

Chapter 29: Conclusion

Environment Effects Statement



29 Conclusion

This chapter provides the conclusion to the Environment Effects Statement (EES) for the Victoria to New South Wales Interconnector (VNI) West (Victorian Component) (the Project). It brings together the findings of the EES and provides an integrated synthesis of the assessment outcomes, having regard to the EES Scoping Requirements issued by the Minister for Planning under the *Environment Effects Act 1978* (Vic) (EE Act).

The purpose of this chapter is not to repeat the detailed findings of each topic chapter or technical appendix. Rather, it explains how the EES responds to the EES Scoping Requirements, identifies the key conclusions arising from the integrated assessment, and summarises the role of the Environmental Management Framework (EMF) and Environmental Performance Requirements (EPRs) in managing the Project's environmental effects. This approach is consistent with *EES Chapter 6: Assessment framework*, which adopts an integrated and proportionate approach to identifying impacts and assessing residual impacts after the proposed avoidance, minimisation and performance requirements are taken into account. The EPRs adopt a performance-based approach. They define the environmental outcomes that must be achieved and the matters that must be addressed through later project planning and implementation, while allowing appropriate flexibility in how those outcomes are achieved.

29.1 The Project

The Project assessed in this EES is the Victorian component of VNI West. It comprises a proposed new 500 kilovolt (kV) double-circuit overhead transmission line and associated infrastructure extending from Bulgana in western Victoria, where it would connect to the proposed Western Renewables Link, to the Murray River north-west of Kerang, where it would connect to the New South Wales component of VNI West. The Project also includes a new terminal station at Tragowel, associated network connection works, laydown and workforce accommodation areas, construction pads and temporary hardstand areas, and other temporary and permanent works required for construction, operation, maintenance and, where relevant, decommissioning.

The Project objective is to facilitate the transmission of renewable power generated in renewable energy zones in New South Wales and Victoria, and to maintain the security and reliability of the Victoria–New South Wales electricity network in response to the progressive retirement of coal-fired generation across the two states. As set out in *EES Chapter 1: Introduction* and *EES Chapter 2: Project rationale*, the Project is proposed as enabling infrastructure within the broader transition of Victoria's and the National Electricity Market's (NEM) electricity systems.

The EES assesses the potential environmental effects of the Project during construction, operation and, where relevant, decommissioning. It also documents the Project development and alternatives process, the technical studies undertaken to assess impacts across the relevant disciplines, and the management framework proposed to avoid, minimise and manage those impacts if the Project proceeds.

29.2 How the EES responds to the EES Scoping Requirements

The EES has been prepared in response to the EES Scoping Requirements issued by the Minister for Planning. Those requirements establish the framework for the integrated assessment of the Project's environmental effects and identify the matters to be investigated and documented in the EES. The EES also serves as the accredited assessment process for the purposes of the bilateral agreement under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act).

In accordance with the Scoping Requirements, the EES has been prepared as an integrated assessment. As described in *EES Chapter 6: Assessment framework*, the assessment framework draws on the Scoping Requirements, the relevant statutory approval requirements, the Project development and alternatives process, and the findings of the technical studies undertaken to support a consistent and integrated assessment of the Project for the EES. The EES identifies existing conditions, assesses potential impacts during construction, operation and decommissioning, and considers residual impacts after the proposed design responses, EPRs and other management measures are taken into account.

The EES also responds to the EES Scoping Requirements by documenting the Project development and alternatives assessment process, identifying the likely environmental effects of the assessed Project across the relevant themes, and setting out the proposed EMF and EPRs that would govern environmental management during the Project. In that respect, the EES does not simply describe the Project and its effects. It also establishes the framework within which those effects are to be managed if the Project proceeds.

29.3 Principles of ecologically sustainable development

The Commonwealth Minister for the Environment and Water will consider whether the Project should be approved under the EPBC Act. Under section 136 of the EPBC Act, the Minister is required to consider the principles of ecologically sustainable development (ESD) in deciding whether or not to approve the Project.

The EES has considered the principles of ESD through the integrated assessment of the Project's environmental, social and economic effects, the iterative refinement of the Project to avoid and minimise impacts to the extent practicable, and the proposed EMF and EPRs for the management of residual impacts. In this respect, the principles of ESD are reflected through the Project development process, the assessment framework, the topic-specific assessments, and the commitments proposed for later stages of the Project.

Table 29-1 summarises how the EES has had regard to the principles of ESD.

