

1 May 2018

NSW Independent Planning Commission Determination Report Bango Wind Farm (SSD 6686)

1. INTRODUCTION

On 23 February 2018, the Independent Planning Commission received from the Department of Planning and Environment (the Department) a State significant development application from Bango Wind Farm Propriety Limited (the applicant) to develop a new wind farm between the regional centres of Yass and Boorowa in the Southern Tablelands of New South Wales.

The Department has referred the development application to the Commission for determination in accordance with the Minister for Planning's delegation because the Department received more than 25 submissions from the public in the nature of objections.

Professor Mary O'Kane AC, Chair of the Commission, nominated Mr John Hann (chair), Ms Carol Austin, and Mr Paul Forward to constitute the Commission to determine the development application.

1.1 Summary of Development Application

The development application proposes the construction of:

- up to 75 turbines with a tip height of 200 metres (m), blade lengths of approximately 72m and a hub height of up to 128m over two clusters (Kangiara and Mt Buffalo clusters); and
- ancillary infrastructure, including temporary construction compounds, concrete batching plants, up to 56 kilometres (km) of permanent access tracks, and on-site electrical infrastructure to connect to the grid with either one or both of the existing Yass to Cowra 132 kilovolt (kV) transmission lines.

The applicant originally sought approval for two layout options (Layout Options 1 and 2), of 75 turbines for Layout Option 1 and 61 turbines for Layout Option 2, with both layout options to be established across broadly similar geographically area but with differences in the location of some turbines.

Under Layout Option 1, the project would generate up to 255 megawatts (MW) and 730 gigawatt hours (GWh), which is enough to power about 125,000 homes. Layout Option 2 would generate up to 91.5 MW. The Commission notes that the applicant sought flexibility to adopt a combination of turbine locations from the proposed Layout Options.

On 24 April 2018, the applicant advised the Department that it was amending its development application seeking approval for Layout Option 1 only and any reference to Layout Option 2 may now be disregarded. Accordingly, the Commission's determination relates to the amended development application dated 24 April 2018 with proposed Layout Option 1.

During construction, the project would create up to 160 jobs and up to 5 operational jobs after commissioning. It would have a capital investment value of \$303 million and contribute \$2,825 per turbine (plus CPI) each year to Hilltops and Yass Valley Councils to fund community projects in Council areas.

1.2 Background

The site is located in the Hilltops and Yass Valley local government areas (LGAs), with the closest township to the site being Rye Park village, located approximately 5km to the northeast, while the larger township of Boorowa is located approximately 12km to the northwest.

There are eleven operational, approved and proposed wind farms within 60km of the project site, the closest being the approved Rye Park Wind Farm 8km to the east. The proximity of these windfarms is a consequence of the area's wind resources, and access to major electricity transmission infrastructure.

During the Department's assessment process, the applicant submitted a revised Development Application to reduce the number of turbines originally proposed from 122 to a maximum of 75 to address biodiversity and visual impacts. This included the removal of the Langs Creek cluster located to the north west in its entirety and consequently this cluster does not form part of this determination.

1.3 Need for proposal

In its Environmental Impact Statement (EIS), the applicant states that the project would:

- provide economic benefits for involved land owners;
- provide direct and indirect employment opportunities;
- provide a Community Fund to benefit the local area in the vicinity of the project site;
- contribute up to 3% additional renewable energy generation to meet the legislated Australian target (depended on the installed capacity);
- displace greenhouse gas emissions between approximately 500,000 and 875,000 tonnes of CO₂-e per annum, or 2 to 3.5 million tonnes of CO₂-e by 2020; and
- provide improved security and resilience of electricity supply through diversification.

2. DEPARTMENT'S ASSESSMENT REPORT

The Department's assessment report identified visual, noise, biodiversity, traffic and transport as the key impacts associated with this proposal. The Department's assessment report concluded that:

- a number of turbines, primarily in the Kangiara cluster, would impact the visual amenity of a number of nearby non-associated residences;
- the noise generated by the project could comply with the applicable operational noise criteria at all non-associated residences, including any cumulative noise impacts from the approved Rye Park Wind Farm;
- the applicant's proposed mitigation measures would be sufficient to minimise construction traffic noise impacts from the project;
- with the implementation of a range of mitigation and offsetting measures, the project could be undertaken in a manner that improves, or at least maintains, the biodiversity values of the locality over the medium to long term;
- with suitable road upgrades, regular road maintenance, and the implementation of a detailed Traffic Management Plan, the project would not result in unacceptable impacts on the capacity, efficiency or safety of the road network;
- the project would have flow-on economic benefits to the local community through job creation, capital investment, non-farm income to host landowners and the applicant's proposed community funding contributions;
- the project would facilitate the development of the State's renewable energy resources; and
- the project would assist in meeting Australia's renewable energy targets as well as future electricity demands without the production of additional greenhouse gases.

To address the visual impacts on non-associated residences located near the Kangiara Cluster the Department has recommended the removal of 4 turbines from this cluster in Layout Option 1. The Department has also recommended a further two turbines in Layout Option 1 in the northern Kangiara cluster not be allowed to proceed unless agreement can be reached with the affected landowner.

The Department concluded that the benefits of the project can be achieved without causing any significant adverse impacts, and that the project is in the public interest and should be approved, subject to the recommended conditions of consent.

The Commission notes that the Department released the NSW Wind Energy Framework (the Framework) in December 2016. However, the Framework only applies to new large-scale wind energy projects where SEARs have been issued after the date the Framework was published (i.e. December 2016). As the assessment requirements for the Bango Wind Farm were issued in 2011, the Framework does not apply to this determination.

3. COMMISSION'S MEETINGS AND SITE VISIT

As part of its assessment of the proposal, the Commission met with the Department, the applicant, Hilltops and Yass Valley Councils, visited the site and surrounds and conducted a public meeting. Summaries of each of these meetings are included within **Appendix 1**.

3.1 Briefing from the Department

On 14 March 2018, the Department briefed the Commission on the project. A further briefing with the Department was held on 29 March 2018.

3.2 Briefing from the applicant and site visit

On 14 March 2018, the Commission met with the applicant. The meeting was followed by a site visit with the applicant on 21 March 2018.

3.3 Meeting with Hilltops and Yass Valley Councils

On 21 March 2018, the Commission met with Hilltops and Yass Valley Councils to hear their views on the project.

3.4 Public Meeting

The Commission held a public meeting at the Boorowa Ex-Services Club, Boorowa on 22 March 2018 to hear the public's views on the proposal. The Commission notes that there were speakers that did not wish to present and additional speakers on the day that requested to present. A list of the 18 speakers that presented to the Commission and a summary of the issues raised by the speakers and provided written comments is outlined in **Appendix 2**. Written submissions of speakers who presented at the public meeting and submissions received subsequent to the public meeting are available on the Commission's website.

4. ADDITIONAL INFORMATION

On 21 March 2018 the Commission received additional information from the Office of Environment and Heritage (OEH) regarding the impacts of the project on biodiversity, in particular Wedge-tailed Eagles, Superb Parrots, hollow-bearing trees and Aboriginal cultural heritage. In response to this information, on 28 March 2018 the Commission provided the applicant and Department with an opportunity to respond. A further briefing with the Department to discuss OEH's comments was held on 29 March 2018. A response was received from the applicant on 29 March 2018 and the Department on 13 April 2018. These responses can be seen on the Commission's website.

On 28 March 2018, the Commission sought additional information from the applicant to assist with its consideration of visual impacts (see **Appendix 3**), which included:

- additional photomontages of views from various residences;
- a list of the differences in distances between turbine locations in Layout Option 1 and Layout Option 2, for each corresponding turbine that appears in both Layout Options; and
- a plan indicating land ownership across the site.

The applicant provided this additional information to the Commission on 12 April 2018, which can be viewed on the Commission's website. The Commission invited the Department to comment on this additional information in a letter dated 18 April 2018, which is also available on the Commission's website.

On 24 April 2018, the Department provided the Commission with a letter received from the applicant proposing an amendment to the development application. The amendment sought approval of Layout Option 1 only and thereby removed Layout Option 2 from the application. Accordingly, the Commission's determination is based on the revised development application seeking approval for Layout Option 1 only.

