



## **APPENDIX Q      ENVIRONMENTAL ASSESSMENT APPROACH**

**Table Q.1 Environmental Risk Assessment – Pre Control Measures – Key Issue Identification**

Environmental Aspect	Issue	Potential Impact	Project Phase	Likelihood	Consequence	Potential Risk Level – Pre Control	Addressed in EIS including management and mitigation measures
<b>Biodiversity</b>	<b>Direct removal of vegetation and habitat loss</b>	Removal of vegetation to support Project infrastructure (WTGs, access roads, road upgrades, substation, BESS, O&M, switching station, transmission line) causing species habitat loss.	Construction	(A) Almost certain	(3) Major	Very High	Chapter 9 and Appendix D
	<b>Impacts on threatened species and communities</b>	The construction and operation of the Project adversely impacting on threatened species and/or communities listed under State and/or Commonwealth legislation, for example, loss of Ribbon Gum, Snow Gum and Mountain Gum and foraging habitat Large eared Pied Bat, Eastern Cave Bat and Little Bent Wind Bat which is found in nearby escarpments around the boundary of the Project Area	Construction and Operation	(B) Likely	(2) Major	High	Chapter 9 and Appendix D Chapter 16 and Appendix O.
	<b>Avifauna strikes during the operation of the wind farm</b>	Injury or mortality to avifauna from blade strike with increased risk due to proximity to Ben Halls Gap National Park.	Operation	(C) Possible	(2) Major	High	Chapter 9 and Appendix D

Environmental Aspect	Issue	Potential Impact	Project Phase	Likelihood	Consequence	Potential Risk Level – Pre Control	Addressed in EIS including management and mitigation measures
	<b>Noxious weeds</b>	Spread of noxious weeds, particularly during construction. This is of particular importance for Ben Halls Gap National Park, of which the Plan of Management (NSW National Parks and Wildlife Service, 2002) for the park states that it is 'virtually free of weeds'.	Construction, Operation and Decommissioning	(C) Possible	(4) Minor	Medium	Chapter 9 and Appendix D Chapter 21
<b>Noise</b>	<b>Construction / decommissioning noise</b>	Noise generated during the construction and decommissioning of the Project exceeding specified noise management levels at nearby receptor locations.	Construction and Decommissioning	(C) Possible	(4) Minor	Medium	Chapter 10 and Appendix E
	<b>Operational noise</b>	Potential exceedance of prescribed operational noise limits at surrounding receptor locations from key noise sources including WTGs and electrical substation.	Operation	(D) Unlikely	(3) Moderate	Medium	Chapter 10 and Appendix E

Environmental Aspect	Issue	Potential Impact	Project Phase	Likelihood	Consequence	Potential Risk Level – Pre Control	Addressed in EIS including management and mitigation measures
<b>Visual</b>	<b>Visual impact</b>	Temporary construction phase works including but not limited to the earthworks along ridgeline impacting on the visual amenity experienced at sensitive receptor locations and at nearby public viewpoints.	Construction	(C) Possible	(5) Low	Low	Chapter 11 and Appendix F
		Physical presence of Project infrastructure including but not limited to WTGs, transmission line, substation and switching station impacting on the visual amenity experienced at non associated dwelling locations and at nearby public viewpoints.	Operation	(A) Almost certain	(2) Major	Very High	Chapter 11 and Appendix F
	<b>Shadow flicker</b>	Amenity related impacts at nearby receptor locations caused from periodic shadow flicker. This is generated from the casting of shadows from the rotating WTGs under certain conditions.	Operation	(C) Possible	(3) Moderate	Medium	Chapter 11 and Appendix F
	<b>Blade glint</b>	The reflection of sunlight off the WTG blades at certain times causing amenity impacts at nearby receptor locations.	Operation	(D) Unlikely	(3) Moderate	Medium	Chapter 11 and Appendix F

Environmental Aspect	Issue	Potential Impact	Project Phase	Likelihood	Consequence	Potential Risk Level – Pre Control	Addressed in EIS including management and mitigation measures
<b>Traffic and Transport</b>	<b>Road safety</b>	Increase in heavy vehicle movements during construction causing potential impacts on road safety.	Construction	(C) Possible	(3) Moderate	Medium	Chapter 12 and Appendix G
	<b>Damage to local roads</b>	Damage to local roads from heavy vehicle movements particularly during construction and decommissioning.	Construction, Operation and Decommissioning	(C) Possible	(3) Moderate	Medium	Chapter 12 and Appendix G
<b>Hazards and Risk</b>	<b>Aviation risk</b>	Impacts to flight paths for commercial and recreational aircraft.	Operational	(C) Possible	(3) Moderate	Medium	Chapter 13 and Appendix H
	<b>Aviation risk</b>	WTGs impacting on the safe operation of aircraft in the region for agricultural purposes and the aerial-based water application for fighting bushfires.	Operational	(D) Unlikely	(3) Moderate	Medium	Chapter 13 and Appendix H
	<b>Blade throw</b>	Accidental release of WTG blades during operation.	Operational	(E) Rare	(3) Moderate	Low	Chapter 13 and Appendix H
	<b>Interference to communications infrastructure</b>	Potential for WTGs to cause electromagnetic interference (EMI) by blocking, scattering or reflecting waves between transmitters and receivers. This may include television, radar and radio transmissions.	Operational	(D) Unlikely	(4) Minor	Low	Chapter 13 and Appendix H

