

**Assessment of Economic**  
**Impacts of**

**The Oaklands Hill**  
**Wind Farm Proposal**

*Considers also the Economic Impacts caused through  
the Social dislocation of rural communities*

Prepared by:

Peter Prasser for  
The Grampians Glenthompson Landscape Guardians

Date: 4<sup>th</sup> December 2007

# **Assessment of Economic Impacts of The Oaklands Hill Wind Farm Proposal**

## **Background**

The Oaklands Hill Wind Farm proposal purports to bring with it a substantial number of economic benefits to the Glenthompson rural community and more broadly, the State of Victoria.

The purpose of this discussion paper is to consider many of the “hidden costs” that have not been highlighted in the proposal. This paper also focuses on the value of some of the purported benefits in comparison with the hidden costs that will be borne by the people and State of Victoria.

## **Assessment of Wind Energy Facility Proposals**

In preparing this paper, I have referred to the “Policy and planning guideline for development of wind energy facilities in Victoria”. I particularly noted the statement whereby “Responsible authorities should endeavour to balance environmental, social and economic matters in favour of net community benefit and sustainable development”.

## Background on the Victorian Economy

Australia has one of the strongest and most resilient economies in the world. Much of this strength derives from Victoria's dynamic and broad-based economy. The Victorian economy has averaged a 3.9 per cent growth rate over the last 10 years and forecasts outline a continuing growth trend with business investment at an all time high.

The State of Victoria's GDP comprises 25 per cent of Australia's economy and is currently estimated at around \$230 billion. The table below provides a brief comparative snapshot of the Victorian and Australian economies.

Measure	Australia	Victoria
GDP Average Growth last 10 years	3.7%	3.9%
Forecast GDP Growth	3%	3%
GDP Per Capita	A\$42,437	A\$43,447
Labour Force (Aug 2006)	10.8 million	2.7 million
Unemployment rate (August 2006)	4.9%	4.6%
Inflation (CPI Annual change June 2006)	4.0%	3.9%
Interest rate (Cash Aug 2006)	6.0%	6.0%

## Infrastructure

Victoria's modern, integrated transport network of road, rail, air and sea provides access to 66 per cent of the nation's population. Melbourne is home to the largest sea container port in the Southern hemisphere and an unrestricted 24 hour international airport.

This is why Victoria is known as Australia's distribution hub.

## Business Opportunities

Businesses employing 20 people or less are the lifeblood of the Victorian economy. Over 300,000 of these enterprises play a critical role in supporting and servicing the state's manufacturing, service and primary industries.

Some statistics for businesses employing 20 people or less
Population of Victoria: 5 million
Number of small businesses in Victoria: 303,300
Growth of small businesses: 4.5% p.a on average
96% of Victoria's workforce (811,000) work for small businesses
31% of small businesses are in regional areas

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### **The Author is Peter Prasser:**

Peter has over 35 years as a Treasury and Finance specialist, mainly with National Australia Bank and ANZ Bank. He has worked in the Australia and New Zealand region and internationally. He has a strong knowledge of international and domestic economics and is currently Chief Operating Officer for National Australia Bank's Group Treasury in Melbourne.

This paper has been written for the Grampians Glenthompson Landscape Guardians in a private capacity and not as a representative of the above organisations.

### 1. Financial viability of wind farm developments in Western Victoria

It is not an easy task to understand the economics of the wind farm industry. No reports have been issued and the Oakland's Hill Wind Farm planning application does not demonstrate the benefits to be gained from its proposal. The Victorian Government reportedly has two reports which I am advised have not been released to the public:

- A report from 2002 by Ernst and Young that contained analysis of the economics of wind energy and informed the Victorian Governments' wind energy policy.
- A "Business Impact Assessment" dated 2006 of the Victorian Renewable Energy Target by the Victorian Competition and Efficiency Commissioner.

In addition, the State Government has previously announced the availability of \$2 billion to the wind industry as subsidies under the Victorian Renewable Energy Target.

