

Submission to the Department of Planning & Infrastructure

Proposed Ungula Wind Farm

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We, Matthew Gwozdecky and Mirjam Leiter, residents of 'Alma' 350 Yarragal rd 2820 NSW, have prepared this submission that fully opposes the proposed Ungula Wind farm.

Our neighbours James Patrick and Valerie May Connors, residents of 'Yellowglenn' 701 Yarragal rd 2820 NSW, who are unable to make a submission on their own, want to be included in this submission, as they fully oppose the project.

We also include in this submission Karen and Michael Thompson's opposition to the proposed Ungula wind farm. They are residents of 1003 Yarragal rd. and will, according to the EIA, not be able to view the project from their house. Karen and Michael commute to work in Wellington via Yarragal rd and will therefore be burdened with the intrusive sight of the proposed turbines almost daily. Karen and Michael are aware and concerned about the disturbance the project will create to the visual amenity of the area.

We remind those in position of responsibility for the engineering, investment and planning decisions about the project and turbine sighting that their primary responsibility is to ensure that developments cause no harm to adjacent residents; and, if there is any possibility of any such harm, then the project should be reengineered or cancelled.

Should the NSW Government, via their agent the Department of Planning and Infrastructure approve the Uungula Wind Farm it will be disregarding its **duty of care** to the residents in proximity to this industrial wind turbine complex.

Should the NSW Government, via their agent the Department of Planning and Infrastructure approve the Uungula Wind farm it will be ignoring **the precautionary principle** particularly in relation to health, welfare and community affairs as recommended by the Federal Senate Inquiry into Rural Wind Farms

Summary of Objections

Throughout the whole application, the proponent repeatedly uses the words "likely" and "possible".

The proponent does not commit to anything. He paints a vague picture and makes opportunistic statements about possibilities. The proponent fails to give any guarantees or definite evidence for any of his claims.

An application for a project of this magnitude and significant impact for residents must not paint blurry pictures. If the proponent is not even committed to his predictions then how can anyone, including the Department of Planning and Infrastructure be given an actual impression of future outcomes?

Since the proponent fails to provide an actual impression of the impacts of the project, the project must not be approved until he is able to do so, in order to satisfy all affected persons by giving and assuring measurable data to underline any claims made in this application.

Table of contents

1. The precautionary principle	4
2. Wind is today's new Alternative Energy	5
3. Efficiency and CO2 emission.....	6
4. Noise	8
4.1. Resonance.....	9
5. Mitigation measures	11
6. Visual amenity	12
7. Land values	15
8. Battery storage unit	18
8.1 Waste	18
8.1 Electrical fire hazard	18
9. Every eco system is fragile	19
10. No consent has been given by the broader community to the industrialisation of rural and regional NSW.....	21
11. Visual impact	24
12. Health	25
13. Air Quality.....	29
14. Description of the proposal	29
15. Night lighting	30
16. Renewable Energy	31
17. Economic Assessment	32

1. THE PRECAUTIONARY PRINCIPLE

The World Health Organisation defines The Precautionary Principle (. Berglund, B., Lindval, T., and Schwela, D. (Eds) (2000). *Guidelines for community noise*. World Health Organization, Geneva, Switzerland.)

When there is a reasonable possibility that the public health will be endangered, even though scientific proof may be lacking, action should be taken to protect the public health, without awaiting full scientific proof.

Moreover the precautionary principle is a **moral and political principle** which also calls for the burden of proof to fall on those who would advocate taking the action.

In other words, no new industrial process should be imposed on an unsuspecting public without having been thoroughly, publicly, and independently studied beforehand. Patently this has not happened with the wind turbine industry and it is only in the last few years that the mounting evidence of the health effects of wind turbines are such that they can no longer be ignored.

The precautionary principle dictates that studies need to be **urgently** carried out to establish if wind turbine projects impose risks to health or safety of the target communities. A moratorium should be established and such projects should not be allowed to proceed until this is completed. If the research indicates risk, then prevention is mandated. Until then it is a matter of good governance to adopt the precautionary principle in the interests of public health.

2. Wind is today's new Alternative Energy

Alternative energy generation is a good thing and the EIS articulates the well-known issues facing our environment, which a reduction in fossil fuel combustion will benefit from. We do not dispute any of this, in fact, we expound it.

However, wind energy is not the first alternative energy to be embraced by governments and their policy makers, with generous subsidies that externalise the development costs from the participating commercial proponents to the nonparticipating communities around which they emerged.

Looking back at the last century, we can see the enthusiasm with which petroleum drilling ran rampant, blackening landscapes and sentencing otherwise beautiful landscapes and communities to become dirt impoverished industrial precincts for over half a century.

Alternative energies are regularly emerging. Coal was the alternative energy that fired the industrial revolution and saved forests. Petroleum made energy transportable and saved whales from extinction for their 'lamp oil' lipids. The natural gas cleaned things up and made distribution even easier, while nuclear was the alt-energy that powered most post WWII economies around the world. Now there are solar and wind, tomorrow there will be something newer. With each new alternative energy, the time between introductions is shortening.

In each case, the new energy source was prescribed by cabals of industrialists, their bankers, their scientific spokesmen and government lobbyist, as the next great thing; so much so that barriers should be removed and concessions granted to make it easy for investors to capitalise on it.

The repeated consequences were the creation of negative externalities where the full and real cost of the development was not born by the development's investors. Larger portions of the cost were born by non-commercially involved landowners, tax payers and the loss of greater economic potential that existed in the development prior to the development having 'had the tracks cleared' by government decree.

3. Efficiency and CO2 emission

We do not believe that the Environmental Assessment provided convincingly argues its case for the justification of the project on the grounds of economics.

There are widespread doubts about the efficiency as well as the ability to saving greenhouse gas emissions, concerning wind turbines.

97 concrete foundations, each holding 500 to 700 Cubiccentimeters of concrete, 250 tonnes of coal per turbine needed for the steel, thousands of liters of heavy machine oil to run the gearboxes and when the turbines see the end of their lives, the large turbine blades, made of resin and toxic materials need to be buried in landfill.

How can an operation like this call itself green and renewable?

Wind energy is not as clean as its proponents would have us believe. It is an industrial development and as such causes degradation of the environments where turbines are sited.

Wind turbines produce significant amounts of CO2 - they merely do it in advance. If the emissions created during manufacture and erection are averaged over the units of electricity generated during the lifetime of a turbine, the CO2 cost is 50g per unit (Algemeen Dagblad -Netherlands - 8.2.2000).

