Effects of proposed windfarms on vegetation and plants in north Queensland

Jeanette Kemp 11/04/2022

The onslaught of renewable energy projects being fast-tracked in Queensland include many projects located within high quality tracts of essentially untouched vegetation with very significant conservation values. This "compromise" is inexplicable given the very high price that the community will pay through species loss and environmental degradation, especially when there are alternative locations in cleared or degraded areas that could be pursued with minimal additional cost when compared to the entire project expenditure.

Many of the vegetation types are of extremely restricted extent, and the proposals threaten significant proportions of these, for example, the following are Queensland Regional Ecosystems in northern parts of the State that are (or will be) impacted. Note that the Biodiversity Status (which takes into account threatening processes) has not been updated for many years, and therefore has not taken into account the rapidly escalating threat of renewable energy developments.

RE	VM Status	Bio Status	Impact by recent or proposed renewables
7.12.57c	**OC**	**OC**	More than **25 %** of this very restricted ecosystem has already been cleared for (or is within 200 m of) the Mount Emerald Windfarm. Queensland Government ecosystem mapping **has not to date detected or documented any of this loss** in its regional ecosystem mapping updates.
7.12.27c	LC	NC	More than **25 %** of this very restricted ecosystem will be cleared or is within 200 m of the footprint of the Kaban and Chalumbin Windfarms (Kaban clearing has already gone ahead).
7.3.19g	**OC**	**OC**	Around **20 %** of this extremely rare ecosystem will be cleared or is within 200 m of the footprint of the Chalumbin windfarm.
7.8.18c	**OC**	**OC**	Around **26 %** of this extremely rare ecosystem occurs within the delineated zone of the Mt. Fox windfarm (exact footprint as yet unknown).
7.5.4b	**OC**	**OC**	Around **25 %** of this restricted ecosystem occurs within the delineated zone of the Mt. Fox windfarm (exact footprint as yet unknown).

Note VM Status = Vegetation Management Status, Bio Status = Biodiversity Status, OC = Of Concern, LC = Least Concern, NC = No Concern at Present (Queensland Herbarium 2021).

Furthermore:

- **Twenty-six rare ecosystems** (each less than 1000 Ha in total distribution) are likely to be impacted in some way if all the proposals were to go ahead.
- **Fifteen Regional Ecosystems** listed as "**Of Concern**" under the Vegetation Management Act (VM Class) will have > 5% of their extent cleared or within 200 m of the footprints. **Two** of these (7.5.1a and 7.5.3a) are also listed as **Endangered Biodiversity status** due to overall threat of logging.

There are also a large number of threatened or restricted plant species that will be affected by the renewable energy proposals. For example, the following 18 threatened species are likely to (or known to) occur within or very close to the footprint of one or more of the North Queensland

windfarm proposals. Note that for several of these species, their core habitat lies in the rugged zone on the interface of the Wet Tropics and Einasleigh Uplands Bioregions which is precisely where the windfarms are proposed.

Species	**Qld Status**
Zieria fordii	CE
Melaleuca sylvana	E
Melaleuca uxorum	E
Prostanthera albohirta	E
Prostanthera clotteniana	E
Vincetoxicum rupicola	E
Acacia purpureopetala	V
Acacia tingoorensis	V
Coleus amoenus	V
Commersonia reticulata	V
Goodenia stirlingii	V
Grevillea glossadenia	V
Homoranthus porteri	V
Triplarina nitchaga	V
Zieria obovata	V
Corybas cerasinus	NT
Diuris oporina	NT
Dodonaea uncinata	NT

Of note, one of the threats to (and reasons for listing) of two newly described and listed species *Zieria fordii* and *Melaleuca uxorum* was the Mount Emerald Windfarm (*Z. fordii* only occurs at Mount Emerald and most of the population of *M. uxorum* occurs on Mt. Emerald). In addition, *Prostanthera clotteniana, Triplarina nitchaga* and *Homoranthus porteri* were subjected to dedicated surveys as reported in the Attexo MNES Assessment Report for the Chalumbin Windfarm Project (Attexo 2021) and found to occur in multiple locations there. The proposed infrastructure footprint was reportedly shifted to avoid these plants, however there is no mention of potential weed spread from the disturbance and machinery which may compromise their habitat. Although *Coleus amoenus* was reported as detected in the Chalumbin Assessment Report, there were no dedicated surveys done, therefore it is possible that the footprint will impact some of these plants.

