***Environment Effects Act 1978***

**SCOPING REQUIREMENTS**

DUNDONNELL WIND FARM PROJECT

ENVIRONMENT EFFECTS STATEMENT

September 2013



For information about the EES process refer to:

http://www.dpcd.vic.gov.au/planning/environment-assessment

Alternatively contact the Environment Assessment Unit within the Department of Transport, Planning and Local Infrastructure:

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**List of Abbreviations**

AH Act *Aboriginal Heritage Act 2006*

C&LP Act *Catchment and Land Protection Act 1990*

CHMP Cultural Heritage Management Plan

DNRE former Department of Natural Resources and Environment

DSE former Department of Sustainability and Environment

DEPI Department of Environment and Primary Industries (formerly DSE and DPI)

DEWHA former Department of the Environment, Water, Heritage and the Arts (Cwlth)

DTPLI Department of Transport, Planning and Local Infrastructure

DPCD former Department of Planning and Community Development (now DTPLI)

DPI former Department of Primary Industries (now DSDBI and DEPI)

DSDBI Department of State Development, Business and Innovation

EE Act *Environment Effects Act 1978*

EES Environment Effects Statement

EMP Environmental Management Plan

EP Act *Environment Protection Act 1970*

EPBC Act *Environment Protection and Biodiversity Conservation Act 1999*

FFG Act *Flora and Fauna Guarantee Act 1988*

ha hectare

km kilometre

kV kilovolt

m metre

MRSD Act *Mineral Resources (Sustainable Development) Act 1990*

NES national environmental significance

NVMF Native Vegetation Management Framework

P&E Act *Planning and Environment Act 1987*

SEPP State Environment Protection Policy

TRG Technical Reference Group

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# INTRODUCTION

## Purpose of this Document

In light of the potential for significant environmental effects, on 21 January 2013 the Victorian Minister for Planning (the minister) determined under the *Environment Effects Act 1978* (EE Act) that an Environment Effects Statement (EES) needs to be prepared by TrustPower[[1]](#footnote-1) for the Dundonnell Wind Farm Project[[2]](#footnote-2) (‘the project’). The purpose of the EES is to provide a detailed description of the project and its potential effects on the environment[[3]](#footnote-3), to inform the public and stakeholders and then to enable a Ministerial Assessment of the project that will inform decision-makers.

This document is the *Scoping Requirements for the Dundonnell Wind Farm Project* (Scoping Requirements), which sets out the specific environmental matters to be investigated and documented in the EES for the project. The scoping requirements were finalised following the consideration of public comments.

While the scoping requirements are intended to be complete in their coverage of issues and matters, the EES will need to address any pertinent issues that may emerge during the EES or that are otherwise relevant to statutory decisions to be informed by the assessment process under the EE Act.

## The Project and Setting

The project is located at Dundonnell, a small settlement approximately 12 kilometres (km) east of Woorndoo and 22 km north-east of Mortlake. The project area will include the wind farm site at Dundonnell and a number of corridors for associated infrastructure to/from the wind farm site.

The wind farm site extends across approximately 4000 hectares (ha) in Dundonnell as shown in Figure 1[[4]](#footnote-4). The site and surrounding land uses are predominantly agricultural with some isolated homesteads. The site lies on the western Victorian volcanic plains and comprises flat to gently undulating terrain. The area generally comprises lower lying grassland, and remnant native vegetation occurring in patches, with shrub land on basalt rock rises.

Key topographic features within the area surrounding the site include Mt Hamilton, with an elevation of 317 metres (m), located approximately 6.5 km north of the northern site boundary, and Mt Fyans, with an elevation of 275 m located along the eastern boundary of the site. The Mt Fyans Reserve is located on the eastern boundary of the site.

