Name: Marlies Elbourne

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Personal Address: Same as postal address

Director – Energy Assessments
Planning and Assessment
Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta. NSW 2124

Date:

TO WHOMIT MAY CONCERN

Re HILLS OF GOLD WIND FARM APPLICATION No. SSD 9679

EPBC ID Number
2019/8535
Assessment Type
State Significant Development
Development Type
Electricity Generation - Wind
Local Government Areas
Tamworth Regional, Liverpool Plains Shire, Upper Hunter Shire
Exhibition Start-End Date
16/11/2022 - 13/12/2022

- I am attaching my submission to the above mentioned development application during public Exhibition of Amendment Report November 2022
- I hereby declare that I object to the Hills of Gold Wind Farm Proposal ID No. SSD 9679
- I would like my personal details witheld
- I have not made any political donations
- I acknowledge and accept the Department discliamer and declaration.

Signed M. Elbourne

NSW.GOV MAJOR PROJECTS / PLANNING

Hills of Gold Submission

Against the proposal

First of all I will state I support clean energy. My husband and I travelled around Australia for 9 years, obtaining most of our energy in our caravan from solar. We had 850 watts of solar on our roof, lithium batteries and produced enough power to run a large 12v 2 door fridge freezer and also run a 240v bread maker. Our cooking was LP Gas.

Our home in Nundle has 12 solar panels and our current car and van also has solar for our power for a 12v fridge in the car and a 3 way in the van, plus TV, computers etc. We rarely go to caravan parks, but bush camp most of the time.

1. **How much power will this wind farm use** – for instance, power required to keep the blades turning when there is no wind to help stop the shafts warping due to the massive size of the blades?

How much power to turn the entire generating structure towards the wind?

How much power to heat the gearbox oil and blades in winter to keep the blades ice / snow free?

How much power turn the blades to maximise or minimise blade pitch to the various wind conditions?

How much power to run the aircraft warning lights?

I have read wind tower engineers reports that this can add up to some 30% of the designed turbine capacity power??? Is this why I am told you are installing a small lithium battery plant up there? Some of the pro people have pushed that it is to stop blackouts in Nundle when the wind doesn't blow. What is it's real role? Just how efficient will this proposed wind farm be? Is this why I believe it is designated a "Class C" wind farm? Surely this investment would be far better located on the eastern side of the Great Dividing Range, where the sea breeze is far more constant.

2. **Wind turbines in mountains accelerate fatigue damage** and premature failure and can shorten life to as low as just 10 years. My Daughter lives in Germany and has made me aware of the serious problems they have experienced to severely shorten wind turbine life:

David Heidenreich /Chief Engineer (Ret.) / AeroTorque Corporation

Wind turbines see a broad range of dynamic loads that most large, ground-based rotating machines do not. They experience variation from the grid and generators (in the form of curtailments, grid loss, and voltage changes) and also see frequent wind changes that are occasionally extreme. Storms, gusty conditions, and even a sudden wind loss can cause significant variability in drivetrain loads and a reduction in the expected life of drivetrain components.

Wind turbines see other challenging wind conditions as well. Extreme wind events have been defined for a long time. However, their ability to cause torque reversals of a magnitude that can damage a turbine has only recently been recognized and measured. The ultimate wind-load cases during normal running were defined. The blades can be loaded non-linearly, sending varying loads going through the drivetrain. Shear winds are most often experienced by turbines on ridge tops and those located near the front edge of a plateau. Winds striking the face of these mountains deflect vertically, resulting in shearing winds.

This is precisely the issue with extreme wind shear, and gusty and turbulent winds. A sudden change in direction can result in momentary torque reversals that can cause damage to the turbine drive system. Blade-control systems cannot always react fast enough to mitigate these fractional-second loads, especially during rapid stops during high wind speeds. The only way to try and mitigate this damage is to reduce efficiency by as much as 30%. This being the case, how does your investor feal about this very marginal wind farm?

In Germany, this had been recognised as a major factor in shortening the service life of a wind turbines in mountainous conditions. – shortening the life to as little as 10 years. I would assume your have informed Engie of this possibility?

