Submission
No 4

INQUIRY INTO RURAL WIND FARMS

Organisation: Australian Landscape Guardians Inc.

Name: Mr Peter Mitchell

Position: Chairman Scientific and Economics Committee

Date received: 27/07/2009

Dear Sir/Madam,

Herewith some documents one recently prepared by the Australian Landscape Guardians and the other a reprint from a local circular, which I present as our submission to your enquiry.

The documents are already in the public domain so may be further published by us or any of the wide number of recipients. However that in no way diminishes their relevance to your enquiry.

Peter Mitchell AM, B.ChE
Chairman Scientific and Economics Committee,
Australian Landscape Guardians Inc.

WIND POWER

IMPORTANT QUESTIONS AND ANSWERS

A Commentary for Politicians and Senior Bureaucrats

Here are the **simple questions** along with **simple answers** about Wind Power that need to be asked and answered **on behalf of taxpayers and power consumers.** The questions and answers are applicable Australia wide, but figures presented apply, in some cases, to Victoria specifically. The simple conclusion is reached that **generation of Power from wind saves virtually no greenhouse gas and is a monumental and total waste of money.** Detailed proof of may be found in many technical articles on the net and one particular reference is quoted for those who wish to do a little research for themselves.

Does wind power:

1. *measurably reduce greenhouse gas ("GHG") emissions from power generation* – **no, detailed analysis shows net savings are miniscule, no more than about 5% of that claimed by promoters (and supported by government);**

2. *allow the decommissioning of a single fossil fuelled power generator* – **no, not at anytime;**

3. *allow us to meet the 20% target for renewable energy contribution* – **we can meet that target just by building enough turbines, about 5600 in Victoria at a cost of about $17 billion, but would also have to build additional matching gas turbine infrastructure costing some $3 billion and we would not reduce emissions measurably;**

4. *increase energy costs* – **yes, very significantly;**

Who pays *for the increase in costs* – **the power consuming public.**

How Can This Be?

The ***unfortunate but nature driven flaw*** in the generation of power from wind is that **wind speed is highly variable over short periods of time;** and further, if the wind speed changes, the energy produced by the wind turbine changes by the cube of the change in wind speed; eg., if wind speed halves or doubles, the energy produced decreases or increases by eight times.

Compounding this, ***power grids cannot store power;*** there is no economically practical way to store large amounts of power. Thus grid managers must control the power ***input*** to the grid, otherwise there will be power failures. The introduction of large amounts of highly variable and unpredictable wind power provides a significant challenge to safe and reliable management of power grids.

How Were Australian Power Grids Managed Without Wind Power?

Power producers can be categorized as providers of **base**, **intermediate** or **peak** load power.

Base load is the predictable, steady, long term load and is usually the cheapest form of bulk power that needs to be provided by the lowest cost source. **Coal** fired generators are traditionally used for this purpose, (with nuclear also being used for this purpose in some less enlightened nations). However coal has two drawbacks, it is the most polluting power source and is unable to respond in an efficient way to changes in demand.

Gas fired generators are used to provide **intermediate or "shoulder" load** (the load between base and peak load). There are two types, **open** and **closed cycle** gas generators ("OCGG" and "CCGG" respectively). OCGG's are easier to ramp up or down, but produce higher cost power and more GHG's than the CCGG's.

Accordingly CCGG's are preferentially used to meet shoulder power demand and OCGG's for peak demand, which is generally short term in nature. Gas generators produce between one third and one half the GHGs of coal generators.

Hydropower is only available in limited quantities, but has a high value as it can respond very quickly to changed requirements and is the ultimate method for balancing the grid. It produces no GHG's.

How are Grids to be Managed with the Introduction of a Significant Amount of Wind Power?

Now that we are set to introduce large amounts of wind power to the grid (in Victoria planning approvals have been granted for another **1550 MW** of wind, (equal to **18%** of the current capacity of all types of generation) the grid must have available OCGG capacity equal to the maximum output of the producing wind farms to balance, or "shadow" the wind power production. Otherwise the chronic variability of power from the wind turbines is simply unmanageable in the grid.

