



Anna Summerhayes
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Independent Planning Commission
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Dear Anna

Crookwell 3 Wind Farm (SSD 6695)

Thank you for your recent letter on the Crookwell 3 Wind Farm seeking further consideration of the Applicant's proposed reduction in the number of project turbines.

The Department has considered the proposed changes carefully to determine whether they would alter the findings and conclusions of its assessment of the project (see attached).

While the Department supports the proposed changes to reduce visual impacts in some areas, it does not consider that the proposed changes would materially alter the nature and extent of the visual impacts on the landscape and the majority of residences in the vicinity of the project.

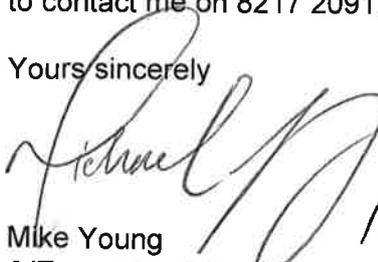
The removal of the southern cluster would also reduce the 'benefits' of the project as a whole and hence diminish the justification for approving the project despite its adverse impacts on the landscape and local residents.

Consequently, the Department retains its position that on balance the project is not in the public interest and should not be approved.

I hope this information is of assistance and will enable the Commission to determine the development application for the project.

However, if the Commission requires any further information on these matters, please feel free to contact me on 8217 2091.

Yours sincerely



14/8/19.

Mike Young
A/Executive Director
Energy and Resources

CROOKWELL 3 WIND FARM – ASSESSMENT OF REVISED LAYOUT

Summary

The Department acknowledges the benefits associated with the removal of the Crookwell 3 Wind Farm southern cluster, including the reduced visual impacts on key landscape and heritage features, such as Pejar Dam and St Stephens Church, and residences to the south-west of the project.

However, while the Department supports this change, it does not consider that it would materially change the nature and extent of the visual impacts on the landscape and many residences, particularly to the east, north-east and south-east of the project.

In this regard, there are still up to 11 residences that would be highly impacted by the eastern cluster, and the cumulative visual impacts of the remaining 17 wind turbines on the landscape values of the locality would be noticeable, with at least 8 of these residences predicted to experience significant cumulative impacts and many residents would still be able to view up to 5 wind farms from their properties.

Given the close proximity of the majority of turbines in the eastern cluster to non-associated residences, the resultant magnitude and significant direct visual impacts predicted, together with the predicted significant cumulative impacts, there are limited options for further mitigating residual impacts through screening, and the Department considers that the residual benefits of the project do not warrant provision of voluntary acquisition rights to affected landowners.

The Department also acknowledges that the Applicant has reached agreement with 9 affected landowners to accept the visual impacts of the project. However, the Applicant has not been able to reach agreement with a number of key landowners that are located in close proximity to the eastern cluster despite having many years to do so.

Ultimately, the amended project would continue to result in significant direct and cumulative visual impacts on residences and the surrounding landscape, and the removal of another 6 turbines from the proposed layout would materially reduce the broader renewable energy benefits of the project by more than 25% (from 96 to 71 MW).

The project has now been under assessment in one form or another for almost 9 years, and the Department considers that it is in the interests of all stakeholders to make a final decision on this project rather than continue to canvass alternative layouts or provide further time for the Applicant to secure further agreements.

In summary, the Department considers that the removal of the southern cluster would reduce the 'benefits' of the project as a whole and hence diminish the justification for approving the project despite its adverse impacts on the landscape and local residents. Consequently, the Department retains its position that on balance the project is not in the public interest and should not be approved.

Benefits of Removing the Southern Cluster

The Department recognises the benefits associated with the removal of the Crookwell 3 southern cluster. The proposed changes would reduce the visual impacts on landscape features and heritage items (including Pejar Dam and St Stephens Church) and motorists travelling between Goulburn and Crookwell along Crookwell Road.

Removing the southern cluster would also reduce visual impacts to residences to the south-west of the project, which were predicted to experience moderate-high or high direct visual impacts from the southern cluster. In this regard, the Department's independent visual expert (O'Hanlon Design - OHD) found that the removal of the southern group of turbines would reduce the direct visual impacts at these residences and reduce the cumulative impacts at these residences significantly.

Landscape Impacts

Notwithstanding the removal of the southern cluster, the project involves installation of turbines on elevated ridges extending to the east of the Crookwell 2 Wind Farm. Combined with Crookwell 2, this would result in turbines covering an area extending more than 10 km along the ridgeline on the approaches to Crookwell. There are also a number of other wind farms visible from the site and surrounds, including the Crookwell 1, Gullen Range and Gunning Wind Farms.

If the project proceeds, it would be possible for local residents and visitors to view at least 5 wind farms in the local area, with a number of these residences located directly between the Crookwell 2 and Crookwell 3 (East) Wind Farms.

The project would also extend views of turbines on both sides of Woodhouselee Road, albeit a local road with lower traffic volumes.