Table 29-1 Principles of ESD

Principle of ESD	How the principle is addressed in the EES	Relevant section
Integration of environmental, social and economic considerations	The EES has assessed the Project through an integrated framework that considers environmental, cultural heritage, land use, social and economic effects together, rather than in isolation. The Project Rationale, technical assessments and conclusion chapter all recognise that the Project involves both local impacts and broader public value for Victoria and the National Electricity Market (NEM).	<i>EES Chapter 2: Project rationale</i> <i>EES Chapter 3: Project development and alternatives</i> <i>EES Chapter 6: Assessment framework</i> <i>EES Chapter 7: Stakeholder and community engagement</i> <i>EES Chapter 22: Business and economics</i> <i>EES Chapter 24: Social</i>

Principle of ESD	How the principle is addressed in the EES	Relevant section
Precautionary principle	The EES has applied a risk-based and impact-based assessment framework, informed by technical studies, field investigations and specialist input. Where there is potential for significant adverse effects, the Project has been refined to avoid and minimise impacts to the extent practicable, with additional management through the EMF and EPRs. For studies where land access was not available and surveys have not yet been undertaken, impacts have been assessed using a precautionary approach: • For ecology, this approach includes assumptions around the presence of native vegetation and protected species in the absence of field-data. • For Aboriginal cultural heritage, this includes the assumption of presence of cultural heritage in the absence of field-data.	<i>EES Chapter 3: Project development and alternatives</i> <i>EES Chapter 6: Assessment framework</i> <i>EES Chapter 26: Ecology</i> <i>EES Chapter 25: Aboriginal cultural heritage</i>
Intergenerational equity	The Project is proposed as enabling infrastructure within the broader transition to a lower-emissions electricity system, intended to support renewable integration, stronger interconnection and long-term electricity system reliability. In that context, the EES has considered both current local impacts and the longer-term public value of a more secure and sustainable electricity system. Emissions reduction outcomes are also expected to be supported. There are intergenerational benefits associated with Victoria meeting its renewable electricity targets of 65% by 2030 and 95% by 2035, together with economy-wide emissions reduction targets of 75–80% below 2005 levels by 2035 and net zero emissions by 2045. The Project contributes to Victoria's emissions-reduction targets in two key ways: by enabling maximum renewable dispatch and by supporting coal retirements on schedule. With the Project in place, Victoria would be better placed to move away from coal, with the resulting supply gap able to be met through renewable imports and new variable renewable energy capacity. This shift to renewable energy should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. The Project may also contribute to broader community outcomes through its investment in initiatives intended to support social, economic and environmental uplift for affected communities.	<i>EES Chapter 2: Project rationale</i> <i>EES Chapter 15: Greenhouse gas</i> <i>EES Chapter 24: Social</i>

Principle of ESD	How the principle is addressed in the EES	Relevant section
Conservation of biological diversity and ecological integrity	The avoidance of native vegetation and significant flora and fauna has been a key design parameter for the Project from its inception. The Project's evaluation framework was used consistently to identify potential environmental constraints within the Area of Interest, to inform selection of the draft transmission corridor and to ultimately inform the Proposed Easement alignment. Key biodiversity features in the landscape that were avoided included Kerang Wetlands Ramsar site, Great Spectacle Lakes Complex and the Northern Victorian Wetlands and St Arnaud Box-Ironbark Region Key Biodiversity Areas. The avoidance and minimisation approach applied to the route refinement process has resulted in the Proposed Easement traversing a landscape that has been largely cleared of native vegetation due to historical and ongoing agricultural land use. Where possible, changes or modifications to the transmission alignment or Project design have been made to avoid an impact and remove the need for mitigation. This impact assessment intentionally adopts a conservative (worst-case) estimate of vegetation clearance because land access constraints have limited field survey coverage along parts of the Proposed Easement, restricting the ability to quantify impacts using survey-based methods. In the absence of full survey coverage, desktop and proxy methods have been applied to intentionally overestimate clearance to avoid understating potential impacts. Clearance estimates would be refined as further land access is obtained and as detailed design is completed, including through micro-siting and subsequent sag and sway analysis once final tower locations are confirmed, which is expected to reduce the need to remove large trees and native vegetation to the extent practicable. While the landscape is highly modified, impacts to remnant native vegetation – including patches of vegetation and scattered trees – are unavoidable due to the scale and linear nature of the Proposed Easement. Where changes to the transmission alignment or Project design were not possible, EPRs to inform further design and approvals have been recommended to minimise or manage impacts to achieve an outcome consistent with the evaluation objectives. The conservation of biological diversity for future generations has been a fundamental consideration in decision-making throughout the Project.	<i>EES Chapter 6: Assessment framework</i> <i>EES Chapter 26: Ecology</i> <i>EES Chapter 27: Matters of National Environmental Significance</i>

Principle of ESD	How the principle is addressed in the EES	Relevant section
Improved valuation, pricing and incentive mechanisms	The EES recognises that the Project's local impacts and broader benefits are not distributed evenly, and that management of those effects includes compensation arrangements for directly affected landholders, broader community benefit initiatives, and implementation of the proposed Social Value Strategy and related commitments where relevant. However, in the absence of the Project, Victoria may need substantially more in-state generation and storage to maintain reliability, increasing the overall cost of the transition. In the absence of the Project, the wider economic and emissions reduction benefits associated with the Project would not be realised. These include the cumulative market benefits exceeding \$4 billion in present value terms, reflecting avoided or deferred generation and storage investment and fuel cost savings. It also identifies broader benefits that are not readily quantified, including stronger resilience, affordability and sustainability of Victoria's electricity system. The Project is also expected to contribute to economic activity in Victoria, particularly during construction. It is estimated that there would be a total economic impact of up to \$2.9 billion in gross domestic product (GDP) to Australia over the modelling period, with around \$1.3 billion accruing in Victoria during construction, and an average annual increase of up to 700 full-time equivalent jobs during the construction phase.	<i>EES Chapter 2: Project rationale</i> <i>EES Chapter 3: Project development and alternatives</i> <i>EES Chapter 22: Business and economics</i> <i>EES Chapter 24: Social</i>

