

# EPBC Act referral



Australian Government  
Department of Agriculture, Water and the Environment

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<b>Title of proposal</b>	<b>2020/8734 - Winterbourne Wind Farm</b>
<b>Section 1</b>	
<b>Summary of your proposed action</b>	
<b>1.1 Project industry type</b>	Energy Generation and Supply (renewable)
<b>1.2 Provide a detailed description of the proposed action, including all proposed activities</b>	
<p>Winterbourne Wind Pty Ltd (WWPL) proposes to construct and operate the Winterbourne Wind Farm project (WWF, or the proposal), a renewable energy development located to the north and east of Walcha in the Northern Tablelands of New South Wales (NSW). The proposal extends around an area of approximately 24,400 hectares, at an elevation of approximately 1,100 to 1,300 metres (above sea level), and comprises hills and ridgelines rising out of the Walcha Plateau.</p> <p>The proposal is located across two LGAs, the Walcha and Uralla Shire Council areas. The proposal comprises land zoned RU1 – Primary Production, a rural zone primarily intended to promote sustainable primary industry production. The areas surrounding the proposal are generally zoned RU1 – Primary Production, with the E1 National Parks and Nature Reserve (Oxley Wild Rivers National Park) to the east of the proposal, and a mixture of land uses within the Walcha town centre, approximately 6 km from the proposal. There are areas of Crown land near the proposal, however none within the proposal.</p> <p>The proposal will consist of up to 126 turbines and a combined maximum installed capacity of 700 MW.</p> <p>The proposal would also include an internal electrical reticulation network (both overhead and underground), three on-site substations, new and upgraded access roads, temporary construction facilities (including concrete batching plants), and operation and maintenance buildings. Large-scale battery storage is also proposed for the wind farm to support stabilising the supply of electricity to the National Electricity Market (NEM).</p> <p>The proposal will also include approximately 30 km of 330kV overhead transmission line running northwest from the proposal and connecting to the existing grid network operated by TransGrid at a new switchyard which would be constructed approximately 7 km south of Uralla, NSW.</p> <p>The proposal will likely utilise Vestas turbines, and the Vestas V-162 5.6 MW (or larger) is currently preferred. Vestas may have future turbine options available and these may be considered by WWPL. Regardless, the proposed turbines will have a hub height of around 155 to 160 metres and a maximum tip height of 250 metres, the latter corresponding to the maximum tip height proposed for the proposal.</p> <p>WWF will require fixed or mobile concrete batching plant/s to service the construction. The locations and size of project offices, ancillary facilities and on-site substations for the construction and operational phases (e.g. maintenance) are unknown at this time. These features will be addressed as the wind farm design progresses and will be detailed in the EIS.</p> <p>Four haulage route options have been identified:</p> <p>Option 1 - Exit the New England Highway near Bendemeer onto the Oxley Highway (B56) and travel through the Walcha township, taking a left on Derby Street and a right on Jamieson Street after the Walcha Showground. From there, the site could be accessed via Emu Creek Road, by either Winterbourne Road or Moona Plains Road (both paved roads), and various unsealed roads (eg Blue Mountains Road, Bark Hut Road, Rowleys Creek Road, East Lynne Road, Mirani Road, and others). This option would potentially require reinforcement of some local bridges and the re-establishment of a roundabout in town, plus upgrades to local roads as required.</p> <p>Option 2 - Continue on the New England Highway towards Uralla and return to Walcha on Thunderbolts Way, turning left onto Jamieson Street to access Emu Creek Road and subsequent local roads described in Option 1. This route does not require entry through the Walcha township but does require tight turns at the intersections of both the New England Highway and Salisbury St, and at Salisbury Street and Duke Street in Uralla. This route would potentially require upgrades to two bridge crossings, plus upgrades to local roads as required.</p> <p>Option 3 - Continue on New England Highway towards Uralla and return to Walcha on Thunderbolts Way turning left onto Jamieson Street to access Emu Creek Road, and subsequent local roads described in Option 1. This road does not require entry through Uralla or Walcha township, but does require tight turns at the intersections of both the New England Highway and Rowan Avenue, and at Rowan Avenue and Thunderbolts Way in Uralla. The intersections at Rowan Avenue would potentially need widening, along with local road upgrades where required.</p> <p>Option 4: Exit the New England Highway near Bendemeer onto the Oxley Highway (B56) towards Walcha township, taking a left on Saleyards Road and a left on Darjeeling Road. From there, the site can be accessed by turning right on Thunderbolts Way, then left onto Jamieson Street to access Emu Creek Road and subsequent local roads described in Option 1. This road does not require entry through Uralla or Walcha township. Intersection widening may be required at tight bends, along with potential upgrades to local roads.</p>	
<b>1.3 What is the extent and location of your proposed action?</b>	
See Appendix B	