On 27 April the Department provided a further response to the Commission and an amended version of the proposed conditions of consent. The response included advice regarding the applicant's additional information dated 12 April 2018 as well as the amendment to the application and is available on the Commission's website.

5. COMMISSION'S CONSIDERATION

In this determination, the Commission has considered carefully:

- all information provided by the applicant;
- the Department's assessment report, including an independent expert visual assessment;
- advice and recommendations from government agencies;
- relevant matters for consideration specified in section 79C of the *Environmental Planning and Assessment Act 1979* (EP&A Act), including:
 - relevant environmental planning instruments;
 - the *Environmental Planning and Assessment Regulation 2000*;
 - the likely impacts of the development on both the natural and built environments;
 - social and economic impacts in the locality;
 - submissions from the public, Councils and other government agencies; and
 - the public interest, including the objects of the EP&A Act.

The key matters considered by the Commission include visual amenity, noise, biodiversity, traffic and transport and public interest.

In addition to the key matters, the Commission has also considered concerns raised in verbal and written comments to the public meeting in relation to, but not limited to health impacts associated with wind turbine noise, property values and the compliance of the applicant's EIS with the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). These matters are discussed in Section 6 of this report.

The Commission has reviewed and is satisfied with the Department's assessment and recommendations in respect of other matters subject to conditions, which include but are not limited to, bushfire safety, aviation safety, decommissioning and rehabilitation. These particular matters are not elaborated on in this report.

5.1 Visual amenity

The Commission heard concerns at the public meeting and received public submissions regarding the project's impact on the visual amenity of residences within close proximity. These concerns included:

- the project negatively changing the character of the landscape;
- residences experiencing high visual impacts;
- cumulative impacts of the project with the two clusters and the yet to be constructed Rye Park Wind Farm;
- the impact of light emitting from obstacle lighting; and
- inconsistencies in the Department's and applicant's visual impact assessments.

However, the Commission heard from speakers and received comments in support of the project, which stated:

- the area is not seen as having high scenic value;
- the project would not impact the visual amenity of residents; and
- the 4 turbines recommended for removal from the Kangiara cluster by the Department should be reinstated.

The applicant's Landscape Visual Impact Assessment (LVIA), undertaken by Green Bean Design Pty Ltd, found that three non-associated residences have the potential to experience either medium/high or high visual impacts (residences 62, 235 and 260). The Department's visual impact assessment, which was undertaken with the assistance of an independent visual expert, agrees with the applicant's finding but found that a further 8 residences have the potential to experience either medium/high or high visual impacts from the project (residences 26, 60, 76, 144, 165, 166, 238 and 282).

The Commission notes that the applicant has obtained agreements with the landowners of 10 non-associated residences in which the landowners accept the visual impacts of the project. In addition, the applicant has proposed a range of mitigation measures to further minimise visual impacts, including painting turbines and blades with a treatment that minimises potential glare of reflection and implementing appropriate landscaping and screening at any non-associated residences within 4km of a wind turbine, where the applicable landowner requests such mitigation.

Northern Kangiara cluster

The Department's visual assessment states that one non-associated residence in the northern Kangiara cluster, 282, would experience high visual impacts from the nearest turbines (76 and 98) which would be located 2.2km away on a ridgeline approximately 90m above the residence. With no intervening topography to shield their view, the Department considers that the visual magnitude of these turbines would be high and that they would dominate the views from this residence.

The Department considers the impact on this residence would be substantially reduced by removing these turbines (76 and 98) in Layout Option 1. As such, the Department has recommended that the applicant should not be allowed to construct turbine nos. 76 and 98 unless it is able to formalise an agreement with the landowner of residence 282 in regard to visual impacts. However, the Department recognises that the removal of the most visually prominent turbines in proximity to this residence would not completely mitigate the visual impacts of the project, and as such, the Department considers that landscaping should also be offered to this residence.

The Commission notes the proximity and location of turbine nos. 76 and 98 in relation to residence 282 but does not support the Department's assessment that this residence would experience high visual impacts from these turbines and that they should be removed unless a visual agreement can be

reached with the owners. The Commission finds that current vegetation provides appropriate screening to reduce the visual impacts on the residence, which could be assisted with additional landscaping. As such, the Commission considers that these turbines should remain within the project and turbine nos. 76 and 98 should not be micro-sited any closer to residence 282. The Commission has recommended a condition accordingly.

Southern Kangiara and Mt Buffalo clusters

The Department considers that 11 residences would experience medium/high or high visual impacts as a result of the project. 10 of these residences would be affected by turbines located in the southern portion of the Kangiara and/or Mt Buffalo clusters. The Department considers the impacts on seven of these 10 residences would be substantially reduced by removing four turbines in Layout Option 1 in the southern Kangiara cluster.

The Department's visual impact assessment states that views from residences 62, 76, 235 and 260 in the southern Kangiara cluster would be dominated by Turbine Nos. 19, 65, 72 and 79 in Layout Option 1. The Department notes that residences 62, 235 and 260 would have primary views to the north/northeast towards these turbines, and residence 76 would also have distant views of turbines in the southern Mt Buffalo cluster.

The Department considers that to reduce the impact on residences 62, 76, 235 and 260 to an acceptable level, turbine nos. 19, 65, 72 and 79 in Layout Option 1 should be removed. The Department also recognises that the removal of these turbines would not completely mitigate the visual impacts of the project's turbines and subsequently considers that landscaping and/or screening should also be offered to these residences.

The Department also states that the removal of Turbine Nos. 19, 65, 72 and 79 in Layout Option 1 would also have peripheral benefits for residences 26, 165 and 166, which would have cumulative impacts from both the Kangiara and Mt Buffalo clusters, by reducing the visual impacts on these residences through setting the nearest turbines back further from the residences and reducing cluttering effects. The Department has also recommended that landscaping and/or screening should also be offered to these residences.

The Department states that the medium/high or high visual impacts on the 3 closest residences impacted by the Mt Buffalo cluster (60, 144 and 238) could be mitigated to a reasonable extent through additional visual screening, rather than removal of the nearest turbines (25, 62 and 111 in Layout Option 1). The Department notes that the removal of these turbines would not materially reduce the overall visual impact of the Mt Buffalo turbine cluster.

In conclusion, the Commission notes that there are four residences with predicted medium/high or high visual impacts in the Southern Kangiara cluster, 62, 76, 235 and 260. The nearest turbines to these residences are located between 1.9km and 2.9km away. To assist in the consideration of the visual impacts to these residences, the Commission requested additional information from the applicant and the Department and undertook a site inspection.

The Commission finds that removing the four closest turbines from the viewpoint of these residences, through the implementation of condition 6 from Schedule 2 of the Department's conditions of consent, would be effective at reducing the overall visual impacts of the project. The Commission also supports the Department's view that landscaping and/or screening of other turbines in this cluster should be offered to these residences. Views of the turbines should be screened from the residences themselves.

In addition, the Commission notes that there are three residences with predicted medium/high or high visual impacts in the Mt Buffalo cluster (60, 144 and 238). The nearest turbines to these residences are located between 1.8km and 2.7km away. The Commission finds that reducing the three closest turbines from the viewpoint of these residences would have a minimal effect on reducing the visual impacts of the project. The Commission supports the Department's view that landscaping and/or screening should be offered to these residences. Views of the turbines should be screened from the residences themselves. The Commission also considers that to ensure that the three most visually impacting turbines effecting these residences (turbine nos. 25, 62 and 111) do not impact them further, these turbines should not be micro-sited any closer to the closest residences, 60, 144 and 238, and has decided upon a condition accordingly.