Sulphur hexafluoride, or SF6, is widely used in the electrical industry, to prevent short circuits and accidents in wind turbines and power stations It is 23 500 times more warming that carbon dioxide (CO2).

Numerous studies question the industries claims and should be considered when planning to erecting such structures on the basis of CO2 emission reduction goals. One of the studies publicly available that we can refer to is by retired engineer Peter Lang, in which he analyses the amount of greenhouse gas emissions avoided by wind power and the cost per tonne of emissions avoided.

He concludes that wind farms connected to the National Grid provide low value energy at high cost and avoid little greenhouse gas emissions.

"Energy storage is completely uneconomic for the amouts of energy required. So we must use back -up generation. Constantly, instantly available back-up must be provided by reliable energy sources (to provide power whenever the wind speed drops)"

Back up power is mostly provided by gas turbines in Australia. The reasons why gas

provides the back-up rather than one of the other energy sources are

1. We have insufficient hydro resources to provide peak power let alone provide back-up for wind power. Hydro energy has high value for providing peak power and for providing rapid and controllable responses to changes in electricity demand across the network. So our very limited hydro resource is used to generate this high value power.

2. Coal generates the lowest cost electricity and, therefore, coal generation is the last to be displaced when a new source of electricity becomes available (such as when the wind blows). That is, when wind energy is available it displaces the highest cost generator first **Coal is displaced last.**

3. Coal generators cannot follow load changes rapidly. Brown coal power stations are designed to run at full power all the time. They can only reduce power by venting steam, but they continue to burn the same amount of coal and hence produce the same amount of emissions whether or not they are generating electricity. Black coal power stations have some limited capability to follow the load but cannot follow the rapid changes in wind power.

4. Gas turbines can follow load changes fairly well but not as rapid as the wind power changes. Gas turbines power up and down like a turbo-prop aircraft engine, but with slower response. Next to hydro, gas turbines are the best able to follow the load changes created by wind power.

5. There are two classes of gas turbines: Open Cycle Gas Turbines (OCGT) and Combined Cycle Gas Turbine (CCGT). OCGT has lower capital cost, higher operating costs uses more gas and produces more greenhouse emissions than CCGT. OCGT produces electricity at less cost than CCGT at capacity factors less than about 15% (ie 15% of the energy it would produce if running full time at full power). CCGT has higher capital cost and needs to run at higher power and run for longer to be economic. CCGT is more efficient it uses less gas and produces less greenhouse emissions. CCGT produces electricity at less cost than OCGT for capacity factors above 15%.

7. If wind generation is available the power produced is highly variable and unscheduled so it needs to be backed up by OCGT. Although OCGT is called up to back up for wind, the energy produced by wind actually displaces CCGT generation mostly. Because wind energy is variable, unreliable and cannot be called up on demand, especially at the time of peak demand, **wind power has low value.**

8. Because wind cannot be called up on demand, especially at the time of peak demand, installed wind generation capacity does not reduce the amount of installed conventional generation capacity required. So wind cannot contribute to reducing the capital investment in generating plants Wind is simply an additional capital investment.

Wind generation displaces CCGT mostly. If we did not have wind power, CCGT would be the most economical and least greenhouse intensive way to generate shoulder power (non-continuous power). To explain, consider the following.

If governments did not mandate and subsidise wind power then CCGT and OCGT would be installed in the optimum proportions to provide shoulder and peak generation (in excess of available hydro energy).

If governments mandate wind power then we will need more OCGT and less CCGT than without wind power. The substitution of OCGT for CCGT is (nearly) in proportion to the amount of wind capacity installed, not the amount of wind energy that will be generated. The reason is that the OCGT is required to back up for most of the wind power's maximum capacity, not for its average energy production. For example, if we installed 100 MW of wind power, nearly 100 MW of OCGT must be installed instead of 100 MW of CCGT.

The full study can be accessed through <http://carbon-sense.com/wpcontent/uploads/2009/07/solar-realities.pdf>

4. Noise

Noise is recognised as a significant cause of stress and stress-related illness in modern society. It is worth recalling that the **Americans considered using lowfrequency noise as a battlefield weapon in the 1950s!** The 2018 World Health Organisation Guidelines strengthened evidence for cardiovascular and metabolic health effects from wind turbine noise.

Sonic affect, in psychological terms, is created through the timbre of the sound and how we receive it through our mesh of social and cultural understandings. The volume, duration and actual material content of a sound all play a part in how it affects us. Broadly speaking, most of us hear audible frequencies between 20 Hz (very low sounds) and 20000 kHz (very high sounds). However, in certain circumstances, sound that exists above and below our hearing range can also be experienced.

When considering the physiological impact of sound, the two critical aspects are frequency and volume. The sound we feel in our bodies is usually a low frequency sound. **Infrasound** is of such low frequency it cannot be heard with human ears, yet it still causes unconscious physiological anxiety.

It is dual recognition – of the ears and the body, the psychological and the physiological.

Like **noise pollution** today, sonic fatigue leads to psychological debilitation.

Ryan Littlefield, published University of Portsmouth

Frequency range, which is inaudible to us, has been researched throughout the decades to investigate its effects on the human body. One of which is its application to military usage.

Infrasound has been utilised as a means of sonic warfare for physical human impact, dating back to World War 1. Despite there being many references to acoustic weaponry, as early as World War 2, it is in the 1960's that actual documented research becomes more available. As described in, *Secret Weapons of the Third Reich* (E. Simon, 1971),

The vibrational movement created by the infrasonic frequency results in large fluid movements of cochlear fluid, the intermixing of cochlear fluid is hypothesised to result in lasting damage

Exposure to levels above 80db between 0.5Hz and 10Hz causing these possible vibrational movements within the ear's functions, are said to cause psychological changes such as fear, sorrow, depression, anxiety, nausea, chest pressure and hallucinations (ECRIP, 2008). It is the result of this effect in the middle ear, that(Goodman, 2010 p. 18) cites as being discovered by military personnel during World War 1 and World War 2.

4.1. Resonance

All objects have a property known as their resonant frequency, this involves the "reinforcement of vibrations of a receiving system due to a similarity to the frequencies of the source" (Pellegrino & Productions, 1996). It is this property that is held within all matter, that we can apply sound as a means of resonance within the human body. It is resonance within the human body that is thought to create the psychological effects of that mentioned in the previous chapter.

