

K REVIEW OF OBJECTIONS

Issues	No. of Submissions Received			Details	Assessment Response
	During Exhibition	Post Exhibition	Total		
Visual	38	14	52	Submissions raised concern that the EIS did not adequately value the landscape significance or address the visual impact on static residents. The EIS did not consider the perception of the local community and the overseas studies cited were not relevant. A number of submissions suggested that turbines were ugly & would detract from the views. Concerns were raised that the size & number of turbines would detract from the heritage, rural setting & change the nature of the countryside to industrial. The location of turbines on the ridge lines would dominate & detract from views of the horizon. Concern was raised that the transmission lines would detract from the rural views. Specific issues of concern were raised by a number of surrounding property owners about the visual impact from their properties, the visual impact from the Crookwell Goulburn Road and the impact on the open garden program. There were inadequate mitigation options proposed.	The Department has undertaken a detailed assessment on the visual impacts of the proposal, including consideration of information and recommendations developed by an independent visual consultant employed by the Department. Consideration of the broad impact of the proposal on the landscape, the specific impacts of the proposal on neighbouring properties and consideration of the proposal's impact on the rural character have been included and are outlined under Section 6.1 and 6.2 of the assessment report.
Property Devaluation	38	9	47	Concern was raised that insufficient analysis on property devaluation had been undertaken. Concern was raised that the proposed wind farm would result in a reduction in property values and reduce the attractiveness of neighbouring properties for future sales and subdivision and for future hobby farms. A number of submissions indicated that estimates provided by property valuers supported these claims. Overseas studies cited in the EIS were not considered relevant. A study by RICS in UK was cited to support the case for property devaluation. Local Australian experience should be examined such as South Gippsland. One submission requested that an independent consultant be commissioned to undertake a study.	The assessment of a wind farm development on property values is problematic, as limited empirical studies have been undertaken on this issue, and property values are generally influenced by a wide variety of factors. As a thorough environmental assessment of the proposal has been undertaken and, on balance, the impacts are acceptable, it can not be concluded that property values are likely to be significantly affected. The assessment of property values is outlined under Section 6.7 of the report.
Turbine Removal	28	6	34	Submissions indicated that there was insufficient information provided about the removal of turbines and insufficient guarantees to ensure the turbines and associated facilities would be removed at the end of their life. This concern resulted from overseas examples where turbines have not been removed. One submission suggested that a bond be imposed on the applicant to ensure turbine removal.	The Department has recommended conditions of consent to ensure decommissioning of turbines occur. The assessment is outlined in Section 6.8 of the assessment report.
Rural Character	28	2	30	Discussed under visual	An assessment of the impact on the rural character is contained under Section 6.1 of the report.
Amenity	23	3	26	General concerns about loss of amenity for the Shire and lifestyle.	The Department has undertaken a thorough assessment of the impacts of the proposal as discussed in the assessment report. On balance, the impacts of the proposed development are considered acceptable.
Energy production	22	10	32	Concern was raised that wind farms are an inefficient and expensive energy producer. Concern was raised that wind farms only provided a short term answer, and were thereby inappropriate. There are more efficient long term options that should be investigated including gas fired power stations and nuclear energy. The EIS did not consider the potential oversupply of renewable energy projects under the MRET scheme. Concern was also raised that the energy produced, and, thereby the levels of CO2 supplanted by the project had been overestimated (one submission suggested that the project would power 11440 houses not 38500 - 48000 as indicated in the EIS)	Wind farming is one of a number of renewable energy technologies that is supported through state and national policies. The purpose of this assessment is not to assess government policies but to ensure that the proposal is consistent with government planning policies, and that the claims and impacts outlined in the EIS are accurate. DEUS has confirmed that the current proposal would power over 38,000 houses, supplanting approximately 252,367 to 271,735 tonnes CO2e per annum. This is discussed under Section 3.5 of the assessment report.