The Victorian Government's policy on renewable energy is that it should make an increasing contribution to energy supplies..... This policy is not without costs to the broader State of Victoria where the cost is met through higher prices to consumers. By 2010, it is estimated the cost will be \$300m pa for renewable energy – which has a low level of efficiency.

Bear in mind that the policy focus is on "renewable" energy covers a number of technologies; eg. Solar, wind, thermal, etc.

The Federal Tourism Minister, Fran Bailey, recently issued a release saying that wind power was largely unsuitable for Australia, saying that there was no evidence it was a feasible alternative energy source.

In respect of this planning application for the Oakland's Hill Wind Farm planning application, not only does it not provide a detailed statement of the benefits that such a project would bring to the State of Victoria.

- It does not state how many jobs the project might create during its development/construction phase, or longer term, when it is in operation.
- It does not state the type jobs that might be created and which particular skills would be required in respect of construction.
- However, the planning application does advise that "a media release was issued on 20<sup>th</sup> March 2007 encouraging residents to register their interest in possible employment opportunities arising from construction and maintenance of the proposed wind farm."
- It is odd that such a statement would have been made with no details included such as to the timing of jobs, remuneration, conditions, skills required, location, or duration of the work.

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It is worth noting the “Dollar Windfarm Report” where the Proponent in that case had downgraded the estimated capacity factor of the WEF to 30% from the initially stated 35%. I also note that this level was not sufficient for AGL to commit to the project and they rated it as uneconomic.

This, plus other reports, leaves me with a clear understanding that capacity generation levels of other wind farms has been disappointing, as has the reliability of the turbines themselves (i.e. they are mechanically unreliable).

In the case of the Oaklands Hill Proposal, I recall conversations with the Proponent where they were originally marketing their project as generating WEF close to 40%. The Proponent has also quoted figures of “closer to 20%”. More recently, other figures are being quoted.

I am concerned that while this multi million dollar project has now moved into the planning application stages, the wind farm capacity remains unclear.

**Summary:** There is no publicly available information to support the purported benefits of the wind energy industry to the State of Victoria. In respect of the Oakland’s Hill proposal, it seems the Planning Panel similarly has little information to scrutinise. There are many “hidden costs” relating to the Oakland Hill Wind Farm application, and these must be considered as part of the planning permit application process.

### **2. Earnings from the Oaklands Hill Wind Farm**

The project is a joint venture arrangement between Investec Bank (Australia) Ltd (Investec) and Windlab Systems. Investec is the Australian subsidiary of a South African Company, which is developing a range of financial interests in Australia and has entered into joint ventures and established investment vehicles aimed at profiting from the renewable energy sector.

The South African parent “Investec” will be the receiver of dividends paid by its Australian banking subsidiary. It is standard business practice for such subsidiaries to pay a regular dividend to their Parent, just as any company pays a regular dividend, the result being that profits from the Australian business flow out of the country as dividends to the Parent Company.

Many of the components and materials used in construction of the wind farm will be imported from offshore as there is minimal manufacturing capability in Australia. In fact, fledgling manufacturing plants in Portland and Tasmania have, or are, closing down as they are unprofitable. In reality, much of the profit on any wind turbine infrastructure will also flow out of Australia and is unlikely to be reinvested locally.

In respect of the planning permit, should it be granted, it will likely be sold to another foreign company, as has been the case with many Australian infrastructure assets. If the wind farm assets are sold to a company registered

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in Australia (such as Viridis Clean Energy Group) profits/dividends will still most likely flow out of Australia to foreign investors.

Investec's investment is opportunistic and is aimed at generating profit for offshore investors, rather than contributing to the economic prosperity of Australia, and more importantly, the State of Victoria.

