

<b>To</b>	The Minister of Planning C/- Planning Panels Victoria, Level 1, 8 Nicholson Street, East Melbourne. Victoria. 3002
<b>Title</b>	Our <b><u>objection</u></b> to the application by Investec Bank (Australia) Limited, to use and develop a 43 wind turbine facility on land south of Glenthompson, <b>from the perspective that the development will <u>increase our risk to fire.</u></b>
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<b>Contents -</b>	<b>14 pages Total –</b> Written copy of Verbal Presentation as given Friday 14 <sup>th</sup> December 2007 Conference Room Royal Mail Hotel Dunkeld. 3294 <b>1 page -      Cover Sheet</b> <b>11 pages -    Presentation.</b> <b>2 pages -      References</b> <b>CD ROM -    Copy of Slides</b>

Yours Sincerely,

WRB Rogerson

Member - Grampians-Glenthompson Landscape Guardians Inc.

**Good Morning to the Panel** - Madam Chair - Ms Moles and,  
Members - Mr Chiodo and Mr Sheehan

I am here on behalf of the Grampians-Glenthompson Landscape Guardians Incorporated, to present our **objection** to the application by Investec Bank (Australia) Limited, to use and develop a 43 turbine wind farm on land south of Glenthompson, **from the perspective that the facility will increase our risk to fire.**

Slide 1- The development of the Oaklands wind Farm South of Glenthompson will increase our Risk to Fire

This presentation will address –

- Current Bush Fire Risk Status
- 2006 Mt Lubra Fire
- The Oaklands Hill Wind Farm Proposal
- Predicted Wind Farm Fire
- Our Increased Risk to Fire

## **1. Current Bush Fire Risk Status .**

In 2006, the Department of Sustainability and Environment calculated that the average number of hectares burnt in country Victoria through bushfire, is a staggering **115,338 Ha each year.**<sup>1</sup>

The causes of these fires include: lightning strikes; escapes from prescribed burns; arson; camp fires; cigarettes and matches; burning buildings; machinery; combustion from haystacks; and power lines and their stations.

Slide 2 – Relative risk map

Glenthompson's current status of fire risk lies with bush fires through its location relative to the Grampians National Park. As this figure reveals, under the rating and relative risk to people from bush fires within Australia, Glenthompson is located within an area of **extreme risk.**<sup>2</sup>

The Science of bushfires encompasses three factors - biology, physics, and weather.

**A. The biology of a bushfire** deems it as natural phenomena of the bush cycle, and in Australia our bush has lived through it for millions of years. That is why fire fighters concentrate solely on saving lives and assets. They fight fire with fire, because they know the bush will regenerate after the fires have done their worst.<sup>3</sup>

**B. The physics of bushfire** concerns the fuel that builds up in the bush naturally over years. Bark from gum trees, branches and leaves, small shrubs die and are replaced by others, consequently the floor of the bush becomes a mat of rotting material, which slowly augments.

When a fire starts, it begins slowly<sup>3</sup> It takes its time to deliver a wisp of smoke. Then it will make a dash for it and consume whatever it can. Fire loves hills. It speeds uphill because the fuel is closer to the flames. on the upslope, and this pre-heats the ground cover and makes it easier to consume. In fact, for each 10% increase in slope, the rate of fire spread, doubles.<sup>4</sup>

Slide 3 - Crowning

Fires can become very dangerous. The most dangerous is one that crowns - that is it roars and gusts through the tree tops. Very quickly it becomes a firestorm travelling at 50 kilometres an hour or more, leaping ahead of itself throwing sparks and burning embers up to a kilometre away.<sup>3</sup>

**C. Weather is the final factor** in the bushfire equation. Bushfires are synonymous with a climate that is hot, dry and prone to drought. The sunshine and hot temperatures rapidly dry timber, grass and shrubs creating dead leaves and twigs as fuel to burn.<sup>3</sup>