3. **Damage to roads:**

We have seen the massive damage to our roads from the 4 or 5 timber trucks carrying logs to Quirindi. This proposed Wind Farm construction will be 50 times more damaging to our roads should this project goes ahead. We have already seen the fiasco at Glenn Innes / Glenco with the massive damage to secondary roads in the building of their wind farm. The developer has now gone, the investor claims they are not making enough money out of the generated power to fix the roads and the council stated they cant afford to fix the roads. So what guarantee can you give that some $60 million will be set aside to repair our road damage? It costs some $700,000 to $1 million to repair roads per kilometre. .

4. **Bushfires …** We had several serious bushfires up at Hanging Rock last summer. The main bushfire needed the services of the huge 737 water bomber to attack a large fire which was in an inaccessible part of HR. This bombed fire retardant and was the main attack to kill this fire, We also had several other fires, one on the location of the proposed wind farm, that required water bombing from helicopters for 2 months, as the 737 was required for use in the massive bushfires down south. A wind farm in this bushfire area will seriously hinder effective water bombing, especially by the 737. Look how low the 737 must operate from to be effective.

EXTRA JOBS FOR LOCALS:

The Proponents keep telling Nundle and HR people that this will generate some 350 jobs during construction and 30 full time jobs when finished? What type of job specifications will be allocated to the 30 full time jobs – what qualifications will they need?

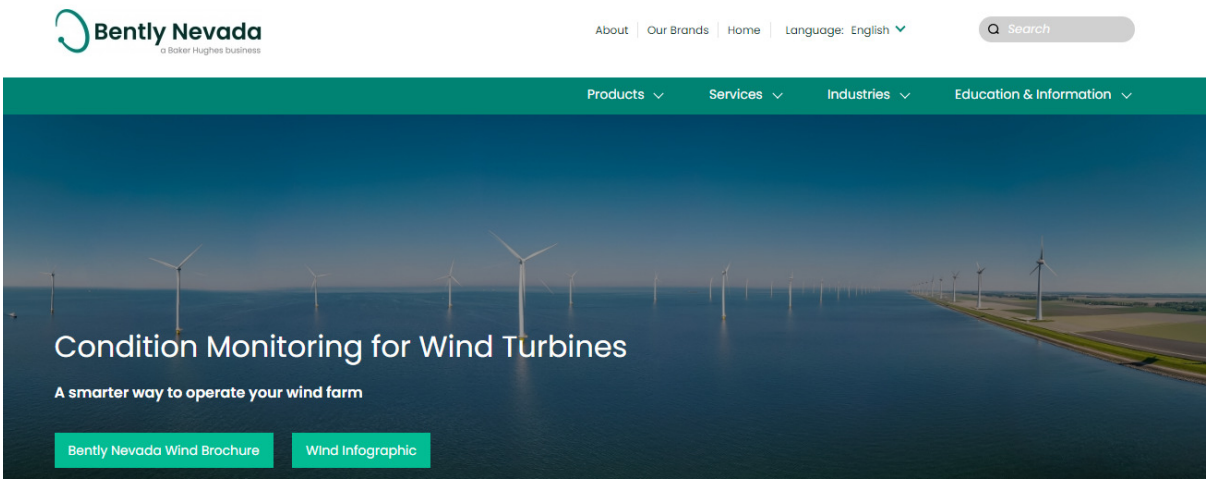
Experience from other wind farms demonstrate that local jobs are almost zero. Mostly employ backpackers for menial tasks. The developers appear to bending the truth with the number of jobs locally.