The Commission notes that the applicant's LVIA, undertaken by Green Bean Design Pty Ltd, was limited to Layout Option 1, based on the applicant's stated view that Layout Option 1 of 75 turbines represented a 'worst case' visual impact. However, clarification from the applicant in the early stages of the Commission's determination process confirmed that a final selected layout could comprise turbines selected from a combination of Layout Options 1 and 2. As 18 of the total 61 turbines in Layout Option 2 are positioned in different locations to those turbines in layout Option 1 (up to 521m from the nearest equivalent turbine in Option1), the Commission was concerned that a hybrid layout comprising turbines from Layout Option 1 and 2 may have a greater visual impact than that assessed under Layout Option 1. For this reason, the Commission wrote to the Department and the applicant requesting further clarification of the method of assessment for Layout Option 2. The applicant was also given the opportunity to submit a Cumulative Landscape Visual Impact Assessment in relation to Layout Option 2.

On 24 April 2018, the Department provided the Commission with a letter received from the applicant formally amending their development application. The amendment sought approval of Layout Option 1 only and thereby removed Layout Option 2 from the application.

Cumulative impact

The Commission notes that a comment from the public meeting raised an issue with the cumulative visual impacts of the project and the approved, but not yet constructed, Rye Park Wind Farm on properties south of Rye Park village, along Wargeila Road.

The applicant's Cumulative Landscape Visual Impact Assessment (CLVIA) determined that two residences (48 and 51) would experience a moderate to low cumulative visual impact, both of which are not involved with the project. No residences were predicted by the CLVIA to experience additional cumulative visual impact, when considering the interaction of the proposed project with other existing wind farms in the area. The assessment also concluded that local low undulating landforms and tree cover surrounding and beyond residences will largely screen the project from residences located within 5km of both the project and the Rye Park Wind Farm.

The Department, with the assistance of the independent visual expert, undertook an assessment of the cumulative visual impacts from the Rye Park Wind Farm and found that five non-associated residences located to the east of the site (35, 48, 106, 152 and 243) could experience medium to high cumulative visual impacts. However, the Department states that due to the distance to the turbines and the intervening topography, they consider these impacts could be sufficiently mitigated through the provision of additional visual impact mitigation.

The Commission finds that due to the topography and existing vegetation cover, residences along Wargeila Road would not experience significant cumulative visual impacts.

Obstacle Lighting

The applicant undertook an assessment of the visual impacts of obstacle lighting, and concluded that although lighting mounted on turbines could be visible at night for a number of kilometres, the actual intensity of the lighting appears no greater than other sources of night time lighting, such as vehicle head and tail lights. Further, the applicant states that impacts could be minimised through the use of LED lights instead of conventional incandescent lights.

The Department considers that despite the range of measures to minimise the visibility and impacts associated with obstacle lighting, the residual impacts of obstacle lighting at 200m above ground level are likely to remain noticeable in a 'dark' rural context, and would therefore increase the overall visual impacts of the project.

The Commission notes that mitigation measures to reduce the impact of obstacle lighting are specified in CASA guidelines under the *National Airports Safeguarding Framework Guideline D: Managing the Risk of Wind Turbine Farms*. The Commission is satisfied that the Department has recommended conditions requiring the applicant to ensure that any lighting is installed in accordance with CASA requirements and in a manner, that minimises any adverse visual impacts on local residents.

Conclusion

The Commission notes that a LVIA was not completed for Layout Option 2, and it had requested additional information to allow it to fully consider the impacts of this layout. The recent amendment of the application to remove layout Option 2 has resolved this issue and the Commission is not required to determine the appropriateness or impact of Layout Option 2.

The Commission recognises there are different responses being suggested for residences assessed as having a predicted medium/high or high impact from turbines. The Commission accepts the Department's view in most cases, however the Commission does not support the Department's view that the visual impact to residences 282 in the northern Kangiara cluster would be high. The Commission considers that the recommended removal of four turbines from the southern Kangiara cluster would reduce the visual impacts on the four most impacted residences.

The Commission agrees with the Department's conclusion that for three residences impacted by turbines in the southern Mt Buffalo cluster, removal of the nearest turbines would not materially reduce the visual impacts, with vegetation screening offering the most effective mitigation measure. The Commission also considers that the residences in the area would not experience significant cumulative visual impacts from both the project and the Rye Park Wind Farm.

5.2 Traffic and Transport

The Commission heard concerns at the public meeting and through public submissions of the potential traffic and transport impacts of the project, which included:

- traffic generation as a result of the project;
- the use of Wargeila Road and Tangmangaroo Road for construction traffic and the potential need for upgrades prior to construction;
- restriction on stock and local traffic movements during construction; and
- the potential cumulative traffic impacts during the construction of the Rye Park Wind Farm.

The Commission notes that Lachlan Valley Way is a State road and Wargeila Road and Tangmangaroo Road are local roads.

Traffic impacts

The applicant's transport assessment, prepared by SAMSA Consulting, states that the frequency of vehicle movements would vary depending on the construction activities occurring at the time. However, for the majority of the 18-month construction period, it is estimated that the maximum daily traffic generation would be 132 heavy vehicle movements and 215 light vehicle movements per working day (two-way trips).

The applicant states that the addition of heavy vehicles and construction staff traffic during peak construction periods is able to be absorbed by both the rural and urban networks with appropriate construction traffic management and road infrastructure upgrades which are discussed further in the report.

The applicant notes that the approved Rye Park Wind Farm will also use Lachlan Valley Way as part of its over-dimensional and heavy vehicle transport route during its construction, which has the potential to exacerbate any traffic and transport impacts. The applicant acknowledges the potential for this cumulative impact and has committed to liaising with the applicant of the Rye Park Wind Farm to minimise construction traffic impacts.

The Department notes that the existing traffic volume for two-way flows on Lachlan Valley Way is approximately 1,800 vehicle movements per working day, and that with the combined traffic impacts of both projects, during peak construction periods the volume of traffic would increase to 2,439 vehicle movements per day. The Department states that the applicant's assessment demonstrates that this traffic volume would only marginally affect the level of service of the road network and that the temporary increase in traffic volumes would be readily absorbed by the road network. Subject to the implementation of road upgrade works and a traffic management plan during the construction period, applied as conditions of consent, the Department is satisfied that the project would not result in unacceptable impacts on the capacity, efficiency or safety of the road network.

The Commission notes that the two Councils, Roads and Maritime Services (RMS) and the Department consider that the proposed transport routes for typical transport loads associated with the construction of a wind farm would have minimal impacts to existing public roads, subject to road upgrades. The Commission finds that the predicted increase in traffic volumes could be accommodated by the State and local road networks, subject to appropriate upgrades.

Road upgrades

The applicant proposes a main site access point for the project off Lachlan Valley Way. The Department is satisfied that subject to further detailed assessment and design in consultation with RMS, this access point is feasible and any residual impacts would be able to be managed. The Department has recommended conditions requiring the applicant to undertake the intersection upgrade to the satisfaction of RMS as the relevant road authority, and in accordance with a detailed Traffic Management Plan.

The applicant proposes to construct an internal on-site road network that links up the various wind turbines and associated wind farm infrastructure, and notes that road upgrade works are likely to be required on Tangmangaroo Road and Wargeila Road to facilitate the construction of the internal road network. These road upgrades are outlined in Appendix 7 of the Department's conditions of consent. The upgrades refer to site access point intersections, which will need to be upgraded prior to the use of these roads for construction. The applicant also proposes to enter a Road Dilapidation Deed with each Council, prior to the commencement of the relevant stage of works. This will clearly outline the

responsibility of each party for the identification, prioritisation, rectification of any defects, and the apportionment of costs of such works.

The Commission has received a road suitability assessment from Councils for the current conditions and road standards for Tangmangaroo Road and Wargeila Road. The assessment indicates that there are lengths of these roads that would need to be upgraded to be brought up to standard prior to construction if being used by over-dimensional and heavy vehicles. The Commission notes that there is no current commitment from the applicant to undertake such upgrades and the applicant has not undertaken an assessment of roadside vegetation along Tangmangaroo Road and Wargeila Road.

Transport routes

At its meeting with Yass Valley and Hilltops Councils, the Commission received a request for clarification that all over-dimensional and heavy vehicles will access the site via Lachlan Valley Way. Councils stated that should over-dimensional and heavy vehicles be proposed to access the site via Tangmangaroo Road or Wargeila Road then further road upgrades would be required.

