



ROHAN WILLIAMS

OBJECT

Submission No: 179696

Organisation:		Key issues: <i>Land use compatibility, Social impacts, Other issues</i>
Location: <i>New South Wales 2800</i>		
Submitter Type: <i>I am a member of the local community who would be particularly and directly affected by the proposed development</i>		
Attachment: <i>Rohan Williams submission .pdf</i>		

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# Birriwa Solar Farm

I make this submission as a response to the assessment report by the New South Wales Department of Planning, Housing and Infrastructure on the proposed Birriwa Solar Farm, State Significant Development Assessment Report (SSD-29508870) of May 2024. In particular, my response is directly focussed on section 5.2.2 (Potential Loss of Agricultural Land), of the assessment. Further, I will discuss the lack of bushfire risk assessment in both the Birriwa, and also the cumulative CWO REZ renewable project developments.

In section 5.2.2, the report notes that there were 89 objections received regarding the establishment of the solar farm on agricultural land. The majority of those would likely have been made by agricultural professionals with an appreciation of the impact of the development on the land concerned. Regardless, those objections appear to have been dismissed.

The report states (Para. 80) that the 1,197-hectare footprint of the proposed development will occupy land that is currently used to graze livestock and cultivate low intensity, dryland cropping. In the very next paragraph (para.81), the report then states that the “siting of the project has avoided important agricultural land”. This is a glaring contradiction and one that dismisses any regard for our regional future food and fibre security. Subsequent suggestion that this is consistent with the *Large-Scale Solar Energy Guideline*, says more about the guideline than it does about the importance of mixed farming operations in the Birriwa region.

In paragraph 82, the report states “The inherent agricultural capability of the land would not be affected by the project due to the relatively low scale of the development, and ACEN has committed to investigating the possibility for continued grazing on the subject lands and to restoring the Land Soil Capability of lands disturbed (beyond those areas identified above) through decommissioning/rehabilitation to existing LSC. Accordingly, the Department has included requirements to maintain the site's current land capability, including ground cover within the development footprint during the construction and operation of the project”. This is inaccurate and the intention of ACEN to consider continued grazing of the project footprint shows their lack of understanding of grazing enterprises. The myth that “livestock can graze under the solar panels so, therefore, the two enterprises are compatible” is not correct and has only been applied to hobby farms where the grazing enterprise is not of any commercial significance.

Firstly, the low intensity dryland cropping would be rendered inoperable within the footprint of the solar project. It will not be possible for farming machinery to cultivate crops of any description with the solar infrastructure in the way. This point alone renders low intensity dryland farming 100% discounted by the establishment of the Birriwa Solar Farm.

Further, in order to assess whether a grazing enterprise will be compromised by another, the following questions need to be asked;

- Can the pasture be renovated and maintained with the solar infrastructure in place?
- What does the “shadowing” of the solar array do to the photosynthesis process of the pasture and how does that effect pasture production?

- How does the shadowing effect of the solar panels affect soil temperatures?
- What does the “rain shadowing” effect of the solar panels do to the rainfall distribution across the pasture and how will this effect pasture production?
- How will pasture perform over time without the benefit of pasture/crop rotation due to the loss of the low intensity dryland farming capability of the land?
- How does the solar infrastructure affect the distribution of fertilisers and chemicals across the surface of the affected land?
- How will the presence of the solar panels affect the ambient temperature of the pasture grazing area?

It would appear that none of the above questions have been asked by either ACEN or the Department of Planning, Housing and Infrastructure as there is no mention of subsequent mitigation practices nor admission that the two enterprises are incompatible.

I would like to see a calculation made, and published, of the agricultural GNP of the 1,197-hectare area impacted by the footprint of both the Birriwa Solar project and also that of the combined 15,837-hectare area of all such projects in the CWO REZ. These projects are not compatible with agriculture and represent an agricultural loss wherever they are planned and developed.

Such a large area of agricultural loss creates a significant shift in economic trade among Farmers/Graziers, Agricultural Consultants, Veterinary Professionals, Rural Merchants, Fuel Suppliers, and many more. This, in turn, impacts schools, hospitals, and any other institution that relies on local commerce and the communities that underpin that flow.