The paradox is that the weather with the most powerful influence on bushfires is the **cold fronts**, which occur at the junction of warm and cold air masses. Thus hot **north westerlies** pushed by cool **south westerlies** will change the wind direction about 90 degrees. It will shift the direction of a fire front abruptly, with little or no warning.<sup>3</sup>

Slide 4 – NW winds & SW Wind Change

As you can see on the slide, the fire that is initially driven steadily by a strong **north westerly wind** is long and narrow – (upper figure), but when the wind changes with the passage of a cold **south westerly front**, the long side of the fire becomes the front, one that is wide and unrelenting, creating a situation that is most difficult to combat (Lower figure) .<sup>3</sup>

Slide 5 - Fire fighter fleeing from Dead-man zone.

In fact the new front is an area known as ‘dead-man zone’,<sup>5</sup> and within that zone fire will travel three times faster than its initial track.<sup>6</sup> Consequently firefighters working the flanks of fires to control them, are at risk of being in the head of the fire when the wind changes. The CSIRO and a number of land management and fire agencies have been involved in a five year plan called Project Vesta, to research and predict bushfire behaviour.

## 2. 2006 Mt Lubra Fire

Glenthompson and its surrounding district have endured a number of major bushfires and most recently have been affected by the 2006 Mt Lubra fire.

The Mt Lubra fire was just last year. It began with four lightning strikes deep in the Grampians National Park on January 19<sup>th</sup> 2006 in most difficult terrain. Local brigades deployed crews of volunteers in an effort to arrest it and the nearby towns of Glenthompson, Dunkeld and Mirranatwa were constantly under immediate threat.<sup>4</sup>

Slide 6 - Mt Lubra fire escape to Willaura<sup>7</sup>

On January 22<sup>nd</sup> 2006, the fire escaped from the eastern side of the Grampians travelling **16 kms** to Willaura in just **10 minutes**. Within 4 hours it had destroyed 20,000 hectares of farmland, and caused a massive amount of environmental and asset destruction.

The losses for the 2006 Mt Lubra fire alone are tabled as<sup>8</sup> –

- Two people perished in their car;
- More than 90,000 ha of National Park;
- 40 dwellings;
- 62,682 sheep;

- 160 cattle;
- 73 wool, hay and machinery sheds;
- 36,180 hectares of pasture;
- 10,250 tonnes of hay;
- 1923 kilometres of fencing;
- 315 hectares of plantations
- and 3052 beehives within a perimeter of 360 kms.

### **3. The Oaklands Hill Wind Farm Proposal.**

Investec Bank (Australia) Limited propose to place a 43 turbine wind farm over a 2322 hectare site south of Glenthompson. These turbines of 80 metres tall will have a rotor diameter of 100 metres, giving an overall height of 130 metres.<sup>9</sup>

In addition, the complex is to include an electrical substation for power transformation and the construction of 17 kilometres of power lines to meet with the main Powercor network on Hamilton-Chatsworth Road.<sup>10</sup>

Each of the 43 wind turbines will contain many gallons of oil, 80 metres above the ground, with the tips of a three blade rotor system running up to 4 times that of wind speed.<sup>11</sup>

Wind turbines do catch on fire. Even the CFA recognises that a risk of fire exists when electronics, flammable oils and hydraulic fluids are contained in a single enclosure.<sup>12</sup>

The fires are usually the result of malfunctioning turbine bearings causing them to overheat, inadequate crankcase lubrication; cable damage during rotation; electrical shorting or arcing in the transmission and distribution facilities; and sparks thrown out when the turbine is slowing down.<sup>12</sup>

Slide 7 – Kansas 2003

In America, the brakes and bearings of wind turbines caused 35 fires in one year. This burning turbine was at Flint Hills, Kansas in July 2003.<sup>13</sup>

Slide 8 – England 2005

At Sunderland in England 2005, this turbine spontaneously burst into flames and the fire was so fierce, all three of the 75 ft long blades eventually fell off.<sup>14</sup>