A large influence on the development and notable usages of infrasonic frequencies as a means of deterrence, was the development of a low-frequency acoustic device by French scientist Vladimir Gavreau (Lothes, 2004). It is reported that Gavreau had discovered the infrasound weapon by result of a **resonant frequency being emitted from a motor-driven ventilator within his office** (Vassilatos, no date). Following this, Gavreau developed a device that emitted infrasonic sine wave frequencies around 7hertz, with military application, (Vassilatos, no date) said to induce painful symptoms effecting his laboratory staff with immediate effect, other results are reported of the likes of the feeling of fear and flight. Following this discovery Gavreau made discussions that highlighted the effect of infrasonic frequencies to humans, citing it as a possible cause of city dwellers' stress (Broner, 2003). It is also apparent that such frequencies have been used in many varying fields to provide evidence of its existence, exterior to military and police usage.

Furthermore, British physiology researchers O'Keeffe & Angliss conducted an experiment to test the effects of infrasonic frequencies on the human brain in 2003.

The method was conducted by playing 4 musical pieces to 700 participants two of which had 17hertz frequencies played unknowingly to the participants during the piece. Results found that 22% of the participants experienced a feeling of anxiety and fear (Stathatos, no date). A similar experiment entitled 'The Haunt Project' conducted by the Anomalistic Psychology Research Unit of Goldsmiths College, London, subjected 79 volunteers to a varying array of infrasonic frequencies. The primary analysis of the study cites that "63 (79.7%) of the participants felt dizzy or odd, 9 (11.4%) experienced sadness, 7 (8.9%) experienced terror" (French, Haque, Bunton- Stasyshyn, & Davis, 2009).

It's not unreasonable to state that within a varying amount of research conducted in this field, there is little evidence to suggest why infrasound actually has an effect on human emotion. Acoustic scientists investigating the result of noise pollution on workers determine that every organ within the human body has a resonant frequency and it's own 'acoustic properties', this effect is discussed as a possible means as to why frequency has an effect on the human body (Prashanth & Venugopalachar, 2010).

Additionally to this, Mahindra states that the resonant frequency of the eyeball has a direct effect on emotional states of anxiety & stress (Prashanth & Venugopalachar, 2010).

(Braithwaite, 2006), who also have researched infrasonic resonance, cite that the change to fearful emotions may be a direct response to infrasound inducing resonance within the human eyeball. To support this statement, it's also apparent within research conducted by NASA (Aerospace Medical Research Laboratory, 1976) that the resonant frequency of the human eyeball sits at around 18hertz, just below the audible range of the human ear. Referring back to the use of 7Hz frequency, additional support is gathered with many texts referring to resonant frequencies within the body, with the likes of (Broner, 2003) stating "...it has also been alleged that this is the resonant frequency of the body's organs...". One could perhaps draw a conclusion that resonance could be the catalyst for psychological change when exposed to infrasonic sound.

The result of resonant frequencies within the body allow for a direct correspondence to the frequency rhythms within the brain, which cohere with the emotional state of every human. (Davies & Honours, no date) cites that "Many of the most profound effects of sound are attributed to infrasound in the region of 7Hz. This corresponds with the median alpha-rhythm frequencies of the brain."

5. Mitigation measures

The EIA states "Mitigation methods are to be considered for nearby residences."

We reject the mitigations measures for the proposed wind farm. Turbines will be located in prominent locations along ridgelines and will be visible within the wider locality and some distance from the project.

We reject that topography and existing vegetation will assist in obstructing views of the wind farm to any degree. Turbines that are 250m in height on ridgelines in a rural landscape will not be possibly to mitigate from the neighbouring residences. The 90 kilometres of underground cabling used throughout the project will not preserve the native vegetation and 90 kilometres of native vegetation will be destroyed during the process of laying the underground cabling. Creating a visual blight on the environment and potentially scarring the landscape creating erosion and destroying habitats.

The proponent accepts that the Uungula Wind Farm will alter the existing landscape, in fact the proponent states that it is undeniable that the placement of turbines into the rural landscape will alter the existing landscape and character of the area. The Uungual Wind Farm project will result in impacts on scenic values of the combination of rural and pastoral land, which typically are the same, however, whilst this admission is in the later stages of the EIA, it still reinforces the fact that the developer has been trying to hide behind untruths in this Environmental Assessment and that wind farms do impact the rural landscape.

The proponents' objective was not to determine whether the proposed impacts are visible or not visible, but to determine how the proposal will impact on existing amenity, landscape character and scenic quality. If there are to be negative impacts, then they must be investigated and mitigated to reduce impacts to a suitable level. The proponent has not done these investigations, they claim all through this EA document that in most viewpoints the impact will be mitigated by screen planting, this is simply not possible.

Rather than the acceptance of the visual change, landowners are forced into change of the rural landscape and the proponent still has not accepted that all landowners have equal rights to a fair and equal opportunity to changes of their amenity.

It is the proponent who is dictating and forcing upon landowners of neighbouring properties to be convinced that any change is going to be for the better and the mitigation methods are going to solve all the visual impacts we may suffer while in fact native vegetation is going to be disturbed by hundreds of hectares and resident have to put up with the intrusion of the wind farm on their lifestyle and their pristine rural landscape. This is typical of the contempt that the developer has for the unfortunate residents that are just "casualties of a major project".

Vantage points of the wind farm will be in all areas of the proposed project area, there will be no amount of screen planting that is going to mitigate the visual impact and the proponent continues to describe these same mitigation techniques and expects residents to accept those as best practise, and convince themselves that it

will work. No screen planting will mitigate the turbines from nearby homes within the expectant lifetime of the wind farm; it is laughable to keep suggesting these techniques as a means to mitigation.

The proponent has not produced data in this EIA that these mitigation methods work effectively and there are no studies from the proponents working wind farms that are used as comparative studies.

The Uungula area does not have the capacity to absorb this type of industrial development, this theory also, has not been examined in the EIA and any suggestion that the landscape could absorb this development is farcical.

The proponent states that when implemented with appropriate environmental management, the development of the wind farms can be undertaken with low impact on the surrounding environment, whilst providing positive local, regional and national benefits. **We challenge the proponent to guarantee their statement**, and enter into a written contract with all nearby neighbours and nearby residents that the wind farm, will have a low visual impact on the surrounding environment and that the wind farm will provide local, regional and national benefits. We are ready when the proponent is to sign up for the guarantee.

