

I would like to object to the proposed modification of the Tilt " Liverpool Range Wind Farm" (hereafter referred to as "Tilt development").

I understand that the initial approval for the Tilt development was granted in 2018 with 165m high turbines. Department of Planning & Environment (DPE) at the time, approved the project with their consentⁱ stating, as a first point of order, to minimise harm to the environment. It followed that the development should be undertaken generally in accordance with the EIS as presented at that time, micro-siting would be limited to 100m from the GPS co-ordinates presented and not move outside of the development corridor, off-site visual impacts of the development were to be minimised and the project scaled to match the water supply.

There were set limits and restrictions on clearing and habitat including "*no more than 200.85 hectares (ha) of White-Box-Yellow Box-Blakely's Red Gum Woodland EEC, including native pasture, is cleared for the development*" and "*no more than 10.37 ha of the EPBC Act listed White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland Ecological Community is cleared for the development*" as well as minimising the impact on threatened bird and bat populations and clearing of native vegetation and key habitat within the approved disturbance footprint.

Having looked through the modifications, it appears that ALL of these items have been exceeded. It is my understanding that a modification encompasses a small change or changes, yet the number and scale of these proposed changes are of such size, that I firmly believe a modification application is NOT sufficient – this requires a completely new development application to ensure that no corners are cut, no important point is excluded and all the data is updated to fully take into account the increased scale of the complete project, giving both the community and the agencies affected the opportunity to assess the full impact and consequences so that they can make an informed decision on the new parameters.

TURBINE HEIGHT

The increase in the turbine height of 85m to 250m above ground level is a huge increase of 52% with an associated rotor diameter increase of 62% and an indicative Rotor Swept Area per wind turbine increase of 161%. Looking at the size comparison of the two turbines (165m vs. 250m) it is clear to see that these taller turbines are larger overall with bigger towers, hubs and blades, not just bigger in height.

Of great concern with these bigger turbines are my view of them. My dwelling (current Tilt project reference dwelling 24) has shown an increase of 0-20 turbines in the original EIS ⁱⁱ to around 141-150ⁱⁱⁱ ! Whilst we are just over 10km south from the project, the position of my dwelling on a ridge, provides excellent views particularly to my north – directly at the project. I have never been contacted directly by Tilt to advise that this was going to affect my visual amenity, as they have seemingly ignored anyone beyond 4950m of a turbine.

Interestingly, the current Visual Impact Assessment^{iv} has said the previously approved project had a much higher number of turbines visible for my location than was presented in the original EIS documentation^v. Is this a case of obfuscation? The original project was approved, after all, on the data presented in/with the original EIS, not by a later amended projection with the modification application that infers the modified increase is lower.

Also, in our case, is the proposed ACEN development “Valley of the Winds wind farm” that is proposed to the east of our dwelling. This project is much closer to us (3.8km to the nearest turbine) and I am estimated to see approximately 100 of THOSE 250m turbines. This has a cumulative effect on the visual impact of BOTH proposals on my home – seeing an estimated 100 turbines to my east PLUS, with the modified project, 150 turbines to my north. This cumulative effect is NOT ACCEPTABLE. Tilt has brushed off the cumulative effect, saying they are not responsible as they are already approved, whilst ACEN is still going through the approval process. Yet Tilt’s modification substantially increases my view of turbines therefore ADDING to the cumulative effect I will experience. If Tilt want things to go in order, then the Tilt project should be put on hold whilst the ACEN project is sorted out, then Tilt’s modification application can be re-examined.

Whilst removing themselves from the ACEN project’s with regard to cumulative effects, when Tilt want to use ACEN to support their position of increasing the wind turbine height, they state that it is “consistent” with the ACEN project^{vi}. This is a clear case of selecting only the favourable information but not willing to accept the unfavourable – and that unfavourable information is CUMULATIVE EFFECT!

