD_MORTALITY/Golden_eagle_extirpation_Scotlan

White-tailed sea eagles (WTE's):

- WTE's are being killed in **Germany** : 17 of them, as reported to the Brandenburg State Bird Conservation Centre by members of the public. Actual mortality is probably much higher, for reasons given earlier (scavengers, windfarm employees, collectors and traffickers), and for this one: not every "national" find is reported to this "provincial" government. And the federal government does not keep a record. See:
www.iberica2000.org/documents/EOLICA/casual_bird_mortality_record_germany.xls
Many other species may be found on this record .

- WTE's are being killed in **Sweden** : 3 kills have been reported to me by a distinguished ornithologist, along with that of the golden eagle. His email is available upon request, but the pictures he sent are available here:
http://www.iberica2000.org/documents/EOLICA/PHOTOS/BIRDS_KILLED_BY_WINDFARMS/A-tailed_eagle_killed_windturbine_Sweden.jpg

http://www.iberica2000.org/documents/EOLICA/PHOTOS/BIRDS_KILLED_BY_WINDFARMS/T

They were killed by a small windfarm of only 3 turbines, easy to avoid, not even sited on a hilltop (see picture here):

http://www.iberica2000.org/documents/EOLICA/PHOTOS/BIRDS_KILLED_BY_WINDFARMS/V-killers_Sweden.jpg

One email was sent to me, by chance, but how many other kills occurred over the years? Like so many other bird societies, the Swedish ornithological society is not to be relied upon for releasing information detrimental to windfarms. It is symptomatic of a sad state of affairs, where conflicts of interest keep bird societies from speaking up.

- WTE's are being killed in **Japan** : an article from the Sierra Club alerted me to the death of 3 of them. Having contacted the source of the information, I was told that there would be many more, as a windfarm is being built on their migration stop-over point, the Soya Peninsula. See:
www.iberica2000.org/documents/EOLICA/BIRD_MORTALITY/Japan_3_eagles_killed_in_2004.tx

- WTE's are being killed in **Norway** : 9 carcasses were found over 10 months at the Smola windfarm. See RSPB press release of June 2006:
www.iberica2000.org/documents/EOLICA/BIRD_MORTALITY/eagles_killed_in_Norway.rtf
And I just learned that a further 4 were killed, plus one at the Hitra windfarm (this new information has been kept under wraps by the RSPB).

The RSPB normally keep silent about such occurrences (they did for most of the other bird-kill evidence I reported above), so strong is their interest in windfarms. They only speak up when pressured to do so by critics .

Short-toed-eagles (STE's):

The Tarifa SEO/Birdlife report (1995) is the first evidence we have of this species falling victim to windfarms. A subsequent study on the Tarifa windfarms (near Gibraltar) by the environmental association Agaden reported **6 STE casualties** (actual bodies found, some by chance - i.e. tip of iceberg). (20)

Another association, Gurelur www.gurelur.org , sent me a picture of a STE killed at a Navarre windfarm, Spain. It is available here
www.iberica2000.org/documents/EOLICA/PHOTOS/BIRDS_KILLED_BY_WINDFARMS/2_short

and also here:
http://spaces.msn.com/mark-duchamp

And a picture of a STE killed by a windfarm in Aragon may be seen here:
http://gallery.sekano.org/v/eolicos/v5
That picture, and two more of a WTE flying through a windfarm overlooking the Strait of Gibraltar (Tarifa) are also shown here:
http://spaces.msn.com/mark-duchamp

Conclusion on eagle-kills :

The above information is far from reflecting the whole picture. Not every carcass is found. Some may be dragged away by foxes, stray dogs, wild boars (Spain), coyotes (US), or dingos in Australia. Others may be buried by windfarm employees, anxious to hide the evidence. Others may be found and never reported, especially as eagle parts are worth money. And finally, why would people report their finds to me? I am but an individual, unknown from the public at large; besides, most ornithologists prefer to not to get involved: money, careers are at stake, and peer pressure is a powerful deterrent . So it is evident that I am only aware of the tip of the iceberg.

The one windfarm that has been studied thoroughly, Altamont Pass, is estimated to have killed 2,300 golden eagles, and 20,000 other raptors (it is a very large windfarm). A lawsuit resulted, and it has now been decided to stop half the turbines during 4 months each year. But ornithologists are not overly optimistic about the results.