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**1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland)**

The proposal is situated approximately 425 kilometres (by road) from Sydney and 180 kilometres north-west of Port Macquarie. It is located ~75 kilometres north-east of Tamworth and ~35 kilometres south-south-west of Armidale. The proposal is located to the northeast of the town of Walcha and is roughly bounded by Thunderbolts Way to the west, the Oxley Highway to the south, the Oxley Wild Rivers National Park to the east, and the Salisbury Plains to the north. The proposal is located on land comprised of hills and ridgelines rising out of the Walcha Plateau. The proposal consists of many low peaks and ridgelines which provide suitable locations for the construction of wind turbines. There are existing access roads to and within the site, allowing for transport of turbine blades, towers, and electrical infrastructure.

**1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?**

The proposal covers an area of approximately 24,400 ha. Additionally, the proposal will include an overhead 330kV transmission line running northwest from the proposal approximately 30km to a proposed connection point located approximately 7km south of Uralla, NSW. The proposal may include the following infrastructure within the development footprint:

- 126 wind turbine generators
- internal access roads
- one main substation and two collector substations
- approximately 164 kilometres of internal electrical reticulation
- a switchyard and other electrical equipment providing connection to the existing 330kV network
- a 100MW/200MWh large-scale battery storage
- temporary construction facilities
- a concrete batching plant
- operations and maintenance building, and
- laydown areas.

In addition to the above infrastructure, road upgrades including widening and intersection treatments may be required at a number of locations.

**1.7 Proposed action location**

Other - The proposal covers mostly private land parcels within the Walcha Plateau.

**1.8 Primary jurisdiction** New South Wales

**1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?**

Yes  No

**1.10 Is the proposed action subject to local government planning approval?**

Yes  No

**1.11 Provide an estimated start and estimated end date for the proposed action**

Start Date	31/12/2022
End Date	31/12/2055

**1.12 Provide details of the context, planning framework and state and/or local Government requirements**

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides for Commonwealth assessment and approval of proposals that may have a significant impact on any of the nine 'Matters of National Environmental



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Significance' (MNES). Approval from the Minister for the Commonwealth Department of Agriculture, Water and the Environment (DAWE) is required for any action that may have a significant effect on one or more MNES. If the Minister declares the action a "controlled action", the action must be subject to an impact assessment under Part 8 of the EPBC Act.

The relevant NSW planning legislation is the Environmental Planning and Assessment Act 1979 (EP&A Act). Approval for the proposal is being sought under the State Significant Development (SSD) provisions (Division 4.1) of Part 4 of the EP&A Act. Condition 8(ii) of the State Environmental Planning Policy (State and Regional Development) 2011 (State and Regional SEPP) declares development as SSD if the development is specified in Schedule 1 or 2. The project would be classified as 'Electricity generating works...' as defined under Schedule 1 of the State and Regional SEPP as: "Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that: (a) has a capital investment value of more than \$30 million.

Section 4.41 of the EP&A Act lists authorisations which are not required for SSD projects that are authorised by a development consent, including:

- Fisheries Management Act 1994: a permit under Section 201, 205 or 219.
- Heritage Act 1977: an approval under Part 4, or an excavation permit under Section 139.
- National Parks and Wildlife Act 1974: an Aboriginal heritage impact permit under Section 90.
- Rural Fires Act 1997: a bush fire safety authority under Section 100B.
- Water Management Act 2000: a water use approval under Section 89, a water management work approval under Section 90 or an activity approval (other than an aquifer interference approval) under Section 91.