This OCGG capacity represents a heretofore unrecognised or unadmitted **additional cost to wind farms;** and in performing its shadowing role is a consequential additional generator of GHG's. It is this consequential GHG production **which has to be netted off against the gross GHG savings of wind** with an unfortunate result that **net savings in GHG are negligible - see table below.**

Whilst managing a grid is a moment to moment business and very complex; to estimate what is going on it is necessary to reduce the complexities to some basics. Accordingly, if we wish to calculate what happens when wind enters the grid **in significant quantities** we must add in the result of the necessary coupling of the wind facility with an OCGG; and as a result, a CCGG may and will be shut down.

Now this has a number of effects which can be summarised as follows:

	CCGG alone	**Wind/OCGG Couple**	**Change**	
Power costs	$54/MWh[1]	$121/MWh	$67/MWh	(additional cost)

[1] MWh – is the measure of power (produced or consumed) in megawatt hours

GHG's produced	0.577 tonnes/MWh	0.519 tonnes/MWh	0.058 tonnes/MWh	(miniscule saving)
Capital Cost of 1,000 MW	$1.0 billion	$3.8 billion	$2.8 billion	(an incredible waste)

So to build (and match with a OCGG) a wind capacity of 1000 MW capacity, total costs approximate $3.8 billion; whilst to build the same amount of capacity with a CCGG would be about $ 1.0 billion, ***a saving of approximately $2.8 billion.***

For the wind/OCGG "couple" the ***public is paying $67/MWH or 224% more for this portion of their electricity***. For the already approved 1,550 additional MW to be produced by wind, that amounts to $900 million extra each year. For the 20 year life of the wind/OCGG couple, the Victorian public will pay about ***$18 billion*** extra for their power.

For What?

Aren't we saving greenhouse gas emissions? Yes, but only about ***0.06 tonnes of CO_2 equivalent per MWh.*** Both the Victorian Government and the wind farm industry claim savings of about ***1.0 tonnes of CO_2 equivalent per MWh*** or ***17*** times this amount! They do this by ignoring the need to balance the variability of wind and therefore presenting a ***gross*** not a ***net*** figure. ***The net figure of GHG savings is so small that the only conclusion is that wind farms make no effective contribution to reducing GHG emissions from power generation.***

Would it make sense then just to build CCGG capacity and replace coal generation if that industry cannot deliver major improvements in pollutive emissions? Yes, and there is enough gas to do so. For every KWh of brown coal capacity so (permanently) replaced, GHG savings would be approximately 0.8 tonnes CO_2 equivalent.

Data Sources

The author has read many quite complicated articles (mostly from countries with a longer history and much greater penetration of wind turbines) on wind power and its innate problems. This material requires a degree in (preferably electrical) engineering to follow. Reducing that material to a summary for non technical readers is daunting.

The problem has to a large extent been solved by an Australian engineer, Peter Lang, who has a lifetime of experience in the power industry. He has written a paper **"Cost and Quantity of Greenhouse Gas Emissions Avoided by Wind Generation"** dated 16/2/2009 with references to some 17 other papers that have been used in his work.

The author has worked independently to produce figures on the same topic and has arrived at figures which support Lang's work, but has used Lang's numbers in this commentary.

P. R. Mitchell, Chairman
Science and Economics Committee
Australian Landscape Guardians Association Inc.

Carrajung Crier

June 2008

Why Put Wind farms close to existing rural residences ?

It is an internationally acknowledged fact that wind farms should not be placed within 2.5 kilometers from a dwelling.

This is because of the health and safety problems that they cause. You can argue all day about the so called benefits of wind farms, but at what expense to those poor people living near them?

There are plenty of testimonials from people within Australia, as well as overseas, that condemn these sites because of the damage done to their lives. Google Wind farms Health Hazards and read some of the stories. You can get information on the web of the problems at the Toora wind farm as well as others throughout Australia.