We own another property at [-32.034938, 149.826577](#) which has not been identified on Tilt’s maps of this area.^{vii} At the top of the Great Dividing Range, it is likely to see at least some of the Tilt development, but the ZVI diagrams are so hard to identify dwelling locations, that I can’t even guess at what is projected to be seen from there. As stated in the The Australian Energy Infrastructure Commissioner’s Neighbour Matters^{viii} *“This indicative distance range for consultation may need to be greater in situations where, for instance, wind turbines are proposed to be erected on an elevated ridge”*. Note that this report is from 2020 and was written when wind turbines were not 250 metres high, as in the Tilt modification. With the Tilt development on ridgelines, neighbours further than 4950m away should be contacted, with at least visual assessments and montages done for each so they are fully aware of the potential visual impact to them. This should be done before ANY approval is even considered.

The visual impact to many residents of the area, including those who reside in Coolah will be huge. There are many shocked residents who had no idea the turbines could be that big. As the Tilt development is located out of town, townspeople were mistaken in thinking they wouldn’t see the turbines and the development wouldn’t affect them. They are only now realising that these huge turbines will dominate their ENE skyline, being only about 6km distant from the project. With an aging population, many Coolah residents are not computer literate and with only being able to lodge an objection through the portal online or by post (of which there is no time to do so left) will affect the number who manage to submit their thoughts to DPE.

Of great concern also to the townspeople is that of the cumulative effect of two wind turbine projects in such close proximity to the town. The proposed ACEN development will be to the south and south-west of town, the two projects effectively encircling a large portion of the town with their 250m turbine developments.

If Tilt or DPE believe that people in Coolah will accept these turbines, they are mistaken. Tilt’s own documents state that out of the 115 residences within 5km of a proposed turbine, only 50% are signed up as a host or with a neighbour agreement, showing a lack of agreement with the project on a basic level. A meeting of concerned Coolah locals, with almost no notice and minimal advertising, attracted almost 20% of the local population, with many strong opinions against the wind turbine developments and Tilt’s modification being expressed^{ix}. Given this representative showing, I strongly

believe Tilt does NOT have social licence to operate in the Coolah district.

Tourists to the Coolah Tops National Park, who come here to enjoy the scenic beauty of tranquil rural land and native bush, will be made to suffer through seeing giant turbines through the gaps in trees and clearings and turbines clearly visible when driving into Coolah, up to the park and from the lookouts, particularly with the re-siting of turbines as well as their increased height. I have no doubt this will damage the tourism of our small park that has consistently had visitors for decades and who, if the surrounds are left untouched, will continue to contribute to the local economy. I have spoken to numerous visitors to town and they are horrified at the thought of giant wind turbines atop the local ridges and hills and have asked why would anyone ruin such beautiful scenery. They have also indicated they would not visit if the wind turbine projects go ahead. I am sure the proponent will argue it will bring tourists in to see the turbines. I do not believe that turbine-seeking tourists will in any way match the numbers of tourists we currently have, and our National Park and local businesses will suffer as a result in this negative effect on our tourism.

DEVELOPMENT CORRIDOR & MICROSITING

As noted earlier, the original approval limited turbines to the development corridor, yet Table 12 of the Modification Document state 132 turbines (60%) have been moved between 100m and 4999m^x from their original approved locations. How can this many turbines being moved up to almost 5 KILOMETRES from their original location be a modification? This clearly falls into the category of a new development application.

It is noticeable when comparing the original approved corridor^{xi} with the modified development corridor^{xii} that some of these turbines are outside the approved development corridor. Once again, this becomes a new development NOT a modification.

The previous approval limited microsites to 100m from the approved GPS co-ordinates. Yet Tilt seeks to have a blanket 250m microsites granted to them. As I understand it, microsites allows for slight site modifications in the case of a problem being found at the exact co-ordinates without seeking DPE's specific approval.

When selecting a site, due diligence should have been carried out with a site visit and examination to eliminate sites with unsuitable terrain/potential problems, selecting more suitable sites prior to seeking DPE's approval. If this diligence is not carried out until AFTER approval, the turbine should not go ahead without additional specific exhibitions, submissions and DPE approvals.

I strongly disagree to allowing Tilt to move turbines up to 250m for microsites. This has the potential for dwellings that are close to noise contours to fall into a higher band of noise, or for dwellings to have an increased negative visual impact. The dwellings and residents will bear the brunt of Tilt's negligence and suffer the consequences. Removing this modification request is necessary to protect nearby residents.