Noise	15	6	21	Concern was raised that noise modelling was inaccurate and a discrepancy between the noise levels predicted in the EIS and the actual noise levels would be likely. It was suggested that the monitoring sites used in the assessment were not appropriate, particularly the absence of monitoring at Elmgrove. A number of submissions suggested that insufficient and inaccurate information had been provided in the EIS on noise impacts. In particular, noise agreements had not been negotiated (as claimed in the EIS) nor had monitoring been undertaken at Oakdale (as claimed). Concern was raised that the proposed low noise mode operation was unproven. It was suggested that noise impacts should be mitigated via a 1km setback as is used in WA. Questions were raised on how to ensure compliance with noise criteria and low noise operation, particularly given that the wind farm industry is known for breaching noise levels. Concern was raised about the noise disturbance that could result from the project, including potential health effects from the noise impacts of turbines.	An assessment by DIPNR and DEC has concluded that the noise modelling and monitoring undertaken in the EIS was robust and reasonably accurate, and noise levels should be acceptable subject to a number of recommendations, including removal of turbines where noise agreements were initially proposed, and compliance monitoring to ensure noise criteria is met. No evidence has been provided to indicate any adverse human health impacts arising from the operation of wind turbines. The noise assessment is outlined in Section 6.3.
Assessment process	7	13	20	Concern was raised that the EIS involved insufficient consultation, contained inaccuracies, lacked detail and overlooked issues including demand management. One submission raised concern that URS had a conflict of interest due to their membership of AusWEA. Another submission suggested that Councillors had a conflict of interest. Concern was raised about the state significant development process, in that DIPNR did not provide adequate time for consultation, consult widely enough and the assessment focus was too narrow. Concern was raised that DIPNR did not consult with Council. One submission requested that a decision be deferred until the draft DCP for Wind Farms was completed. There was also concern about the scope of the state significant declaration for wind farms, in that wind farms with less than 30 turbines could be assessed by Council.	The Department has undertaken an assessment of the proposed wind farm in accordance with the requirements of the <i>Environmental Planning and Assessment Act and Regulations</i> . The Department considers that environmental impacts of the proposal have been adequately identified and addressed. The exhibition period was for 32 days (2 days over the requirements). The Department has considered submissions received after the close of the exhibition period, and has held a community workshop to clarify issues of concern. The Department has consulted with Council and has received input on the Conditions of Consent. Additionally issues raised in the Council's draft DCP for Wind Farms have been considered. At this stage, Council is the consent authority for small scale wind farms. Any assessment undertaken by Council would be in undertaken in accordance with the requirements of the <i>Environmental Planning and Assessment Act and Regulations</i> .

Bat/Bird Strike	4	8	12	Concern was raised that the proposal would kill birds and bats due to bat/bird strike, particularly raptors, endangered Eastern Wing bats, and water birds flying between Pejar Dam and Lake Edward. One submission listed birds likely to be impacted by the proposal. Concern was raised that insufficient surveys were undertaken and limited data provided in the EIS, including a notable absence of autumn and spring surveys. Concern was raised that surveys undertaken in drought were not meaningful. One submission suggested that a moratorium be imposed on wind farm developments, until further investigation into bat/bird strike was undertaken. Evidence from the US suggests that wind farm proposals result in large numbers of bat deaths.	The Department has undertaken an assessment of the impacts on flora and fauna from the proposal, in particular the likely impact on the bat and bird population potentially impacted by bat/bird strike. To assist in this assessment, supplementary spring surveys were undertaken. The Department considers that potential impacts on the bat and bird population can be adequately managed and mitigated. A comprehensive monitoring program will be required to be undertaken by the Applicant to ensure bats and birds are not adversely impacted by the proposal. Details of the flora and fauna assessment are outlined under Section 6.4 of the report.
Local Economy	5	5	10	Concern was raised that the proposal would not provide ongoing local employment or contribute to the local economy. Jobs would be largely sourced overseas. Concern was also raised that the proposal could detract from the local tourist trade. One submission suggested that property owners with a turbine income over \$100,000 be excluded from economically benefitting from the proposal due to the detrimental cost for the surrounding community.	The Department considers that wind farming is an appropriate rural land use, and is compatible with existing agricultural uses. Further more, it provides an additional income streams for land owners. This is outlined under Section 6.1 of the report. The Department notes that the construction of the proposal would employ up to 80 people, some of whom may be sourced from the local population. The Department has outlined the likely impacts on the tourist population as outlined under Section 7.8 of the assessment report.
Heritage	6	4	10	Concern was raised that an insufficient assessment on the heritage impacts of the proposal had been undertaken, including impacts on the on-site residence of Gundowringa and the neighbouring property of Pejar Park. Concern was raised that the Crookwell region was inappropriate for wind farm developments due to its heritage significance (comparing it to the significance of Kurnell). Concern was raised that the draft NSW Heritage Office's Windfarm and Heritage Guidelines had not been considered.	The Department has undertaken an assessment of the heritage impacts of the proposal as outlined Section 7.1 of the report. The Department considers that the impact on indigenous and non-indigenous heritage can be adequately managed and mitigated through recommended Conditions of Consent.