One would think that the wind farm companies would place their effigies in an area which does not effect people, there is an abundance of locations in Gippsland, and indeed country Victoria, in which to construct them that does not adversely affect people. It only needs an area which has a buffer zone of 2.5 to 3 kilometers to the nearest residence. Probably the greater majority of Gippsland with sufficient wind levels would fit into this category

So why does the wind farm developer choose sites close to rural residential centers?

- They are close to an electrical grid, so that connection is made at minimum cost.
- The rural areas near a town centre normally consist of small uneconomical farms, so the land owners see an opportunity to make money to assist their income. The wind farm companies approach land owners in the area and offer quite substantial amounts to place their turbines on their property. Around $7,000 to $9,000 per annum per turbine. When multiplied by 6 turbines this is an income of $42,000 per year. Because of the rural depression and general greed, there are no shortage of takers. Of course once approval to construct the turbines has been obtained this asset can be sold off to another developer and/or the agreement can be reneged with the result of having to negotiate a lesser annual rental. Anyway, the company is nearly always successful in signing up an initial "deal".
- The road access to the area requires minimal upgrade as there are formed roads. It is also possible that the local council will assist in the upgrade of roads. Again minimum expenditure is required
- The power supply required during the construction stages is already available on the site, reducing costs.
- The company does not have to worry about disgruntled objectors, the company has chosen the area wisely and have the best chance of getting a tribunal ruling in their favour.
- Because of the economic situation in the area the objectors have minimal funds to fight against approval, court cost and legal representation are not cheap.
- The sites are close to suppliers of required materials such as aggregate, sand, water, steel etc. and are also in close proximity to aerial connections including rail freight. Freight costs are minimised.
- Nearby Accommodation is available for construction workers.
- Recreational facilities are available for construction workers.
- Normally there is a close relationship between the land owner and the neighbors and there is a reluctance to adversely affect this long term relationship. This "mate ship" philosophy is exploited by the wind farm companies.

NO Wind Farms

For
Carrajung -Blackwarry

Inside this issue:

It is a fact that a lot of initial developments are on-sold for profit to "real" wind farm companies, after the contracts and approvals have been established . Quite a few of the Victorian sites have gone this way. The project becomes a product which is owned by the initial developer. The majority of contracts for the lease of the sites have clauses which makes them "assignable" which means that they can be sold to a 3rd party. At this stage reduced leasing terms may be negotiated. This initial company makes profits at the expense of the land owner

"Three out of four participants declare that swishing or lashing is a correct description of the sound from wind turbines. Perhaps the character of the sound is the cause of the relatively high degree of annoyance. Another possible cause is that the sound of modern wind turbines on average does not decrease at night, but rather becomes louder, whereas most other sources are less noisy at night. At the highest sound levels in this study (45 decibel or higher) there is also a higher prevalence of sleep disturbance."

Extract from Dr P.G Van Den Berg's paper on wind turbine noise.
www.windaction.org/document/16245

Another Wind Farm Fire

Smoke pours from the top and bottom of one of the wind turbines at the Ewington Wind Farm near the Heron Lake exit north of Interstate 90 Wednesday (Mar 26) morning. The Brewster and Okabena Fire Departments responded to the scene, but upon the advice of Suzlon Wind Energy officials, the fire was allowed to burn itself out. (Brian Korthals/ Daily Globe)

Imagine if this happened in Carrajung!

Who and what is Synergy Wind?

The company evaluating the installation wind farms in the Carrajung–Blackwarry area is Synergy Wind.

ASIC records show that Synergy is a company with a paid up share capital of $200.00.

Details are:

Shareholders:

Heinricich Lutake Ostendore
Temming 83 D-48727 Bilbeck, Germany
150 x $1.00 shares

Michael Grampp
Mensdorf ALTE Zurcherstasse 8
8903 BIR Switzerland
25 x $1.00 Shares

Christian Spitzner
G Gruber Strasse 53 D– 85586 Poin Germany
25 x $1.00 Shares

Directors:

Coralie Deanne Sutcliffe
Unit 7 29 Chanwood Rd St Kilda Victoria 3182
Born 08/10/1973—Adelaide S.A
Appointment Date: 09/11/2004