The removal of the southern cluster does not change the Department's consideration that the local landscape already has limited capacity to absorb further change from wind farm projects, and that the particular location and layout of the project would result in material impacts on the local and surrounding landscape.

Despite the removal of turbines in proximity to Pejar Dam, the sensitivity of the landscape remains apparent due to the proximity of turbines to residences. The Department's assessment of visual impacts considered the provisions of the *Wind Energy: Visual Assessment Bulletin*. To this end, in accordance with the Bulletin, 157 m turbines have the potential to result in high visual magnitude impacts on residences within 3.1 km and potentially significant visual impacts on residences within 2.1 km.

In accordance with the Bulletin's visual performance objectives, proponents should avoid, provide detailed justification or manage impacts as far as practicable for 157 m turbines located within 3.1 km of residences located within VIZ 1 and VIZ 2 zones.

All of the eastern cluster turbines have one or more residence within 3.1 km (i.e. between 1.1 km and 3 km) and 11 of the 17 turbines have between 3 and 8 non-associated residences within 3.1 km. In addition, 65% of turbines (11 of the 17) are located within 2.1 km of non-associated residences.

The Department also notes that the proximity to residences was raised as an area of concern by Upper Lachlan Shire Council. Its advice is consistent with its *Upper Lachlan Development Control Plan 2010* (DCP) specifying that turbines should be further than 2 km from non-associated residences. While the DCP is not binding, it is a relevant matter for the consent authority to consider under the *Environmental Planning and Assessment Act 1979*.

Overall, the Department considers that, even with the removal of the southern cluster, the project is located in a landscape with relatively high scenic value that has limited capacity to absorb further change. The sensitivity of the landscape is also apparent due to the proximity of the eastern cluster turbines to residences. The Department considers that from a community perspective, the project would have an undesirable impact on the landscape character and values, and would have significant cumulative impacts on the broader landscape, public viewpoints and residences.

Residences

Similarly, the Department considers that the project would continue to result in significant visual impacts on residences and receivers in the vicinity of the eastern cluster.

Consistent with the OHD Report, the Department's assessment of the proposed project identified five groups of receivers. Many residences were predicted to experience moderate-high and high direct visual impacts, with the distance of residences from turbines a significant contributing factor to these ratings, together with the magnitude and number of turbines in the viewshed of a residence.

As discussed above, the removal of the southern turbines would benefit receivers in the south-western and north-western groups, along with some in the south-eastern group.

However, the impacts to all receivers in the north-eastern and eastern groups, and some in the south-eastern group, would remain, meaning that 11 receivers would continue to experience moderate-high and high direct visual impacts.

The Department's assessment of the residences in the north-eastern and eastern groups remains consistent with that described in its Assessment Report.

This demonstrates that five residences in the **north-eastern group** would be impacted by the magnitude of turbines, with all residences having at least 7 eastern cluster turbines located within 3.1 km, and three residences being located only 1.3 km to 1.9 km from the nearest turbine. These residences would primarily be impacted by around 7 turbines in the northern part of the eastern cluster (i.e. A2, A3, A4, A5, A8, A9 and A10).

Three residences in the **eastern group** would have high or moderate-high impacts from Crookwell 3 (East) and would have views of all 17 turbines in the cluster. The residences have between 9 and 16 turbines within 3.1 km (with the closest turbines 1.1 km to 2.5 km from the residences), and two of the residences would have between 4 and 9 turbines within 2.1 km. Residence R60 would have extensive views of all 17 eastern cluster turbines, R62 would be particularly impacted by 9 turbines

(A12, A16, A13, A17, A20, A21, A22 and A25 and A24) and R63 would be particularly impacted by a largely different set of 9 turbines (A2, A3, A4, A5, A8, A9, A10, A12 and A16).

Residences between Woodhouselee Road and St Stephen's Road in the **south-eastern group** generally face north between Crookwell 2 and Crookwell 3 (East). The OHD Report identified that the combination of Crookwell 2 and Crookwell 3 would create high cumulative impacts at many locations in this group and that the cumulative change to the landscape character is significant as Crookwell 3 (East) is highly visible from this group.

Three of these receivers (R84, R134 and R134A) would have moderate-high or high direct visual impacts from the eastern cluster turbines at distances between 2.2 km and 2.6 km. With the removal of the southern cluster it is likely that as many as 8 residences (R36, R54, R55, R56, R57, R84, R134 and R134A) would continue to experience moderate-high or high cumulative impacts from Crookwell 2 and Crookwell 3 (East) with turbines visible in 3 sectors (i.e. 180° views of turbines).

Mitigation measures

Screening

The Department continues to consider that mitigation measures would not effectively reduce the visual impacts of the project to acceptable levels.

Consistent with the Department's Assessment Report, there continue to be significant limitations for vegetation screening due to the large numbers of non-associated residences with significant direct and cumulative visual impacts (16 residences), the varying elevations of many of these residences in comparison to the eastern cluster turbines, the proximity of the turbines to dwellings, and, in particular, the extensive horizontal views experienced by many receivers.