6. Visual amenity

Visual Amenity is the value derived from satisfaction: the portion of an asset's value deriving from the benefit or satisfaction that its owner gets from owning it.

This rather clinical definition however help's demonstrate that amenity value is a non-financial (and therefore in today's world) less tangible value that an object/area/view may have to an individual or group.

Visual amenity is quantified not by a dollar value but how something makes you feel.

"Visual Amenity" is a measure of the visual quality of a site or area experienced by residents, workers or visitors. It is a collective impact of the visual components which make a site or area a pleasure to be in. In this context you can only value the impact for yourself.



(poor quality foto) View from Dickerton ridge towards Bodengora Windfarm

The EIA states *"Due to both the topography of the landscape and the distance between the Project and the other proposed wind farms, there is limited opportunity to view more than one proposed wind farm from a single viewpoint."* This is clearly false, the proponent has failed to assess this properly.

Standing on the property boundary of 'Alma' you can see Bodengora Wind farm to the north and the proposed Uungula wind farm to the East.

There is no possibility of 97 ,250 meter high machines with rotating blades being absorbed into the landscape without dominating it and giving it an industrialised aspect.

Australian Courts are taking notice of the visual amenity issues relating to wind farms.

An Australian Court has blocked a wind farm planned by Spanish renewables group Acciona Energy.

Extract: Acciona has withdrawn its appeal against a ruling that barred its proposed 69MW wind farm at Allendale East because of its effect on local views- the first time an Australian **project has been blocked on "visual amenity" grounds.**

This ground breaking case highlights the concern that wind farms do cause visual amenity disturbance in the landscape.

The proposed project is in size twice as large as the biggest operating wind farm in NSW. It is disgraceful to suggest that this would have no significant impact on the area.

Since there is no way of comparing this enormous project to existing wind farms, because of its size, any claims made by comparison or by referring to existing wind farms, must be viewed with suspicion.

The Landscape and Visual Impact Assessment states:

"The Project is likely to be visible from elevated areas within the LCU, however it is unlikely to significantly modify the visual character of the Wuuluman LCU. The wind turbines will be a minor element in the visual landscape visible from limited areas within the LCU."

This is an outrageous claim! The proposed turbines (as they are 250m in height, as big as the tallest building in NSW, Centre Point Tower), will be visible, or at least a fraction of them, from every single point in every location in the Wuuluman area. To claim that this is unlikely to significantly modify and undermine the scenic integrity and visual character of this landscape is ridiculous, and simply **a lie!**

It further states:

"The key landscape features identified for the Wuuluman LCU are the densely vegetated ridges associated with Dickerton Ridge and Yarragl Ridge which form the valley upon which residences are located. The proposed wind farm may be visible from some areas of the LCU, however the hills and creek will remain the dominant feature of the landscape."

The proponent basically claims, that residents will only ever be viewing the proposed structures from valleys and forgets to mention the visibility of the turbines from elevated points, such as Dickerton ridge. Standing in elevated positions the main feature of the landscape will be the proposed turbines.

We want to remind the proponent and the Department of Planning and Infrastructure that people living on rural properties do not just live in their houses, they live and work on their land.

Land that consists of rolling hills and ridgelines, not just roads and valleys. Therefore using the assuring argument that, when standing in a valley dominant ridgelines would be the main point of focus, is understandably easy. At the same time, when failing to mention that the main feature of the landscape, looking down from ridgelines, will be the proposed turbines, it is simply misleading and diminishing the actual impact of the structures on the integrity of the scenic landscape.

The Landscape and Visual Impact Assessment states:

"Wind turbines create a strong contrast in the landscape as a result of their large scale and lack of visual integration."

The proposed wind farm contrasts with the existing landscape character of the region which is typically rural, pastoral land with large expanses of vegetation.

.....key features identified through the landscape baseline study will remain the

dominate features of the visual landscape."

These statements are paradox. How can it be said that **wind turbines lack visual integration**, and at the same time, they **will not be a dominant features of the landscape**. These statements clearly contradict each other.

"Due to their large scale and contrasting character to the rural landscape, the proposed turbines will most likely become a dominant feature of the landscape"

The propoent's visual assesment comes to the conclusion that the proposed turbines will be a dominant feature of the landscape, and claims at the same time that they will not significantly impact the landscape.

We do not understand how this Assessment can be seen as anything but misleading and contradictory information.

7. Land values

There is ample evidence (both tested and anecdotal) that land values of both host farms and neighbouring farms are decreased by the presence of wind turbines. Real Estate agents have attested to this:

Shane McIntyre, National Sales Manager for Elders Rural Real Estate Services, states: "A proliferation of wind towers adjacent to a property has the same effect as high voltage power lines, rubbish tips, piggeries, hatcheries, and sewerage treatment plants, in that, if buyers are given a choice, they choose not to be near any of these impediments to value..... Experts assess the loss of value to be in excess of 30%, and sometimes up to half."

Common sense and more than one study show decline in property values.

Any structure that can be viewed as an intrusion into the countryside such as electricity pylons or wind turbines will have a detrimental effect on property values. Usually, it will not only effect the value but also saleability which is not necessarily the same thing. Generally speaking, the higher the value of the property the greater the blight will be . As you go up the value scale, buyers generally become more discerning and the value of a farmhouse may be affected by as much as 30% if it is in close proximity to the wind turbine.

- A study conducted in Germany found that "the value of older houses in rural areas dropped by up to 23 percent, while almost no devaluation was observed for houses built on the outskirts of larger towns"

<https://www.cleanenergywire.org/news/wind-turbines-hurt-property-prices-studyfinds>

- Windfarm operators pay rent on the land they occupy, but have no obligation to

compensate homeowners for loss of value.

"Large windfarms can knock off as much as 12% off the value of homes within a 2 km radius, and reduce property prices as far as 14km away, according to research by the London School of Economics." "Homebuyers were prepared to pay to avoid the "disamenity associated with wind farm visibility"

<https://www.theguardian.com/money/2014/apr/08/windfarms-reduce-houseprices-compensation>

- Gone with the Wind: Valuing the Visual Impacts of Wind Turbines through House Prices, a study conducted in 2014 by Stephen Gibbons for the London School of Economics and Political Sciences & Spatial Economics Research Centre.