An Environmental Impact Statement (EIS) will be prepared for this project to address Secretary's Environmental Assessment Requirements (SEARs), including the Wind Energy Framework. The EIS at a minimum will include:

- Assessment of biodiversity values and the likely biodiversity impacts of the development in accordance with the BC Act, NSW Biodiversity Offsets Scheme, Biodiversity Assessment Methodology (2017) and EPBC Act.
- Assessment of impacts as a result of the project on birds and bats, including blade strike, low air pressure zones at the blade tips (barotrauma), alteration to movement patterns, and cumulative impacts of other wind farms in the vicinity.

The proposal will also be conducted in accordance with the Biodiversity Conservation Act 2016 (BC Act). The BC Act establishes mechanisms for:

- The management and protection of listed threatened species of native flora and fauna (excluding fish and marine vegetation) and threatened ecological communities (TECs).
- The listing of threatened species, TECs and key threatening processes.
- The development and implementation of recovery and threat abatement plans.
- The declaration of critical habitat.
- The consideration and assessment of threatened species impacts in development assessment process.
- Biodiversity Offsets Scheme (BOS), including the Biodiversity Values Map and BAM to identify serious and irreversible impacts.

The BC Act establishes a new regulatory framework for assessing and offsetting biodiversity impacts on proposed developments. Where development consent is granted, the authority may impose as a condition of consent an obligation to retire a number and type of biodiversity credits determined under the BAM. The Biodiversity Offsets Scheme applies to state significant development and state significant infrastructure projects, unless the Secretary of DPIE determines that the proposal is not likely to have a significant impact. Based on the assessment of preliminary biodiversity values, the proposal is likely to require the preparation of a Biodiversity Development Assessment Report (BDAR) to support any EIS being prepared. The assessment will be conducted in accordance with the Biodiversity Assessment Method (BAM).

Other relevant legislation and frameworks includes:

- Biosecurity Act 2015
- State Environmental Planning Policy (Koala Habitat Protection) 2019
- Local Land Services Act 2013
- Fisheries Management Act 1994

### **1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders**

Public Consultation and Stakeholder Engagement

Stakeholder Engagement is being managed through the Stakeholder Engagement & Consultation Strategy (SEC Strategy) prepared to support the Scoping Report for the proposal. The SEC Strategy documents the communications and consultation framework and activities that WWPL will undertake during the project lifecycle spanning across development, construction, operations and subsequent decommissioning.

The following stakeholder groups have been identified to allow for the successful implementation of targeted and meaningful engagement activities:

- Primary stakeholder groups – host landowners, immediate neighbours, Indigenous communities and surrounding communities.
- Secondary stakeholder groups - Local community organisations and businesses, local council, state and federal elected members, representatives and agencies, and local media.
- Tertiary stakeholder groups - Local schools, religious organisations, clubs, and national and state media.

A variety of methods have been (and will continue to be) implemented to facilitate community and stakeholder engagement,



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including:

- Letters and newsletters
- Media releases
- Fact sheets
- Project website (<https://winterbournwindfarm.com.au/>)
- Social media
- Phone calls
- Establish 1800 number and email for consultation and complaints
- Landowner information sessions
- Face-to-face visits

WWPL has built on the previous consultation effort dating back to 2004, increasing the frequency of engagement with the community as the development becomes more defined and the approval process commences. This long relationship has allowed for significant community engagement, including individual meetings, dinner functions and information evenings.

As part of the proposal development, WWPL will establish a Community Consultative Committee (CCC) in consultation with DPIE. The CCC will be established during proposal development in accordance with the SEARs for the project. The CCC will provide a forum for open discussion between representatives of the company, the community, the local council and other stakeholders on issues directly relating to the project's operations, environmental performance and community relations, and to keep the community informed on these matters. The CCC will consist of an independent chairperson, community members, local government representatives, and members of the project team.

WWPL expects to establish a CCC in mid-2020, and envisions that CCC meetings will be held approximately four times per year and more frequently while the development approval is being assessed. The minutes of meetings will be posted on the proposal's website after each meeting.

