

Department of Planning

Sydney

NSW 2000

Submission concerning the Jupiter Wind Farm Project (SSD 13_6277)

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I have not made any reportable political donations within the last two years.

I agree to the Department of Planning using my submission in the ways described in the Department Privacy Statement.

I object to the Jupiter Wind Farm Project (SSD 13_6277)

This submission is in the form of an objection on biodiversity grounds due to threatened species which inhabit in and around the project area of the proposed Jupiter wind farm.

One of the many threatened and vulnerable species that inhabit within this project area is the Eastern Bentwing-bat.

The Eastern Bentwing-bat, (*miniopterus schreibersii oeanensis*), has chocolate to reddish-brown fur on its back and slightly lighter coloured fur on its belly. It has a short snout and a high 'domed' head with short round ears. It weights up to 20 grams, has a head and body length of about 6cm and a wingspan of 30-35 cm. Their primary roosting habitat are caves. They hunt in forested areas, catching moths and other flying insects above the tree tops.

The Eastern Bentwing-bat exists within and around the proposed Jupiter wind farm project area. Its flight path is directly through the project area, from Drum Cave in the Bungonia State Conservation Area, to the Mount Fairy Caves that are only some 6kms to the west of the project area (PA) and onwards to the Church Cave at Wee Jasper, also known as the 'maternity wing'.

We approached the property owners of the Mount Fairy Caves in order to facilitate Office of Environment and Heritage (OEH) in their research to examine and monitor the caves for evidence of Eastern Bentwing-bat activity, so that proper records could be officially gathered from the cave site and therefore the OEH website could also be updated to enable future development in the area, access to such information.

Before the current research was undertaken it was previously thought that the Mount Fairy Caves were used primarily as a staging cave, that is, as a short term stopover cave during the migration period and that the Eastern Bentwing-bat appeared to be using the cave as a wintering location. However, after monitoring activities at the cave during winter to spring 2015 and 2016, the activity levels of the bats are of a significant number all year, as indicated by Doug Mills from OEH in his preliminary findings.

Within the EIS it states that 'nine different locations were chosen including the locations close to potential roosting sites; an abandoned mine and a stone bridge' (on page 53, 4.2.9 Microbats), why wasn't the Mount Fairy Caves included within their studies when it is noted that the caves are only 6 kms from the project area?

In the table 4.13 Bat Detector Locations and Survey Efforts, the roost watches undertaken fail to determine the time of day the surveys were carried out on or what the weather on that designated one hour was which would dramatically affect the results gathered. If for instance that 1x hour was carried out on a stormy night or that there were little insect activity present at that time, then obviously limited numbers of bats would be detected. Surely this time frame and lack of effort given is not acceptable for a state significant development to submit as evidence.

Within the Collector wind farm proposal a 'Bird and Bat Adaptive Management Program' was undertaken with the overall objective of mitigation measures is to ensure that the Collector wind farm does not lead to unacceptable impacts on threatened or non-

threatened birds and bats, (page 30, Collector Wind farm, report No. 13100, 4.3). Such mitigation conclusions were to potentially shutdown turbines during periods of Eastern Bentwing-bat migration. The results from pre-construction bat monitoring indicated that high numbers (up to 2463 individuals) of Eastern Bentwing-bats were recorded migrating through parts of the wind farm site during March 2014 based on information in conjunction with OEH.

Another concern was the lighting on the turbines, as required by CASA, that would attract insects and potential food sources for the bats will create even higher rates of mortality.

To simply produce 'an offset package' as stated in the Executive Summary of Appendix D of the Biodiversity Report is not acceptable. The cumulative impact of approving another wind farm in this area will have a potentially adverse effect on the Eastern Bentwing-bat populations as more industrial wind turbines would be placed directly in their migratory flight path.

Consider the effects of the locations of the Woodlawn wind farm, the Collector wind farm, the Capital wind farm, Capital II wind farm and the Yass wind farm, then placing another wind farm to the east, the proposed Jupiter wind farm, and this is completely blocking the migratory corridor for the Eastern Bentwing-bats to migrate and forage unharmed in their original habitat.

Migratory exhaustion of displaced bats is of a major concern to members of Wildcare, as the alienation from habitat has unknown impacts and consequences.

By allowing another wind farm in this area will have major consequences as the flight path corridors for the movement of these animals will be significantly diminished.

Within the CASA recommendations, they have proposed lights to be installed on the top of turbines for aerial safety due to the height of these turbines. Lighting on turbines will embark further concerns for the Eastern Bentwing-bats due to feeding near turbine blades and generators will contribute to higher numbers of fatalities.

Barotrauma is a significant cause of bat fatalities at wind turbines. Barotrauma describes injuries that occur when a bat encounters sudden and extreme changes in atmospheric pressure.

The rapid pressure fluctuations can rupture air-containing structures in the bodies of mammals which causes internal bleeding and potentially death. Even if echolocation allows bats to detect and avoid turbine blades, they may be incapacitated or killed by internal injuries caused by rapid pressure reductions they can not detect.

Therefore, if the impacts on the environment are great, that is if by approving the Jupiter wind farm is going to adversely impact upon threatened species such as the Eastern Bentwing-bat then surely common sense would prevail and the department of planning should reject this proposal as the proponent has not demonstrated that they fully understand the importance of this diverse unique environment and that this proposed project area should be totally avoided for any further industrial development.

References;

- Doug Mills, 2016, Office of Environment and Heritage.
- NSW Environment & Heritage, Eastern Bentwing-bat profile, 2 Mar 2016
- NSW Department of Industry, Resources & Energy, Fact Sheet- Wind Farms in NSW, March 2016
- National Renewable Energy Laboratory, U.S Department of Energy, Office of Energy Efficiency and Renewable Energy, Reducing Bat Fatalities from Interactions with Operating Wind Turbines, Nov 2013
- Erin F. Baerwald, Genevieve H. D'Amours, Brandon j. Klug and Robert M.R. Barclay, Department of Biological Sciences, University of Calgary, Calgary, Barotrauma is a cause of bat fatalities at wind turbines.