29.4 Project refinement and integrated assessment

A central outcome of the EES process is that the assessed Project has been shaped through a process of iterative refinement. As described in *EES Chapter 3: Project development and alternatives*, the Project development and alternatives assessment process involved progressive narrowing from a broader Area of Interest to a Draft Corridor and then to a Proposed Easement. This process also involved the refinement of a terminal station location, laydown area and workforce accommodation areas and ongoing optimisation of tower locations. The process was informed by desktop studies, field investigations, specialist assessments, technical workshops and stakeholder input.

The EES has likewise been prepared using an integrated assessment framework. As described in *EES Chapter 6: Assessment framework*, the EES recognises that many environmental, cultural heritage, land use and social effects are interconnected and cannot be considered in isolation. The technical studies were therefore undertaken in a coordinated way so that related impact pathways, shared receptors and management responses were addressed consistently across the EES. Impacts were assessed on the basis that the relevant Project activity and impact pathway occur, and residual impacts were then considered having regard to the proposed Project design responses, EPRs and other management measures. The impact assessment was also undertaken iteratively. Where potential impacts were identified, opportunities were considered to avoid those impacts through Project refinement, including changes to the transmission alignment, infrastructure layout, siting or other design elements, to the extent practicable. Where impacts could not be avoided through refinement of the Project, measures were identified to minimise or manage those effects.

Engagement has also been a key input to Project refinement and assessment. As described in *EES Chapter 7: Stakeholder and community engagement*, engagement with landholders, Traditional Owners, community members, local councils, government agencies and other stakeholders informed the understanding of local conditions, values, constraints and issues of concern relevant to the Project. That input contributed to route refinement, the identification of options and constraints, the technical studies and the broader assessment of environmental and social effects. Engagement is intended to continue beyond the EES phase, including during later stages of Project planning and delivery.

Originally three locations along the Proposed Easement had two options associated with them: Tragowel, Teddywaddy and Meering West. However, feedback obtained from the community and key stakeholders, as well as results from technical studies and field assessments, determined that the Meering West south option presented an unacceptable level of environmental and cultural heritage impact risk. As such, it was determined that the south easement option was too constrained to progress through to the submission of the EES.

Together, the Project refinement process, the integrated assessment framework and the engagement program mean that the EES is not simply an assessment of a static reference design. It is also the mechanism through which the Project has been tested and refined for assessment, and through which the key environmental management requirements for later stages of the Project have been established.

29.4.1 Comparison of easement options assessed in this EES

There are two locations along the Proposed Easement, at Tragowel and Teddywaddy, which have two easement options proposed for assessment in this EES. These Proposed Easement options have been retained in the EES so that further environmental studies could be undertaken to better inform the selection of the Proposed Easement at each location. This section will consider the findings from each impact assessment in order to select the preferred easement option.

The comparative assessment of the Proposed Easement options at both Tragowel and Teddywaddy indicates that the Proposed Easement options would result in broadly similar environmental, social and land use outcomes. Across most technical disciplines, including social, agriculture, bushfire, noise and vibration, electric and magnetic fields, air quality, geology and soils, groundwater and surface water, the assessments concluded that there would be no material difference between the Proposed Easement options at both locations. This is a reflection of the options generally traversing similar environments, land uses and receptor settings.

The ecology assessment concluded that all four combinations of the Tragowel and Teddywaddy Proposed Easement options would affect biodiversity values in differing ways. Overall, the differences in the extent of impacts were generally limited to 3 to 4 hectares (ha) across the 240 km long Proposed Easement with the east option at Teddywaddy and the west option at Tragowel having the least impact across all values.

While surveys are required to be conducted to confirm ground conditions, particularly in the Teddywaddy area, it is expected that impacts can be mitigated by the implementation of no-go zones or micro-siting of towers.

Tragowel

In addition to ecology, a limited number of other technical assessments identified differences in residual impacts between the Proposed Easement options at Tragowel. The west option was identified as preferable from a traffic and transport perspective due to its access to roads approved for heavy vehicles and for its proximity to less dwellings within 500 m. Due to the lower number of towers resulting in lower embodied emissions, the west option was also found preferable from a greenhouse gas perspective.

In response to feedback from the community, and interest from landholders open to siting transmission infrastructure on their properties, a Proposed Easement option to the east of Tragowel was considered. The east easement option was identified as having lower potential aviation impacts in relation to protected airspace surfaces at Kerang Aerodrome. These impacts can be mitigated by amendments to flight procedures.