Closer to home, the Lake Bonney, Yambuk and Challicum Hills wind farms have already experienced fire.<sup>15</sup> At Lake Bonney, a turbine caught on fire due to an electrical fault. The turbines had automatically shut down because temperatures during a heat wave had exceeded 40 degrees Celsius. The maintenance crews were working on the turbine when the fire erupted.<sup>9</sup>

Local fire brigades rushed to the site, but the fire hose water couldn't reach the generator 67 metres up. Nonetheless, they were needed to extinguish the spot fires that were ignited by ashes from the turbine blaze<sup>9</sup> for flames and embers promoted by the oil flare spread over a dangerously wide area.

Fires in substations are numerous, caused by switch failures, lightning, switchboard flashovers, and defective equipment.<sup>17</sup>

Fires also originate from power lines. Examples include -

- conductors can clash with underslung earth wires and release hot metal debris, which falls and ignites the vegetation below;
- fallen poles and lines or birds killed or injured on impact with power lines can ignite fire and
- there is possums that weave their way into warm posies in substations and cause fire to subsequently erupt.<sup>18</sup>

#### **4. Predicted Wind Farm Fire**

It only takes one spark in the right conditions to cause destruction on a grand scale. If the Oaklands Hill Wind Farm materializes and causes a fire, I can almost predict exactly what destruction it will incur.

I will now tell you from personal experience along with some anecdotal evidence from neighbours, of the course of events as they took place within the immediate vicinity of the proposed Oaklands Hill Wind Farm site, some thirty years ago.

It was Saturday morning, February 12<sup>th</sup> 1977. I was at home with my girls, then aged 3 and 4 years old, on "Stirling" farm (which my brothers and I owned at that time). The farm is situated in Astons Road Glenthompson, east of the Glenthompson-Caramut Road. My wife Sandy always stayed in Ararat on Saturdays, in order to catch up on the sleep

she would lose during the week. She was a nurse and worked night duty at the Ararat and District Hospital.

It was hot and the winds were gusty, one of those oppressive days. Mum said she would look after the girls for me so I could get some work done on the farm, so I took them down there – it was only two miles along Astons Road to my parent's farm.

The local fire fighting services consisted of all volunteers. In 1977, the volunteer brigades within this immediate area included Glenthompson, Woodhouse, Nareeb Nareeb, Strathmore and Narrapumalap.

We were operated out of the Westmere CFA Region 16, a tiny township on the Western Highway on the way to Ballarat. During the fire season from December to March, one of the locals in Westmere would man the radio fire network every single day. And all the fire fighters within the region would check in with any information and fire reports.<sup>10</sup>

All the local farmers were members of a brigade, I was then with Nareeb Nareeb. Most farmers had a listening set and mostly the wives would keep tabs of the goings-on. If there was a fire spotted, you would know about it pretty quickly. We would drop everything, swing into action and go out and help.

On this particular day, the fire started around lunch-time at 'Roanoke' in Lovatdale Lane - then owned by the Lloyd family. It started at a SEC (State Electricity Company) power pole which had a transformer attached. These transformers would convert the carried 22000 volts of power to standard voltages for use by homes and sheds on farms, a process resulting in considerable heat generation.<sup>10</sup>

In the extreme heat, the transformer practically exploded and little pieces of molten metal fell down and ignited the grass all around the pole.<sup>10</sup> With hot north westerly winds, the fire soon gathered momentum and it quickly became a raging inferno spreading over a large area in a southeasterly direction.

It arrived at the Lovatdale Lane - Bundoran Road corner in a matter of minutes, but a drain in Jackson's which had been burnt as a break turned it away. Don Aitken, the then owner of 'Bundoran' labelled it the 'million dollar drain', for it not only saved his land, but part of Sandy's parents too.