Telecommunications Transmission	5	3	8	Concern was raised that the proposal would adversely impact television, radio and mobile phone reception on neighbouring properties and impact the radio spectrums used by the RFS and SES.	The Department has undertaken an assessment of the likely impacts on telecommunications, as outlined under Section 6.6 of the report. The assessment has indicated that the proposal may disrupt television transmission at a number of neighbouring properties during operation. A review of transmission and, where necessary, provision of mitigation measures by the Applicant, has therefore been recommended, to ensure impacts on surrounding residents are promptly identified and addressed.
Construction Traffic	4	4	8	Concern was raised about adverse amenity impacts resulting from construction traffic including traffic delays, noise, stormwater runoff & dust impacts. A submission suggested that the traffic assessment in the EIS was confusing and contained contradictory information about traffic levels, truck movements and costs associated with road maintenance work. Concern was raised that the slow speed of traffic convoys and the associated delays had not been adequately factored into the assessment. Concerns were also raised about the impact of construction traffic on farm animals and the movement of stock on Woodhouselee Road. Mitigation measures proposed, including community information and signage, were considered inadequate. A submission raised concern that the roads were not adequate to support construction traffic and that road upgrades would be required.	The Department's assessment indicates that construction traffic associated with the proposed development would result in local amenity impacts in relation to traffic and noise. As these impacts would be temporary and short term the Department considers they can be adequately managed. Based on advice provided by the RTA and Upper Lachlan Council, road enhancement and upgrade requirements have been recommended to enable the over-sized and over-dimensioned vehicles to transport turbine components to the site. The assessment and recommendations are outlined under Section 6.5 of the assessment report.
Health	5	1	6	Concern was raised that the proposal would result in health impacts due to noise, high voltage power lines, and shadow flicker triggering epilepsy. Concern was also raised about the health impact on agricultural animals.	The Department has undertaken an assessment and does not consider that the proposal would result in adverse health impacts. Details of the noise assessment are outlined under Section 6.3 of the assessment report. The assessment of shadow flicker indicates that the proposal is unlikely to trigger epilepsy as outlined under Section 7.6 of the report. The Department has undertaken an assessment on the likely risks associated with electro-magnetic fields. The assessment indicates that electro-magnetic fields associated with the project are unlikely to pose a threat to human health. This is outlined under Section 7.7 of the assessment report. There is no evidence that the proposal would result in adverse impacts on agricultural animals.
Cumulative	4	3	7	Concern was raised that the proposal was not assessed in relation to existing and potential wind farms in the region. One submission raised questions about the total number of wind farms likely to be built in NSW and asked whether DIPNR had identified an appropriate number of wind farms for the state.	The Department has assessed the proposal in relation to constructed and approved wind farm projects and other developments. Turbines F13 - F15 have been identified for staged consent to address cumulative issues on the neighbouring property of Elmgrove. This is discussed under Section 6.1 and 6.2 of the report. The Department considers it impractical to assess the proposal in the context of other potential wind farm locations that may or may not be developed in the future.
Agricultural viability?	4	3	7	Concern was raised that the wind farm would impact the ongoing agricultural viability of the land, in particular that dual usage would be impeded by access roads, dust and salinity resulting from the removal of trees, and heated air and dust storms resulting from the proposal. The EIS does not address the impact of the wind farm on the volcanic soils and its agricultural potential. Concern was expressed that agricultural animals would be stressed by the proposal.	The assessment indicates that the proposal would not adversely impact the agricultural viability of the land and that the proposal is an appropriate land usage for the zoning, as outlined under Section 6.1 of the report. There should be limited adverse impacts on soil and water provided mitigation measures outlined in the EIS and the recommended Conditions of Consent are applied. This is discussed in Section 7.3 of the report. Super heating effects resulting from the wind farm were considered unlikely as is discussed under Section 7.5 of the report.
Flora and Fauna	2	4	6	Insufficient assessment was undertaken on the impact on flora and fauna, including the stress impact on local fauna species from the blade movement and noise impacts of turbines. Concern was raised that the construction of the proposal would adversely impact the endangered yellow footed rock wallaby, whose habitat is located along the Wollondilly River.	The Department considers that the construction of the wind farm would not result in adverse impacts on flora and fauna provided that appropriate management strategies to minimise clearing of vegetation and grassland habitat, and to manage erosion and sedimentation, are employed. The key risk during operation relates to bird and bat strike. The Department has recommended that a comprehensive monitoring program, and mitigation measures be employed to adequately balance the residual flora and fauna risks of the proposed development. The assessment of flora and fauna is outlined under Section 6.4 of the assessment report.