Eagles are slow to reproduce (e.g. Scottish GE's: about 0.5 fledgling per pair per year, and a high mortality for the young in the 3-4 years prior to breeding). It is clear that, if windfarms continue to be built on eagle territories, their cumulative impact on these emblematic species will be severe.

A favourite argument of the windfarm industry is that domestic cats kill more birds. But **cats don't kill eagles**. And one bird massacre does not justify another. The wind industry and their clients refuse to consider the effects of the windfarms cumulatively with other causes of bird death. They also avoid considering the effects that hundreds of windfarms will have on a country's bird life, and environment. They insist on the "case-by-case", which is a recipe for biodiversity disaster . Every decent conservationist knows that "cumulative effect" is the cornerstone of conservation. The other one being "precautionary principle". And that one too has been thrown out the window.

DISCUSSION
Bird-kills at windfarms are a hot topic. Subsidies worth billions of dollars hang in the balance. If it were known that windfarms kill millions of birds across the world, many of them eagles, swans,

geese, cranes and other protected species; if it were known that they will cause forest fires; and if the light was made on their true economic and social costs - and on the consequences of their random intermittency - the public purse would no longer be accessible to wind developers.

Minimising the bird mortality issue, therefore, is part of a disinformation warfare that is being waged with a full array of tricks. I have denounced these in various objections I submitted, and finally in this article : **THE SHAME OF SCOTLAND**
www.iberica2000.org/Es/Articulo.asp?Id=3426

CONCLUSION :

I hope the foregoing will help you ascertain the danger that windfarms represent for Australia's bird life: inspiring eagles, mythic broglas, divine parrots... That rich and exotic bird life is an attraction for tourists coming to Australia. **It is an economic resource that should not be wasted lightly.**

And I say "lightly" because there is a growing body of evidence showing that windfarms do not actually save on fossil fuels, and do not save on C02 emissions . Their erratic intermittency, and the resulting need for 24h backup by coal-fired plants, negates any benefit . The subsidies wasted on them cannot be spent on **real solutions** to our energy needs, like tidal and wave power . - **Water is 784 times more dense than air, hence much more powerful.** Scotland is now experimenting with these "wet turbines", and so is Portugal.

In Europe, wind energy champions Denmark, Germany and Spain have failed to reduce their emissions (except Spain, in 2006, for other reasons than windpower). **Germany is presently building 26 coal-fired power stations, and Spain 2 dozen gas-fired CCGT power plants.** That says everything.

As for Denmark, they rely on Swedish nuclear power and on Norwegian hydro : otherwise they would have a blackout everytime the wind speed drops a notch.

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FOOTNOTES:

(1) - Chilling Statistics - M. Duchamp (2004)
SEE: PRELIMINARY CONSIDERATIONS ON AVIAN MORTALITY.
www.iberica2000.org/Es/Articulo.asp?Id=1875

(2) - Byrne, S. 1983. Bird movements and collision mortality at a large horizontal axis wind turbine. Cal-Neva Wildlife Transactions: 76-83. This study was conducted as a part of Pacific Gas and Electric CompanyIs performance monitoring program for a Boeing MOD-2 wind turbine.
www.iberica2000.org/documents/EOLICA/54_dead_birds_per_turbine.doc

(3) Report by
Dr. J.M. Lekuona - original, in Spanish:
www.iberica2000.org/documents/EOLICA/CASTELLANO/Informe_LEKUONA.pdf
Translation of executive summary: www.iberica2000.org/documents/EOLICA/Lekuona_report.doc

(4) C.G. Thelander, K.S. Smallwood, and L. Rugge - Bird Risk Behaviors and Fatalities at the Altamont Pass Wind Resource Area - Period of Performance: March 1998 - December 2000. National Renewable Energy Laboratory Report SR-500-33829, December 2003.
www.nrel.gov/docs/fy04osti/33829.pdf

(5) - McCrary (1986)
SEE "SOURCE": CLICK LINK TO REPORT AND GO TO P.12
www.iberica2000.org/documents/EOLICA/6800_bird_fatalities.doc

(6) - Protecting Birds from Powerlines: a practical guide on the risks to birds from electricity transmission facilities and how to minimise any such adverse effects - Report written by BirdLife International on behalf of the Bern Convention 15 September 2003.
www.iberica2000.org/documents/EOLICA/BIRD_MORTALITY/POWER_LINES/Birds_and_powe