Abstract

This study provides quantitative evidence on the local benefits and costs of wind farm developments in England and Wales, focussing on their visual environmental impacts. In the tradition of studies in environmental, public and urban economics, housing costs are used to reveal local preferences for views of wind farm developments. Estimation is based on quasiexperimental research designs that compare price changes occurring in places where wind farms become visible, with price changes in appropriate comparator groups. These comparator groups include places close to wind farms that became visible in the past, or where they will become operational in the future and places close to wind farms sites but where the turbines are hidden by the terrain. **All these comparisons suggest that wind farm visibility reduces local house prices, and the implied visual environmental costs are substantial.**

<https://71cb11d1-f51e-4793-bff7-e1617a83a4bb.filesusr.com/ugd/0d45814bd185f733b84c34acc37883dde00610.pdf>

Of course the outcome of studies concerning property price decline in regards to wind farm proximity vary broadly. But the proponent can neither guarantee nor is he liable for any negative impact on property prices. There is no way of mitigating these possible financially debilitating future outcomes for residents.

The proponent states that Dickerton ridge will be visually shielding the Wind generators to the west. We as owners and carers of a part of Dickerton ridge acknowledge this fact. The view from Dickerton ridge towards the proposed Wind generators will be completely occupied and destroyed by the sight of the project. Bodengora Windfarm, visible to the north, already poses an eyesore to the view over the rolling hills and valleys, even though it is more than 10 km away.

The part of Dickerton ridge belonging to our property represents more than one third of our property value, in the form of recreational value, therefore our property

will be significantly devalued should the project be approved.

The proposed industrial structures further eliminate the possibility for future ecotourism and educational native conservation projects which could provide landholders with additional income from such undertakings.

It should be said, that a registered property agreement has been put in place at 'Alma' in 2000 with the Department of Land and Water Conservation under the Native vegetation conservation act 1997 with the objective to "increase floral diversity, **improve the scenic amenity** and promote the various attributes of native vegetation to the wider community"

The proponents proposal is completely controversy to any efforts and undertakings being made by landholders to preserve and improve scenic amenity.

The EIS states (p 240 **Table 8-4: Summary of ZVI Assessment for each dwelling (Moir Landscape Architecture, 2020)** for our property WUUU8

WUUU008

Distance to nearest WTG: 2.26

Level of Impact : Potential

Mitigation required: No

Screen to be considered: No

Reasoning:

Non-involved residence within 3.35 km of the nearest WTG.

Based on the distance to the nearest WTG and topography alone, three WTGs are likely to be visible on the hill to the east.

The blades of up to six WTGs may also be visible in the distance.

Further assessment identified that existing vegetation would screen views therefore, no further mitigation is required

In an E-mail from the 28/4/2020 the project manager for the Uungula Wind farm Mr. Matthew Flower informed us that

"Result indicated mitigation is required based on the distance to the nearest WTG alone."

The proponent has failed to mention this fact, misleading the Department of Planning about their legal obligation, claiming in the EIS *"existing vegetation would screen views to the Project and therefore further mitigation is not required."*

We oppose to the claim, vegetation would obstruct the view from our house to the turbines on the hill to the east.

Present tree tops do not cover the view of the hill top to the east , and will if at all do so in probably 20 years and even then, turbine blades and intrusive movement of such would still be visible, posing an ongoing nuisance to us. Our main bedroom faces the project site, we will wake up daily having to look at the turbines blades from our bed.

Viewing the turbines from a valley floor, as will be the case from our home, will increase the height impact, as they are positioned on ridgelines.

Vegetation already in existence is subject to the vagaries of nature (drought, tree fall – a significant factor, and other influences) that can result in the removal or modification of vegetative screening. In other words, the inclusion of vegetative screening into the modelling for visibility is an anathema and does not translate to ground truthing over time.

8. Battery storage unit

The proponent has failed to assess the risks of fires in relation to the proposed battery storage unit.

Lithium-ion batteries are a probable choice for the Project. Depending on how they are used, lithiumion batteries may have a lifespan of 5 to 10 years for lithium ironphosphate and 10 to 30 years for lithium manganese oxide (Queensland Government, 2018). Therefore, batteries may require replacement 1 to 6 times during the lifespan of the Project (30 years).

This is another example of untruthful claims, being made by the proponent in regards to sustainability. Batteries contain materials, such as rare earths and toxic substances that can neither be completely recycled nor are biodegradabal or renewable.

8.1. WASTE

Under the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code),lithium-ion batteries are classified as dangerous goods.

8.2. Fire hazard



The NSW rural fire brigade is neither adequately equipped nor experienced to control electical fires.

Numerous cases around the world have been reported where fire brigades had to stand back and watch electrical fires emitting huge amounts of toxic fumes for hours or even days.

During a battery fire conductive salt in the electrolyte of the battery breaks down to, highly toxic Phosphor pentafluoride (PF_5) and Lithium fluoride at a temperature of 107°C . In contact with water highly toxic Hydrogen fluoride (HF) and phosphoric acid (H_3PO_4) are created.

In a strong reaction metallic lithium, water and lithium oxide react to form Lithium hydroxide (LiOH), a strong alkaline solution which toxifies everything in its surrounding including groundwater. Hydrogen and water can form hydrogen, an explosive gas.

The high risk of explosion during electrical battery fires has significant impacts when fire fighters attend to such catastrophes, as well as the risk of electrical shocks conducted through the water used to extinguish the fire.

One reported incident in 2017 in Tirol in Austria, where a Tesla car was involved in an accident, causing the battery to catch on fire, leaving the fire fighters no choice but to let the fire burn for two days. Short-circuits caused the repeated ignition of the electrical fire with no chance of extinguishing it.

Battery fires cannot actually be extinguished, they can only be cooled down in order to reduce the speed of the burning process, and have to be monitored for days. The proponent has not committed to any additional efforts in addressing this problem, neither is he even aware of them.

9. Every eco system is fragile

As it has been shown, especially in the case of Australian ecosystems, that good willing interference and alterations can have immense adverse and sometimes devastating effects.

Wind generators have reportedly been the cause of bird population decline around the world. Predatorial large and small bird and bat species play a significant role in maintaining the balance in ecosystems. From disease and pest control to the spreading of seeds for vegetation diversity, birds play a role that humans cannot replace. Not to mention the beauty of an eagle soaring over valleys and hills.