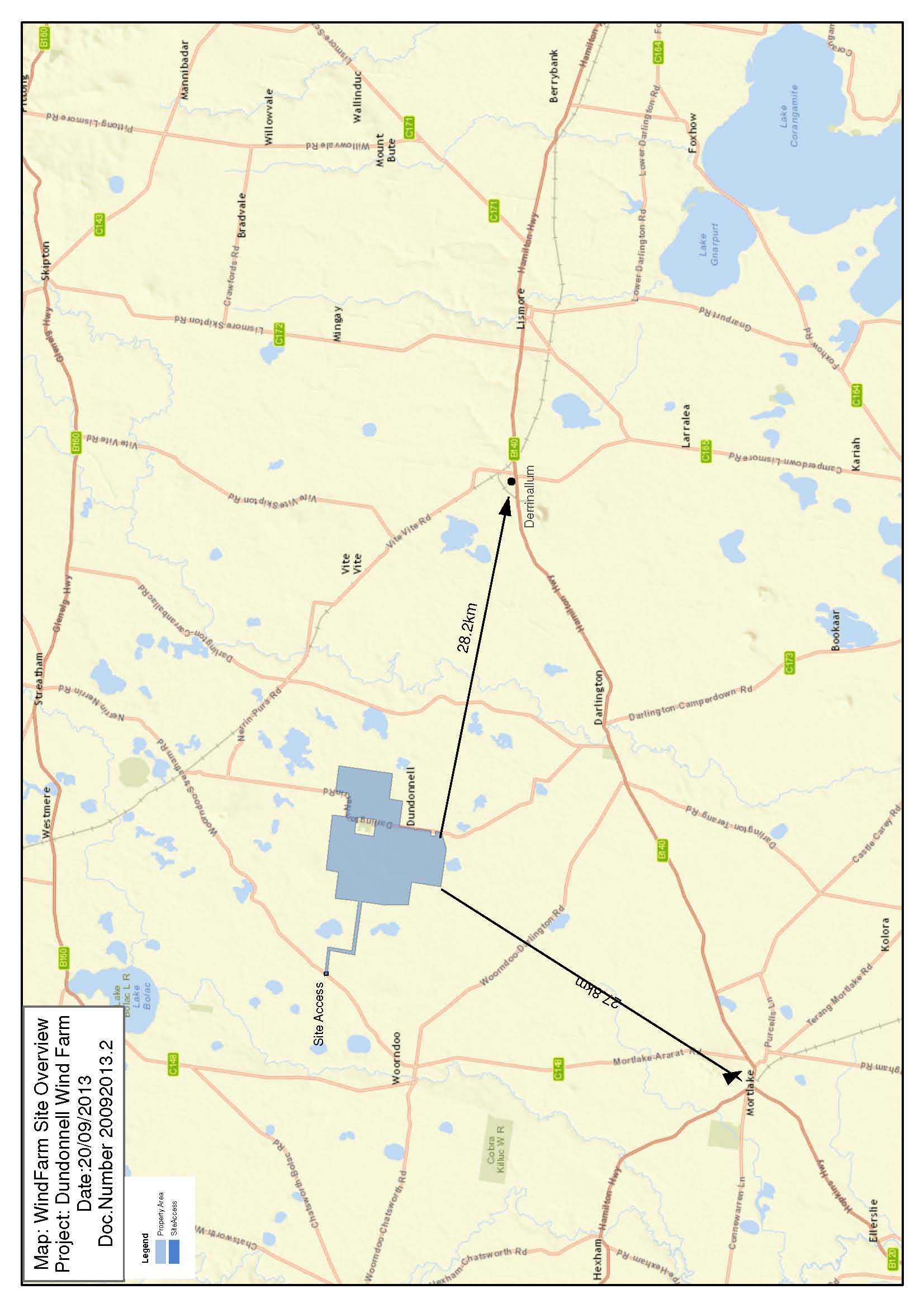
Project components to be constructed on the wind farm site include:

* up to 104[[5]](#footnote-5) wind turbines, with a maximum height to blade tip of approximately 165 m;
* a substation;
* wind monitoring masts (anemometers);
* transmission infrastructure;
* operation and maintenance buildings;
* access tracks;
* site access road;
* a temporary concrete batching plant; and
* an on-site quarry.

Project components outside of the wind farm site include:

* potential upgrade of existing local roads to accommodate the transportation of turbines and construction material, including construction material from existing off-site quarries;
* an overhead electricity line (approximately 33 km long) from the wind farm site to the existing 500 kV Heywood-Moorabool transmission line in the vicinity of the Mortlake Power Station; and
* a site access road connecting Woorndoo-Streatham Road to the wind farm site.

The project is expected to be constructed over a period of 24-36 months and have an operational life of 25 years.

****

**Figure 1. Location of the project**

## Minister’s Requirements for this EES

The procedures and requirements applying to the preparation of the EES are set out in the minister’s decision, in accordance with section 8B(5) of the EE Act. These requirements included the following key matters that the EES is to primarily focus on:

*The EES is to investigate the potential environmental effects of the proposed wind farm and related infrastructure, including associated environmental mitigation and management measures, with a view to identifying a final development scenario for the site to be presented for statutory approvals processes. While addressing the requirements of the Policy and planning guidelines for development of wind energy facilities in Victoria (July 2012), the EES should also have a particular focus on:*

* 1. *Effects on biodiversity, including native vegetation, listed fauna, flora and ecological communities on and near the site, including those associated with access tracks, local road augmentation and the connection to the electricity grid. Of note are the effects of the proposed wind farm on populations of Victorian Brolga and migratory birds, and the need to clarify the potential risk to the Southern Bent-wing Bat and Yellow-bellied Sheath-tail Bat.*
  2. *Effects on geoscience and associated landscape values within the site and region.*
  3. *Cumulative environmental effects, particularly in relation to biodiversity and geoscience values, of the wind farm in combination with other approved and publicly proposed wind energy facilities within the region.*

These Scoping Requirements provide further detail on the specific matters to be investigated in the EES in the context of the *Ministerial guidelines for assessment of environmental effects under the EE Act 1978* (Ministerial Guidelines).

# Assessment Process and Required Approvals

## The EES Process

TrustPower is responsible for preparing the EES, including preparing technical studies and undertaking stakeholder consultation, while the Department of Transport, Planning and Local Infrastructure (DTPLI) is responsible for managing the EES process. The EES process concludes with the Minister’s Assessment of the environmental effects of the project, which is issued to relevant statutory decision-makers to inform decisions on the project.

This EES process has the following steps:

* Preparation of a draft study program and draft schedule by the proponent (completed).
* Preparation and exhibition of the Draft Scoping Requirements by DTPLI on behalf of the minister (completed).
* Finalisation and issuing of Scoping Requirements by the minister (final step).
* Review of the proponent’s EES studies and draft documentation by DTPLI and a Technical Reference Group (TRG)[[6]](#footnote-6).
* Completion of the EES by the proponent.
* Review of the complete EES by DTPLI to establish its adequacy for public exhibition.
* Exhibition of the proponent’s EES and invitation for public comment by DTPLI on behalf of the minister.
* Appointment of an inquiry by the minister to:
  + review the EES and any public submissions;
  + conduct public hearings; and
  + provide a report to the minister.
* Following receipt of the Inquiry report, provision of the Assessment of the project by the minister to decision-makers.