(7) - Grainger Hunt et al., Golden Eagles in a Perilous Landscape: Predicting The Effects Of Mitigation For Wind Turbine Blade-Strike Mortality, University of California, Santa Cruz. California Energy Commission Report, 2002.
www.energy.ca.gov/reports/2002-11-04_500-02-043F.PDF also here:
www.iberica2000.org/documents/EOLICA/ALTAMONT/Altamont_GHunt_report.pdf

(8) - Birds and windfarms - Critical analysis of 4 reports on bird mortality at windfarm sites. M. Duchamp (2003) - SEE SECTION 3.
www.iberica2000.org/Es/Articulo.asp?Id=1223

(9) - 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."
www.energy.ca.gov/pier/final_project_reports/500-04-052.html

(10) C. G. Thelander, K.S. Smallwood, and L. Rugge - Bird Risk Behaviors and Fatalities at the Altamont Pass Wind Resource Area - Period of Performance:
March 1998-December 2000, National Renewable Energy Laboratory Report SR-500-33829, December 2003. CHAPTER 6: DISCUSSION, p.26 www.nrel.gov/docs/fy04osti/33829.pdf

(11) - Dr. Smallwood & K. Thelander, Aug. 2004: Developing Methods to Reduce Bird Mortality in the Altamont Pass Wind Resource Area - SEE CHAPTER 4 - PARAGRAPH 4.4.1
www.energy.ca.gov/pier/final_project_reports/500-04-052.html

(12) - Dr. Smallwood & K. Thelander, Aug. 2004: Developing Methods to Reduce Bird Mortality in the Altamont Pass Wind Resource Area - SEE CHAPTER 3, page 73-74, TABLE 3.11 -
www.energy.ca.gov/pier/final_project_reports/500-04-052.html

(13) - D. Sterner, for the California Energy Commission (Dec. 2002): A Roadmap for PIER Research on Avian Collisions with Wind Turbines in California. SEE PAGE 12, FIRST PARAGRAPH
www.iberica2000.org/documents/EOLICA/REPORTS/Dave_Sterner_2002.pdf

(14) - Avian Collision and Electrocution: An Annotated Bibliography California Energy Commission - October 1995 - Publication Number: P700-95-001 - see ITEM 273

www.iberica2000.org/documents/EOLICA/BIRD_MORTALITY/POWER_LINES/Avian_Collision_

(15) - NABU report (NABU is Germany's bird society)
SEE: SUMMARY, ENGLISH VERSION, PAGE 8
http://bergenhusen.nabu.de/bericht/VoegelRegEnergien.pdf

(16) - Koop B., 1997. Vogelzug und Windenergieplanung. Beispiele fr Auswirkungen aus dem Kreis Pln (Schleswig-Holstein). Naturschutz und Landschaftsplanung 29 (7): 202-207. - Used to be available on Internet here:
www.1-tra.de/Weiperfelden/windkraftanlagen_oder_voegel.htm

(17) - Hoerschelmann, Haack & Wohlgemuth (Ecol. Birds 10, 1988: 85-103; German text, English summary) available upon request (424 kb)

(18) - For example: major donors to the Spanish Ornithological Society include Iberdrola and Triodos Bank, both active players in the windfarm subsidised gold-rush. See also this picture of the Peregrine Fund and a US$100,000 cheque from the wind industry:
www.iberica2000.org/documents/EOLICA/$100,000_Peregrine_Fund.jpg

(19) - Birds and windfarms - Critical analysis of 4 reports on bird mortality at windfarm sites. M. Duchamp (2003) - SEE SECTION 1.
www.iberica2000.org/Es/Articulo.asp?Id=1223

(20) - Informe De Los Impactos Ambientales De Las Centrales Elctricas Elicas En El Trmino Municipal De Tarifa (Cdiz) - Comisin de Energa de AGADEN. Septiembre de 1.999 available upon request (600 kb written in Spanish).

(21) -
RSPB Energy: www.rspbenergy.co.uk/home/Default.aspx

(22) PRETENDING THERE HAVE BEEN 125 CASUALTIES WHEN THERE WERE ACTUALLY 8,400
http://www.iberica2000.org/documents/EOLICA/BIRD_MORTALITY/Maple_Ridge_report_critiqu