Environmental Aspect	Issue	Potential Impact	Project Phase	Likelihood	Consequence	Potential Risk Level – Pre Control	Addressed in EIS including management and mitigation measures
	<b>Human health (EMF)</b>	Impacts on human health electro-magnetic fields (EMF).	Operational	(E) Rare	(4) Minor	Low	Chapter 13
	<b>Bushfire</b>	Impacts to/from the Project on bushfire risk (accidental ignition of bushfire during construction and operation of the Project). Impacts of the Project on bushfire management capabilities.	Construction, Operation and Decommissioning	(D) Unlikely	(2) Major	High	J
<b>Heritage</b>	<b>Aboriginal cultural heritage</b>	Potential disturbance during construction activities to unregistered items of Aboriginal Heritage significance within the PA.	Construction and Decommissioning	(C) Possible	(3) Moderate	Medium	Chapter 14 and Appendix M
	<b>Historic cultural heritage</b>	Potential disturbance to historic heritage objects or places during construction and decommissioning of the Project.	Construction and Decommissioning	(C) Possible	(3) Moderate	Medium	Chapter 15 and Appendix N
<b>Water and Soil</b>	<b>Soil erosion</b>	Soil erosion generated from: <ul style="list-style-type: none"> <li>off-road vehicle use during construction, operation and decommissioning;</li> <li>ground disturbance during construction; and clearing of vegetation.</li> </ul>	Construction, Operation and Decommissioning	(C) Possible	(3) Moderate	Medium	Chapter 16 and Appendix O

Environmental Aspect	Issue	Potential Impact	Project Phase	Likelihood	Consequence	Potential Risk Level – Pre Control	Addressed in EIS including management and mitigation measures
	<b>Contamination</b>	Accidental spills causing localised contamination to soil, groundwater or surface water bodies.	Construction, Operation and Decommissioning	(D) Unlikely	(4) Minor	Low	Chapter 16 and Appendix P
	<b>Impacts to surface water bodies</b>	Sediment run-off generated from ground disturbing activities entering existing surface water bodies within the Project Area. Impacts to surface water flows generated from construction activities. Impacts at watercourse crossings.	Construction	(C) Possible	(3) Moderate	Medium	Chapter 16 and Appendix P
	<b>Water demand</b>	Increase in water demand to service the Project during construction causing changes to baseline groundwater and/or surface water levels.	Construction	(E) Rare	(4) Minor	Low	Chapter 16 and Appendix P
	<b>Hazardous materials spill</b>	Exposure to and/or accidental release of hazardous materials.	Construction, Operation and Decommissioning	(D) Unlikely	(4) Minor	Low	Chapter 16 and Appendix P
<b>Waste</b>	<b>Waste</b>	Improper management of waste streams during construction, operation and decommissioning of the Project impacting on the receiving environment.	Construction, Operation and Decommissioning	(C) Possible	(3) Moderate	Medium	Chapter 18

Environmental Aspect	Issue	Potential Impact	Project Phase	Likelihood	Consequence	Potential Risk Level – Pre Control	Addressed in EIS including management and mitigation measures
<b>Social and Economic</b>	<b>Property values</b>	Reduction in property values for those properties not involved with the Project.	Construction, Operation and Decommissioning	(D) Unlikely	(3) Moderate	Medium	Chapter 19 and Appendix O
	<b>Local and regional Investment</b>	Positive impacts on the local and regional economy through the provision of employment opportunities, demand for local goods and services, and direct investment through the community enhancement initiatives.	Construction, Operation and Decommissioning	(A) Almost certain	(1) Major	High (Positive)	Chapter 19 and Appendix O
	<b>Negative perception of wind farm developments</b>	Social impacts generated from the negative perception (visual, noise, health etc.) of wind farm developments including division within the community.	Construction, Operation and Decommissioning	(A) Almost Certain	(3) Moderate	High	Chapter 19 and Appendix O
	<b>Land use constraints</b>	Disruption to existing land uses (e.g. agricultural land activities) and impacts on the ability to use and develop surrounding properties for residential dwellings.	Construction, Operation and Decommissioning	(C) Possible	(4) Minor	Medium	Chapter 4 Chapter 19 and Appendix O



Environmental Aspect	Issue	Potential Impact	Project Phase	Likelihood	Consequence	Potential Risk Level – Pre Control	Addressed in EIS including management and mitigation measures
<b>Cumulative</b>	<b>Cumulative impacts</b>	Other wind farm developments and existing infrastructure such as transmission line networks compounding the impacts on visual amenity experienced at private and public viewpoints in the vicinity of the Project.	Operational	(D) Unlikely	(3) Moderate	Medium	Chapter 20
<b>Other Environmental Issues</b>	<b>Climate and air quality</b>	Dust and particulate release during ground disturbing works causing amenity impacts at nearby receptors. Emissions from vehicles during construction and decommissioning phases.	Construction, Operation and Decommissioning	(C) Possible	(5) Low	Low	Chapter 17
		Contribution to the reduction in greenhouse gas emissions at the State and National level through the development of the Project.	Construction, Operation and Decommissioning	(A) Almost Certain	(2) Moderate	High (Positive)	Chapter 2
	<b>Mineral and petroleum exploration</b>	Future mining may be limited due to presence of wind farm infrastructure.	Construction, Operation and Decommissioning	(D) Unlikely	(4) Minor	Low	Chapter 4

**Table Q.2 Combined Environmental Risk Ratings - Pre Control Measures – Key Issue Identification**

Aspect	Positive	Negative			
		Low	Medium	High	Very High
Biodiversity					✓
Noise and Vibration			✓		
Landscape and Visual					✓
Heritage			✓		
Traffic and Transport			✓		
Water and Soil			✓		
Waste		✓			
Socio-Economic*	✓		✓		
Hazards and Risks				✓	
<i>Other Environmental Issues</i>					
Climate and Air Quality		✓			
Greenhouse Gas Reduction	✓				
Mineral and Petroleum Exploration		✓			

\* Potential positive and negative impacts been identified in relation to socio-economic matters.