It nonetheless found a loop-hole burning up to the fence of the house where Sandy and I now live, but it too was saved by a firebreak that my father-in-law religiously ploughed every year. Not deterred, the fire then ran behind the house around the ‘Melbourne Swamp’, and into ‘Brie Brie’. It was relentless taking everything in its path – sheep, cattle, trees and fences.

Whilst fingers of fire were creeping away to the east towards Vanrenens, the main front struck a block of bush bordered by three properties – ‘Brie Brie’ owned by the Manns, ‘Fernleigh’ owned by the Cuming family and ‘Bilpah Hills’, then owned by the Cundys. When this bush area went up, it looked like the mushroom of an atomic bomb and sent smoke hundreds of feet in the air, and the farmers knew there was no way of stopping that.

Over on Astons Road, I had been out in the paddocks rounding up sheep when I spotted smoke in the distance. I went home immediately and Mum said there was a fire in Lovatdale lane. My brother Doug and I headed towards the Glenthompson-Caramut road in our fire truck.

We saw a fire well into the paddocks on ‘Nareeb’ and we quickly went over and began fighting it. But there was no-one else in sight. We were unaware everyone else was over on the west side fighting the blaze. Most of the local brigades were in action including 17 trucks that came from Strathdownie and Casterton to help.

All of a sudden the fire came straight at us. We were pinned by a burning wall and it literally chased us across Nareeb’s paddocks. The fear that is lodged in the pit of your stomach is indescribable. There was no time to cut fences, we just drove straight through. It was directly behind us and catching up. The smoke was blinding and despite familiarity of the terrain, we were not completely certain of where we were. On the west side, John Pollard had already driven his ute into a dam because of smoke.

Our farm was now directly in the fire’s path. We found our way out and headed back home to shift sheep. Mum and Dad were packing the boot of their car with anything they thought was important. They took the girls and headed to Lake Bolac. There was no time for me to grab anything at all from our house.

On ‘Nareeb’, owned by the Beggs family, they had shifted their recently acquired prized Chatsworth stud flock to what they thought was safety, but as it is often the case in a western district summer, an abrupt wind

change to the southwest sent the fire straight to those paddocks consuming the whole lot in a matter of seconds.

Doug and I had quickly returned to the fire and the police arrived asking the whereabouts of our family. They had already evacuated a number of people from the district including Sandy's mother. I told them my parents had gone, and that Sandy was in Ararat and at least I would be left with a car.

The wind always plays games around here and all of a sudden it decided to turn again - this time a little further to the south. The fire was subsequently sent north speeding its way towards Glenthompson. Whilst we had no idea that our farm had been spared, others were not quite so lucky. Farmers like the Cundys whose property was now at risk, were over in the south west corner still fighting the fire on Nareeb and unaware that their land was burning.

By now it was a little after 1 pm, the fire had almost circled and reached Bushy Creek. It was only a few hundred metres from the bush area it had destroyed earlier. It jumped the creek with relentless ease and marched straight up the next hill right into 'Bilpah Hills'.

On 'Bilpah Hills', the fire cleared whole paddocks in a matter of minutes and killed thousands of sheep. The Cundy's brand new steel hayshed which was built with strength and precision, was full to the brim with 8000 bales of hay – and it just vapourised. The melting point of steel is 1,370 degrees Celsius and all that was left were the support struts and a pile of twisted metal.<sup>20</sup>

The fire sped onto the homestead and into surrounding plantations of pines, wattles and boobyallas. Mrs Cundy was running around the house trying to protect it with a garden hose. Unbeknown to her, whilst the plantations were being demolished, so too was the very hose she was holding and all the water was escaping. Fortunately a neighbour with a water tank was passing by, saw the flames threatening the house and helped to save it.<sup>20</sup>

The fire continued down the Glenthompson-Caramut road and menaced itself crossing the bitumen road at times. By now the day was starting to cool and as the fire had been brought under control on all the other fronts, the fire fighters were finally able to fully arrest it at the corner of Vanrenens lane.