WATER

The original approval was for 67ML of water for construction and operation with 59ML of that for construction purposes and dust control. Yet the modified project estimates a total of 621.3ML^{xiii} for construction alone - almost 10 times the approved project! This is a massive increase in the water

requirements and such a huge increase, regardless of the cause, should warrant a new development application.

The water source in the original approval had been based on the developer carting water from Burrendong and Windemere Dams plus some on-site storage. Tilt however have said they will extract this massive amount of water from groundwater. Whilst water is plentiful at the moment after a year of above average rainfall, during the last drought the water table dropped and water was difficult to pump from farm bores to keep livestock alive. Weather and drought follows cycles so another drought will come around and if this potentially coincides with the construction period, the area cannot afford for this quantity of water to be taken from groundwater.

The original approval states *“The Applicant must ensure that it has sufficient water for all stages of the development; and if necessary, adjust the scale of the development to match its available water supply”*^{xiv}. Therefore, if there is a water shortage/drought situation, groundwater CANNOT be used. Water supply will then be short and wind turbines will have to be deleted. The modification should be rejected with their massive increase of water usage and proposal to extract groundwater that could negatively affect the district.

BIODIVERSITY

The original approval set limits on clearing of native vegetation and habitat. This modification application has clearly exceeded those by quite dramatic percentages. Indeed, the combined development footprint has increased by 112%^{xv}! This is obviously over DOUBLE the approved size. Once again this can't be classified as a modification – it should have a completely new development application. The site boundary has increased by 786.3 ha^{xvi}.

One of the set limits in the original approval were for *“no more than 200.85 hectares (ha) of White-Box-Yellow Box-Blakely's Red Gum Woodland EEC, including native pasture, is cleared for the development”*. This has increased to 427 ha^{xvii}, an increase of 113%. As of 2020, this ecological community was upgraded to critically endangered^{xviii}. Listed as the top threat is *“Habitat loss, degradation and fragmentation from agricultural, forestry, mining, **infrastructure** and residential development.”*^{xix} Wind turbine developments are classed as INFRASTRUCTURE and this development proposes to clear more than double the previous project's approved limit. This cannot be allowed to happen under any circumstances. As I have stated elsewhere, the increases and scope of this supposed 'modification' are too large for a modification – a completely new development application should be sought by Tilt. DPE should refuse the removal of ANY of the CEEC given its critically endangered status.

Another set limit in the original approval was for *“no more than 10.37 ha of the EPBC Act listed White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland Ecological Community is cleared for the development”*. Once again Tilt wants to remove far more – in this case an increase to 42.1 ha^{xx} – which is a 406% increase! This community is a matter of national environmental significance^{xxi} and needs to be strictly protected and preserved, not wiped out by an industrial wind turbine development and its associated infrastructure! DPE should refuse any increase to the previously approved limit.

The original approval from DPE also stated *“minimise ... the clearing of native vegetation and key habitat within the approved disturbance footprint”*^{xxii}. Yet Tilt has stated that the modification would impact approximately 1650 ha of native vegetation^{xxiii}, an increase of 1249 ha! Tilt comments that

the previous EIS underestimated this figure – however DPE approved the previous plans ON THE DATA PRESENTED IN THE EIS. If Tilt cannot keep to the limits set out in the EIS, then the project will have to be reduced until this estimate matches the approved level. Alternately, a whole new development application needs to be applied for. The DPE cannot be led astray by developers who erroneously quote figures and it cannot allow developers to propose new figures (in this case 411% higher!) and blithely believe DPE will accept them under the guise of a “modification”.

Another original development consent from DPE stated *“minimise..... the impacts of the development on threatened bird and bat populations”*. Tilt states in their biodiversity fact sheet that *“this vegetation removal includes habitat for seven NSW listed species – two plant, one mammal, two bat, and one bird”*. It then goes on to say *“In the Project area, there are bird and bat species with either small populations, low fertility rates or who are localised to the site. Impacts on individuals within these species can have a significant effect”*. Then it lists six bird/bat species at high risk and ten at moderate risk.