The applicant sought to clarify to the Commission their intention for a limited number of over-dimensional and heavy vehicles to access the site via Tangmangaroo Road or Wargeila Road before upgrades have been completed to allow for the commencement of construction on-site. The Commission notes that the applicant has not provided a schedule of works for required upgrades to accommodate over-dimensional and heavy vehicles along these roads, except for intersections with site access points, or assessed the impact of any potential vegetation clearing to support such road upgrades.

The Commission sought clarification from the Department regarding the transport routes for over-dimensional and heavy vehicles. On 12 April 2018, the Department confirmed that these types of vehicles should only be allowed to access the site via Lachlan Valley Way and their conditions of consent have been amended to provide stronger clarification.

With the Department's revised recommended conditions and the restriction for over-dimensional and heavy vehicles to access the site via Lachlan Valley Way, both the Councils and RMS have confirmed that they are satisfied with the proposed construction traffic routes, design standards and road upgrades.

The Commission finds that the applicant has not submitted justification for over-dimensional and heavy vehicles to use Tangmangaroo Road or Wargeila Road during construction. As a consequence, the Commission agrees with the Department's assessment that these vehicles should be restricted to accessing the site via Lachlan Valley Way.

5.3 Biodiversity

The Commission heard concerns at the public meeting and received public submissions regarding the project's impact on biodiversity. These concerns included the impact of turbines on Wedge-tailed eagles, Superb Parrot habitat and the removal of hollow bearing trees.

The applicant as part of the response to submissions (RtS) process responded to OEH's initial concerns and to minimise the biodiversity impacts of the project, removed the Langs Creek turbine cluster, revised transport routes and rationalised the site access points.

Flora impacts

The applicant states that the project would require up to 138ha of vegetation to be cleared, including 126.54ha of native vegetation. The applicant undertook ecological flora assessments including tests of significance for all threatened flora species, as well as the Box Gum Woodland endangered ecological community (EEC). These assessments concluded that the project is unlikely to result in any significant impacts on the abundance, range and distribution of this EEC and any threatened flora species.

The Department concludes that the impacts on Box Gum Woodland EEC would need to be offset in accordance with OEH's Framework for Biodiversity Assessment (FBA).

The applicant states in their RtS that all oversize vehicles will enter the site via the State road, and not via local council roads, which would have the benefit of avoiding the clearing of roadside vegetation on these local council roads. However, as previously mentioned in **Section 5.2**, the applicant sought to clarify to the Commission their intention for a limited number of over-dimensional and heavy vehicles to access the site via Tangmangaroo Road or Wargeila Road. This would require upgrades to these roads, but the Commission notes that the applicant has not provided an assessment of the impact of any potential vegetation clearing to support such road upgrades. As previously noted and confirmed by the Department's revised Conditions of consent, the Commission does not support over-dimensional and heavy vehicles using Tangmangaroo Road and Wargeila Road for construction of the project.

The Commission notes that the Commonwealth Department of the Environment and Energy (DoEE) has advised that the project would be assessed separately under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

Fauna impacts

The applicant's ecological fauna assessment included tests of significance which concluded that the project is unlikely to result in any significant impacts on the abundance, range and distribution of any threatened fauna species.

In their comments to the Commission OEH states that hollow-bearing trees within Box-Gum Woodland provide essential nesting habitat for Superb Parrots, and that there has been a decline in the number of these trees in the region. OEH subsequently recommended that all hollow-bearing trees in the development footprint be assessed during Superb Parrot breeding season (from September to January), and if an active Superb Parrot nest hollow is found, the tree cannot be cleared.

The Department notes that the applicant's ecological assessment surveys identified the Superb Parrot as the most frequently recorded bird species, which was most commonly observed in areas with grain crops or Box Woodland EEC. In their response to OEH's comments the Department states that it has recommended specific measures to ensure potential impacts on hollow-bearing trees are avoided, minimised or offset.

The applicant's ecological assessment surveys also identified other threatened fauna species that could be impacted by the project, including the Golden Sun Moth, Little Eagle and Spotted Harrier. The Department states that impacts on these habitats will need to be offset in accordance with OEH's FBA.

The Commission is satisfied that there are specific measures in the Department's conditions of consent to avoid, minimise or offset impacts on hollow-bearing trees (which provide nesting habitat including for Superb Parrots), and finds that offsets can also be achieved for other threatened fauna species that could be impacted by the project.

Bird and bat strike

The applicant outlines in its EIS, that it has specifically sought to minimise the bird and bat strike risks of the project to reduce impacts on bird and bat species, principally by locating the turbines as far as practicable from hollow bearing trees and other important bird and bat habitat on site, and proposing a number of mitigation measures to avoid or minimise bird and bat strike, including:

- selecting obstacle lighting that minimises the attraction of insects; and
- preparing and implementing a Bird and Bat Monitoring Program in consultation with OEH that includes adaptive management techniques to allow species-specific approaches to mitigation should unacceptable impacts be identified during operations.

The Commission notes that OEH had concerns with the proximity of a number of turbines to the four existing Wedge-tailed eagle nests on the project site. In their comments to the Commission OEH state that the eagles are at greatest risk when young and first flying and has subsequently recommended a buffer of 500m around these nests. Where turbines are located within 500m of a nest, OEH has recommended their deletion.

In response to OEH's comments, the Department found that as a result of the various design changes to the project layout the residual risks of bird and bat strike are relatively low, and has recommended a range of specific measures to minimise potential impacts on Wedge-tailed eagle nests. This includes requiring the applicant to remove a nest located in proximity to turbine no. 81 in Layout Option 1 outside of breeding season (April to September), and only micro-siting turbines located within 500m of a nest if the revised location of the turbine is not any closer to the Wedge-tailed eagle nest.

With these measures in place the Commission is satisfied that the project would not pose an overall significant or unacceptable level of risk to bird and bat species from rotor interaction, and that risks to bird and bat species can be suitably managed.

The Commission notes that the Wedge-tailed eagle is not a threatened species under the NSW *Biodiversity Conservation Act 2016* and that there is no government policy requiring a 500m setback of turbines from Wedge-tailed Eagle nests. However, the Commission is satisfied with the Department's recommended measures to minimise potential impacts on Wedge-tailed eagle nests, including restricting the micro-siting of turbines if the revised location of the turbine will be closer to a nest.

5.4 Noise

The Commission received submissions and heard concerns at the public meeting regarding the project's noise impacts, which included, but were not limited to:

- construction noise;
- construction traffic noise;
- operational noise;
- the health impacts of low frequency noise and infrasound on the nearest residences; and
- the appropriateness of the applicant's assessment of noise impacts.

The Commission has considered the concerns raised regarding the health impacts of low frequency noise and infrasound in Section 6.1 of this report.

Construction Noise

The applicant's Environmental Noise Assessment, prepared by Sonus, includes reference to the two 'management levels' under the Environmental Protection Authority's (EPA) *Interim Construction Noise Guideline (2009)* for noise from construction activities during standard hours (i.e. 7 am to 6 pm Monday to Friday, and 8 am to 1 pm Saturday). These management levels are 'noise affected' and 'highly noise affected'.

The applicant noise assessment indicates that construction noise associated with the project, which includes the construction of turbine foundations, road and hardstand construction and electrical installation, would range between 40 to 46 decibels (dB(A)). The applicant states that this would be well below the 'highly noise affected' management level of 75 dB(A) in the *Interim Construction Noise Guideline (2009)* for all non-associated residences.

The Department notes that up to 17 non-associated residences may be subject to noise levels above the 'noise affected' management level of 40 dB(A) under the *Interim Construction Noise Guideline (2009)*. However, this exceedance would be temporary and above the criterion for 1 to 2 weeks during construction and during the day time only.

The applicant has committed to implementing a number of standard measures to minimise construction noise from the project, which may include construction of temporary acoustic barriers, use of proprietary enclosures around machines (i.e. rock crushing and concrete batching plants), use of silencers, substitution of alternative construction processes and the fitting of broadband reversing signals.

