

Objection to EPYC Pty Ltd - Jupiter Windfarm Project

Biodiversity – Impact on Migratory Birds and Micro-Bats

I wish to submit my objection to the subject Project because of the proposed windfarm's impact on migratory birds and micro-bats.

The proposed siting of the Jupiter wind turbines is in the direct path of two of our native migratory birds – the red-tailed black cockatoo (*Calyptorhynchus banksii*) and the yellow-tailed black cockatoo (*Calyptorhynchus funereus*). Both species make regular migratory trips to/from the coastal region of southern NSW to their favourite eucalypt and casuarina woodlands and waterways, inland.

Five subspecies of the red-tailed cockatoo are recognised of which the two subspecies, the forest red-tailed black cockatoo and the south-eastern red-tailed black cockatoo are under threat by deforestation and other habitat alteration. Another threat now includes a planned Jupiter windfarm directly in the migratory path of these magnificent birds.



I see these birds regularly as they stop to rest in the trees on my property on their journey to/from the coastal region.

The Glossy Black cockatoo (*Calyptorhynchus lathami*) is also identified as 'vulnerable' in the consultants Biodiversity Assessment Report (Annex D) to EPYC's EIS. It is incredible that there are multiple turbines planned in the area of a Glossy Black cockatoo feeding habitat.

Rotor sweep areas of the turbine towers now exceed 1 acre and are expected to reach nearly 1.5 acres within the next several years. Even though the speed of rotor revolution has significantly decreased to 11–28 rpm, blade tip speeds have remained about the same; under normal operating conditions, blade tip speeds range from 222–293 km/h. Wider and longer blades produce greater vortices and turbulence in their wake as they rotate, posing a potential problem for both birds and micro-bats.

Micro-bats are small bats with a wingspan of about 25cm. They feed on insects such as mosquitos. Many micro-bats use echo-location to navigate in complete darkness. Some micro-bats spend their days deep within caves while others rest beneath bark on trees and in man-made structures such as houses and buildings.

Two areas of research that are still yet to be proven are the effect of barotrauma and the effects of harmonics on the micro-bats aural capabilities.

While direct collision is thought to be responsible for most of the bat fatalities observed at wind facilities recent work indicates that some of the observed bat fatality may be due to barotrauma (i.e. injury resulting from suddenly altered air pressure). Fast moving wind turbine blades create vortices and turbulence in their wake, and bats may experience rapid pressure changes as they pass through this disturbed air, potentially causing fatal internal soft tissue injuries.

The wind turbines create sound waves as the blades pass through the air. The turbines tend to be built in rows or clusters and it is the aggregation of the sounds from several turbines that it is believed may cause the bats sensors to become confused leading up to an unexpected collision. Studies have also shown that bats appear to be attracted to the wind turbines. Reasons for apparent attraction may include sounds produced by turbines, a concentration of insects near turbines, and bats attempting to find roost locations.

While it is acknowledged that it has not been scientifically proven that either barotrauma or sound interference to echo-location cause micro-bat fatalities, neither has EYPC proven that wind turbines do not cause fatalities in these species.

The Biodiversity Assessment Report (Annex D) to EYPC's EIS discusses the effects of the wind turbines on micro-bats in the region of the windfarm area and acknowledges the impact the windfarm may have on the migrating Eastern Bentwing Bat given proximity of the PA to a known staging area cave at Mount Fairy.

My property, "Annwyn" is registered as an Australian member of the Wildlife Land Trust, a wildlife sanctuary system. The broad range of wildlife and habitats protected by 'Annwyn' are of immense importance to the long-term conservation of biological diversity in Australia and this importance is fully recognised through the Wildlife Land Trust Australia.

The construction of any industrial wind turbine development will impact greatly on the need to protect and conserve the critical biological heritage of the area.

On that basis I contend that the Jupiter Industrial windfarm project should not be approved for development while this and a multitude of other questions surrounding the proponent's EIS are in doubt.

I strongly suggest that windfarms are not the answer to renewable energy and that the Department should not approve any further windfarm development in NSW including EPYC's Jupiter Windfarm Project.