Heinrick Ostendorf
Temming 83, D-4-48727 Billerbeck Germany
Born: 23/04/1959—Billerbeck Germany

Shares

Class: Ordinary
Number of shares/Interests issued: 200
Total Amount (if any) Paid/Taken to be paid:

$200.00
Total amount due and payable: 00.00

ACN (Australian Company Number): 111 726 393

Registered in:	Victoria
Registration Date:	09/11/2004
Review Date:	09/11/2008
Australian Business Number: 22 111 726 393	
Name:	Synergy Wind Pty Ltd
Status:	Registered
Type:	Australian Proprietary Company
Class:	Limited by shares
Subclass:	Proprietary Company
Registered Office:	Suite 1 86 Mount Eliza Way Mount Eliza 3930
Start Date	23/02/2007

Principle Place of Business: Unit 105 95-101 Ormond Road Elwood Vic . 3184 Stat date: 23/02/2007
Phone (03) 9525 6099
WWW.synergy-wind.com

Another business in which Christian Spitzner and fellow shareholder Michael Grampp are involved is Turnus Energy

Turnus Energy is registered in Germany, in Munich. Registration Number is Munich HRB 1511179, VAT identification number is DE 8138839 28. It's managing director is described as Christian Q Spitzner. Michael Grampp has also been a Managing Director of Turnus. Turnus has a branch office registered in Victoria, it ABN number is 82 478 228 788.

Both Turnus and Synergy wind are registered at the same address in Victoria and have the same Telephone and Fax number. Currently this number is answered by an answering machine.

Christian Spitzner seems to be the main (and only?) player in Australia, **Spitzner says he seeks:** European companies interested in entering the Australian "renewable" energy market, Australian companies who need European renewable energy technology and knowhow, companies looking for joint venture partners in Australia, project developers, areas for use as wind farms, investors, Australian branch contacts.

Spitzner says he offers: Partnership opportunities companies who are looking for joint venture partners in Australia, companies with technical know-how and expertise in the renewable energy industry, investors who look for investments in the renewable energy sector, branch contacts, government contacts, wind energy plants, investors, ideas, turnkey solutions, sales and marketing know-how

Professional experience:

Managing Director Turnus, Project Manager Synergy Wind P/L
Industry: Renewable energy sources &environment

Executive Committee, Interway AG.
Industry: Information technology & services.

OPS Verlags, Chief Executive Officer.
Industry: Publishing Company

Education: College of Advanced Education Munich—Electrical Engineering.

Dr Michael Grampp

Grampp wants: Contacts to start ups, Entrepreneurs, venture capital. Headhunters in Switzerland

Grampp Has: Contacts, Ideas, startups, interim management , entrepreneurs.

Professional Experience:

Associate, London International Financial Futures Exchange

Managing Director, Turnus Energy GmbH

Eldridge & Associate (Australia), Interim CFO

Associate, Bankers Trust London

Assistant manager , KPMG—Advisory Services

Education University of Leipzig July 2004 - Entrepreneurship, Finance Doctorate, Business incubation.

University of Ireland/ Galway, Sept 1994 –Aug 1995—Economics, Exchange student.

University Erlangen-Nuernberg, Oct 991 to Feb 1997 - Economics & business administration, MBA, Economics business administration banking and stock exchange

Heinrick Ostendorf. It is difficult to find information on Heinrick Ostendorf, this is the information from Synergy:

Synergy Wind Pty Ltd was founded in November 2004 by Mr. Heinrich Ostendorf, a German investor. This Australian company is responsible for the project development. It is funded by Mr. Heinrich Ostendorf and his family, experienced investors who currently own several wind farms and who have previously been involved in several wind farm development projects in Germany.

Mr. Ostendorf is a very experienced participant in the German renewable energies market and has been involved in the development of five wind farms since 1994.

Obviously Synergy Wind Pty Ltd is a very small company with little depth in personnel. The main expertise seems to reside in Heindrich Ostendorf, with Christian Spitzner giving some electronic and entrepreneurial expertise and Michael Grampp having funding and personnel expertise.