Further information on the EES process can be found on the department’s website at [www.dpcd.vic.gov.au/planning/ees](http://www.dpcd.vic.gov.au/planning/ees).

**Technical Reference Group**

DTPLI will convene an agency-based TRG to advise it and the proponent, as appropriate, on:

* applicable policies, strategies and statutory provisions
* the Scoping Requirements for the EES
* the design and adequacy of technical studies for the EES
* the proponent’s public information and stakeholder consultation program for the EES
* the technical adequacy of draft EES documentation
* coordination of statutory processes.

The TRG will comprise invited representatives of relevant state government agencies and departments, as well as Moyne Shire Council.

**Public Consultation**

In addition to the formal opportunities for public comment on the Draft Scoping Requirements and then the EES, informal consultation also plays an important role in the preparation of the EES. The proponent is responsible for both informing the public and engaging with stakeholders in order to identify and respond to their concerns in conjunction with the EES studies.

Relevant stakeholders include potentially affected parties, the community and interested organisations and individuals, as well as pertinent government bodies.

A stakeholder consultation plan is to be prepared and implemented by the proponent to ensure that the public is familiar with the EES investigations and that relevant stakeholders are consulted on pertinent issues. The proponent’s ‘EES Consultation Plan’ will be published on the DTPLI website and updated as necessary.

The plan should:

* Identify the relevant stakeholder groups.
* Characterise the stakeholder groups in terms of their interests, concerns and consultation needs and potential to provide local knowledge.
* Describe the consultation methods to be used and outline a schedule of consultation activities.
* Outline how inputs from stakeholders will be recorded, considered and/or addressed in the preparation of the EES.

## Required Approvals and Coordination with the EES Process

The project will require a range of approvals under Victorian legislation including:

* Permits under the Moyne Planning Scheme for the use and development of land for a wind energy facility and associated infrastructure, and removal of native vegetation.
* Approval of a Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006* (AH Act).
* A work authority and approved work plan from the Department of State Development, Business and Innovation (DSDBI) to carry out extractive industry under the *Mineral Resources (Sustainable Development) Act 1990* (for development of an on-site quarry).
* A permit to take protected flora under the *Flora and Fauna Guarantee Act 1988* (FFG Act).
* An authorisation to take or destroy native wildlife under the *Wildlife Act 1975*.

The on-site quarry is exempt from the permit requirements of the Moyne Planning Scheme if it is assessed under the EE Act[[7]](#footnote-7)*,* as such a planning permit is not required to use or develop land for extractive industry in these circumstances.

The EES process is coordinated with and will inform the key statutory processes for this project. Therefore DTPLI will coordinate the preparation and exhibition of the EES, relevant consultation as well as public notice requirements under the relevant legislation.

The figure below shows the coordinated statutory assessment and approval pathway for this project.



Figure 1. Coordination of statutory assessment and approvals processes

## Accreditation of the EES Process

The project was also referred to the Australian Government under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The delegate for the Minister for Sustainability, Environment, Water, Population and Communities determined on 3 December 2012 that the project is a ‘controlled action’ and hence requires assessment and approval under the EPBC Act. The controlling provisions for the Australian Government’s controlled action decision under the EPBC Act are:

* threatened species and ecological communities (sections 18 and 18A); and
* listed migratory species (sections 20 and 20A).

The EES is accredited as the assessment process for the EPBC Act under the bilateral agreement between the Commonwealth and Victoria. Note that what are generally termed ‘effects’ in the EES process corresponds to ‘impacts’ under the EPBC Act.

# Matters to be addressed in the EES

## General Approach

The EES needs to assess relevant environmental effects arising from all components and stages of the project. Where relevant, assessments should address direct and indirect, combined, short and long-term, beneficial and adverse effects. The assessment of environmental effects in the EES, at least in the case of significant risks, should include:

* Potential effects including cumulative effects[[8]](#footnote-8) on individual environmental assets, in terms of magnitude, extent and duration of change in the values of each asset, having regard to intended avoidance and mitigation measures.
* The likelihood of adverse effects and associated uncertainty of available predictions or estimates.
* Further management measures that are proposed where avoidance and mitigation measures do not adequately address effects on environmental assets, including specific details of how the measures address relevant policies.
* Likely residual effects assuming proposed measures are implemented.

Further advice on the approach to be adopted in preparing the EES is provided in section .

## General Content and Style of the EES

The content of the EES and related investigations is to be guided by this document (Scoping Requirements) and the Ministerial Guidelines. These Scoping Requirements focus largely on the information or investigations necessary to address matters set out in the minister’s decision (see section 1.3). The EES should also address any other significant issues that may emerge during the investigations. Ultimately, it is the proponent’s responsibility to ensure that adequate studies are undertaken and reported to support the assessment of environmental effects.

To facilitate timely decisions on required approvals, it will be in the proponent’s interest to address pertinent aspects of the *Policy and planning guidelines for development of wind energy facilities in Victoria* (DPCD, July 2012) for planning approval under the Moyne Planning Scheme,and various regulations for a work plan and work authority under the MRSD Act, as part of the EES documentation “package” to be exhibited.

The EES should enable stakeholders and decision-makers to understand the likely environmental effects of the proposed project.

The EES should consist of a main report supported by technical appendices containing relevant data, technical reports and other sources of the EES analysis.