The sale of the planning permit and eventual construction of wind farms will leave the State of Victoria with legacy issues, including obsolete plant and equipment, and a degraded rural environment. This may not seem important now; however, in all probability the current wind generation technology has a 5 –10 year life (which poses serious questions) compared to a mooted wind farm life of some 30 years.

It is usual for large infrastructure projects, to generate "one off" up front GDP growth during the commissioning phase; however, much of this income will be outside of Australia.

Importantly, after commissioning, its contribution is quoted anecdotally as \$85m, which is insignificant compared to the GDP of the State of Victoria which is currently in excess of \$230 billion pa.

In terms of the wind farm itself providing ongoing employment, it will probably be less than that from a rural property that employs a manager and a number of contractors. As an example, a typical farming venture, eg. Wiltshire (which would be regarded as a small economic unit) employs a full time farm manager, and a range of contractors, who perform specialist functions such as: shearing; crutching; painting, mechanical, electrical, weed control, Landcare, etc.

The permit application does not contain a financial plan showing projected benefits and its eventual distribution, ie. to the Proponent, the local landholder investors, other investors and the State of Victoria. In addition, it is incomprehensible that the Proponent could not disclose to potential investors (of which we were one) the projected earnings of the proposal, and how those earnings would be distributed through the various phases of the life of the project.

**Summary:** The proposal is very light on in that it provides no detail on financial benefits and it is very difficult to understand how the quantum of the purported benefits of \$85 million will be generated. Importantly, it does not show how any direct or indirect subsidies received will be applied to the benefit of the State of Victoria and the tax payers that provide those subsidies.

It is appropriate that the economics of this proposal and its real underlying benefit to the people of Victoria, including subsidies and other hidden costs, should be clarified prior to considering its outcome.

### 3. Sustainable Economic Development and Prosperity

The best form of economic development is one which is sustainable and where economic prosperity flows from a broad range of investment. The combination of farmers being able to leverage their asset base, creating neighbourhood cooperatives, wealth flowing through to retailers and places of accommodation will continue more rapidly in an unspoiled and pristine environment.

A wind farm brings a “one off” injection of capital, from which the revenue flows out of Australia – as the majority of the component parts are manufactured offshore. Local labour is used in the construction phase, which lasts a relatively short period in comparison. The permit, if granted, will likely be sold through to offshore investors, once again having little local benefit. The longer term employment provided is minimal.

The economic benefits from maintaining a collaborative community and united rural community have an immediate benefit. When combined with a pristine landscape, they represent a sustainable investment in the future and will generate broad economic prosperity to Victoria, which is:

- The most sustainable and drought resistant property in Australia. Much of our rural production rivals that of New Zealand, especially in dairy and meat production.
- The “garden state” of Australia, which attracts thousands of visitors each year. It is supported by big ticket events such as the annual “Flower and Garden Show” which people use as a stepping-off point to visit rural Victoria.
- National Parks in Victoria, and the surrounding landscape, are the best in Australia. Such environs require protection so they can be maintained as thriving developments.

### 4. Maintenance of wind farm sites and surrounding environment

The wind farm life is stated as up to 30 years. It is likely to be sold several times during its life cycle, prior to reaching obsolescence. Maintaining the site is an ongoing and costly exercise and the environmental damage could be high should the site be neglected.

The proposal purports that “normal farming activities” can be conducted in conjunction with the wind farm. This is highly unlikely due to the intrusion on the rural environment, from both a sound and sight perspective.

Maintaining and repairing the environment will become a costly exercise.

In the early phases of the project, there is a significant requirement on roadways owned and maintained by the State and Local Government. What

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contribution will the Proponent make to maintain these roads, or will that be left to the people of Victoria?

Local farm owners have significant first-hand experience with salinity and erosion. They have rightly expressed concern about preservation of the waterways and the health of the catchment area. Given the enormous intrusion into the rural landscape required to construct this wind farm, only a naive person would accept that there will be no damage to the environment which is criss-crossed with minor and major waterways. What guarantee or contribution will the Proponent make to the ongoing preservation of the environment which is the source for 3 catchment management areas? Environmental management will be required for several decades.