A personal story of wind farm health problems

Extract from THE STAR Newspaper, Leongatha

By Bert van Bedaf

STEPHEN Garito plucked the hearing aids from his ears, held them in his hands and said, "Those turbines stuffed my hearing up."

If anyone is living proof what wind farm noises can do to you, Mr Garito and his partner Jayne Thackray may be front line material.

Living 400 metres from the 12 turbines at the Toora wind farm was so unbearable they had to leave their home after Stanwell Corporation turned the turbines on at Silcocks Hill four years ago.

Stanwell, which is accredited by the Sustainable Energy Development Authority (SEDA) as a Green Power Generator, will tell you the facility has a generating capacity of 21 megawatts, which will power 6600 homes annually and yields annual greenhouse gas savings of 46,000 tonnes.

It won't tell you that you can go deaf from the noise the turbines generate.

Mr Garito suffers from chronic bilateral tinnitus, which he alleged was due to the wind turbines. Ms Thackray also suffers hearing problems.

They claim the value of their house has almost halved and they have had to move to emergency accommodation.

They say the advent of wind turbines has ruined them financially.

The couple joined the crowd at the Foster War Memorial Art Centre Hall last Tuesday, when Dutch expert Frits Van den Berg addressed them on the topic of turbine noise at a meeting organised by the Prom Coast Guardians.

A physicist at the (Rijksuniversiteit) State University of (the city of) Groningen in The Netherlands, Dr Van den Berg works at the university's Science Shop for Physics.

It is a non-commercial body that advises the Dutch and other communities on the effects of noise, including wind farms.

He was shocked to learn of the high noise levels at the Toora wind farm, which residents claimed studies had revealed to be between 50 and 70 decibels.

Dr Van den Berg believed there could be something wrong with the Toora turbines if the decibel level was so high.

He said to prevent sleep disturbance the decibel threshold should be no higher than 30dB(A). If it was 40dB(A), a 10dB(A) noise barrier was needed.

"From personal experience, when the noise level is more than 10dB(A) people will start to complain. When it is 15dB(A), they want something done about it.

"During leisure hours, when people want to enjoy a summer evening in the garden, anything like 30dB(A) or 40dB(A) is far too high. In active hours, it is the same as any other noise we experience during the day."

He said sound levels near a wind turbine facility at night were much higher then expected.

"This is caused by strong winds at hub height, especially when at ground level there is little wind, which is quite usual at night. This common and well-known meteorological effect has not yet been recognised with respect to wind turbine noise."

Noise is caused by the aerodynamics of the blades, rotating at 250-300km/h, he said.

The sound comes from a thin layer of turbulent air at the edges of the blades. It increases with wind speed, which is different at varying heights.

At sunset wind at the ground level abates, while at a higher altitude it increases at night.

Wind also accelerates on an upward slope, which is prevalent at Toora.

The State Government will increase the number of wind farms in regional and coastal areas.

The Wonthaggi wind farm became South Gippsland's second facility and the Dollar and Bald Hills wind farms are pending.

Devon North residents are opposing a wind farm proposal, while a Welshpool proposal continues to be on hold.

Under its Victorian Renewable Energy Target (VRET), the government plans to install more than 1000 megawatts of renewable energy by 2016.

Meanwhile, the Federal Department of Environment and Heritage has nominated the orange-bellied parrot as critically endangered. Its nomination is based on a report into bird collisions with wind turbines.

The government cites a Biosis Research report that found without wind farms the parrot could become extinct in 50 years.

An increase in deaths because of wind farms could wipe out the bird much earlier.

The parrot's survival is critical to the future of the Bald Hills facility near Tarwin Lower.

The subject of a Supreme Court case next month, the wind farm could be scrapped because of the parrot concerns.

Too noisy: Toora wind farm victim Stephen Garito shows Dr Van den Bergt his $1500 hearing aids. Partner Jayne Thackray looks on.

The Gan Gan Cockatoo, a Carrajung favorite, will be another victim of the wind turbine blades.

NO Wind Farms

For Carrajung -Blackwarry

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