## **Bushfire risk**

Nowhere in the assessment report was there any reference to the extra bushfire risk that is associated with the development of renewable energy generation projects on our regions. The closest reference was the acknowledgement of suggestion by the New South Wales Rural Fire Service for the development of a Bushfire Management and Operations Plan under “Advice Summary”.

Where aerial firefighting operations are required, wind turbines, MET towers, and solar farms, through their associated transmission infrastructure, can pose a more obscured threat to aircraft that need to operate at lower levels. Wherever there is bushfire, there is smoke. Where bushfire is impacting in close vicinity to a wind farm, the turbines and the MET towers may be hidden within the plume of resulting smoke. This is a dynamic phenomenon that constantly changes with the movement of the smoke plume.

Aerial firefighting crews will do all that they can in order to suppress the progression of the fire and endeavour to keep the fire as cool as possible so that ground crews can access the fire flanks more safely in order to extinguish the flames. Aircraft are also uniquely effective in often being able to attack the front of a fire directly.

However, when the threat of hidden wind turbines and MET towers becomes an issue, the efficacy and efficiency of aerial firefighting aircraft may significantly diminish. The

safety of the aircrews must be considered in preference to the consequences of the impacting fire and compromises made in order to uphold it.

According to the Australasian Fire and Emergency Service Authorities Council Limited (AFAC) in their Wind Farms and Busfire Operations Guideline V3.0 (2018), “Turbine towers, meteorological monitoring towers and power transmission infrastructure pose risks for aerial firefighting operations. Meteorological monitoring towers and power transmission infrastructure are generally difficult for aerial personnel to see, if they are not marked appropriately. If wind turbines were not shut down, moving blades and wake turbulence would create significant hazards for low flying aircraft, thus the shutting down of wind turbines, in an emergency situation, is defined in wind farm emergency procedures. A wind farm facility’s power lines may pose electrocution risks, that are exacerbated due to smoke during a bushfire”.

This clearly has a potential amplification factor for bushfire risk to properties within and surrounding wind farms. In turn, insurance premiums and other mitigation measures need to be bolstered in response, creating another increase in cost to surrounding farmers and graziers, as well as a general amplification of bushfire risk to other land classifications.

In their National Airports Safeguarding Framework, CASA make the following advisories in “Guideline D”

“Voluntary provision of obstacle lights

41. CASA’s regulatory regime for obstacle lighting provides an appropriate level of safety for normal aircraft operations. Certain flying operations, by their nature, involve lower than normal flying, for example aerial agricultural spraying, aerial mustering, power line inspection, helicopter operations including search and rescue, some sports aviation, and some military training. Pilots conducting such operations require special training and are required to take obstacles into account when planning and conducting low flying operations.

42. In making decisions regarding the marking and lighting of wind farms and wind monitoring towers, wind farm operators should take into account their duty of care to pilots and owners of low flying aircraft.

Turbulence

43. Wind farm operators should be aware that wind turbines may create turbulence which noticeable up to 16 rotor diameters from the turbine. In the case of one of the larger wind turbines with a diameter of 125 metres, turbulence may be present two kilometres downstream. At this time, the effect of this level of turbulence on aircraft in the vicinity is not known with certainty. However, wind farm operators should be conscious of their duty of care to communicate this risk to aviation operators in the vicinity of the wind farm. CASA will also raise awareness of this risk with representatives of aerial agriculture, sport aviation and general aviation”.

The cumulative effect of the greater CWO REZ development represents a significant increase in the requirement for numerous levels of overhead power transmission lines.

This, in turn, represents an increase in bushfire risk both through it's associated increase in bushfire ignition risk, and also through its restrictive effect on the safety and efficacy of our state's aerial bushfire suppression assets. More work needs to be done to quantify this phenomenon and the subsequent danger that it represents to our agricultural and biodiversity assets. Not to mention that of our regional communities.

Rohan Williams

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