While impacts to roads and dwellings can be mitigated through the EPRs, mitigation of potential impacts to Kerang Aerodrome rely on separate approvals and assessments to ensure the Project does not impact on its operation.

Teddywaddy

Differences between the Teddywaddy Proposed Easement options were generally minor and considered largely immaterial across the technical assessments. Land access within this area has been limited and therefore ecological and cultural heritage impacts require confirmation of ground conditions. [REDACTED]

[REDACTED] impacts can be mitigated by no-go zones or micrositing of towers through construction so residual impacts are low.

Following the release of the 'Preferred Easement for VNI West Report' in 2024, feedback from local landholders raised concerns over the proximity of the east easement option to a cluster of dwellings along Teddywaddy Road. The reasoning for considering the west easement option in this area is set out in *Chapter 3: Project development and alternatives* as well as *Chapter 7: Stakeholder and community engagement*. While the east easement option satisfies the recommended industry guideline of a minimum 300 m buffer distance from dwellings, it traverses land closer to more dwellings than the west easement option. It also bisects this cluster of dwellings. The west easement option benefits from a greater separation distance from dwellings in Teddywaddy. The following table provides a comparison of residual impacts of each impact assessment.

Summary of comparison

Table 29-2 outlines the results of the comparison of the Proposed Easement options at Tragowel and Teddywaddy in relation to their residual impacts identified through the EES.

Legend:

-  Material difference resulting in a preferred easement option
-  Minor difference resulting in a preferred easement option
-  Non-preferred easement option
-  Negligible

Table 29-2 Comparison of Proposed Easement options residual impacts at Teddywaddy and Tragowel

Study	Difference in residual Impacts	Preferred option?		Difference in residual Impacts	Preferred option?	
	Tragowel	East	West	Teddywaddy	East	West
Electric and magnetic field	Negligible			Negligible		
Geology and soils	Negligible			Negligible		
Groundwater	Negligible			Negligible		
Historic heritage	Negligible Feature N15 is located ~90m away from the east easement option. N15 is considered to be of low significance			Negligible		
Bushfire	Negligible			Negligible		
Climate change	N/A			N/A		
Surface water	Negligible			Negligible		

Study	Difference in residual Impacts	Preferred option?		Difference in residual Impacts	Preferred option?	
Greenhouse gas	Minor difference The east option would result in increased emissions (2,766 tCO ₂ -e) due to the number of towers. This is considered minor compared with total emissions of 893,298 tCO ₂ -e for the Project.	●	●	Minor difference The west option would result in increased emissions (268 tCO ₂ -e) as the west option has twice the number of double circuit heavy tension towers compared to the east option. This is considered minor compared with total emissions of 893,298 tCO ₂ -e for the Project.		●
Air quality	Negligible			Negligible		
Landscape and visual	Minor difference The east option is marginally closer to more dwellings that are located within 500 m and where no vegetation screening is possible, it is expected that the visual impact is higher due to proximity.	●	●	Minor difference The east option is closer to more dwellings that are located within 1 km, and where no vegetation screening, it is expected that the visual impact is higher due to proximity. Private residents are assumed to have a very high sensitivity to visual impacts. The west option is closer to the Charlton Bushland Reserve with residual impacts found to be moderate. This is mainly due to the low receptor sensitivity based on the very low number of receptors and infrequent visitation.	●	●
Traffic and transport	Minor difference The east option would require additional road approvals for heavy vehicles which may have minor time and costs implications.	●	●	Negligible		
Noise and vibration	Negligible			Negligible		
Agriculture	Minor difference	●	●	Minor difference The difference was in the order of a \$115,000 farm production loss between the highest and lowest impact route.	●	●

Study	Difference in residual Impacts	Preferred option?		Difference in residual Impacts	Preferred option?	
	The difference was in the order of a \$115,000 farm production loss between the highest and lowest impact route.					
Aviation	Material difference The west option infringes on Kerang Aerodrome's Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS). This infringement can be mitigated by amendments to flight procedures, however this would be subject to negotiations and Civil Aviation Safety Authority (CASA) approval.	●	●	Negligible		
Business and economic	Negligible			Negligible		
Land use and planning	Negligible			Negligible		
Social	Negligible			Negligible		
Aboriginal cultural heritage						

Study	Difference in residual Impacts	Preferred option?		Difference in residual Impacts	Preferred option?	
Ecology	Minor difference The west option has the least amount of overall residual impacts to Ecological Vegetation Classes (EVCs), threatened ecological communities (TECs) and native vegetation removal.	●	●	Minor difference The east option has the least amount of overall residual impacts to EVC's, TEC and native vegetation removal.	●	●
Preferred overall?	Tragowel West Proposed Easement Option		✓	Teddywaddy West Proposed Easement Option		✓

Overall, in Tragowel the west easement option is preferred, due to lower residual impacts across multiple studies, pending outcomes of negotiations with Kerang Aerodrome regarding changes to flight procedures and approval from CASA.