The six species at high risk are the Barking Owl, Large Bent-Winged Bat, Powerful Owl, Regent Honeyeater, Swift Parrot and White-throated Needle-tail. The Barking Owl is listed as a threatened species with a vulnerable status in NSW ^{xxiv}. Its habitat was severely reduced by bushfires in 2019 and 2020, so any habitat is very important to preserve. Removal of their habitat cannot be allowed. The Large Bent-Winged Bat^{xxv}, the Powerful Owl^{xxvi} and the White Throated Needle-tail^{xxvii} are all listed as threatened species with vulnerable statuses. The Swift Parrot^{xxviii} is listed as a threatened species with an endangered status in NSW and a critically endangered Commonwealth status.

The Regent Honeyeater^{xxix} is listed as a threatened species and critically endangered nationally. In June 2022, Local Land Services (LLS), released information on the Regent Honeyeater, reaching out to landholders to protect and preserve key native habitat areas^{xxx}. This bird is estimated to have as few as 350-400 individuals left in the wild. LLS states *“The small population size and restricted habitat availability make the species highly vulnerable to extinction due to loss of genetic diversity”*^{xxxi}. The Tilt development covers a large portion (approximately half) of the LLS’ *“Priority Area 2”* identified for habitat preservation.

In the light of the impact to these threatened species, DPE should not approve ANY modification to the previously approved development as this will directly impact the viability of these endangered, critically endangered and vulnerable species.

PROPERTY VALUES

Whilst property values have not been a consideration of this modification proposal apart from mentioned as a question from the community and then quickly discarded, it is quite obvious that the factors that can affect property values, in particular visual amenity and noise from the larger, bigger turbines, are likely to increase. Thus, the larger turbines will have a negative impact on neighbouring properties that can see these turbines. In my case, as mentioned earlier, I will go from seeing an estimated 0-20 to 140-150 at approximately 10km from the site. Nigel Woods prepared a property values report^{xxxii} for the Bowman Creek wind farm proposal which showed the conclusions of the Urbis Report (that Tilt refers to in the modification application) was selective in nature and by further analysis estimated an approximate 30% drop in property values in the area near to wind developments. Such a drop in property values would be devastating for our family and other farms in the area. As the modification proposal of turbine height increase would affect far more farms

and residents than the initial approved project, the modification should be rejected by DPE.

AVIATION and AERIAL FIRE FIGHTING

I found the aviation report (Appendix G.9) provided with the modification document inadequate. It is a basic tenet of aviation safety that hazards be lit at night to remind aviators of their presence and prevent aviation accidents. Yet the report reasons that no one between 2010 and 2019 had collided with a wind turbine in Australia. The problem with this reasoning is that wind turbines operating between 2010-2019 in Australia were of a much smaller size, more akin to the already approved 165m high turbines. There are no 250m tall wind turbines operating yet in Australia, so this assumption (that no-one has hit one yet) cannot also apply to these taller, bigger structures. As a consequence of their faulty reasoning, they do not recommend lighting as it would be a nuisance to neighbours, those who view the landscape at night and overnight visitors to Coolah Tops National Park, obviously resulting in many complaints during the operation phase of the Tilt development. No hazard that is 250m tall should be left unlit as this flies in the face of aviation safety.

The report mentions stakeholder consultation details and of particular note is an email from NSW National Parks Wildlife Service. Aerial firefighting was particularly raised in this email in regard to taller wind turbines with their random, less predictable placement. They mention that visibility is much reduced by smoke adding complexity to the safe management of the aircraft and that fire bombing as a result, would be negatively impacted by the wind turbines. The aviation report then completely ignores the valid points raised. I applaud the NSW NPWS for realising this is a REAL problem with dire consequences, should aerial firebombing be needed in a wind turbine development, particularly with 250m high turbines. Aerial fire fighting tankers were used in the nearby 2017 Sir Ivan Fire. Should a wind turbine development have been in the path of that fire and aerial fire bombing prevented/ less able to drop water successfully because of wind turbines, the outcome would have been far worse with more homes and farms lost to the flames.