Indigenous Consultation

An Aboriginal Cultural Heritage Assessment (ACHA) will be required to investigate the presence of any Aboriginal sites and to assess the impacts and management strategies that may mitigate any potential impact. The significance of any Aboriginal heritage sites that may be potentially affected by the proposal will be determined in accordance with relevant legislation and guidelines.

A desktop Heritage Assessment has been prepared as part of the Scoping Report to provide an overview of Aboriginal and Non-Indigenous heritage constraints identified within the proposal boundary. The desktop Heritage Assessment makes recommendations to undertake comprehensive site investigations, including consultation with Aboriginal stakeholders and the Walcha and District Historical Society, as well as any other relevant stakeholder.

WWPL has engaged a third-party specialist consultant to undertake an Aboriginal cultural heritage assessment in accordance with the Code of Practice for Archaeological Investigation of Aboriginal objects in NSW and the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW. To date, WWPL has undertaken Stages 1 to 3 of the Aboriginal cultural heritage consultation requirements for proponents. This includes identifying the Registered Aboriginal Parties (RAPs) for the project, providing project information and issuing a detailed survey methodology for RAP review. WWPL expects to conduct field surveys with RAPs beginning in July 2020, and will prepare an Aboriginal Cultural Heritage Assessment Report based on the results of the field survey and the Aboriginal community consultation.

#### **1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project**

This proposal will be subject to an Impact Assessment under Part 8 of the EPBC Act, which will address Matters of National Environmental Significance. An Environmental Impact Statement will be prepared for this proposal to address NSW Department of Planning, Industry and Environment Secretary's Environmental Assessment Requirements (SEARs).

The Environmental Impact Statement prepared in accordance with the Environment Planning and Assessment Act 1979, will address issues including:

- Landscape and Visual;
- Noise;
- Biodiversity;
- Heritage;
- Traffic and transport;
- Aviation;
- Water and groundwater;
- Soil and landform;
- Air quality and dust;
- Social and Economic;
- Blade throw;
- Waste;
- Human health; and



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• Land use

Furthermore, a biodiversity impact assessment will be undertaken in accordance with the NSW Biodiversity Conservation Act 2016. This will be conducted in accordance with the Biodiversity Assessment Method (BAM).

**1.15 Is this action part of a staged development (or a component of a larger project)?**

Yes       No

**1.16 Is the proposed action related to other actions or proposals in the region?**

Yes       No



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## Section 2

### Matters of national environmental significance

2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties?

Yes  No

2.2 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places?

Yes  No

2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?

Yes  No

2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes  No

### Species or threatened ecological community

New England Peppermint (*Eucalyptus nova-anglica*) Grassy Woodlands

### Impact

New England Peppermint (*Eucalyptus nova-anglica*) woodland communities (24.2 ha) have been identified within the proposal (Refer to Biodiversity Constraints Assessment 2020). However, it hasn't yet been confirmed if these New England Peppermint (*Eucalyptus nova-anglica*) woodland communities meet the Threatened Ecological Community (TEC) criteria for EPBC listed New England Peppermint (*Eucalyptus nova-anglica*) Grassy Woodlands.

Where possible, the proposal would aim to commit to a no-net loss of TECs. This means that where possible there will be no vegetation clearing of New England Peppermint (*Eucalyptus nova-anglica*) Grassy Woodlands. Therefore, it is expected that the proposal will not have any direct impacts on this TEC.

It is expected that some of the infrastructure (e.g. turbines, access tracks) will be developed in close proximity to this TEC. This may result in indirect impacts to this TEC. Key potential indirect impacts include fragmentation, dust deposition and potential introduction of invasive species. The removal of native vegetation around the TEC may lead to fragmentation, which could lead to a reduction in essential ecosystem functions (e.g. pollination). Increased dust deposition on vegetation (e.g. during the construction phase) could affect plant physiological reactions (e.g. photosynthesis, respiration, transpiration). Increased vehicle movements could introduce invasive species which would compete with this TEC for resources.