Migratory birds Hiruno neoxena Welcome Swallow Nesting at Alma

The proponent has failed to acknowledge the importance, and even the existence of such species as wedgetail eagles, barking owls, nankeen kestrels, welcome swallows and various other species that maintain this functioning ecosystem.

The proponent claims the "conservation of biological diversity and maintenance of the character of the landscape", yet is unable to suggest and provide any appropriate measures to do so.

The only appropriate measure to fulfill these claims would be to cancel the project in its entirety and leave the land in its current state.

There is no justification in destroying this ecosystem in order to generate financial benefits for overseas investors.



Wedgetail Eagle near 'Yellowglen' homestead, Yarragal rd.

Wedge tailed eagles are permanent residents in the development area and the properties immediately adjacent. These birds are believed to be of great significance to the local Aboriginal population. All eagles need to nest in large mature tree. They are the largest bird of prey in Australia and are often seen soaring throughout the development area.

The EIS has not described how, (or even “if,”) they have undertaken habitat assessment and do not provide data or habitat mapping.

This does not satisfy the DGR’s requirements.

According to the Australian Bat Society, (ausbats.org.au), “a survey of bats should be taken at each and every turbine site to assess the activity of the bats.” This was not carried out.

10. No consent has been given by the broader community to the industrialisation of rural and regional NSW

So called "renewable energy" projects currently in construction, planning or already realised, pollute the rural landscape of the region and will reduce the quality of life of residents. The density of the industrial projects will alter rural and regional living forever and will in conclusion draw more and more people to city living, as there is no point in living rural, if the landscapes are overshadowed with industrial structures.

The Australian people are encouraged to move to rural areas (to reduce congestion in cities etc.), but by industrialising these rural areas, the main selling point of living

rural is destroyed. Current residents will be more likely to leave, abandoning their properties, which will be undesirable. This will be hurting the most vulnerable people in our society and will create an even bigger divide than already in existence.

Wellington is surrounded by an iron curtain of industrial and unpleasant structures such as goal, wind and solar farms which increases the negative connotation of this rural region and it's appeal.

The proponent claims "potential benefits to entire communities and helping to maintain quality of life".

The traditional owners of this land see it as their cultural heritage to live in harmony with the land, a sacred place that we need to care for and not abuse or destroy for any reason, especially not for profit. Like we have seen recently in Western Australia, cultural heritage sights are destroyed knowingly, without a care.

We need to be more aware and cautious when altering the land, as we do know too little to comprehend the complex workings of ecosystems. We might believe to make improvements, but cause destruction instead.

When addressing the matter of the proposed wind farm to non involved land owners the broad view on the subject is **"I do not like it and have concerns, but there is little or nothing we can do about it"**

If adequate community consultation would have taken place, like the proponent claims, residents would not be left under the impression, that the project will be realised weather they like it or not.

Residents have been offered neighbouring agreements, which forbid them from even talking about weather they have signed an agreement or not. Such actions promote partisan exchange of views and undermine objective discussions by community members as well as prohibiting necessary debate about the project in order to improve the possible outcomes for the community.

The neighbouring agreements offered also prohibit the involed landowner from making any claims or complaints in regards to negative future impacts on them or their land.

These secretive actions spread distrust and divide the community, which the proponent claims to provide benefits to.

The landscape is a common good, it's alteration must only happen with consent from the majority of people affected by such alterations.



View towards the project site

In a democratic society, authorities must ensure the democratic process is being adhered to. Therefore it must ensure the approval of the majority of residents affected by the project, otherwise the project must be cancelled.

The outcome of the community survey of Landscape values states that one of the **most highly valued aspect of the local community are the landscapes scenic views**, which the proponent admits to alter significantly by erecting enormous industrial structures.

Further, **77% believed there would be a negative impact on the character of the local landscape.**

The proponent is not able to offer mitigation measures to reduce this negative impact, therefore the project has to be cancelled.

The proponent has not offered any appropriate or effective mitigation measures to reduce the admitted negative impacts on us and our property. Therefore we have to assume that the socio economic impacts on us can not be mitigated and in conclusion cannot be justified.

11. Visual impact

Computer models and the resulting predictions have repeatedly been proven to be unreliable and unable to make true predictions about future outcomes. They can in the best case only give a very vague indication of possible outcomes.

It is especially impossible to model the visual outcome of alterations to a landscape which heavily depends on viewpoints as well as light and weather conditions and personal perception.



View from Dickerton ridge towards the project site

Since the proponent has not even decided on model and make of the proposed turbines it is impossible to predict visual outcomes and mitigations can only be applied in the form of computer model modifications, which do not depict reality. While distance and scale of landscape can produce different perceptions of the impact on the landscape the human eye is often drawn to 'artificial' vertical features, regardless of distance, making them seem bigger. This is something that cannot be reproduced in a photomontage especially when a wide angle lens is used

where the superimposed wind turbines will seem more distant, particularly in the centre of the picture. The photomontages give a sense of turbines that have been “faded out” and therefore we feel are not a true representation of the final visual impact.

There are a range of generic issues concerning visual impact assessment, based on a consideration of the evidence gathered from all the assessments made at all the viewpoints visited, and considering the literature examined and the environmental statements reviewed. We concentrate on visual effects and leave the key issues surrounding technical visualisation aside.

Although it is tempting to try to offer specific and conclusive diagnoses or prescriptions, it is clear that the wide variety of factors that influence the core issues under investigation – magnitude, distance and visibility – are such that any generalisation is dangerous. On the other hand, practice cannot proceed effectively if the conclusion is that there are so many variables that nothing useful can be said.

An attempt is therefore made to strike a balance between definitive conclusions and an acknowledgement of the context specific issues that can affect these conclusions. Whenever a comparison is made– for example, that movement increases apparent size or visibility – this is always assuming that other factors are held constant (e.g. light, distance etc).

The character of the landscape and especially elements within it affect perceptions of magnitude. In landscapes that were free of man-made elements the turbines were sometimes much more conspicuous in the middle and long-distance ranges and this could affect our judgements of their magnitude. Windfarms or turbines framed by other developments sometimes have a greater apparent impact than those with no framing, because the other elements provided visual cues for judging size, depth and distance.

The proponent has used views that do not represent the actual viewpoint of dwellings and therefore does not comply with the Director General’s Requirements.

12. Health

What is needed is new multi-disciplinary research linking engineers with medical and health scientist where noise data and health information are recorded simultaneously for people living close to and far from wind farms. Only such detailed research can help provide and answer to this challenging and perplexing problem.