The main EES report should provide a clear, succinct and well-integrated analysis of the potential effects of the proposed project, including proposed mitigation and management measures, as well as relevant alternatives. Overall, the main report should include:

* An executive summary of the potential environmental effects of the project;
* A description of the entire project, including its objectives, key elements, associated requirements for new infrastructure and use of existing infrastructure;
* A description of relevant alternatives capable of substantially meeting the project’s objectives that may also offer environmental or other benefits (as well as the basis for the choice where a preferred alternative is nominated);
* An outline of the approvals required for the project to proceed;
* Descriptions of the existing environment, where this is relevant to the assessment of potential effects;
* Appropriately detailed assessments of potential effects of the project (and relevant alternatives) on environmental assets and values, relative to the “no project” scenario;
* Intended measures for avoiding, minimising, managing and monitoring effects, including a statement of commitment to implement these measures;
* Any proposed offset measures where avoidance and mitigation measures will not adequately address effects on environmental values;
* Responses to issues raised through public and stakeholder consultation;
* Evaluation of the implications of the project and relevant alternatives for the implementation of applicable legislation and policy, including the principles and objectives of ecologically sustainable development and environmental protection; and
* A description of the environmental performance regime and track record of the proponent.

A concise non-technical summary document (hard copy A4) also needs to be prepared by the proponent for free distribution to interested parties. The EES summary document should include details of the EES exhibition and availability of the EES documentation.

Close consultation with DTPLI and the TRG during the investigations and preparation of the EES will be necessary to minimise the need for revisions prior to authorisation of the EES for public exhibition.

Detail on the required scope and content of the EES is covered in the following sections.

## Project Description

The EES is to describe the project in sufficient detail both to allow an understanding of all relevant components, processes and development stages, and to enable assessment of their likely potential environmental effects.

The EES should describe the following aspects of the project, to the extent relevant and practicable:

* An overview of the proponent, including relevant experience in developing and operating projects as well as its health, safety and environmental policies.
* Contextual information on the project, including its objectives and rationale, its relationship to relevant statutory policies, plans and strategies (if relevant), and implications of the project not proceeding.
* Details of all the project components including:
* location,
* footprint and layout,
* technical specifications and design capacity,
* performance requirements,
* methods of construction,
* operational requirements including maintenance activities and decommissioning.
* Land use activities within the vicinity of the project area, supported by plans and maps where applicable.
* Information on the project’s operational life, including expected construction timetabling and staging, and any decommissioning and rehabilitation arrangements.
* Other necessary works directly associated with the project, such as road upgrades, infrastructure and services relocation, or augmentation of existing plant and facilities.

## Relevant Alternatives

The EES should document the consideration of alternatives and the explanation of selection process for the alternatives identified and evaluated through the EES. The EES should investigate and document the likely environmental effects of relevant alternatives, particularly where these offer a distinct potential for superior environmental outcomes and are capable of meeting the objectives of the project. In the first instance, the discussion of relevant alternatives should include:

* Turbine models and configurations (including height, blade length and generator models);
* Power line route selection process and investigations into the potentially suitable technologies, including but not limited to, undergrounding;
* Infrastructure layouts; and
* Route and site selection processes.

Where appropriate, the assessment of environmental effects of relevant alternatives is to address the matters set out in the subsequent sections of this document.

Overall, the depth of investigation of alternatives should be proportionate to their potential to minimise adverse effects, while the depth of investigation of particular environmental effects should be proportionate to their associated risks.

## Applicable Legislation, Policies and Strategies

The EES will need to identify relevant legislation, policies, guidelines and standards, and assess their specific requirements or implications for the project, particularly in relation to required approvals, including (but not limited to):

* *Planning and Environment Act 1987* (P&E Act)*,* and relevant provisions in the Moyne Planning Scheme
* *Environment Protection Act 1970* (EP Act)*,* including the principles of environment protection and relevant State Environment Protection Policies (SEPPs)
* FFG Act
* EPBC Act (Cwlth)
* *Wildlife Act 1975*
* AH Act
* *Heritage Act 1995*
* *Water Act 1989*
* MRSD Act
* *Catchment and Land Protection Act 1990* (C&LP Act)
* EPBC Act
* *Road Management Act 2004.*

Policy documents that may be relevant to the assessment of the project include, but are not limited to:

* *Policy and planning guidelines for development of wind energy facilities in Victoria* (DPCD, July 2012)
* *New Zealand Standard NZS 6808:2010 - Wind Farm Noise*
* *Glenelg Hopkins Draft Regional Catchment Strategy (2012 - 2018)*
* NVMF[[9]](#footnote-9)
* *Action Statement FFG Act No. 119 Grus Rubicunda* (Department of Sustainability and Environment (DSE) 2003), and any other relevant recovery plans or action statements for affected species/communities that are listed under Commonwealth and Victorian legislation
* *Biodiversity Action Planning Landscape Plans for the Eastern Zone – Victorian Volcanic Plain Bioregion* and the associated *Landscape Plan for the Dundonnell Landscape Zone – May 2003*
* *Interim Guidelines for the Assessment, Avoidance, Mitigation and Offsetting of Potential Wind Farm Impacts on the Victorian Brolga Population 2011. Revision 1 February 2012* (DSE 2012)
* *Survey Guidelines for Australia’s Threatened Bats* (DEWHA, 2010)
* *Guidelines for Bat Surveys in relation to Wind Farm developments* (DSE 2007)
* *Ground vibration and airblast limits for blasting in mines and quarries* (DNRE, 2001)
* *Management of water in mines and quarries* (DPI)
* *Extractive industry work plan guideline* (DPI, 2010)
* *Rehabilitation plans and other environmental aspects of work plans* (DPI, 2004)
* *Draft EPBC Act policy statement 3.21 - Significant impact guidelines for 36 migratory shorebird species*
* *Draft background paper to EPBC Act policy statement 3.21.*

The EES will need to explicitly address Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* in the context of assessing effects on matters of national environmental significance (NES).