If the mitigations including negotiations with Kerang Aerodrome and CASA approval cannot be implemented, then the west easement option would no longer be feasible and the east easement option would become the preferred option.

At Teddywaddy, while both Proposed Easement options require surveys to confirm ground conditions, the technical impact assessments identified mostly negligible differences in their residual impacts. With only a few studies identifying minor differences. The preferred option reflects community feedback, which identified concerns regarding the proximity of the east easement option to a cluster of dwellings along Teddywaddy Road. Given the mostly negligible differences in the technical impact assessments, community feedback was a key consideration in identifying the west easement option as the preferred option, as it is considered to have the least overall impact on nearby residences.

29.5 Key residual impacts and benefits

The EES identifies a range of potential environmental, cultural heritage, land use and social effects associated with the Project. Through the Project development and alternatives assessment process, the Project has been progressively refined to avoid and minimise impacts to the extent practicable. This includes refinement of the broader Area of Interest to a Draft Corridor and then to a Proposed Easement, consideration of alternative infrastructure and siting options, and design responses informed by technical studies and engagement. While this process has avoided and minimised impacts where practicable, some residual impacts would remain if the Project proceeds.

The themes for which the EES identified key residual impacts include biodiversity and habitat, Aboriginal cultural heritage, landscape and visual, agriculture and land use. In addition, the EES identified residual social effects associated with disruption, amenity and the distribution of the Project's impacts and benefits. In some cases, residual impacts would remain significant or would require ongoing management, further detailed design development, or approval processes to confirm the final response. In other cases, the EES concludes that potential impacts can be reduced to lower levels through design measures, construction controls, management plans and implementation of the EPRs.

The following sections describe the residual impacts for the high-priority themes identified in the VNI West Scoping Requirements, as well as landscape and visual where key residual impacts were also identified.

29.5.1 Biodiversity and habitat

The issues identified in the Scoping Requirements in relation to Victorian state biodiversity and habitat impacts have been responded to in *Chapter 26: Ecology* and *Chapter 10: Groundwater*. Impacts on Commonwealth biodiversity and habitat impacts have been responded to in *Chapter 27: Matters of National Environmental Significance*.

While the Project traverses a landscape that has been largely cleared of native vegetation due to historical and ongoing agricultural land use, the route refinement process sought to further minimise impacts on ecological features as much as practicable.

As complete avoidance is not possible, the Project would have a residual impact on native vegetation, some threatened ecological communities (TECs) and threatened species. Overall, residual impacts of the Project relate primarily to the removal of approximately 116 ha of native vegetation patches (including 475 large trees in patches) and up to 149 scattered trees (130 large and 19 small). The extent of native vegetation loss as a combined total would be substantial, representing approximately 13% of the Proposed Easement. Many of the patches are unconfirmed due to land access constraints and, as such, the amount of native vegetation represents a worst-case scenario and may be less once further assessments are completed. In the absence of full survey coverage, impacts have been quantified using alternative methods that intentionally overestimate clearance to avoid understating potential effects. The impact assessment has been undertaken with reasonable confidence in the level of assessment that has been able to be achieved for the Project despite the land access constraints.

Loss of hollow-bearing trees could impact all hollow-dependent fauna such as the Brush-tailed Phascogale, Squirrel Glider, Barking Owl, and Brown Treecreeper. Hollows are also important for Lace Monitor and Carpet Python although those species can also use hollow logs and burrows on the ground. These impacts may be able to be mitigated by providing artificial hollows which would be considered through the EPRs.

Disruption to habitat corridors along roadsides and waterways would be minimised through the implementation of EPRs but may affect some species, particularly those reliant on canopy cover for movement.

Ongoing presence of transmission towers and transmission lines in the landscape would pose some risks of bird collision. The risk of collisions would be reduced by improving visibility of the lines at key areas along the Proposed Easement. A range of methods may need to be implemented depending on the location and species of concern that would be determined in a Collision Risk Management Plan. Electrocution is a negligible risk for birds, bats and Carpet Python. The conductor spacing and clearances of the proposed transmission line wires means that it would not be possible for individuals to make contact between phases.

The Project is likely to have a significant impact on four EPBC Act-listed threatened TECs – Buloke Woodland, Grey Box Grassy Woodlands, Plains Mallee Box Woodlands, and Natural Grasslands of the Murray Valley Plains. It is unlikely that the Project would have a significant impact on the Mallee Bird TEC.

A residual significant impact on EPBC Act-listed threatened flora species is unlikely with the exception of Turnip Copperburr.

A residual significant impact on the majority of EPBC Act-listed threatened fauna species is unlikely, with the exception of impacts to Brown Treecreeper, Swift Parrot, and Striped Legless Lizard. For the Striped Legless Lizard, impacts to habitat may be avoidable as they mostly relate to access routes from public roadsides into private land. Golden Sun Moth may occur in the south near Bulgana, however removal of habitat at individual tower locations and for temporary access tracks during construction is unlikely to constitute a significant impact because suitable habitat would be retained outside of those discrete areas allowing the population to persist, and to recolonise the cleared areas after reinstatement.