The applicant states in their EIS that, where practicable, construction is to occur within recommended working hours. The Department considers that the proposed construction activities are unlikely to result in significant adverse impacts during daytime hours but has recommended conditions restricting construction works to standard hours (i.e. 7 am to 6 pm Monday to Friday, and 8 am to 1 pm Saturday) with no work on Sundays or NSW public holidays. The Department has also recommended conditions requiring the applicant to implement all reasonable and feasible measures to minimise construction noise in accordance with the best practice requirements outlined in the EPA's *Interim Construction Noise Guideline (2009)*, or its latest version.

The Commission acknowledges that there would be temporary exceedances to construction noise criteria under the EPA's *Interim Construction Noise Guidelines (2009)* but is satisfied that the project would be generally compliant with this criterion and is well within the 'highly noise affected' management level for all non-associated residences. The Commission is also satisfied that the

Department's conditions will require the applicant to implement all reasonable and feasible measures to minimise construction noise.

Construction Traffic Noise

The applicant's EIS states that construction activity will incorporate passenger vehicle and heavy vehicle movements to and from the project site, which involves using local and classified roads in the vicinity of the project. The applicant proposes to apply a range of mitigation measures to reduce construction-related traffic noise, including communicating with impacted residences, scheduling of construction activities and deliveries to minimise road noise. The Commission notes that whilst there is no requirement for these mitigation measures in a Statement of Commitment by the applicant, however the Department's conditions of consent require the preparation and approval of a traffic management plan prior to commencement of construction.

The Department states that during construction, the general increase in daily traffic has the potential to increase the short-term traffic noise levels along the proposed access routes. The Department notes that construction related traffic noise impacts would be limited to the construction period of 18 months, including a shorter peak traffic period of up to 4 months where over-dimensional vehicles would be used.

The Department states that in order for the noise criteria to be met for non-associated residences along the transport route during the peak predicted traffic volumes, they would need to be located a minimum of 150m from the roadside. There are 6 residences located along the proposed transport route on Lachlan Valley Way within 115m from the road and five residences between 115m and 150m from the road. As such, the Department states that during the 4-month peak construction traffic period, 11 residences would be subject to traffic noise levels above the criterion.

The Department notes that the nearby approved Rye Park Wind Farm has the potential to create cumulative traffic noise impacts for residences along the Lachlan Valley Way. The Department states that with the combined traffic of both projects, even in the worst-case scenario, no additional residences other than the 11 impacted by the Bango Wind Farm would be subject to traffic noise levels above the criterion, as they are all located a sufficient distance from the roadside.

The EPA acknowledged that any traffic noise impacts would be generally limited to the construction period and is satisfied that these impacts could be adequately managed through the implementation of measures contained in their *Interim Construction Noise Guidelines (2009)*. The Department is satisfied that the applicant's proposed mitigation measures would be sufficient to minimise traffic noise impacts from the project, but has also recommended conditions requiring the applicant to restrict construction activities to the day time, and implement best management practice to minimise road traffic noise as part of a Traffic Management Plan for the project.

The Commission is satisfied that construction traffic noise impacts can be adequately managed through the applicant's proposed mitigation measures and the Department's recommended conditions.

The Commission acknowledges that the EPA's *NSW Road Noise Policy (2011)* does not apply to construction noise but notes that the project will be required to be compliant with this policy post-construction.

Operational Noise

The applicant's noise assessment concludes that the noise from the proposed Layout Option 1 will comply with the project-specific criteria established in accordance with the *South Australia Environmental Noise Guidelines: Wind Farms (2003)* (SA Guidelines), with a base level of 35 dB(A), at all non-involved dwellings except at residence 238. The applicant's assessment notes that to achieve the requirements of the SA Guidelines at residence 238, an agreement with the landholder will need to be established, otherwise the wind farm layout will need to be modified (removal of the two closest turbines, or relocation of the turbines) so that the predicted noise levels at all non-involved dwellings achieve the established criteria.

The Department notes that noise levels at residence 238 were predicted to exceed the criterion by 2 dB(A) at wind speeds of 9 metres per second (m/s) and 10 m/s. The Department considers that the minor nature of the predicted exceedances means that the criterion could be readily achieved using either noise management mode or sector management at the closest turbines to residence 238, which are accepted methods of either reducing rotor speeds or turning turbines off during noise enhancing meteorological conditions, and can be easily audited and verified by regulators.

Alternatively, the Department considers that this issue would be addressed if the Commission should decide to remove the turbines nearest to residence 238 to reduce visual impacts, which was discussed in **Section 5.3** of this report. Whichever option is imposed, the Department states that they and the EPA are satisfied that the noise generated by the project would be able to comply with the applicable operational noise criteria at all non-associated residences.

The Commission has determined that the nearest turbines to residence 238 should not be removed. While the Commission acknowledges that the Department states that there are instances where noise levels at this residence are predicted to exceed project-specific noise criteria, it finds that due to the minor nature of these exceedances and potential noise management or sector management at the closest turbines the criteria can be achieved. The Commission is satisfied that the operational noise criteria for wind turbines set out in Table 2 of condition 9 from Schedule 3 of the Department's condition of consent will adequately address any impacts from operational noise.

Low frequency noise

The applicant's noise assessments indicate that the aerodynamic noise from a wind turbine is not dominant in the low frequency range (20 Hertz (Hz) to 200Hz) and is generally in the mid-frequency (200 Hz to 1,000 Hz). The assessments predict that low frequency noise from the project would be no greater than 60 dB(C) at all non-associated residences.

The Department has recommended conditions to ensure surrounding residents are protected from any potential impact from low frequency noise. This includes requiring a 5 dB(A) penalty to be added to the measured noise levels if low frequency noise from the wind farm is repeatedly greater than 65 dB(C) during the daytime or 60 dB(C) during the night time (for more than 10% of the 24-hour assessment period) at any relevant receiver. The EPA is satisfied with this approach.

The Commission finds that the project would not generate an unacceptable level of low frequency noise and that the Department's proposed conditions will adequately address any impacts from low frequency noise from the project.

5.5 Public Interest

In evaluating whether the project is in the public interest, the Commission has given consideration to both the potential positive and negative impacts of the project within the locality, which would be experienced differently by different communities, groups and individuals. In forming a view on the public interest, the Commission has considered the objects of the EP&A Act. Of relevance to this particular development application are the objects which state:

- (a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,*
- (b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,*
- (c) to promote the orderly and economic use and development of land.*

The Commission heard support for the project from public submissions, the local community at the public meeting and through comments received after the public meeting for various reasons, including but not limited to:

- economic and social benefits for the local community from the Community Enhancement Fund;
- benefits to local businesses;
- direct employment opportunities during construction and operation;
- incomes for host landholders, which in some instances would assist in supplementing farming operations and improving land management; and
- reduction in carbon emissions and contribution to national renewable energy targets.

The Commission also heard opposition to the project from public submissions, the local community at the public meeting and through comments received after the public meeting for various reasons, including but not limited to:

- a divide in the community as a result of opposing opinions of the project;
- visual amenity;
- potential long term adverse health impacts;
- specialist employment opportunities that wouldn't benefit local people;
- reduction in property values; and
- the increased risk of bushfires and impacts on their management.

The Commission also heard concerns at the public meeting that the Department's removal of four turbines would reduce the amount of annual funding contributed by the applicant to the Community Enhancement Fund, equating to \$11,300 per annum, and reduce the potential income of host landholders. The Commission acknowledges that the Community Enhancement Fund is a critical component to the project in providing benefits to the community. The Commission's decision will maintain the total contribution to the Fund of \$211,875, as proposed by the applicant.

The Commission heard a wide range of community views in relation to the project from support to opposition. While the Commission acknowledges that the project would have some negative impacts, with the implementation of strict conditions these impacts can be effectively mitigated and monitored, such that these impacts are outweighed by the broader public benefit. The Commission finds that the project is in the public interest.

6. COMMISSION'S RESPONSE TO COMMUNITY ISSUES

Speakers and written submission to the public meeting raised a number of significant concerns about the project's impact on health, property values and the compliance of the applicant's Environmental Impact Statement with the EP&A Regulation.