The Department considers that in most cases visual screening would not provide a practical or effective option for mitigating the visual impacts of the modified project.

Removal of turbines

The Department maintains its position on the potential removal of turbines.

Given the close proximity of the majority of turbines in the eastern cluster to non-associated residences, the resultant magnitude and significant direct visual impacts predicted, together with the predicted significant cumulative impacts, adequately addressing the residual visual impacts of the project would also involve removing the vast majority of the eastern cluster turbines.

In particular, the clustered nature of the eastern cluster turbines has resulted in all turbines being in close proximity to residential dwellings. In this regard, 12 of the 17 turbines are located within 2.1 km of non-associated dwellings (being turbines A2, A3, A4, A5, A8, A9, A10, A12, A15, A16, A20 and A24) and 11 of the 17 turbines have at least 3, and as many as 8, non-associated dwellings within 3.1 km.

Agreements/Acquisition

The Department acknowledges that the Applicant has reached agreement with 9 affected landowners to accept the visual impacts of the project. However, the

Applicant has not been able to reach agreement with a number of key landowners that are located in close proximity to the eastern cluster despite having many years to do so.

In addition, the Department considers that acquisition should only be considered where the broader benefits of the project are so significant or important that they outweigh the potential impacts on local residents. In this case, the Department considers that the benefits associated with developing a maximum of only 17 turbines are not so significant from a public interest perspective that the provision of voluntary acquisition rights to landowners would be justified.

Agency and Community concerns

Upper Lachlan Shire Council (Council)

The removal of the southern cluster would appear to address Council's concerns regarding the number of cable crossings for Crookwell Road and the potential for the proposed turbines to interfere with television services in Crookwell (noting that turbines A32 and A33 appear to have the potential to interfere with television signal).

However, Council's objection to turbines within 2 km of non-associated private residences and concerns regarding potential impacts on the road network during construction and the number of access points proposed for the eastern cluster do not appear to have been addressed.

Office of Environment and Heritage (OEH)

Similarly, OEH's concerns about the biodiversity impacts of the project, which primarily related to the eastern cluster, do not appear to have been addressed by the proposed amendments.

These concerns included the recommended removal of turbine A12 due to unacceptable risks to biodiversity, turbine setback distances from woodland remnants, biodiversity offset arrangements and concerns regarding Aboriginal cultural heritage.

WaterNSW

It is also assumed that WaterNSW's concerns about the water quality impacts of the development remain, in which it advised that the Applicant has failed to demonstrate that the project could satisfy the "neutral and beneficial" test required for all development in the Sydney drinking water catchment.

Community

The overwhelming concern raised in local submissions related to visual impacts, including proximity of turbines to residences, landscape impacts and cumulative impacts from other wind farms in the area.

Of the 18 submissions within 5 km of the project, 15 objected to the project and 3 supported (including 2 host landowners). Of these objections 12 raised concerns regarding the eastern cluster or are located in close proximity to this cluster.

Land Use Zoning

All of the eastern cluster turbines are prohibited under the current LEP. While a consent authority may grant consent for the project as it is permissible under the

previous LEP, it must also consider the compatibility of the proposed development with the draft LEP that was proposed (but not in force) at the time of lodgement of the application.

The Department does not consider that Crookwell 3 (East) is consistent with the objectives of the E3 - Environmental Management zone, or that the benefits of the project are so significant or essential to the State that the consent authority should override the strategic planning intentions for this portion of the site.

The Department also notes that the *Infrastructure SEPP* only makes electricity generating works permissible with consent in prescribed rural, industrial or special use zones, and does not override local planning controls within environmental zones.

Public Interest - Reduction in broader benefits

The removal of the southern cluster would reduce the ‘benefits’ of the project as a whole and hence diminish the justification for approving the project despite its adverse impacts on the landscape and the local community.

In this regard, the amended project would have a capacity of around only 71 MW, generate around 204 gigawatt hours (GWh) of electricity annually and power approximately 35,000 homes. A comparison between the renewable energy benefits of the proposed and revised projects is outlined in the table below:

	Proposed Project	Revised Project
Turbines	23	17
Capacity (MW)	96 MW	71 MW
Annual Generation (GWh)	275 GWh	204 GWh
Equivalent Homes Powered	48,000	35,000

The Department also acknowledges that the project would result in a range of social and economic benefits for the wider community. However, the Department considers that these social and economic benefits cannot be realised without adverse impacts on the environment and the local community, particularly in regard to visual impacts.

As outlined in its Assessment Report, the Department considers that, while the approval of additional renewable energy projects remains desirable (subject to detailed assessment), there are a range of suitable alternatives that would deliver similar benefits to the Crookwell 3 Wind Farm without the significant adverse impacts that developing this project would entail. Ultimately, the project is a relatively small wind farm compared to other projects in the State with relatively significant adverse impacts.