Residual impacts on *Flora and Fauna Guarantee Act 1988* (FFG Act) listed TECs, including Grey Box–Buloke Grassy Woodland, Northern Plains Grassland and Semi-arid Northwest Plains Buloke Grassy Woodland, are expected to be low to moderate. Victorian Temperate Woodland Bird Community and Victorian Mallee Bird Community may also be affected where present.

Impacts on FFG Act-listed threatened flora are expected to range from low to moderate. EPRs would minimise impacts where practicable through no-go zones, although unavoidable plant losses may reduce some local populations.

FFG Act-listed fauna species such as the Grey-crowned Babbler and Samphire Skink may be affected by the Project, although the extent of impacts would depend on detailed design and measures through the EPRs. Hooded Scaly-foot is expected to experience the greatest impact because of its limited mobility and dependence on habitat subject to removal. Brown Toadlet may experience similar impacts if present within affected habitat.

While the Project will implement various management plans through the EPRs to protect biodiversity and habitat, residual impacts to native vegetation, TECs, and threatened species would still remain and offsets would be required. Offsets are measures that compensate for vegetation losses associated with the Project. A draft Offset Management Strategy has been prepared to address residual impacts on matters of national and state environmental significance.

29.5.2 Aboriginal cultural heritage

The matters identified in the Scoping Requirements in relation to Aboriginal Cultural Heritage have been responded to in *Chapter 25: Aboriginal cultural heritage*.

The avoidance and minimisation approach during the route refinement process has resulted in the Proposed Easement avoiding, where practicable, known intersections with Traditional Owner identified locations and landscapes with associated sensitive cultural values. Similar to biodiversity, riparian areas have also been avoided, where practicable, as these areas are often of cultural significance.

Land access restrictions have meant that a limited portion of the Proposed Easement has been subject to field assessment to date. Areas that were unable to be accessed for the existing conditions assessment have been supported by a range of desktop and modelling methods, including predictive modelling. In areas where access was not available, a conservative approach has been adopted in assessing potential impacts.

Cultural Heritage Management Plans (CHMPs) are currently being prepared for this Project and the data collected for CHMPs was also used to inform the impact assessment in the EES. Three separate Cultural Values Assessments (CVAs) are currently being prepared for the Project to identify, understand and evaluate the cultural significance of social, contemporary, historical and traditional values (both tangible and intangible) associated with the study area. The CHMPs will address the recommendations identified during the CVA process, including process measures to minimise the impacts of the Project on intangible cultural heritage values.

In the construction phase, EPRs would reduce impacts to Aboriginal cultural heritage to as low a level as possible. Many of the proposed mitigation, monitoring, and contingency measures aim to build in responsiveness to the identification of new tangible and intangible Aboriginal cultural heritage values as assessments continue, given the very limited site access in parts of the study area to date.

For works where micro-siting is not as practicable, such as the construction of Tragowel Terminal Station, some risk of impact does remain, and in instances where impacts to Aboriginal cultural heritage cannot be avoided, salvage excavation (or other measure, such as relocation) would be undertaken as a last resort in accordance with the approved CHMP and in consultation with the relevant RAP's, Knowledge Holders, and First Peoples – State Relations (where relevant).

The completion of assessments, as well as protection measures for known Aboriginal cultural heritage such as no-go zones would reduce the risk that Aboriginal cultural heritage is damaged or impacted during unexpected maintenance works or routine vegetation clearance. The implementation of the outcomes of the CVA would be particularly important to ensure that the Aboriginal cultural values of the study area continue to be managed according to the expectations of Traditional Owners.

29.5.3 Land use and socioeconomic

The matters identified in the Scoping Requirements in relation to the land use and socioeconomic themes have been responded to in *Chapter 12: Bushfire*, *Chapter 20: Agriculture*, *Chapter 22: Business and economics*, *Chapter 23: Land use and planning* and *Chapter 24: Social*.

The introduction of a transmission line project into a predominantly rural and agricultural landscape has the potential to have real or perceived social impacts and an impact on the local and regional economy.

Considering agriculture is the predominant land use, the Project has sought to avoid significant farming infrastructure supporting intensive animal industries such as feed lots, piggeries and poultry farms. The few lateral-move irrigators, intensive orchards and horticultural businesses operating within proximity to the Proposed Easement have also been avoided. The total agricultural production loss, due to construction of the Project, is estimated to be approximately \$2.77 million. This equates to approximately 0.3% of the total value of annual agricultural production of the four Local Government Areas (LGAs) within which the Project is located.

The Project would temporarily affect farming activities during construction by restricting access to some areas of land. While approximately 3,551 ha would be impacted during this period, most land would return to productive use once construction is complete. During operation, most farming can continue with only minor constraints around transmission towers and easements, resulting in limited ongoing impacts.

In order to minimise the production and disruption impacts, Property Management Plans (PMPs) will be developed such that unnecessary disruptions or restrictions to farming activities can be avoided. On an individual basis the production and disruption impacts would be considered as part of a compensation process in accordance with the *Land Acquisition and Compensation Act 1986* (LAC Act).