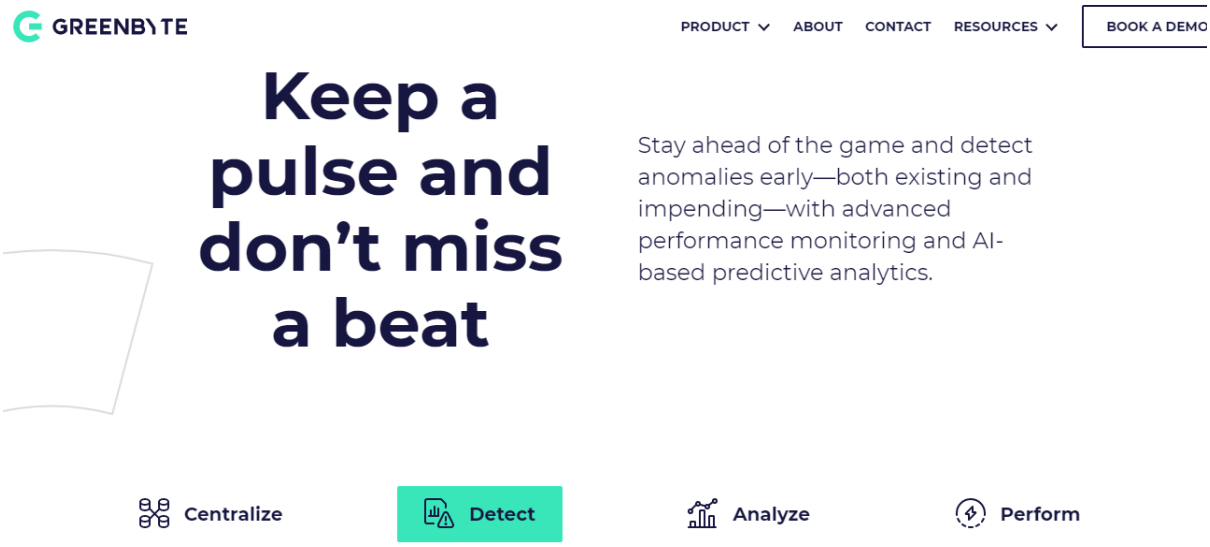
I find this hard to believe that you will have 250+ workers up there for 2 years. Will you be doing this in stages, such as site preparation, then tower building, then blades / generator installed, then wiring etc.? Maybe about 40-50 workers at a time?

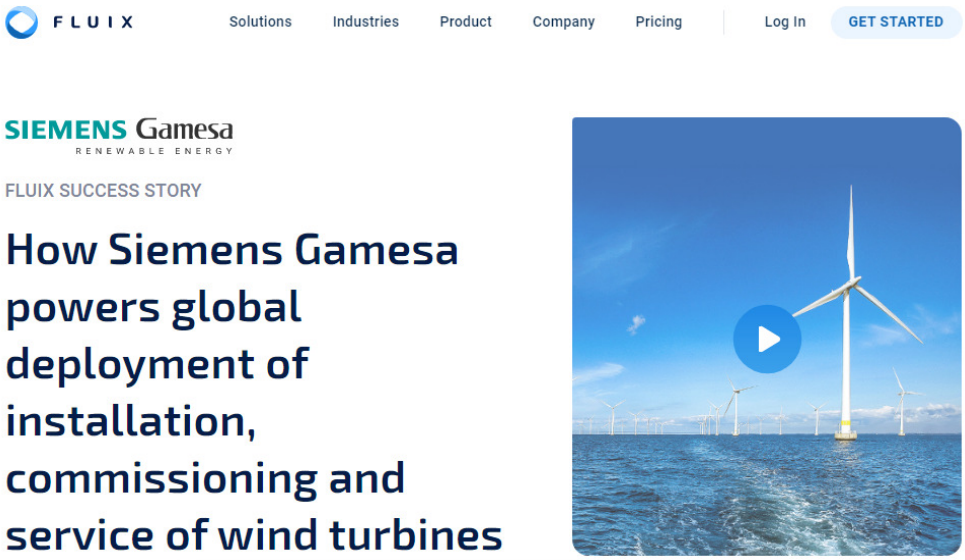
Also I understand they will be accommodated and feed on site?

The cost to employ these 30 permanent workers after the construction would be very high. Apart from wages, there is payroll tax, superannuation, holidays, long service leave, workers compensation insurance etc etc. For an average worker you are looking at total cost about $108,750 per annum. For 30 workers, that is $3.3 million per annum. We are told by the pro people these jobs will last for 30+ years. With inflation at just 1%, this would amount to $127 million dollars.

After the project is finished, surely they will be employing wifi / electronic monitoring, feeding all the information on each generator status to a head office, such as Sydney, who will then dispatch a FIFO crew based in Sydney – or Brisbane, to fix problems. There are a host of monitoring systems on the market that does away with having local service staff on site and their massive cost:







5. Promoting Power Fear:

Promoters of the wind farm are telling people that if we don't have the wind farm, Nundle won't have any electricity after 2022 and will have to go back to hurricane lamps, washing clothes on washboards and no more phones or TV, because Jim Robinson is in the 'know; about these matters.

We are much aware that the Government has decreed that Liddle will go on and will most likely switch to gas operation. What is your taken on this? Do you approve of false information being bandied about to promote fear in residents to support the wind farm?

Marlies Elbourne

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