In addition to the Commission's consideration of the development application in **Section 5** of this report, the Commission has considered these issues as follows:

6.1 Health impacts

Speakers at the public meeting raised concerns over the impact of the wind farm on the health of local residents, particularly from low frequency noise and infrasound. It was stated that excessive low frequency noise from wind turbines could lead to serious physical and mental health problems for the community and that, with the introduction of larger turbines, the predicted health impacts will worsen and be more widespread.

The Commission was advised at the public meeting by the Waubra Foundation of the findings of a recent Administrative Appeals Tribunal (AAT) decision (*Waubra Foundation and Commissioner of Australian Charities and Not-for-profits Commission [2017] AATA 2424 (4 December 2017)*) which stated that there is an established association between wind turbine noise annoyance and adverse health effects. This was established by a Health Canada study. The Commission notes that a further finding from the Tribunal states that,

"There are as yet no comprehensive studies which have combined objective health measurements with actual sound measurements in order to determine for a given population the relationships between the sound emissions of wind turbines, annoyance, and adverse health outcomes".

The Department notes that the applicant does not propose to construct any turbines closer than 1.8km from non-associated residences, and that the applicant's noise assessment found the project would not generate excessive levels of low frequency noise or infrasound.

The Department's assessment of the impact of infrasound has been guided by research undertaken by the National Health and Medical Research Council (NHMRC) which concluded that, *"there is no direct evidence that exposure to wind farm noise affects physical or mental health"*.

Further, the Department has recommended conditions to ensure surrounding residents are protected from any potential impact from low frequency noise and the EPA is satisfied with this.

A position statement on *Wind Farms and Health* (2014) by the Australian Medical Association also states that,

"The infrasound and low frequency sound generated by modern wind farms in Australia is well below the level where known health effects occur, and there is no accepted physiological mechanism where sub-audible infrasound could cause health effects."

The Commission notes that no concerns with the impacts of noise have been raised by NSW Health, who also state that the monitoring, controls and mitigation measures for affected properties are adequate.

The Commission is satisfied with the Department's assessment of this issue and recommendation that the project would not pose an unacceptable risk to the health of local residents.

6.2 Property values

Speakers at the public meeting raised the issue of negative impacts of the wind farm on local property values. The Commission notes that *King & Anor v Minister for Planning; Parkesbourne-Mummel Landscape Guardians Inc v Minister for Planning; Gullen Range Wind Farm Pty Limited v Minister for Planning* ([2010] NSWLEC 1102) considers property values for sites adjacent to a wind farm. The judgment determined that there was no loss of property value to which the Court could lawfully have regard to, as the wind farm was permissible with consent.

In its judgment the court determined that, *'If the concept of blight and compensation were to be applied to a private development, then any otherwise compliant private project which had some impact in lowering the amenity of another property (although not so great as to warrant refusal on general planning grounds when tested against the criteria in s 79C of the Act) would be exposed to such a claim'*. The Commission considers that this finding in the judgment is relevant to the proposed development and that impacts to property values cannot be given determinative weight in the context of a proposal that is otherwise acceptable on all other planning grounds.

6.3 Compliance of the applicant's Environmental Impact Statement with the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation)

The Commission heard concerns at the public meeting regarding the compliance of the applicant's EIS with Section 7(1)(c) of Schedule 2 of the EP&A Regulation. The concerns stated that the EIS did not comply with this section of the regulation as no feasible alternative options to the wind farm had been considered by the applicant.

The Commission notes that the EP&A Regulation only requires an analysis to canvass feasible alternatives to the 'carrying out of the development, having regard to its objectives, including the consequences of not carrying out development'. The Commission notes that the applicant's EIS contains information about the consequences of not carrying out the project. The Commission does not consider it necessary for the applicant's EIS to incorporate an exhaustive analysis of every potential alternative for providing energy.

7. COMMISSION'S FINDINGS AND DETERMINATION

The Commission has considered carefully the applicant's amended proposal, the Department's assessment report, additional information from the applicant and the Department along with the relevant matters for consideration under section 79C of the EP&A Act. The Commission has noted the advice and recommendations from Yass Valley and Hilltops Councils, and government agencies including OEH and EPA. Finally, the Commission has heard from members of the community about their concerns for the proposal during the public meeting in Boorowa and in written submissions.

The Commission finds that, subject to the revised conditions, the project:

- would not have a significant adverse impact on traffic and transport routes;
- would not have a significant adverse impact on biodiversity;
- would not create adverse noise impacts on the amenity of nearby residences;
- would not create significant local or cumulative visual impacts;
- would contribute renewable energy generation to meet the legislated Australian target; and
- would contribute social and economic benefits for communities within the Hilltops and Yass Valley Council areas and will be in the public interest.

For the reasons set out above, the Commission has determined to grant consent to the development application subject to the conditions set out in the instrument of approval.



Mr John Hann (Chair)
Member of the Commission



Ms Carol Austin
Member of the Commission



Mr Paul Forward
Member of the Commission

APPENDIX 1
RECORDS OF COMMISSION MEETINGS

MINUTES

DETERMINATION OF BANGO WIND FARM (SSD 6686)

BRIEFING FROM DEPARTMENT OF PLANNING AND ENVIRONMENT

IPCN OFFICES, LEVEL 3, 201 ELIZABETH STREET, SYDNEY, NSW 2000

14 MARCH 2018 AT 1.00PM

ATTENDANCE

The Commission

Commission Members: John Hann (Chair), Carol Austin, Paul Forward

Commission Secretariat: Matthew Todd-Jones (Senior Planning Officer), Robert Bisley (Senior Planning Officer)

Department of Planning and Environment

Diana Mitchell (Senior Planning Officer), Mike Young (Director – Resource Assessments)

THE DEPARTMENT PROVIDED A PRESENTATION TO THE COMMISSION (WHICH CAN BE VIEWED ON THE COMMISSION'S WEBSITE) AND THE FOLLOWING MATTERS WERE DISCUSSED:

Background

- The applicant currently operates the Boco Rock wind farm near Cooma.
- The Department worked with the applicant to ensure there was an ample setback between the Bango and Rye Park wind farms.
- The project is not part of the bilateral agreement. The applicant will need to finalise the project with the Commonwealth, who are aware of the project.
- The Department is aware that a Voluntary Planning Agreement between the applicant and Yass Valley and Hilltops Councils is in draft, but has not been executed.

Visual impacts

- The Department stated that most views of the wind farm will be from lower elevations. Residences will be looking at turbines at much higher elevations.
- The applicant's EIS states a 200m tip height but early assessments were at 192m. This discrepancy between is not considered significant. A subsequent assessment was conducted using 200m tip height turbines.
- The turbines will be painted off-white with a reduced glare paint.
- Landscaping plans have been implemented for certain properties near the operational Gullen Range wind farm as a mitigation measure.
- The Department noted that topography and vegetation cover can lessen visual impacts on residences.

- The residence 238 photomontage does not show a dominant visual impact, but the Department noted that the residence will not be as well screened by trees as shown in the photomontage.
- The Department noted that 6 turbines had already been removed to reduce the visual impact on residence 238.
- The ridge at Red Hill is a good screen of the Bango wind farm for residences in Rye Park village. The Department noted that residence 48 will have cumulative visual impact of both the Bango and Rye Park wind farms.
- The Department stated that residence 144 does not have a lot of vegetation screening and there is the potential for up to 180 degrees views of the Kangiara cluster.
- The Department stated that residence 235 would experience a high visual impact due to a clustering effect of the turbines.

Biodiversity

- The Department stated that offset requirements can be accommodated on-site or within the region.

Traffic and transport

- The Department informed the Commission that a schedule of upgrades is attached to the conditions of consent.