Another wind farm developer told us at a recent community meeting that the aerial tankers can drop from ABOVE 250m, however this would severely reduce accuracy and effectiveness. It is folly of the highest order to increase the risk to nearby agricultural land, livestock, homes and residents to the profit-driven motives of developers who don't live nearby and won't have to cope with the impacts. The higher turbine height requested in the modification needs to be rejected for successful aerial fire fighting operations as needed and the protection of all property in the area.

NOISE

I am very concerned on the noise that will affect the Coolah Tops National Park from the larger wind turbines proposed. The noise report (Appendix G3), states that there are no specific noise levels at National Parks and that noise levels of less than 35dB(A) have been identified for locations within the park. 35dB is very loud if you have spent the night in a rural/remote/park location. With very low background noise, a repetitive and non-stop 35dB will be noticeable and annoying - and debilitating after a period of time. It is very possible that the native fauna will also be negatively impacted. I would recommend the study on anthropogenic noise on animals by The Royal Society^{xxxiii}. This study in 2019 declared man-made noise must be considered as a serious form of environmental change and pollution and recommended legislative bodies develop a legal framework to protect species from this noise.

The noise report also states that 6 non-associated dwellings will experience noise greater than 35dB(A) under the modification. Dwellings in a remote/rural setting typically have virtually no background noise – none that is regular/repeating over an extended period of time. Whilst the noise guidelines allow for 35dB during the day, this is still very loud in comparison to our current background noise and we shouldn't be subjected to this noise regularly and repeatedly as it will negatively impact our quality of life.

The question of infrasound has not been addressed by Tilt in their modification application. Infrasound, the inaudible sound 0-20Hz occurs when large masses are in motion. Wind turbines, with their huge structures and in this development's proposal 90m long 22 tonne blades, create noise annoyance and the silent infrasound through blade pass harmonics.

The Jupiter wind farm was rejected by DPE in 2018. The Federal Administrative Appeals Tribunal directed, during the approvals process, that there is a well established pathway from annoyance to adverse health outcomes; a significant proportion of wind farm noise is in the low frequency range; humans are more sensitive to low frequency sound and it can therefore cause greater annoyance than high frequency sound; low frequency noise and infrasound may have other effects on the human body; noise measurement using dB(A) is an inadequate measure of relevant wind farm noise and wind farm noise measurement should not average noise over time and frequencies; wind farm low frequency noise can be greater indoors than outdoors at a dwelling.

With no 250m turbines of the type suggested by the proponent yet in operation, hard data is impossible to find, yet it has been found that as wind turbines get larger, infrasound also increases. Without data it can only be estimated by modelling that infrasound of 250m tall wind turbines will affect any human or animal up to 20km away in excess of chronic exposure levels of 80dB(Z)^{xxxiv}.

Any noise increase or infrasound from the larger wind turbines and noise increases of associated infrastructure is unacceptable to people and animals. The modification request should be rejected.

OTHER AMENDMENTS TO THE PREVIOUSLY APPROVED PROJECT

I note the modification document has several changes to wind turbines and ancillary infrastructure. Six additional concrete batching plants, two additional operations and maintenance buildings, three additional collector substations, four additional construction compounds, four additional permanent met masts^{xxxv}. Of particular concern is that additional turbine locations have been added to the modified project including a cluster of eight turbines (North East cluster) OUTSIDE OF THE APPROVED DEVELOPMENT AREA. On this fact alone, the proposed "modification" is not a modification at all, but a new development and one that should go through all the processes again under a new development application.

TRANSMISSION LINES

The internal transmission line in the modified project has increased by 15.7km with an increase of 94.2 ha in easements^{xxxvi}. These increases have flow-on consequences with ground disturbance, vegetation removal, additional access tracks and cabling. Once again, these increases are of a scale too large for a modification and should be rejected with a new development application required.

The proposed increase of external transmission structures will impact even more people, including those further away from the wind development. From a 330kV line it is now proposed to be a 330kV dual circuit line. Because of the Tilt modification the power transmission infrastructure is being affected and as a consequence, Energy Co. is proposing larger infrastructure along different routes affecting more people. The modification needs to be rejected as the scale has increased.

IN CONCLUSION

Whilst comparing the complete development approval to the modification document is beyond my time limits before the exhibition closes, it is obvious from these few major details that this modification should be rejected. The quantity of increased impacts are numerous and quite frankly, horrifying.