Bush Fire	4	0	4	Concern was raised that the proposal would restrict aerial bush fire fighting.	An assessment of hazards associated with the proposal has been undertaken by the Department in consultation with the NSW Rural Fire Service (RFS). The assessment indicates that the proposal would not restrict fire fighting operations provided recommended communication and consultation is undertaken between the Applicant and the RFS. The assessment is outlined under Section 7.5 of the assessment report.
Shadow Flicker	2	3	5	Concern was raised about adverse impacts on neighbouring properties from shadow flicker. One submission was concerned that shadow flicker would trigger epilepsy. Concern was also raised that shadow factor had not been accurately calculated in the EIS and that a larger area would be impacted than predicted.	An assessment has been undertaken on the likely impacts of shadow flicker. The initial assessment indicated that the off-site residence of Pejar Park could be impacted by shadow flicker in excess of 100 hours per annum. As turbines G4 and G5 are to be removed and turbine G49 is to be relocated, the potential impact of shadow flicker on Pejar Park is removed. The Department does not consider that the proposed wind farm would result in adverse health impacts particularly amongst epileptics as a result of shadow flicker, as outlined under Section 7.6 of the assessment report.
Community Division	1	3	4	Wind farms cause friction and social division between those who benefit & those who don't, leading to stress and health problems. Community leaders and professionals have been compromised with promises of wind farm revenue. The EIS falsely suggests community support for the project.	The Department has undertaken a thorough assessment of the impacts of the proposal, including extensive consultation with the community. The Department's assessment indicates that provided all comprehensive mitigation measures outlined in the EIS and in the Recommended Conditions of Consent are implemented, the impacts of the proposal would be manageable and acceptable.
Concern about the developer	2	1	3	Concern was raised that the developer was not financially stable, that its primary focus was profit & that the current proposal stems from their inability to sell turbines to the Australian market. Concern was raised that the developer would sell the consent for the proposal to another developer.	This was not relevant for the Department's consideration. However, in the event that the proposed wind farm was not operational, the recommended Conditions of Consent require that decommissioning of the turbines be undertaken. This is outlined under Section 6.8 of the assessment report.
Economically Sustainable?	1	1	2	Concern was raised that wind farms would not be economically stable if subsidies are removed. Concern was raised that the socio-economic study included in the EIS was poor, so that the economic benefits were obscured.	As required under Section 79C of the <i>Environmental Planning and Assessment Act, 1979</i> , the assessment by the Department considered the likely economic impacts on the locality, in particular the impact on property prices and tourism. The economic decisions of the Applicant were not relevant for the Department's consideration. However, in the event that the proposed wind farm was not operational, the recommended Conditions of Consent require that decommissioning of the turbines be undertaken. This is outlined under Section 6.8 of the assessment report.
Operational Traffic	2	0	2	Concern was raised that the roads would not be able to support tourist traffic and may need to be upgraded.	There is no clear evidence to suggest that tourist related traffic would substantially increase traffic levels in the vicinity of the proposed development. As there would be a small number of staff working on the site during operation, the Department considers that there would be limited traffic impacts resulting from the proposed development. The Applicant would be required to undertake road upgrades prior to construction and monitor road safety during operation. This is outlined under Section 6.5 of the assessment report.
Hazards	2	1	3	Concern was raised that the EIS did not adequately consider the fire risk associated with the proposal. One submission suggested that fire activity could increase due to the super heating effect of air by turbines, greater lightning activity and grass fires. Concern was raised that high tension wiring and stanchions were dangerous. Concern was also raised that oil spills would endanger groundwater.	The Department has assessed the likely fire risk of the turbines and has concluded that the risk of fire and associated hazards on site were unlikely to increase because of the project. The Department does not consider there is a risk from fire associated with super heating, as discussed in Section 7.5 of the assessment report. The assessment of the soil and water impacts is discussed under Section 7.3 of the assessment report.