MEETING CLOSED AT 3.15PM

MINUTES

DETERMINATION OF BANGO WIND FARM (SSD 6686)

BRIEFING FROM APPLICANT – CWP RENEWABLES

IPCN OFFICES, LEVEL 3, 201 ELIZABETH STREET, SYDNEY, NSW 2000

14 MARCH 2018 AT 3.25PM

ATTENDEES

The Commission

Commission Members: John Hann (Chair), Carol Austin, Paul Forward

Commission Secretariat: Matthew Todd-Jones (Senior Planning Officer), Robert Bisley (Senior Planning Officer)

The Applicant

Ed Mounsey (Chief Operating Officer – CWP Renewables)

Mark Branson (Development Manager – CWP Renewables)

Kristin Old via phonecall (Development Manager – CWP Renewables)

THE APPLICANT PROVIDED A PRESENTATION TO THE COMMISSION (WHICH CAN BE VIEWED ON THE COMMISSION'S WEBSITE) AND THE FOLLOWING MATTERS WERE DISCUSSED:

Background

- The applicant confirmed that the project is commercially viable if 75 turbines were approved.
- The applicant noted that there are 2 non-associated residence within 2km of the turbines and 9 within 2-3km.
- The applicant notes that they have adopted the same 'two-option' model for other wind projects in the state, including the operational Boco Rock Wind Farm. The decision of which option to take will be made post approval.
- The applicant explained that the rationale for the two-layout option was to provide flexibility in the configuration of turbines to give optimum power output for the investment. The final layout may result in a combination of the two layouts, up to 75 turbines.
- The applicant hasn't considered a project based on different turbine heights.
- The applicant stated that they removed the Langs Creek cluster based on advice from the Department of Planning and Environment and Office of Environment and Heritage.
- The applicant has assessed the worst-case impacts of the project.
- The applicant stated that if there are to be lesser turbines then they will be looking to construct higher capacity turbines.
- The applicant has undertaken a grid study to see how much capacity there is.

Visual Impacts

- The applicant doesn't agree with the Department's visual assessment findings.
- The applicant would prefer any impacts from turbines to be mitigated rather than removing more turbines. The applicant believes that the Department's recommended mitigations are excessive.

- The applicant has sought to reduce any potential cumulative visual impacts with the Rye Park Wind Farm.
- The applicant stated that residence 282 is a weekender property that has been built in the last 12 months. It had development application approval prior to the applicant submitting their Environmental Impact Statement. The owners of this property have been well informed of the applicant's intentions.
- The applicant stated that the owners of residence 282 wish to remain non-associated and have not requested a visual agreement.
- The applicant states that residence 282 wouldn't see the project as trees would obscure their views. Any additional screening wouldn't make a difference.
- The applicant notes that turbines 76 and 98 are recommended by the Department to be removed. The applicant believes that the impacts of the turbines aren't high and can be built without gaining visual agreements from the residence 282.
- The applicant stated that the removal of the nearest turbines to residences 166, 65 and 26 would make no difference to the visual impact they would experience. The applicant would prefer screening as a mitigation option. The owners of these residences are not supportive of the project and haven't requested to be associated.
- The applicant stated that the turbines the Department has requested to remove to reduce the visual impact of the residence in photomontage PM13 could be screened instead.

MEETING CLOSED AT 4.55PM

MINUTES

DETERMINATION OF BANGO WIND FARM (SSD 6686)

IPCN MEETING WITH HILLTOPS AND YASS VALLEY COUNCILS

YASS VALLEY COUNCIL CHAMBERS, 209 COMUR STREET, YASS

21 MARCH 2018 AT 10.30AM

ATTENDANCE

The Commission

Commission Members: John Hann (Chair), Carol Austin, Paul Forward

Commission Secretariat: Matthew Todd-Jones (Senior Planning Officer), David Koppers (Team Leader)

Councils

Hilltops Council – Sharon Langman (Director of Environmental Services), David Aber (Acting General Manager)

Yass Valley Council – Chris Berry (Director of Planning & Environmental Services)

THE FOLLOWING MATTERS WERE DISCUSSED:

Background

- Councils stated that they have worked with the applicant and each other for consistency
- Councils informed the Commission that technical working groups between Council and applicant had been set up for certain areas of the project. This has included groups for engineers and planners.

Roads

- Councils were more worried about the impacts of project-related trucks carrying sand, gravel or water than overdimensional vehicles. There may also be cumulative impacts if the nearby Rye Park Wind Farm was constructed at the same time.
- Councils stated that there would be no issues if all construction vehicles accessed the site off an entrance from Lachlan Valley Way.
- Councils believed that they were likely to receive complaints from the community regarding construction vehicles.
- Councils believed that the condition of roads leading to the site are currently sufficient for overdimensional vehicles. However, concentrated amounts of trucks using these roads may accelerate their deterioration.
- Councils stated that Tangmangaroo Road and Wargeila Road will need to be upgraded if heavy vehicles are proposed to access the site via these roads. These upgrades would need to occur before construction starts, which is not reflected in the Department's conditions of consent. Roads need to be fit for purpose before construction starts.

- Councils have worked together to ensure consistency in their approaches towards roads.
- Councils stated that not all proposed roads upgrades require roads to be up to a sealed standard; some unsealed roads may need, for example, drainage upgrades.
- Councils would like to see a schedule of works in the conditions of consent, much like the Rye Park Wind Farm approval. Councils were happy to provide the Commission with information for a schedule.
- Councils stated that from experience of operational wind farms in the area, driver behaviour has been generally good, vehicles can be identified and applicants have provided a hotline for complaints and vehicle identification.

Community Enhancement Fund (CEF)

- Council stated that a section 355 Committee had been set up for the project to give community oversight of spending. This is a transparent process which is under more scrutiny than a private model.
- Council informed the Commission that from experience there is an annual call for projects and that priority would be given to projects in communities within close proximity to the wind farm. There would be restrictions on eligibility to apply for funding.
- There is an education component to these funds which is available to anyone in the Council areas.
- The funds would be split between each Council area depending on how many turbines there are in that area.
- Council noted that people can potentially use the fund to leverage grant money from other sources.

Waste

- Councils stated that waste from the project will need to be taken to a licensed facility.

MEETING CLOSED AT 11.25AM

MINUTES

DETERMINATION OF BANGO WIND FARM (SSD 6686)

BRIEFING FROM DEPARTMENT OF PLANNING AND ENVIRONMENT

IPCN OFFICES, LEVEL 3, 201 ELIZABETH STREET, SYDNEY, NSW 2000

29 MARCH 2018 AT 12.15PM

ATTENDANCE

The Commission

Commission Members: John Hann (Chair), Carol Austin, Paul Forward

Commission Secretariat: Matthew Todd-Jones (Senior Planning Officer), David Koppers (Team Leader), David Mooney (Team Leader)

Department of Planning and Environment

Diana Mitchell (Senior Planning Officer), Mike Young (Director – Resource Assessments), David Kitto (Executive Director – Resource Assessments & Business Systems)

THE FOLLOWING MATTERS WERE DISCUSSED:

- The Department stated that the Office of Environment and Heritage (OEH) provided an unsolicited response to the Bango Wind Farm project. The response indicates that they are satisfied with around 30 turbines in total.
- The Department stated that the Langs Creek cluster, which was part of the original development application, was principally removed due to previous biodiversity concerns from OEH.
- The applicant dealt directly with OEH in trying to address these concerns and didn't consider keeping turbines, they deleted the cluster instead.
- The Department stated that for the Rye Park Wind Farm over 890 tree hollows would be impacted, but only 7 for the Bango Wind Farm project. OEH's submission is seeking total avoidance of impacts on tree hollows rather than applying the policy hierarchy of avoid, mitigate, offset.
- The Department stated that the site from a biodiversity perspective is not particularly sensitive.
- The Department shared results of additional vegetation surveys they requested with OEH. The surveys state that the project could be appropriately offset.
- OEH's approach to their response to this project has been inconsistent with other wind farms in the state.
- The Department's approach to consultation with OEH has been consistent on each wind farm.
- Any additional surveys required by OEH can be captured under the project's Bird and Bat Adaptive Management Plan (BBAMP).
- The Department noted that the Wedge-tailed eagle is not endangered (but is at high risk) so it is not captured under government policy. Therefore, the Department included a condition to micro-site turbines to prevent impacts on Wedge-tailed eagles.