Rural land owners usually have annual programmes to focus on landcare. I did not see an ongoing work schedule from the proponent. It is most likely that the current land-owners will not wish to contribute to developing a factory style landscape, so this task will once again fall to the people of Victoria.

The Proponent has significant requirements governing planting of trees and vegetation in and around the wind farm site. It is also proposed that remanent native vegetation be protected as far as possible – meaning that they will attempt to minimise damage.

Turbines are mechanical in nature and from information available, each will hold some 400 gallons of oil. The turbine oil seals will eventually leak and oil will contaminate the wind farm site to a degree unknown. Being a water catchment area, this poses serious questions as to how regularly the turbines will be inspected by the Shire Council and the CMA to ensure they are not polluting the environment. This is a further hidden cost to the people of Victoria.

Vermin and weed control is an issue right across Victoria, and once again, costs the taxpayer a large sum each year. Land areas that have had significant disturbance are prone to excess growth of weeds. Earth that has been disturbed is also attractive to foxes, rabbits and hare populations. It is easy to foreshadow that this area will quickly become degraded and create problems for neighbouring farm owners and the State and Local Government.

### **5. Infrastructure and other support required from State and Local Government**

The wind farm is a special case. It is a large industrial construction, with many complex issues requiring management and administration. In the case of the Oaklands Hill wind farm development, much of the administration of conditions will fall directly on Government bodies:

- Southern Grampians Shire Council:
  - Administering terms and conditions of the permit
  - Maintaining roads and infrastructure

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- Country Fire Authority (Western Victoria and California are the 2 highest risk fire areas in the world)
  - Training volunteers to fight specialist fires
  - Purchase of at least additional fire truck unit with facilities capable of ascending the wind tower to the turbine
  - Purchasing and maintaining specialist equipment
  - Having access to suitable water resources and fire retardants
  - Sufficient personnel so there is the capability to direct resources to wind farm fires on high fire danger days – of which there are so many
  
- Catchment Management Authority
  - Dealing with the many water pollution and salinity issues that will affect the three catchment areas they feed
  
- Department of Sustainability and Environment
  - Dealing with the fauna issues that will undoubtedly arise (bird/bat kills) – similar to those witnessed in Tasmania
  - Managing other environmental impacts with the CMA and other Government bodies
  - Overseeing the control of vermin and weeds in the wind farm environment
  
- The State Electricity Supply Grid
  - The wind farm will draw power from the grid to start-up.
  - It will create surges of power in high wind stages that will require management.
  - It cannot be turned on when required.

### 6. The burden on the health systems with associated issues

If the overseas experience is a guide, we can expect an acceleration in health issues given that the environment surrounding the wind farm site is relatively highly populated and there are a number of people living quite close to the proposed wind turbines.

There is no question that the area around the Oakland's Hill wind farm would normally have been expected to become more heavily populated as city people look to build rural retreats. It is questionable as to whether this will now happen due to the degradation of the pristine landscape, however, this poses questions for Government in terms of non-urban development and the health issues associated with building close to an industrial estate.

There are many unanswered questions about areas such as noise radiation effects, stress from environmental change, living in an industrial site, a degradation of community support and harmony, loss of friendships, etc. It would be a naive person who would try to explain this away as just being progress without cost to the people of Victoria.

- The Victorian Health System
  - Based on overseas experience, there will be health costs that will be met by the State of Victoria.
  - During the pre-construction marketing phase, one person in the community has been admitted to hospital with a severe stroke, while another has been admitted with a heart condition. Both are most likely stress related conditions to which the windfarm contributed. There will be more.
  - Accident compensation claims will be a feature of this construction, just as they are with any. However, they are likely to be higher given that they combine the two highest areas of accident risk, being farm and industrial accidents. This will place additional pressure on medical facilities and the accident compensation process – both of which are funded by the people of Victoria.