Until such research has become available the project must not be approved in order to ensure there is no possibility of harm being done to any residents affected by the proposed wind farm.

We would like to refer to the a recent study '**A Review of the Possible Perceptual and Physiological Effects of Wind Turbine Noise**' by Dr. Simon Chalilie, University of Sydney, Faculty of Medicine.

The study calls, as so many others do, for further research. The authors state that although no conclusive evidence is in existence, evidence shows the possibility of negative effects of human health, which need to be further investigated and studied.

Since there are no effective, existing methods of measuring low-frequency and infrasound, accurately, field studies cannot be of conclusive evidence.

The study can be found on the website of the National Center for Biotechnology Information <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6081752/>

Abstract

This review considers the nature of the sound generated by wind turbines focusing on the low-frequency sound (LF) and infrasound (IS) to understand the usefulness of the sound measures where people work and sleep. As second focus concerns the evidence for mechanisms of physiological transduction of LF/IS or the evidence for somatic effects of LF/IS. **While the current evidence does not conclusively demonstrate transduction, it does present a strong prima facie case.**

There are substantial outstanding questions relating to the measurement and propagation of LF and IS and its encoding by the central nervous system relevant to possible perceptual and physiological effects.

The study states:

- .., the popular press portrays a largely polarized picture where the discourse often appears less informed and more opinionated than scientifically based.
- There seems to have been little discussion (or systematic review) of potential perceptual and physiological effects of WTN at the level of the individual.
- A more recent fMRI study (Weichenberger et al., 2017) took a different analytical approach using a regional homogeneity resting mode analysis and a relatively prolonged (200 s) 12-Hz stimulus. They report that subliminal sound levels (2 dB below measured threshold) also activated brain regions known to be involved in autonomic and emotional processing: In particular, the anterior cingulate cortex and amygdala—the latter is believed to be involved with stress and anxiety-related psychiatric disorders. The amygdala is also part of the nonlemniscal auditory pathway that mediates subcortical processing and has input to the reticular activating system, a key component regulating arousal and sleep (for discussion, see Weichenberger et al., 2017). This latter observation provides some explanation as to how subliminal IS stimulation could lead to arousal and potentially mediate sleep disturbances reported by some individuals.

- These data do provide, however, a strong prima facia case for neural transduction of LF and IS that needs to be properly examined at a functional and perceptual level in both animal and human models.
- Interestingly, Tonin et al. (2016) also report in their double-blind study that the presence of IS increased concern about health effects of WTN-exposed postexposure although subjects reported not hearing the IS stimulus.
- Although not an exhaustive survey of this literature, this review indicates that there are questions relating to the measurement and propagation of LF and IS and its encoding by the central nervous system (e.g., Dommes et al., 2009; Weichenberger et al., 2017) that are relevant to the possible perceptual and physiological effects of WTN but for which we do not have a good scientific understanding.

There is much contention and opinion in these areas that, from a scientific perspective, are not well founded in the data, simply because there are little data available that effectively address these issues. This justifies a clear call to action for resources and support to promote high-quality scientific research in these areas.

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 29 June 2020

Medical/Health Report

To the Approving Authority,

In relation to proposed development 'Uungula Windfarm'.

Re: Matthew Joseph Francis Gwozdecky - dob 2/12/1985
 Diagnosis - Partial Paraplegia - T10/11 Spinal Cord injury (incomplete) with complication Post Traumatic Syringomyelia (from C1/2 to T11)

Accident -17 October 2008

The above patient Matthew Gwozdecky is my son.

On 17/10/2008 Matthew suffered a T10/11 ASIA D spinal cord injury including a chance fracture of T10/11 immediately losing all sensation and use of his body from the waist down.

In 2010 Matthew suffered a rare complication of his original spinal cord injury being a new condition called Syringomyelia that occurs as a complication in approximately 5-10% of spinal cord injured patients.

Syringomyelia is a condition where a Syrinx (cyst like structure) develops in the spinal cord and this complication developed in Matthew's spinal cord progressing from T10 (area of original damage) up the spinal cord to C1/2 with it being the worst in the Cervical spine (neck area) according to an MRI report of August 2010.

This Syrinx (cyst like complication) associated with the Syringomyelia damaged Matthew's spinal cord internally and left Matthew with an additional debilitating condition (post traumatic Syringomyelia) including constant 24/7 excruciating neuropathic pain on the left side of his body and he also suffers from recurrent headaches.

Matthew's mental state has understandably suffered and been adversely affected by this complication and condition, particularly it involving constant pain and **difficulty sleeping.**

It was recommended to Matthew on health and well being advice to live in peace, quiet and solitude, away from the aggravations and noise of industrial and City life to manage his chronic health condition into the future.

Since moving to his property Matthew's general state of health and well being and ability to cope and live independently has certainly improved overall.

It is my professional opinion that the proposed wind turbine development will directly threaten Matthew's health and well being and the objective improvements to his condition that have resulted from the peace and tranquility of his current environment that he has become dependent upon for his health and well being.

The increased and constant noise from the operation of the proposed wind turbines, particularly at night when trying to sleep will have adverse effects on his health.

Matthew purchased his farm in this agricultural area on health advice for peace quiet and solitude including the legitimate expectation that the agricultural zoning laws will protect his property and neighbouring farms from serious adverse impacts and pollutants.

This consideration itself has a serious adverse impact on the mental well being of a

person whose main asset in life is now subject to these threats which directly and resell affect his health and well being.

The above described adverse impacts and the proven and directly relevant adverse health, well being and nuisance considerations associated have not been taken properly into consideration nor have they been addressed in the application.

Yours truly,

Dr. Peter Gwozdecky
Doctor of Chiropractic
Barrister at Law

13. Air Quality

The construction of windfarm earthworks, the transport of large amounts of materials, drilling and explosive operations will impact negatively upon air quality in the form of airborne dust. The clearing of vegetation to provide both tracks and the construction of turbine bases, resulting in the exposure of large areas of soil, will add to this air pollution problem.

The mitigation of impacts to air quality relies on watering the stockpiles of soil and bared areas. This presupposes the availability of water supplies which may be unavailable locally. The Wellington Shire Council will then be approached to supply water; they are presently unaware of this drain on water resources.