There are around eight North Queensland plant species that could now be considered for listing as a threatened species given their very restricted occurrence, and possible occurrence within the proposed windfarm footprints:

Comesperma anemosmaragdinum
Caldesia reniformis
Comesperma rhyoliticum
Hibbertia concinna
Hibbertia malacophylla
Pterostylis borealis
Schoenus thedae
Zieria whitei

There are at least three plant species which are significant outliers from southern populations (and may be genetically significant) which may occur in the proposed windfarm footprints:

Lindsaea incisa
Boronia bipinnata
Zieria cytisoides

There are at least 18 restricted plant species for which their core habitat lies overlaps with the North Queensland windfarm proposals, and which will result in substantial habitat fragmentation for these species.

Acacia capillosa
Arthrochilus oreophilus
Coronidium fulvidum
Corymbia abergiana
Cryptandra debilis
Dodonaea uncinata
Eucalyptus lockyeri subsp. lockyeri
Pimelea chlorina
Platysace sp. (Watsonville P.I.Forster PIF6259)
Pterostylis aquilonia
Pterostylis stricta
Pterostylis taurus
Sannantha angusta
Stylidium oviflorum
Styphelia piliflora
Synostemon aphyllus
Thelymitra queenslandica
Trachymene tenuifolia

Another serious issue being substantially overlooked is the certainty that waves of weed establishment that will radiate from the footprints, despite the proposed efforts to control them. There are a great many weed species which are known to colonise after disturbance in this area (more than 100 species). The status quo for developers is to target a very small list of weed species that have a commercial impact (e.g., weeds that have a negative impact on cattle or crops) but there is little awareness or focus on weeds that rapidly colonise rocky habits (where many threatened plant species occur) or natural woodlands in general. As a result, many weed invasions always go undetected, un-reported and uncontrolled, even when they substantially alter ecosystem functioning and threaten listed flora and fauna. Weeds that are likely to cause significant modification of habitats in the area include Thatch Grass (*Hyparrhenia rufa*), Red Natal Grass (*Melinis repens*), Molasses Grass (*Melinus minutiflora*), Grader Grass (*Themeda quadrivalvis*), Shrubby Stylo (*Stylosanthes scabra),* Sida spp., Snakeweed (*Stachytarpheta jamaicensis*), Praxelis (*Praxelis clematidea*) and many more.

Finally, and not a focus in this report, are the undeniable impacts on huge suite of fauna, including high profile species such as Koala (Endangered), Greater Glider (Vulnerable), Fluffy Glider (Vulnerable), Northern Quoll (Endangered), Sharman's Rock Wallaby (Vulnerable) and many more species.

In summary the many renewable energy proposals proposed in large tracts of native “Remnant” vegetation in Queensland are completely unacceptable. If the general public were fully aware of the impact of these proposals on our natural environment there would be considerable backlash. Unfortunately, the pace at which these proposals are being approved, mean that the public is largely unaware.

Many of these projects are proposed here due to proximity to high transmission powerlines. There has apparently been no Statewide strategic assessment in terms of location and the trade-off between massive environmental impact, and costs of locating further from the line.

I am a supporter of renewable energy, especially windfarms, **however I am strongly suggesting that all government agencies and concerned non-government organisations call for an urgent review of the location of all current Queensland proposals occurring in “Remnant” vegetation (as per the Queensland Vegetation Management Act)**. This should include identification of alternative locations in cleared and degraded land. Whilst this is happening, we need to **halt the progress of all proposals** which have not started clearing. This is a huge State, and we have many areas with fragmented vegetation and which no longer support viable habitat for threatened flora and fauna. This is where we should be building our windfarms.

References:

Attexo Group Pty Ltd (2021) MNES Assessment Report for the Chalumbin Windfarm Project, prepared for Epuron Projects Pty Ltd.

Queensland Herbarium (2021) Regional Ecosystem Description Database (REDD). Version 12.1 (December 2021) (DES: Brisbane).

Recent clearing for the Kaban Windfarm – this shows only a very small proportion of the full extent cleared (Photo Steven Nowakowski).