Once the Permit is granted, and the construction phase begins, the cost to Government will be significant – across all wind farms in Victoria. This is estimated at \$1m to \$2m pa for Oaklands Hill provided there are no significant issues, rising to as high as \$10m pa in the case where issues arise. Across the State of Victoria, this could be as high as \$30m to \$50m pa.

### 7. The monetary impact of social dislocation in rural communities

To understand the economic impact, it is crucial to focus first on the social impact on rural Victoria and to understand the divisiveness that emanates from wind farm developments.

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Rural communities have been in decline for decades, however, there is growth and stability in a number of regions. Such communities operate on a network system of “helping your neighbour” on the basis of neighbourly reciprocity. The benefit is that in times of difficulty, you can call on your neighbour to provide “free” assistance on the basis that they may some day be in need of similar assistance.

In cities, such a reciprocal arrangement does not generally exist, with every service being fully costed and charged on a “user pays” basis. In rural Victoria, the value of this functional network is almost indeterminate, but would be valued in the millions of dollars.

In rural communities (including) Glenthompson, neighbours come to each other’s aid in times of bush fire, flood, bogging, tractor break-down, equipment failure, dam cleaning, shearing, holiday relief, and many other functions. They are also members of cooperative functions such as the CFA, rescue services, rural ambulance, etc. All of these activities function on a voluntary basis for men and women alike. Similarly, rural sporting clubs are heavily reliant on the spirit of the country.

Wind farm developments are poisoning relationships and networks that have functioned harmoniously over decades. Over recent months (and I can obtain statutory declarations if required) there are incidences where tradespeople have refused to repair equipment on farms where the owner is opposed to wind farms. There are now people who do not want to be involved with, or do business with those farmers who have chosen to develop a wind farm on their property. This Impact has been reported in local newspapers (i.e. Wind farm divides rural communities). In addition, there is a general level of discomfort and suspicion among many in the community, leading to people not wanting to attend events and even avoiding the local hotel.

There is a violent side to this. Acts of vandalism have occurred, where signs erected as peaceful protests to wind farm development, have been torn down or destroyed. There have also been “slanging” matches in rural communities and rumours being spread about people who have chosen not to be involved with wind farms. My family has experienced this first hand and I personally now feel uncomfortable going to the local shop, the local hotel and community and sporting events. I am only one of many that are being subjected to this insidious creeping deprecation.

The growth of these incidences permanently damages relationships, while people’s health is suffering from the stress and the spirit of rural Victoria is cooling. Sadly, not many city folk can see what is happening, while those that can just brush it aside as progress. What they don’t consider is that country people are not paid big city salaries and one of the key reasons they choose to live in the country is for the lifestyle benefits and comradie that has existed.

In districts of Victoria where such dislocation occurs, and relationships are damaged permanently, the cost is high. While it is difficult to measure the

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impact from dislocation and damaged social networks, the flow on impacts can be estimated. In the district surrounding the proposed Oakland's Hill wind farm, I estimate it at \$3 million pa, while across rural Victoria; it could easily be as high as \$30 million pa.

### **8. Impacts from loss of property value on rural families impacted**

Proponents of wind farms advise there is no evidence of loss of value to properties as a result of such development, however, there is anecdotal evidence to the contrary - that properties adjacent to wind farms are devalued, which was seen at Toora where it was reported that properties in that vicinity were devalued by some 30% and are difficult to sell. What is clear is that buyers that might have been attracted to a lifestyle property will no longer be prepared to pay a premium for such a property. It is also clear that given the choice of a property with no neighbouring wind farm, or the obverse, most people would prefer a "non wind farm" property.

However, there are many parallels to draw from, such as inappropriate constructions in the suburbs of Melbourne, where high rise devalued neighbouring properties. Beach front properties that have had their view built out and noisy freeway developments, where property values have been depressed as a direct result.