After the construction phase, the EIA does not address the issue of the increase in evaporation of soil moisture by the redirection of air down to the surface by the rotating blades, which is of particular concern to the farming community. Somnath Baidya Roy (Department of Atmospheric Sciences, University of Illinois) Journal of Wind Engineering and Industrial Aerodynamics, 2011, says "It's something like the wake from the propeller of a boat. Now this added turbulence mixes air, up and down, and creates a warming and drying effect near the ground." He says "the affects can be felt for miles".

14. Description of the proposal

A detailed description of the wind farm proposal should be provided so that all the impacts can be identified and assessed. The description should include the following information:

- proposed generation capacity and envisaged lifespan of the wind farm
- proposed market for the energy and any relationship with any electricity generator,

network retailer or any energy users

- height, capacity, materials, design and standards of all components of the proposal
- the transmission connection on the site and to the grid/energy users – capacity, length, route, any easement issues, substations, ownership/ management arrangements
- estimated project costs including transmission infrastructure and access roads
- the number of construction and operational employees on site and off-site
- outline land ownership or lease arrangements (if leasehold indicate the number of landowners and length of lease)
- overview of the proposed operational, management and maintenance regime
- overview of the arrangements for decommissioning
- possible future expansion or future stages

15. Night Lighting



If, like the proponent states "*hazard lighting **may** be required on each WTG*", then he is required, under the NSW Draft Guidelines, to assess night lighting for the Ungula Wind farm, which he has failed to do. Therefore permission must not be given until the required assesment has been provided.

The proponent states "*Installing aviation hazard lighting on the WTGs would potentially result in the alteration of the nighttime landscape character of the region. It also has the potential to have a visual impact on receptors including motorists and residents. Site investigations carried out in operating wind farms in Victoria have suggested that although **night time lighting mounted on WTGs may be visible for a number of kilometres from the wind farm project area**, the actual intensity of the lighting appears no greater than other sources of night time lighting.*"

The proponent is unable to specifiy model or type of nighlighting that will be used. He excuses this fact by stating "*the aeronautical requirements for marking and lighting of winds farms is under review by regulatory bodies as listed in Appendix O. Currently, CASA cannot mandate obstacle lighting on non-operationally significant wind farms, including this Project*"

This is not in accordance with the **Night lighting NSW Draft Guidelines:**

Where night lighting is proposed, its visual impact should be assessed. Photomontages should be provided showing representative views of any turbine night lighting. Night lighting should be limited to that required for aviation safety. The lighting should be designed to minimise impacts on the ground and at dwellings while providing for appropriate aviation safety. Glare from night / obstacle lighting can be mitigated through measures such as

The EIS states "Existing night lighting is present in the Ungula area, associated with homesteads dispersed around the Project. Headlights and brake lights from vehicles travelling through the area along local roads also create an intermittent source of illumination. The visual impact from night lighting in the area is unlikely to have a significant visual impact on receptors including motorists and residents in the area"

Claiming that the visual impact of night lighting will not be significant is an insult to anyones intelligence. Existing Night lighting from homesteads are only visible for a couple of hundred meter at the most while vehicle lighting is as stated intermittent, expecially since traffic in this area at night is limited to not more than two cars. While night lighting has to visible for aircrafts kilometers away.

This would have the same effect as having a disco party in the middle of the Amazon every night, whilst stating that it will not have a significant impact.

If the proponent is under the impression that such ridiculous claims are satisfactory and truthfull then it puts into question the sencerity and integrity of the intire planning proposal.

Further, any night lighting will affect the nocturnal bat and bird species.

Bats and other nocturnal birds of prey will still be attracted to the lights, irrespective of the location, as a source of possible food and thus be susceptible to blade strike.

16. Renewable energy



Former Energy Minister Angus Taylor, says "There is too much wind and solar in Australias grid". He is the one person that must know this.

Prime minister Scott Morrison says "Wind and solar are never going to be what keeps the lights on", bringing a lump of coal to parliament.

The current Australian Federal Government has been elected by the majority of Australian's because of their non radical stand on renewable energy targets and emissions reduction scemes.

Mining operations in Australia are legally obligated to restore and even improve the land that has been used by their operations.
Windfarm operators do not have such legal liabliliy and effected residents rely solely on promises made by developers for decomissioning.

Farmland will not be restored or improved, we can only hope that the structures errected will be removed and this in the most we can expect.
Trees will not regrow in concrete, which is not promised to be removed and ridgelines will remain barron for generations.
How come a 'green' operation does not even commit to restoring the land they have profited from?

17. Economic Assessment

The proponent does not have any legal liabilty fo fullfill the claims made in the

application, he is not obligated to prove any of the promised socio- economic benefits to the community.

Claiming, 12 full time jobs will be created.

A typical wind "farm" directly employs a single maintenance operative.

The largest wind "farm" in Europe has three fulltime employees.

Giving someone in their office a new job title or additional work, does not represent a job that has been created.

Under the false pretence of providing economic benefits for local communities and small towns, the proponent makes many claims in regards to the number of jobs created.

Given a simple example, we can see that 'job creation' is a term that can be interpreted in many ways, therefore the numbers predicted do not actually refer to new employment that has not existed prior to the project.

Job creation is defined as ' the process of providing new jobs, especially for people who are unemployed.'

The employment of an existing Concreting company, for example, does not create new jobs, it provides additional income for existing companies and does not actually create new employment. Yet the proponent calls it job creation.

If the proponent was to create benefits for locals, then he would commit to employing local workers.

He even admits that most of the money spent by workers (accommodation, entertainment and provisions etc.) during the construction phase will be spent in Dubbo, as Wellington does not have the capacity to accommodate all the workers needs. This is not in accordance with the aim to support rural and regional towns and communities.

The Economic Impact Assessment states *"One of the more tangible benefits of an investment project is the extent to which local businesses can participate in the Project, through project contracts and other service provision opportunities."*

The fact that local businesses **can** participate in the project **does not represent a benefit**. Local businesses **can** participate in projects in, for example, Western Australia, yet a project in Western Australia would not claim, that businesses in Wellington **can** benefit from them.

"Once operational, 12 direct and 35 indirect FTE jobs will be supported by the facility, including approximately 19 FTE jobs in the Study Area."

Once again, the proponent makes vague claims, neither does he specify, what is meant

by "study Area" (this could be Dubbo region, NSW, or even Australia), nor does he speak of job creation. He states jobs will be supported and fails to clarify what is meant by this term. Giving an existing employee new work load, does neither represent job creation, nor economic benefit for anyone.