MEETING CLOSED AT 1.15PM

APPENDIX 2
LIST OF SPEAKERS AT PUBLIC MEETING

Date: Thursday 22 March 2018

Time: 9:00 am

Place: Boorowa Ex-Services & Citizens Club, 55-59 Pudman Street, Boorowa NSW

| Meeting Schedule | Bango Wind Farm D502-18 |
|-----------------------------|---|
| 9:00 am | Opening Statement from the Chair - Mr John Hann |
| Registered Speakers: | |
| | <ol style="list-style-type: none">1. Terry Sellwood2. Wal Archer3. Linda Cavanagh4. Paul Cavanagh*5. Robin Winterflood6. Ron Veness*7. Andrew Winterflood8. Charlie Arnott (Waubra Foundation)9. Don Aroney10. Robert Purves11. Penny Bickford12. Kate Renwood13. Ian Renwood14. Morna Whiting15. Neil Stuart16. Jane Hedges*17. Michael Crawford (Residents Against Jupiter Wind Turbines)18. Charlie Prell (Australian Wind Alliance)19. James Harker-Mortlock20. John Washbrooke21. Rod Gibson |
| <i>*did not speak</i> | |
| | END |

SUMMARY OF ISSUES RAISED AT THE PUBLIC MEETING

DETERMINATION OF BANGO WIND FARM (SSD 6686)

PUBLIC MEETING

BOOROWA EX-SERVICES & CITIZENS CLUB, 55/59 PUDMAN STREET, BOOROWA

22 MARCH 2018 AT 9.00AM

ATTENDEES

The Commission

Commission Members: John Hann (Chair), Carol Austin, Paul Forward

Commission Secretariat: Matthew Todd-Jones (Senior Planning Officer), David Koppers (Team Leader)

THE PURPOSE OF THE MEETING IS FOR THE COMMISSION TO HEAR THE PUBLIC'S VIEWS ON THE DEPARTMENT'S ASSESSMENT REPORT.

THE FOLLOWING MATTERS WERE RAISED:

Visual

- The four turbines in the Kangiara cluster recommended for removal by the Department of Planning and Environment should be reinstated.
- Residences 25, 165 and 166 have been cited as part of the reason for their removal. The Commission should look at this matter more closely.
- The applicant has done a lot of work reducing the visual impact on properties in the area.
- The area is not seen as having high scenic value.
- Landholders closest to the turbines do not object to them.
- The community will become used to seeing the turbines.
- The project is not a subtle introduction into the environment and will change the character of the landscape.
- The turbines would be visually intrusive in the area.
- Visual impact assessments are often unreliable and inconsistent, and there is no evidence of the people who assessed the visual impacts are capable of doing so.
- There is no consistency in the applicant's or Department's visual assessment.
- The Department's guidelines for visual impact from wind farms don't recommend vegetation screening as a mitigation measure.
- Laverstock Cottage would experience high visual impacts which the applicant agrees with.
- The district will be saturated with wind farms.

Socio-economics

- The project will contribute to the local economy by creating direct and indirect jobs and providing a regular stream of income for involved farmers.

- The Community Enhancement Fund will provide the means to support local projects.
- The removal of turbines reduces the amount of the Community Enhancement Fund.
- Reducing the number of turbines will make the project less viable.
- The project has been divisive for the community and the applicant doesn't have a social license to operate.
- The project is socio-economically inappropriate for this location.
- The majority of economic benefits won't be felt by the community. Most of the workers will be from out of town.
- The potential to create farmstays is no longer an option.
- The project is not in the public interest.

Health

- The project has the potential to create serious physical and mental health problems for the community.
- With the introduction of larger turbines, the predicted health impacts will worsen and be more widespread.
- Symptoms have been reported up to 10 kilometres away from 3 megawatt turbines.
- The project would lead to sleep disturbance. The National Health and Medical Research Council states that repeated sleep disturbance will create adverse health impacts.
- Turbine noise and the impacts of infrasound can cause psychological stress. There have already been problems reported from residents near the Capital and Cullerin wind farms.
- The State Government's industrial noise framework doesn't protect people in rural communities.

Traffic and transport

- Tangmangaroo Road is a dirt road and floods.
- There will be a cumulative impact on roads from the Rye Park and Bango wind farms.
- Wargeila Road is currently used for stock routes. If construction traffic using this road then people won't be able to farm for periods of time.

Renewable Energy

- The project will substantially reduce carbon emissions and contribute to national renewable energy targets.
- There is pressure from people in the region for more renewable energy.
- The Department's assessment report fails to look at renewable energy at the macro level.
- The national renewable energy target has been met.

Biodiversity

- The impact on birdlife is a critical matter.
- The area is a breeding ground for the Superb Parrot.
- Tree removal has not been mentioned in the development application.

Noise

- There has been an invalid assessment of noise impacts.
- The Director General's requirements have not been followed in respect of the requirement for an accurate assessment of noise impacts.
- The applicant's report contains an inappropriate acoustic assessment.
- The findings from a Federal tribunal in relation to wind farm noise was released in December last year. The tribunal found that dBA was an inappropriate measure for noise levels.
- The project complies with the State's noise guidelines for wind farms.

Bushfire Risk

- Installing a wind farm would be a public safety risk from a Rural Fire Service perspective as the turbines could block aerial firefighting.
- The project doesn't mention what bushfire mitigation measures are proposed.

Other matters

- The region has the highest number of people affected by turbines in Australia.
- The Department's assessment report is silent on assessing the justification of the project.
- After completion of the project it will have a light touch on the district's infrastructure.
- The project would create electromagnetic interference for communications infrastructure in the area.
- The Local Aboriginal community has not been consulted on this project.
- The applicant's consultation with the community has been to a high standard and has been fair and open.
- The applicant's consultation has been virtually non-existent.
- The project will lead to the devaluation of properties.
- The applicant's Environmental Impact Statement doesn't comply with section 71c, Schedule 2 of the Environmental Protection and Assessment Act as no feasible alternatives considered.
- The capacity of the nearby transmission lines to accommodate the wind farm was questioned.
- The last political donations disclosure from the applicant was in 2011. This should be completed on an annual basis.

MEETING CLOSED AT 11.10AM



**APPENDIX 3
ADDITIONAL INFORMATION REQUEST FROM APPLICANT**

Kristy Old
CWP Renewables Pty Ltd
PO Box 1708
Newcastle
NSW 2300

28 March 2018

Dear Kristy,

Thank you for your site visit with the Commissioners on Wednesday 21 March 2018.

The Commission requires additional information to assist with its assessment of the proposal.

The Commission requests that they are provided with the following additional photomontages outlined in the table below to assist in its consideration of visual impacts:

| Residence | Direction of photomontage | Most impacting turbines (Layout 1) |
|-----------|-------------------------------|------------------------------------|
| 282 | Facing SW (same as wireframe) | 98,76 |
| 60 | Facing NE | 25,62,45,111 |
| 144 | Facing NE | 25,62,45,111 |
| 26 | Facing NW and Facing East | NW – 79,72,19,65 and East – 25,62 |
| 165 | Facing NW and Facing East | NW – 79,72,19,65 and East – 25,62 |
| 166 | Facing NW and Facing East | NW – 79,72,19,65 and East – 25,62 |
| 62 | Facing NE | 79,72,19,65 |
| 260 | Facing NW (same as wireframe) | 98,76,79,65,19,72 |
| 142 | Facing West | 76,98 |

The photomontages should indicate the residence number and the turbine numbers. They shall be printed at A0 size and electronic copies shall be sent to the Commission.

The Commission requests that they are provided with a list of the difference in distances between turbine locations in Layout Option 1 and Layout Option 2, for each turbine that appears in both Layout Options.

The Commission requests that the applicant provides a plan indicating land ownership across the site. This plan should indicate the extent of land ownership for project landowners, residence numbers and the location of turbines and their numbers.

The Commission requires the above additional information by **Wednesday 11th April 2018**. Should the Commission require any further information in addition to these requests it will contact you as soon as possible.

If you would like to discuss any of the above requests please do not hesitate to contact me.

Yours sincerely,
Matthew Todd-Jones
Senior Planning Officer