In Glenthompson, there are approximately 50 rural properties within 5 kilometres that are likely to be impacted through a loss of value. The loss of value has significant flow on impacts to the health of the economy as farmers are no longer able to borrow to the same level from banks to fund their business for the purposes of expansion, development, construction of buildings, water conservation (tanks and bores, etc), purchase of stock, a buffer in times of hardship and drought. The list is endless.

Additionally, when such farmers eventually sell, their wealth and retirement savings will be seriously eroded. The flow on effect of this is that their disposable income will be lower and they will not have the capacity to spend to the degree they would have previously.

In the area surrounding the proposed wind farm, I estimate the de-leveraging effect in Glenthompson will be \$2.5 million, possibly rising to as high as \$10 million. For the State of Victoria, I estimate it will run into several hundred million dollars.

### **9. Losses emanating from reduction in International Tourism and Adventure**

Submissions on this subject have been made by 2 renowned tourist operators - Australian Pacific Touring and Botanica World Discoveries. These operators have given good reasons why the wind farm industry will detract from tourism.

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Wind farm proponents will argue that their industry is good for tourism. People's initial curiosity has been a driver of visits to wind farms. In fact, I have visited a wind farm to understand how it operates. I must say my initial curiosity was quickly satisfied and I would rather visit scenic landscapes rather than wind farms any day.

Rural Victoria is amongst the most attractive landscapes and adventure environments in Australia. International visitors flock to Australia to witness the pristine environment and enjoy the unspoiled scenery. As areas such as the Great Barrier Reef become degraded, rural Victoria will become more attractive.

For people living in our overpopulated cities, they enjoy escaping on weekends to the country where they can experience the unspoiled nature and scenic beauty.

Wind farms did have a novelty value when they were relatively new and unknown. You could liken this to the excitement of having a jumbo jet flying over your house for the first time. Its okay in the early stages, but it soon becomes quite undesirable.

I estimate the cost to initially be in the range of \$2 million to \$4 million, however, with the continual growth in tourism and adventure, it will grow significantly and is likely to reach \$15 million pa in the next 10 to 15 years as urban growth continues and the major continents of the world become overcrowded. Tourism Companies, such as Australian Pacific Touring will be unwilling to make capital commitments and will direct their development dollars elsewhere.

It is easy to imagine the influx to Victoria from China, Europe and America as their environments degrade and they look towards Australia and New Zealand as scenic destinations.

They won't be coming here to see wind farms.

### **10. Small Business Tourism - Rural Home Stays and Bed and Breakfast Accommodation**

There has been some growth in this segment in recent years, and many farm businesses are now focusing on attracting the tourist dollar. This market segment is broadly linked to tourism, whether it be domestic, international or adventure holidays. It is also considered to be a family holiday segment where children can experience scenic rural beauty, farm life, animal development, while touring the local district.

This industry is in its infancy, but holds significant longer term potential to contribute to the Victorian economic prosperity and the Glenelg region is well placed given its proximity to the scenic Grampian Ranges, Dunkeld, Hamilton and Ararat.

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I estimate this business segment will add some \$1 million to the local economy in 2007 and up to \$5 million by 2012.

### **11. Government Infrastructure Spending**

Just as in high destination countries, such as Greece, the Victorian Government is focussed on the growth in tourism which generates significant spending. The tourism economy is an interesting dynamic as it generates significant dollars in its own right, but more importantly manages to attract additional Government spending. The combined public and private spend on tourism has significant power and contributes heavily to the Victorian GDP.

Consider the benefits flowing from Government spending and infrastructure support in relation to the AFL Grand Final, the Spring Racing Carnival, the Grand Prix /Albert Park, the swimming centre, and there are more.

Visitors and tourism also generates significant additional revenue through ad-hoc spending in the regional community. GST is collected on every dollar spent and tax is paid on all profit generated. Unlike wind farm revenue, all tourism revenue benefits all of Victoria. The tax collected is available for hospitals and education. Earnings that flow to Victorian operators, lead to local discretionary spending in the retail market and other businesses, allowing the earning's cycle to continue.