Whilst considered state significant, this is still a development by a private, (not government) profit-driven developer. I and other residents of the Coolah district should not have to bear the brunt of a private developer's project and all its associated impacts. I request that the Department of Planning and Environment reject the modification request of Tilt for the Liverpool Range wind farm, wholly and fully.

I reserve the right to add to my objection at a later date.

Annette Piper

ⁱ DPE Development Consent 2018

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696%2120200130T035740.589%20GMT>

ⁱⁱ Tables 12-14 ZVI Diagrams - Liverpool Range Wind Farm – landscape and visual impact assessment, March 2014

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696%2120190227T080257.894%20GMT>

ⁱⁱⁱ Table 10,12 ZVI Diagrams – Visual impact assessment appendix G.1

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696-MOD-1%2120220908T011541.525%20GMT>

^{iv} Table 9, 11, ZVI Diagrams – Visual Impact assessment Appendix G1

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696-MOD-1%2120220908T011541.525%20GMT>

^v Tables 12-14 ZVI Diagrams - Liverpool Range Wind Farm – landscape and visual impact assessment, March 2014

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696%2120190227T080257.894%20GMT>

^{vi} Section 4.3 of the Modification Report

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696-MOD-1%2120220908T011536.944%20GMT>

^{vii} Eg. Figure 28 of the Modification Report

^{viii} <https://www.aeic.gov.au/observations-and-recommendations/chapter-2-neighbour-consultation-agreements>, 2.2.1

^{ix} Reported in Coolah District Diary, 12 Oct 22

^x Table 12, section 4.3 of the Modification Report

^{xi} Appendix 2, Conditions of Consent, DPE Development Consent 2018

^{xii} Appendix C2

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696-MOD-1%2120220908T011537.653%20GMT>

^{xiii} Section 6.2, Appendix A

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696-MOD-1%2120220908T011537.653%20GMT>

^{xiv} DPE Development Consent 2018

^{xv} Section 4 Table 10 of the Modification Report

^{xvi} Section 4 Table 10 of the Modification Report

^{xvii} Table 19: Proposed Modifications to Conditions of Consent, Modification Report

^{xviii} NSW Office of Environment and Heritage

<https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10837>

^{xix} NSW Office of Environment and Heritage

<https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10837>

^{xx} Table 19: Proposed Modifications to Conditions of Consent, Modification Report

^{xxi} <https://www.dccew.gov.au/environment/epbc/publications/white-box-yellow-box-blakelys-red-gum-grassy-woodlands-and-derived-native-grasslands>

^{xxii} Development Approval

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696%2120200130T035740.589%20GMT>

^{xxiii} Tilt “Liverpool Range Wind Farm Biodiversity Fact Sheet

^{xxiv} <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10561>

^{xxv} <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10534>

^{xxvi} <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10562>

^{xxvii} <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20354>

^{xxviii} <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10455>

^{xxix} <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10841>

^{xxx} <https://www.ils.nsw.gov.au/regions/central-west/key-projects/national-landcare-program-phase-two/2021-22-healthy-landscapes-incentives/regent-honeyeater>

^{xxxi} <https://www.ils.nsw.gov.au/regions/central-west/key-projects/national-landcare-program-phase-two/regent-honeyeater>

^{xxxii}

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SUB-18873739%2120210508T033151.346%20GMT>

^{xxxiii} <https://royalsocietypublishing.org/doi/10.1098/rsbl.2019.0649>

^{xxxiv} Professor Christian-Fredrich Vahl at Mainz University Medical Centre, experiments on the exposure of heart tissue to infrasound Quote: “whether we hear it or not, every form of energy has physical effects and infrasound is particularly dangerous, because we don’t hear it.” “As medical researchers, it is strongly recommended that infrasound levels generated by wind farms do not approach pathological levels. **It is the recommendation of this research group to set the level of infrasound no higher than 80 dBz** (20 dBz below the critical value of 100 dBz) as the maximally tolerated limit for chronic exposure”.

^{xxxv} Tilt Liverpool Range Wind Farm Summary of Proposed Modifications Fact Sheet

^{xxxvi} Appendix A Section 3.2 Modification Report