## Outcomes of Consultation

The proponent is responsible for informing the public and consulting with stakeholders throughout the preparation of the EES, in accordance with a suitable ‘EES Consultation Plan’ (refer to section of this document).

Further to this, the EES should document the process and results of the consultation undertaken during the preparation of the EES, including:

* Issues raised and suggestions made by stakeholders or members of the public and the responses then made by the proponent in the context of the EES studies or associated consideration of mitigation measures.
* An outline of a program for community consultation, stakeholder engagement and communications during the construction and operation of the project, including opportunities for local stakeholders to engage with the proponent to seek responses to issues that might arise when the project is undertaken.

## Draft Evaluation Objectives

The following draft evaluation objectives identify desired outcomes in the context of potential project effects. They provide a framework to guide an integrated assessment of environmental effects, in accordance with the Ministerial Guidelines. The objectives, together with specific assessment criteria, may be refined by the proponent as the EES is prepared.

The framing of the draft objectives reflects the key matters to be investigated for the EES (refer to section ), relevant legislation and policies (section ), the objectives and principles of ecologically sustainable development and environmental protection, as well as environmental issues identified by the proponent in preliminary documentation.

Table 1. Draft Evaluation Objectives

|  |  |
| --- | --- |
| **Draft Evaluation Objective** | **Key legislation** |
| Biodiversity – *To avoid or minimise adverse effects on native vegetation and listed flora and fauna species and ecological communities, including those listed under the FFG Act or EPBC Act, and address opportunities for offsetting potential losses consistent with relevant policy.* | P&E Act  FFG Act  Wildlife Act  EPBC Act |
| Landscape and Geoscience Values – *To avoid or minimise adverse effects on the landscape and geoscience values of the region.* | P&E Act |
| Land use and Socio-economic – *To avoid or minimise disruption and other adverse effects on local infrastructure (including roads), land use (including agricultural and residential) and to neighbouring landowners and road users during construction and operation of the project.* | P&E Act |
| Amenity – *To avoid or minimise adverse noise, visual and other amenity effects on nearby residents and local communities, to the extent practicable.* | EP Act  P&E Act  MRSD Act |
| Cultural Heritage – *To avoid or minimise adverse effects on Aboriginal and historic cultural heritage and associated values*. | AH Act  Heritage Act |
| Catchment Values – *To maintain the functions and values of aquatic environments, surface water and groundwater, including avoiding effects on hydrology and protected beneficial uses.* | C&LP Act  EP Act  Water Act |
| Environmental Management Framework – *To provide a transparent framework with clear accountabilities for managing environmental effects and hazards associated with construction, operation, decommissioning and rehabilitation phases of the project, in order to achieve acceptable environmental outcomes.* | P&E Act  MRSD Act |
| Sustainable Development – *Overall, to ensure that the Dundonnell Wind Farm Project achieves a balance of economic, environmental and social outcomes that contributes to sustainable development and provides a net community benefit over the short and longer-term.* | P&E Act |

# Assessment of Specific Environmental Effects

## Approach to Assessment

Preparation of the EES document and the necessary investigation of effects should be consistent with the principles of a systems approach and risk-based approach, as outlined in the Ministerial Guidelines[[10]](#footnote-10).

The following sections set out specific requirements for the assessment of effects, using the following structure for each draft evaluation objective:

* ***Key issues for objective****,* in terms of significant issues or risks that the project poses to the achievement of the draft evaluation objective. In addition to addressing the highlighted issues, the proponent might undertake an appropriate environmental risk assessment.
* ***Priorities for characterising the existing environment***, which are needed to underpin predictive impact assessments having regard to the level of risk. A risk assessment by the proponent could guide the necessary data gathering.
* ***Design and mitigation measures****,* in terms of design or other available measures that could substantially reduce and/or mitigate the risk of significant adverse effects.
* ***Assessment of likely effects****,* in terms of predictive studies or estimates of effects that are reasonably likely, as well as evaluation of their significance, having regard to their likelihood.
* ***Approach to manage performance,***in terms of further measures that are proposed to manage risks of effects, assuming that identified design and mitigation measures are applied, to achieve appropriate outcomes. This should inform the documentation of likely residual effects (assuming proposed measures are implemented).

## Biodiversity and Habitat*[[11]](#footnote-11)*

**Draft Evaluation Objective -** *To avoid or minimise adverse effects on native vegetation and listed flora and fauna species and ecological communities, including those listed under the FFG Act or EPBC Act, and address opportunities for offsetting potential losses consistent with relevant policy.*

**Key Issues**

* Loss of native vegetation and associated listed vegetation communities and flora, including Spiny Rice-flower, Basalt Greenhood, Button Wrinklewort, Fragrant Leek-orchid, Small Golden Moths Orchid Clover Glycine, and Natural Temperate Grassland of the Volcanic Plains, Grassy Eucalypt Woodland of the Victorian Volcanic Plain and Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains.
* Loss of, or degradation to, habitat for species of fauna listed under the FFG and EPBC Acts, in particular Brolga, Latham’s Snipe, Corangamite Water Skink, Growling Grass Frog, Striped Legless Lizard, Southern Bent-wing Bat and Yellow-bellied Sheath-tail Bat and relevant migratory species.
* Cumulative effects on listed species of fauna, in particular Brolga, from the project in combination with other wind energy facilities[[12]](#footnote-12).