The local district now has the opportunity to preserve its scenic beauty for future tourism that will attract private and public spending that benefits all of Victoria, or to trade it for a power station(s) of dubious value.

This spending contributes to Government revenue and enables it to inject funding back into the revenue generating environment.

The GDP of Victoria is currently in excess of \$230 billion pa. An increase in GDP of just 1% from this sector over 30 years will generate an additional \$2.3 billion. Is this achievable? I'm not sure, but this possibility would be placed at risk by the Oakland Hills wind farm proposal where the proponent is not a Victorian Company, or an Australian owned business. Earnings generated will be paid to the South African conglomerate as dividends and leave this country forever.

In my estimate of earnings foregone, I have conservatively estimated the figure at \$5m pa, but in reality, it could be significantly greater and would contribute to local jobs and infrastructure development that supports our environment, landscape and tourism. Remember, that money attracts money.

### **12. The next generation of renewable energy**

The secret to attracting tourists and visitors is to have something unique or new to show them so they can tell all of their friends about it when they return home. Wind farms are now “old hat”, and not terribly efficient generators of energy.

Victoria should move forward and embrace the latest renewable energy technology and install it in such a way that it is seen as “special”. A good example is the proposal to install solar panels in every school. This could be extended to install solar panels in every house – as a real display of Victorian ingenuity.

This approach would be a good selling point for tourism and would ensure that overseas and interstate visitors return to enjoy the technological genius of Victoria. Wind towers penetrating the skies will not achieve this.

I believe that the added value from “next generation” technology would be an added value for tourism and also for members of the scientific and academic community, with significant positive effects to follow, not only in terms of dollars spent, but in terms of innovation and development.

Estimated impact \$5 million pa rising to \$20 million pa over 15 years.

### **13. Fauna brings economic development**

People love to enjoy the scenic beauty of the landscape. Part of this is enjoying the nature and wildlife that is part of an unspoiled environment.

The negative impacts from wind farm developments are only beginning to be understood in Australia, where we have little regional experience in assessing their longer term effects.

Recently, we have learnt that at Woolnorth wind farm in Tasmania, there have been reported incidences of wedge tail eagles being killed, in addition to other species such as sea gulls. This is consistent with incidences in the USA, Spain and other countries.

Bird watchers and clubs are supportive of landscape development that encourages the growth of bird populations, especially vulnerable or endangered species. These clubs also promote field excursions to “bird watch” in areas where bird life is able to be viewed in its natural state. The economic gain that will emanate from this activity must not be underestimated. As the urbanisation of Victoria continues, rural Victoria is becoming increasingly sought after as a refuge where bird groups can visit to enjoy their club activities.

Estimated impact \$1 million pa rising to \$5 million over \$15 years.

### 14. Cost of Back-up generation

Wind energy also has massive hidden system stability costs. As the power generated is intermittent and unreliable it needs constant backup by rapid start generators. In the absence of hydro facilities, which take 60 seconds to start producing, wind energy will require backup by Australia's next fastest starting generators, ie: gas. ILEX Consulting calculated that in the UK the annual system backup cost for 20% renewables (mainly wind) capacity would be 400 million pounds.<sup>6</sup>

We also know that ordinary back-up power stations have to be built in any case because when the wind stops blowing, coal, gas, hydro and other forms of generation are required. When the wind is blowing, wind tower efficiency is acknowledged at between 20% - 35%, which is low by any standard.

There is a double cost to the State of Victoria here. Firstly, the building of wind farms is subsidised, then we still have to build additional power stations as a backup for when they are not working. Even if a lot of wind farms are built, wind patterns across Victoria such as they are will not subsidise and complement the efficient generation of wind power.

Estimated cost of \$300m pa or \$1 billion by 2010.