Road Impacts	1	1	2	One submission raised concern about the location of wind turbines on the main road. Concern was also raised about the lack of detail about site access contained in the EIS.	The Department has assessed the proximity of the wind turbines to Crookwell Road, as outlined under Section 6.2 and 6.5 of the assessment report. In order to promote road safety, it has been recommended that the Applicant identify any road safety issues that arise during the first 12 months of operation and to implement any reasonable and feasible means to address any road safety issues attributable to the wind farm. Details of access points are outlined under Section 6.5 of the assessment report.
Public Perception	1	0	1	Wind farms are unpopular overseas and are being removed.	The Department has undertaken a thorough assessment of the impacts of the proposal, including extensive consultation with the community. The Department's assessment indicates that, provided all comprehensive mitigation measures outlined in the EIS and in the recommended Conditions of Consent are implemented, the impacts of the proposal would be manageable and acceptable.
Magnetic Fields	1	0	1	Insufficient information was provided about the impact of magnetic fields.	The Department has undertaken an assessment on the likely risks associated with electro-magnetic fields. The assessment indicates that electro-magnetic fields are unlikely to pose a threat to human health. This is outlined under Section 7.7 of the assessment report.
Manufacturing Costs	1	0	1	Insufficient information has been provided about the energy consumption required to produce the wind turbines & its ratio to the total power generation by the project.	Chapter 18 of the EIS provides a summary of the lifecycle assessment undertaken by the Applicant. The Department's consideration of this assessment and additional information on the likely lifecycle emissions of the wind farm, indicates that the proposed development would result in substantial savings in greenhouse gas emissions in comparison to a coal fired electricity power station.
Stormwater	1	0	1	Stormwater runoff would increase due to road works from Woodhouselee Road	There are a number of road upgrade requirements along Woodhouselee Road that have been requested by Council. Council will approve the finalised road upgrades along Woodhouselee Road and assess the associated impacts of these upgrades.
Aerial Weed Control	1	0	1	Concern was raised that the proposal would restrict weed control via aerial weed control.	The Department considers that surrounding property owners should not be financially disadvantaged due to potential restrictions on the aerial weed control program resulting from the locations of the turbines. The Department therefore recommends that in the event that required aerial weed control is restricted due to the location of turbines, the applicant shall fund the cost difference between the aerial weed spraying and a reasonable alternative weed control method in the restricted area. The assessment is outlined under Section 7.4 of the assessment report.
Blade glint	1	0	1	Concern was raised that the impact of blade glint was not addressed in the EIS.	The Applicant would be required to paint the turbines matt off-white/grey and finish the blades with a surface treatment that minimises any potential for glare or reflection.

Goulburn-Crookwell Railway	1	0	1	Concern was raised about the impact on the Goulburn to Crookwell Railway.	The Goulburn to Crookwell Railway line is no longer in use. The Crookwell Railway Station is listed as a item of environmental heritage under Schedule 1 of the Crookwell LEP. Consideration of the impacts of the proposed development on the railway line was not required to be undertaken, as it not classified as a state or local item of environmental heritage significance under the relevant planning instruments.
Site Selection	0	2	2	Concern was raised that the EIS did not adequately demonstrate that the site was an appropriate location for a wind farm. One submission suggested that wind farms should be located in vacant Crown land or other remote sites where there would be less social and environmental impacts. Concern was raised that wind farm developers were targetting productive agricultural land, with high rainfall, to build wind farms.	The Department considers that the wind farming is an appropriate rural land use, and is compatible with existing agricultural uses, as outlined under Section 6.1 of the report. There should be limited adverse impacts on soil and water provided mitigation measures outlined in the EIS and the recommended Conditions of Consent are applied. This is discussed in Section 7.3 of the report.
Impact on animals	0	2	2	Concern was raised that the proposals would adversely disturb farm animals and disrupt the usage of properties as horse studs.	Evidence of the disturbance to livestock from wind farms has not been able to be identified. The British Horse Society recommends that a safety margin of at least three times the height of the turbine be implemented between a turbine and a public right of way or other access way used by horse riders. This is equivalent to 330 metres for the current project. As turbines are to be located beyond this distance for both properties who raised these concerns, the Department does not consider that the proposal would disrupt horse rearing or potential horse rearing.
Crookwell I	0	1	1	Suggests an audit of Crookwell I be undertaken to assist in develeoping guidelines and identifying value of wind farms.	The responsibility for an audit of the Crookwell I Wind Farm is a matter for the consent authority, which in this instance is Council.
Support wind farming	0	1	1	Support for the production of clean energy & outlines processes used to implement and assess Crookwell I	The support for the wind farm has been noted.