The devastation from this fire was immense. The total amount of land burnt was about 6000 hectares. The length of damage stretched some 15-16 kms not far from the Hamilton-Chatsworth Road. However we were not the only ones to suffer that day. None of us were aware that at the very same time we were battling our own fire here at Glenthompson, Streatham and district some 40 kms from here was also being flattened, its cause too from fire in a SEC power pole.

Slide 9 – Aerial Photo - Glenthompson fire 1977

On February 12<sup>th</sup> 1977, the widespread fires which occurred across grasslands in the western district of Victoria at Streatham and Glenthompson caused the death of four people, 103,000 hectares were burnt, more than 198,500 stock, 116 houses, and 340 buildings were lost.<sup>19</sup>

For the Cundy family alone, they lost 2000 hectares of grazing land, over 4500 sheep (2000 of which were their prime breeding ewes), a cow, hayshed, plantations, and tens of kilometres of fencing.

Slide 10 – Repeat Aerial Photo - Glenthompson fire 1977 - Properties

Of other local properties, approximately 200 hectares of ‘Roanoke’ was burnt; 60 hectares of Sandy’s parents; ‘Wangoon’ lost around 120 hectares; almost all of ‘Brie Brie’, all ‘Fernleigh’ and three quarters of ‘Nareeb’ was lost; and half of ‘Wiltshire’ from two fingers of fire that had escaped east from ‘Brie Brie’. This aerial photo was taken just after the fires by John Mann.

The next day was spent shooting maimed animals, digging pits and burying dead stock. We blackened out the burning stumps and the trees that were still on fire. Months, even years went by in some cases, before assets like sheds and fences were replaced.

Mr Cundy declared the fire would set them back 5 to 10 years. In actual fact, the Cundy property was used in a test case against the SEC being the party responsible for their losses on that day. They won the case and this set the precedent for all the other farmers affected by power pole fires in the district, to sue for compensation.<sup>20</sup> Mrs Cundy didn’t ever really get over the fire, and in the following year she died.

## 5. Our Increased Risk to Fire

- The Oaklands Hill Wind Farm will actually **double** our risk for not only will we have the fear of bush fires on our doorstep from our proximity to the Grampians National Park but a wind farm too.
- A wind farm is an industrial site and you are placing an already volatile area at even greater risk
- However, compared to the 1970s, the number of volunteer fire fighter members have reduced. Strathmore CFA Brigade Members Roll (2006), The cause mainly due to an aging farmer population and farms increasing in size.
- The presence of northwesterlies which gave Investec opportunity for their business plan could ultimately be their greatest threat because of our wind patterns in summer - the south westerlies and dead-man zone.
- Our fire trucks are engineered to fight bushfires not those of an industrial site. Nor are our trucks fitted with ladders to reach such enormous heights.
- And its no longer sufficient to have just enough water to fill our fire trucks, copious reserves are needed in case 'Elvis' - the fire bombing helicopter is required, for in each and every load 'Elvis' will consumes 9000 litres of water in around 40 seconds.  
'Elvis ready for bushfire season',  
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- Global warming in Australia we are to expect increased temperatures, more extreme rainfall events more heatwaves, more frequent droughts, conditions that increase the risk of fires and effectiveness in fighting fires Consequently we will need improved emergency infrastructures to cope with a wind farm too..  
'Warmer and sicker? Global warming and human health',  
<<http://www.science.org.au/nova/081/081key.htm>> (accessed 11 December 2007)
- Who will be responsible if the wind farm causes a fire and causes horrific damage, lives and destruction of private land? Will it be Investec or the landowners who host the towers?

- Under the section 266 of the Criminal Code – it is the duty of ...  
**[e]veryone who has in their charge or under his control anything, whether living or inanimate, or who erects makes or maintains anything whatever, who in the absence of precaution or care may endanger human life, is under a legal duty to take responsible precautions against and use reasonable care to avoid such danger, and is criminally responsible for the consequences of omitting without lawful excuse to perform such duty.**  
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