**Priorities for characterising the existing environment**

* Characterise the distribution and quality of biodiversity values that could be affected by the project, including native vegetation, terrestrial and aquatic habitat and patterns of wildlife movement in the area that could be impacted by the project.
* Identify the existence or likely existence of any species or communities listed under the EPBC Act and the FFG Act and any declared weeds or pathogens.
* This characterisation is to be informed by relevant databases, literature and appropriate targeted and/or seasonal surveys and modelling where appropriate. In the absence of positive identification of the presence of listed species and communities, but where suitable habitat is identified, a precautionary approach to the further investigation and assessment of its occurrence should be applied.

**Design and mitigation measures**

* Identify and describe the potential and proposed design and mitigation measures, which could avoid or minimise significant effects on native vegetation, and/or any listed flora, fauna and ecological communities.

**Assessment of likely effects**

* Assess the direct and indirect effects of the project on native vegetation, and listed ecological communities and flora species.
* Assess the direct and indirect effects of the project on listed threatened and migratory fauna species and their habitats.

**Approach to manage performance**

* Describe and evaluate proposed measures or performance requirements, as appropriate, to further mitigate or manage residual effects of the project on biodiversity values and provide an estimation of likely residual effects.
* Identify proposed offset measures to address requirements of applicable state government native vegetation policy and the EPBC Act *Environmental Offsets Policy* (October 2012).

## Landscape and Geoscience Values

**Draft Evaluation Objective -** *To avoid or minimise adverse effects on the landscape and geoscience values of the region.*

**Key Issues**

* Potential effects on significant volcanic or other landforms of geoscience value through removal or covering of features or reshaping of surfaces.
* Potential effects on significant landscape values of the region.

**Priorities for characterising the existing environment**

* Characterise the landscape character[[13]](#footnote-13), features and values of the project site area, their significance and sensitivity to change.
* Identify the features of geoscience value of the project site and the surrounding area, their significance and sensitivity to change.

**Design and mitigation measures**

* Outline and evaluate potential project design and turbine and quarry siting options that could mitigate potential effects on significant landscape and geoscience values.

**Assessment of likely effects**

* Assess the likely effects of the project on identified landscape and geoscience values, including in the context of the objectives of the Kanawinka Global Geopark.
* The assessment of likely cumulative landscape effects should take account of wind farms viewed from key vantage points as well as viewed sequentially and in combination along significant tourist routes.

**Approach to manage performance**

* Describe and evaluate any proposed additional measures to further manage or monitor effects on landscape and geoscience values and resulting residual effects.

## Land use and Socio-economic

**Draft Evaluation Objective -** *To avoid or minimise disruption and other adverse effects on local infrastructure (including roads), land use (including agricultural and residential) and to neighbouring landowners and road users during construction and operation of the project.*

### 4.4.1 Land use and Socio-economic

**Key Issues**

* Potential for wind farm to unreasonably disrupt existing and/or proposed land uses, with associated economic and social effects on households and businesses.

**Priorities for characterising the existing environment**

* Describe the project area in terms of land use (existing and proposed), residences, zoning and overlays under the Moyne Planning Scheme and public infrastructure that support current patterns of economic and social activity[[14]](#footnote-14).

**Design and mitigation measures**

* Identify any proposed measures to mitigate adverse land use effects.
* Demonstrate whether the project is consistent with relevant provisions of the Moyne Planning Scheme and other relevant strategies made under Victorian legislation.

**Assessment of likely effects**

* Identify potential long and short-term effects of the project on existing and potential proposed land uses (such as aerial spraying and other agricultural activities) and public infrastructure (such as roads, transport routes, transmitters and receivers).
* Identify the potential economic effects, taking into account direct and indirect consequences of the project on employment and existing economic land uses within the area.

**Approach to manage performance**

* Identify proposed management and monitoring measures to further reduce the risk of effects and provide an estimation of likely residual effects.

### 4.4.2 Traffic and Roads

**Key Issues**

* Potential for unreasonable effect on local roads and road users during construction of the wind farm project.

**Priorities for characterising the existing environment**

* Describe the existing road network surrounding the project area in terms of capacity, condition, accessibility and travel.

**Design and mitigation measures**

* Describe chosen traffic routes and any other measures (e.g. upgrades) designed to mitigate effects on traffic networks.

**Assessment of likely effects**

* Assess the potential effects of construction activities on existing traffic, preferred traffic routes and road conditions. This assessment should take account of amenity and accessibility impacts on adjoining residents and in nearby townships, and physical impacts on the road infrastructure.
* Identify any additional road works/upgrades required to accommodate the wind farm traffic during the construction stage, and any significant environmental effects arising from such works.
* Assess the effect of the project on State and local infrastructure capacity and demand (including road maintenance costs and the need for additional emergency response capacity).

**Approach to manage performance**

* Outline and evaluate any proposed measures designed to manage and monitor residual effects on local infrastructure, land use and neighbouring landowners and road users.

## Amenity

**Draft Evaluation Objective -** *To avoid or minimise adverse noise, visual and other amenity effects on nearby residents and local communities, to the extent practicable.*

**Key Issues**

* Increase in noise levels from the project for nearby sensitive receptors (including traffic noise and vibration during construction).
* Potential for nearby sensitive receptors to be exposed to unacceptable changes to the visual amenity[[15]](#footnote-15), including blade glint and shadow flicker, from project infrastructure, including turbines and grid connection infrastructure.

**Priorities for characterising the existing environment**

* Identify sensitive receptors that may be subject to the various amenity effects from the project including, but not limited to, all dwellings within 2 km of wind turbines.
* Identify significant public and private viewsheds to and from the project.
* Identify the components of the project that may result in a significant visual amenity effect including turbines, electricity lines and the connection to the grid and terminal station.
* Characterise the ambient noise environment.