The potential for a biosecurity breach has been identified as a key risk to agriculture in all three Project phases with potential medium to major residual consequences if not appropriately managed and depending on the type of outbreak. Biosecurity Management Plans will be implemented to reduce the likelihood and severity of biosecurity breaches.

Operational phase disruption to agricultural activities along the Proposed Easement would be minimal as most farming activities could continue. Height restrictions on machinery would apply and the use of manned low-flying aerial services (such as for the application of fertiliser) would be prohibited within and adjacent to the Proposed Easement. The use of PMPs to mitigate impacts would continue into the operational phase and ongoing disruption would be considered as part of compensation processes.

Land use and planning impacts are those associated with disruption to existing land use as well as amenity impacts. Construction phase impacts are temporary and confined to the Proposed Easement, Tragowel Terminal Station, Bulgana Reactor Station and the laydown and/or workforce accommodation areas. These temporary construction impacts relate to amenity impacts such as increased dust, visual, noise and traffic. Operational phase land use impacts within the Proposed Easement would exist for the duration of the Project but would be minor and would not impact the underlying use of the land.

Bushfires are an inherent hazard across many Victorian landscapes, and the vicinity of the Project is bushfire prone. While transmission infrastructure may present some constraints in certain circumstances, suppression operations are managed through established procedures, and with appropriate controls and coordination with emergency services and local brigades, both aerial and ground-based response is expected to operate safely. The proposed EPRs are expected to reduce ignition likelihood and potential consequences through prevention, early detection, and improved emergency response. Residual impacts due to bushfire risk remain high due to the existing bushfire-prone landscape. The highest risks are from ignition sources present during construction with risks being considerably lower once the Project is operational on the basis that 500 kV transmission lines are not considered a high ignition source. However, through the implementation of the proposed EPRs and bushfire management plans, the risk of bushfire ignition would not be increased by the Project.

Positive social impacts of the Project include access to extra revenue enabling social infrastructure for the community and the potential for increased regional business activity and employment opportunities. Negative social impacts of the Project include disruptions to agricultural practices, disruption to Traditional Owner cultural landscape and connection to Country and erosion of community cohesion. Adverse mental health impacts and the emotional wellbeing of individuals was also identified as a negative impact of the Project.

EPRs would be implemented to avoid or minimise negative social impacts, and enhance positive social impacts, include creating initiatives to give back to local communities, developing a grants program to help support community resilience and cohesion and partnering with specialists to support energy upgrades in local communities. This would be captured in the Project's Social Value Strategy and supported by the development and implementation of a comprehensive Community and Stakeholder Engagement Plan to guide stakeholder engagement and consultation activities throughout all phases of the Project.

While EPRs would mitigate some negative social impacts, if certain measures are not taken up or engaged with, residual social impacts related to some aspects like lack of trust of the Project and adverse mental health may remain.

The EES also identifies broader and more widely distributed benefits associated with the Project. As set out in *EES Chapter 2: Project rationale*, the Project is intended to support renewable energy integration, strengthen interconnection between Victoria and New South Wales, and improve the resilience and efficiency of the future electricity system. In practical terms, the Project is intended to support a secure and reliable electricity supply for Victorians during the transition to a more renewables-based electricity system. *Technical Appendix O: Business and economics* and the corresponding EES chapter identify broader economic and system benefits associated with the Project, while recognising that those benefits would not necessarily be distributed evenly across all host communities or regions.

The EES therefore identifies both localised impacts and broader public value. It does not conclude that those matters are evenly balanced in a simple sense, nor that the Project is impact-free. Rather, it concludes that the Project would have material local impacts, but that those impacts have been identified, assessed and, where practicable, avoided or minimised through project refinement, with the remaining impacts to be managed through the proposed approvals, the EMF, the EPRs, compensation arrangements for directly affected landholders, and broader community benefit initiatives including the proposed Social Value Strategy. In that context, the Project is proposed because it would deliver broader public value for Victoria and the NEM by enabling renewable energy transfer, strengthening interconnection, and supporting a secure and reliable electricity system during the energy transition.

29.5.4 Landscape and visual

While landscape and visual impacts were assigned a medium priority through the EES Scoping Requirements, the Project would change the visual landscape across parts of the region, particularly for people travelling through the region on roads, private homes, and landscapes valued for their recreation, natural features and cultural values. The issues identified in the Scoping Requirements in relation to the visual amenity of residents located along the route, in both townships and individual dwellings as well as public locations and locations that hold significant value for communities have been responded to in *EES Chapter 17: Landscape and visual*.

While the Project has sought to avoid topographic high points, townships, parks, reserves and other recreational or public use areas wherever practicable, the length and height of the Project means that it has the potential to affect the visual amenity along the route.