Whilst wind energy generators can be viewed from afar as positive environmental icons they do have a social, cultural and heritage cost by being highly visible, standing some 35 to 50 storeys high. They also move and are noisy. There is an environmental cost in effects on wildlife and also effects on rural communities as evidenced by the attached letter.

## **15. Summary**

This paper relies on the reader's knowledge of basic State matters. Much of the information is available through the media, the internet and from State Bodies.

The author has used a "common sense" approach in respect of much of the writings. It is clear, however, that the financial benefits from the Oakland's Hill wind farm are dubious at best. In fact, the proponent appears not to have adequately quantified them.

More importantly, the impacts on the people of Victoria from the proposal are very negative, both from a social and financial perspective. Should the proposal proceed, it will absorb support funding from the State and Local Governments for many years and take advantage of subsidies that could have been applied to health, education, roads and transport.

In respect of the people living in the vicinity of the wind farm site, the development, should it proceed, will destroy the landscape, the tourist potential and most importantly, the fabric of the rural community that has functioned harmoniously for decades.

It is telling that no cash flow or profit projections have been provided to the Planning Panel, land owner investors or made publicly available.

*Appendix One*

**Summary of Modelled Benefits and Costs**

<b><u>Purported Benefits</u></b>	<b><u>A\$millions</u></b>
Purported benefits from the proposal (excluding subsidies and hidden costs)	\$85
Adjustment to “Purported Benefits” for model error of say 15% <ul style="list-style-type: none"><li>▪ turning off for grid overload</li><li>▪ unplanned “down time”, break-down, etc</li><li>▪ turning off for “high fire danger”</li><li>▪ turning off for health reasons</li><li>▪ poor wind speed/capacity</li></ul>	(15)
Adjustment to “Purported Benefits” for early obsolescence	(30)
<b>Adjusted Range of purported net benefits</b>	<hr/> <b><u>\$40m to \$70m</u></b>

**Appendix Two**

**Hidden Costs (pa average over 10 years)**

Maintaining the wind farm site (s)	(3) pa
▪ weeds, vermin, pests, etc	
▪ erosion, waterways, salinity, internal roads	
Use of State and Local Government Infrastructure	(10) pa
▪ Administering terms & conditions of the permit	
▪ Maintaining roads & infrastructure	
▪ Country Fire Authority costs	
▪ CMA & DSE oversight	
▪ The Electricity Supply Grid	
Added burden on the Victorian Health System	(2) pa
▪ Community health	
▪ TAC claims	
Social Dislocation of Rural Communities	(3) pa
Loss of property value and de-leveraging effect	(2) pa
▪ Lower Property values impact Bank valuation	
Reduced International Tourism and Adventure	(5) pa
▪ As per Geoff McGeary's presentation	
▪ As per Botanica's presentation	
Reduced Small Business Tourism	(3) pa
▪ Rural Bed & Beakfasts	
▪ Farm Stay holidays	
Government Infrastructure Spending	(5) pa
▪ GST revenue generation	
▪ Retail sales tax generation	
Added burden on social security	(2) pa
▪ Pension costs	
▪ Unemployment benefits	

**Range of "Hidden Costs"\*** **\$(40) to (60)m pa**

***\*Excludes the cost of back-up generation, which has to be built in any case.***

**Footnote:**

It is acknowledged that the range of "hidden costs" can only be an estimate, however, it is easy for a logical person to understand that such costs would not have been included in the economic benefits of the project. Nor would have any subsidies or works received from any State or Local Bodies.

***Appendix Three***

**11.Economic report Other Health Affects measured in Surveys/Studies**

There are many documented cases of individuals who report severe impacts on their health and wellbeing. These are measured in the following surveys conducted in the UK in 2006. The results must make everyone question some of the recent data quoted in Victoria:

**2006 Devon Wind Turbine Survey**

- 86% reported that their health was affected
- 76% reported that they had gone to their Doctor as a result
- 73% reported that their quality of life had been affected

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