**Design and mitigation measures**

* Outline and evaluate potential design and siting options that could mitigate effects on visual amenity from adjoining residences.
* Describe and evaluate both potential and proposed design responses and/or other mitigation measures (construction equipment, staging and scheduling of works), which could minimise noise and vibration effects on sensitive receptors.

**Assessment of likely effects**

* Assess the visual effect of the project, including blade glint and shadow flicker, on neighbouring dwellings. Use photomontages or other visual techniques to support this assessment.
* Assess the potential for construction and operation of the project to increase noise levels and/or vibration at sensitive receptors. The assessment should include an estimation of noise (including tonal and infra-sound) from all project-related sources at different times over a 24-hour cycle to establish the likely conditions to be experienced at sensitive receptors.
* Assess the potential effects from the proposed on-site quarry activities on sensitive receptors (including air blast, vibration, fly rock).

**Approach to manage performance**

* Identify residual effects on visual amenity and outline any additional measures to manage these effects, including in the context of potential rehabilitation and restoration work following decommissioning.
* Outline and evaluate proposed additional measures to monitor and manage noise and vibration levels to minimise residual effects and ensure compliance with standards, where necessary.

## Cultural Heritage

**Draft Evaluation Objective -** *To avoid or minimise adverse effects on Aboriginal and historic cultural heritage and associated values.*

**Key Issues**

* Destruction or disturbance of sites or places of Aboriginal or historic cultural heritage significance.

**Priorities for characterising the existing environment**

* Provide contextual information on past and contemporary activities in the project area by Aboriginal people.
* Identify and document any Aboriginal cultural heritage sites or areas of sensitivity within the project area, supported by appropriate consultation and investigations.
* Provide a thematic environmental history of the project area using Appendix 4 – “Guidelines for Thematic Environmental Histories” of the Heritage Victoria Model Consultant Brief for Heritage Studies (January 2010).
* Identify and map places and sites of known cultural heritage significance within and adjoining the project area, including places listed on the Victorian Heritage Register or Heritage Inventory as well as places subject to Heritage Overlays in the Moyne Planning Scheme.
* Describe field investigations undertaken to identify previously unidentified or unassessed heritage places and sites, including archaeological sites, within or near the project area.

**Design and mitigation measures**

* Describe and evaluate proposed design, construction method or site protection measures which could avoid or minimise direct impacts on Aboriginal and historic cultural heritage values.

**Assessment of likely effects**

* Assess potential effects of the project on identified sites or places of Aboriginal cultural heritage significance.
* In consultation with Moyne Shire Council or Heritage Victoria, as relevant, prepare a heritage assessment of any previously unidentified or unassessed cultural heritage places or sites, including mapping the extent of the place or site[[16]](#footnote-16).
* Prepare a heritage impact statement for each identified place and site of cultural heritage significance within the project area (refer to the Heritage Council’s Heritage Impact Statement Guidelines). The Heritage Impact Statement should identify and assess the potential effects of the project on heritage places and sites, including whether the project will affect the setting and context of heritage places and sites.

**Approach to manage performance**

* Outline and evaluate any proposed additional measures to mitigate and manage residual effects on:
  + sites and places of Aboriginal cultural heritage significance, within the framework of a draft CHMP[[17]](#footnote-17); and
  + sites and places of historic heritage significance, including site investigation, documentation and recording procedures.

## Catchment Values

**Draft Evaluation Objective -** *To protect catchment values and aquatic environments, surface water and groundwater quality, hydrology and receiving water environments, including avoiding effects on protected beneficial uses.*

**Key Issues**

* Potential for the project to have a significant effect on groundwater and its beneficial uses.
* Potential for the project to have a significant effect on hydrology and affect existing sedimentation and erosion processes leading to land degradation.

**Priorities for characterising the existing environment**

* Characterise the groundwater and surface water environments and drainage features in the project area, including the occurrence and representation of different wetland types.
* Characterise the soils in the project area.

**Design and mitigation measures**

* Identify proposed measures to mitigate any potential effects, including any relevant design features or preventative techniques to be employed during construction.

**Assessment of likely effects**

* Identify and assess potential effects of the project on water environments and beneficial uses, including on permanent and ephemeral wetland systems, waterways, and surface water and groundwater flow and quality.
* Identify and assess potential effects of the project on soil stability, erosion and the exposure and disposal of any waste or hazardous soils.

**Approach to manage performance**

* Identify any additional measures to manage and monitor effects on catchment values and identify likely residual effects.

## Environmental Management Framework

**Draft Evaluation Objective -** *To provide a transparent framework with clear accountabilities for managing environmental effects and hazards associated with construction, operation, decommissioning and rehabilitation phases of the project, in order to achieve acceptable environmental outcomes.*

**Key Issues**

* Weak management of environmental effects during project construction and operation could result in failure to meet statutory requirements and sustain stakeholder confidence.

**Priorities for characterising the existing environment**

* Outline the means by which a register of environmental risks associated with the project will be developed and maintained during project implementation (including matters identified in preceding sections in these directions as well as other pertinent risks).