For many, the Project would predominantly be a glimpse or a brief experience as they travel along highways or local roads, or a longer view from a recreational area or high point. Mitigation such as landscape screening would reduce impacts at some locations, however it is not proposed at the majority of these public viewpoints, due to the exposed and expansive locations or the views being representative of those experienced when travelling along a road, and as such the residual impacts would remain moderate to high.

While the Project sought to avoid locating Project infrastructure within 300 m of a dwelling, residual impacts remain, particularly for dwellings within close proximity or where existing screening does not mitigate views. Landscape screening will be offered to eligible landholders with dwellings located within 3.5 km of the Proposed Easement with towers that are visible from habitable rooms, main entries or exits to the dwelling or attached areas of private open space within curtilage of the dwelling. EPRs require the design and siting of landscape screening to reduce the magnitude of visibility of the Project, subject to agreement with landholders. Where appropriate screening vegetation can be established, the residual impacts would be reduced to moderate to low.

29.6 Environmental management, commitments and implementation

A central conclusion of the EES is that the Project's environmental effects must be considered together with the framework proposed to manage them. The EES does not rely solely on the identification of impacts; it also establishes the management framework through which those impacts would be addressed during later stages of the Project. That framework is set out in the EMF in *EES Chapter 28: Environmental Management Framework*.

The EMF provides the overarching governance framework for environmental management across the Project. It identifies roles and responsibilities, establishes the basis for subsequent management plans, procedures, monitoring and auditing, and sets out the EPRs that would apply during detailed design, construction, operation and, where relevant, decommissioning.

This approach is important because some aspects of detailed design and delivery would continue to be refined after completion of the EES. The EPRs, together with the EMF, provide the mechanism through which that later refinement would remain within the environmental framework assessed through the EES. In this way, the EES not only identifies impacts and residual effects, but also establishes the commitments and management framework that would apply if the Project proceeds. If the Project proceeds following the EES process, the next steps would include completion of the relevant statutory approvals, progression of detailed design, and implementation of the EMF and EPRs through later stages of the Project.

The EES also recognises that implementation of the Project would involve ongoing engagement, monitoring, compliance and adaptive management. Environmental management would therefore continue beyond the EES itself, supported by the EMF, topic-specific management plans, approval conditions, compensation arrangements for directly affected landholders, and broader community benefit initiatives including the proposed Social Value Strategy. In this respect, the next steps following the EES are not simply procedural approval steps; they are the detailed design, approval and implementation stages through which the Project's commitments would be carried into practice.

29.7 Overall conclusion

The Project is proposed as enabling infrastructure within the broader transition of Victoria's and the NEM's electricity systems, and that it is intended to support renewable integration, stronger interconnection and a secure and reliable electricity supply for Victorians as coal-fired generation retires.

The EES concludes that the Project has been subject to extensive development, refinement and assessment in response to the Minister's EES Scoping Requirements and the broader statutory framework. It identifies a range of environmental, cultural heritage, land use and social effects associated with the Project, including some residual impacts that would remain material even after avoidance, minimisation and management measures are applied. The impacts will be managed through the implementation of mitigation to comply with the EPRs developed through the technical studies. The EPRs have considered the values that could be impacted, standard measures and best practice requirements as well as requirements of legislation, policy and guidelines.

Within the EES framework, the overall conclusion is therefore not that the Project is without adverse effects, but that its likely effects have been identified and assessed through an integrated process, that substantial refinement has occurred to avoid and minimise impacts to the extent practicable, and that the proposed EMF and EPRs provide the framework through which those effects would be managed if the Project proceeds. The EMF has been developed to provide a governance framework for the management of environmental impacts that arise from the construction, operation and decommissioning of the Project. The EMF and the associated EPRs are a suitable approach to managing the environment outcomes for this Project and delivering the Project benefits.

On that basis, the EES supports the conclusion that the Project is justified by its broader public value and strategic importance to Victoria and the NEM and provides a sufficient basis for the Minister for Planning's assessment and for subsequent statutory decision-making.

29.8 Next steps in the EES process

The EES will be put on exhibition and during this time, members of the public can view the EES and draft Planning Scheme Amendment and make written submissions.

Following the public exhibition, an independent Inquiry, appointed by the Minister for Planning, will consider the EES, the draft Planning Scheme Amendment and all submissions.

More information on how to make a submission and the inquiry process can be found in the EES Summary Document. Further information is also available on the Engage Victoria website.

With consideration of the EES, public submissions and Inquiry findings, the Victorian Minister for Planning will provide an assessment of the environmental effects of the Project and inform the statutory approvals.

After considering the Victorian Minister for Planning's assessment under the EE Act, the Commonwealth Minister for the Environment will make a determination under the EPBC Act.

If the assessment concludes that the Project's environmental effects will be acceptable, VicGrid VNI West will consider any recommendations and directions that form part of the Minister's assessment and seek to obtain the statutory approvals required to construct and operate the Project. These approvals include approval under the *Planning and Environment Act 1987* through the planning scheme amendment, a decision under the EPBC Act, approval of Cultural Heritage Management Plans under the *Aboriginal Heritage Act 2006* and any other applicable approvals required before construction can commence.

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