**Design and mitigation measures**

* Provide a proposed framework for managing the risks of adverse environmental effects, including:
* the context of required approvals and consents, in particular requirements for related environmental management plans (EMPs);
* the environmental management system to be adopted, including organisational responsibilities and accountabilities;
* a summary of environmental management measures proposed in the EES to address specific issues, including commitments to mitigate adverse effects and enhance environmental outcomes;
* proposed objectives, indicators and monitoring requirements, including for managing:

- community engagement

- effects on transport and local infrastructure

- biodiversity issues, including bird and bat mortality and any contingency or offsetting measures, if required

- noise and vibration

- blade glint and shadow flicker

- surface runoff and groundwater effects

- cultural heritage; and

* outline of any relevant EMPs for construction and operational phases.

**Assessment of likely effects**

* Evaluate the likely effectiveness of the proposed environmental management framework in controlling adverse effects.

**Approach to manage performance**

* Procedures for:
* verifying or monitoring environmental performance and compliance with requirements
* review of the effectiveness of the environmental management framework for continuous improvement.
* Arrangements for management of and access to baseline and monitoring data, to ensure the transparency and accountability of environmental management, as well as to contribute to the improvement of environmental knowledge.

## Sustainable Development

**Draft Evaluation Objective -** *Overall, to demonstrate that the project would achieve a balance of economic, social and environmental outcomes that contribute to ecologically sustainable development and provide a net community benefit over the short and long-term.*

**Key issues**

* The balance of economic, social and environmental outcomes from the project needs to be beneficial.

**Assessment of likely effects**

* Provide an integrated assessment of the economic, social and environmental performance of the project either proceeding or not, drawing on the findings of the specific assessments set out above, including the proposed approaches to avoiding, mitigating, managing and offsetting potential adverse effects.
* Provide a proportionate assessment of any relevant aspects of sustainability not otherwise addressed in the preceding sections.
* Evaluate the overall implications of the project in the context of key aspects of legislation and statutory policy, as well as the principles and objectives of ecologically sustainable development and environment protection.

1. The project was referred by NewEn Pty Ltd, however the project was subsequently sold to TrustPower. For ease of reading, all references to the proponent are to TrustPower. [↑](#footnote-ref-1)
2. The project is to be considered in terms of proposed works noting that the EE Act is concerned with the effects of works to which the Act applies (see section 8B(7)). [↑](#footnote-ref-2)
3. For the purpose of assessment of environmental effects under the EE Act, the meaning of ‘environment’ includes physical, biological, heritage, cultural, social, health, safety and economic aspects (Page 2 of the Ministerial Guidelines). [↑](#footnote-ref-3)
4. Note that the site area has been increased following the referral of the project in October 2012. The land added to the original site area is shown shaded in Figure 1. [↑](#footnote-ref-4)
5. Note that while the original referral of the project in October 2012 stated a maximum of 89 turbines, the Minister was subsequently notified of a project variation to a maximum of 104 turbines. [↑](#footnote-ref-5)
6. For critical components of the EES studies, peer review by an external, independent expert may be appropriate. [↑](#footnote-ref-6)
7. Refer to Section 77T of the MRSD Act. [↑](#footnote-ref-7)
8. In order to assess cumulative impacts, the EES needs to identify surrounding wind energy facilities that: (a) are operational; (b) have been approved; (c) have been referred under the *Environment Effects Act 1978*; and/or (d) are the subject of planning permit applications under the *Planning and Environment Act 1987*. [↑](#footnote-ref-8)
9. As part of implementation of reforms to the native vegetation permitted clearance regulations the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* will replace *Victoria’s Native Vegetation Management - Framework for Action*, as an incorporated document in Victorian planning schemes from September 2013. [↑](#footnote-ref-9)
10. Page 14 of the *Ministerial Guidelines*:

    “A *systems* approach involves the consideration of potentially affected environmental systems and interacting environmental elements and processes. This will enable potential interdependencies to be identified, helping to focus relevant investigations and identify opportunities to avoid, mitigate or manage adverse effects. An inter-disciplinary approach should be adopted where appropriate.

    A *risk-based* approach should be adopted in the assessment of environmental effects so that suitable, intensive, best practice methods can be applied to accurately assess those matters that involve relatively high levels of risk of significant adverse effects and guide the design of strategies to manage these risks. Simpler or less comprehensive methods of investigation may be applied to matters that can be shown to involve lower levels of risk.

    Implementation of a risk-based approach means that a staged study design may be appropriate. The initial phase of investigation should characterise environmental assets that may be affected, potential threats arising from a project, and the potential environmental consequences. This phase should enable the design of any necessary further studies proportionate to the risk to analyse the consequences and likelihood of adverse effects.” [↑](#footnote-ref-10)
11. The EES should also include a separate chapter addressing matters of NES in the context of Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000*. [↑](#footnote-ref-11)
12. Refer to section 3.1 in relation to the assessment of cumulative effects. [↑](#footnote-ref-12)
13. The term ‘landscape’ here refers to the concept of visual and related scientific qualities of the area providing an environmental value and a public good. It is distinct from the visual amenity experienced by individuals who have outlooks from their properties towards the project area and associated infrastructure. [↑](#footnote-ref-13)
14. Moyne Shire Council should be consulted with this assessment. The EES should also identify whether any planning permits are required to facilitate the project. [↑](#footnote-ref-14)
15. Note the visual assessment should be subject to independent peer review. [↑](#footnote-ref-15)
16. Refer to the Heritage Council’s Victorian Heritage Register Criteria and Thresholds Guidelines (December 2012), DPCD’s Practice Note 1: Applying the Heritage Overlay and the Guidelines for Investigating Historical Archaeological Artefacts and Sites (Heritage Council and Heritage Victoria, 2012). [↑](#footnote-ref-16)
17. Refer to DPCD’s *EES Advisory Note: Cultural Heritage and the EES Process* for further advice. [↑](#footnote-ref-17)