### Species or threatened ecological community

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

### Impact

Box-gum woodland communities (14.4 ha) have been identified within the proposal (Refer to Biodiversity Constraints Assessment 2020). However, it hasn't yet been confirmed if these Box-gum woodland communities meet the Threatened Ecological Community (TEC) criteria for the EPBC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

Where possible, the proposal would aim to commit to a no-net loss of TECs. This means that where possible, there will be no vegetation clearing of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. Therefore, it is expected that the proposal will not have any direct impacts on this TEC.

It is expected that some of the infrastructure (e.g. turbines, access tracks) will be developed in close proximity to this TEC. This may result in indirect impacts to this TEC. Key potential indirect impacts include fragmentation, dust deposition and



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potential introduction of invasive species. The removal of native vegetation around the TEC may lead to fragmentation, which could lead to a reduction in essential ecosystem functions (e.g. pollination). Increased dust deposition on vegetation (e.g. during the construction phase) could affect plant physiological reactions (e.g. photosynthesis, respiration, transpiration). Increased vehicle movements could introduce invasive species which would compete with this TEC for resources.

#### Species or threatened ecological community

Narrow-leaved Black Peppermint (*Eucalyptus nicholli*)

#### Impact

This species was identified within the proposal area during preliminary site surveys (Refer to Biodiversity Constraints Assessment 2020). This species has a limited distribution with most known populations distributed on private land. The Walcha Plateau likely supports an important population of this species.

While avoidance will be the preferred mitigation measure, it is likely that some individuals of this species will be removed to support the development of infrastructure. The removal of individuals is a direct impact and will result in a reduction of this population, which may cause flow-on impacts such as reduced genetic diversity and fragmentation.

It is expected that some of the proposal infrastructure (e.g. turbines, access tracks) will also be developed in close proximity to individuals of this species. This may result in the following indirect impacts:

- Fragment sub-populations within the proposal area, which may lead to reduced genetic diversity;
- Increase the extent of vegetation community boundaries (edge effect) from land clearing which could lead to increased risk of parasitism or disease, adverse microclimate conditions (e.g. drying out or increased fire risk) and the potential for introduction of invasive species;
- Increased dust deposition on vegetation (e.g. during construction phase) could affect plant physiological reactions (e.g. photosynthesis, respiration, transpiration);
- Increased vehicle movements could introduce invasive species which would compete with this TEC for resources.

These proposal impacts may trigger the following significant impact criteria for a vulnerable species:

- Lead to a long-term decrease in the size of an important population of a species; and
- Reduce the area of occupancy of an important population.

#### Species or threatened ecological community

Tiger Quoll (*Dasyurus maculatus*)

#### Impact

This species has been identified within the proposal area during preliminary site surveys (refer to Biodiversity Constraints Assessment 2020). The species has a broad distribution, with Walcha Plateau (including proposal area) and surrounding sub-bioregions supporting known populations of the species.

Native vegetation clearing associated with the proposal will be minimised where possible (i.e. infrastructure situated in cleared areas where possible). The proposal is likely to result in the reduction of foraging and den habitat for this species within the proposal area. The proposal has the potential to cause direct mortality events for this species via land clearing and vehicle/ machinery strikes. These direct impacts have potential to reduce population size and area of occupancy, and fragment subpopulations.

It is expected that some infrastructure and operations may also generate indirect impacts, which could include disturbance and displacement from light, noise and vibration impacts, barrier creation, fragmentation, edge effects and invasive species. Light, noise and vibration impacts from construction and permanent infrastructure have the potential to disrupt foraging patterns, communication and breeding attempts, and increase vulnerability to predation. Tiger Quoll habitat in the proposal area is already highly fragmented due to historical land clearing. Further land clearing could intensify fragmentation impacts such as reduced genetic diversity. A change in the extent of vegetation community boundaries (edge effect) from land clearing may also lead to adverse microclimate conditions (e.g. drying out or increased fire risk), increased risk of disease/predation and proliferation of pest species, which could lead to increased competition, predation and habitat disturbance for this species.

These proposal impacts may trigger the following significant impact criteria for an endangered species:

- Lead to a long-term decrease in the size of a population;
- Reduce the area of occupancy of the species; and
- Adversely affect habitat critical to the survival of a species (den habitat).

#### Species or threatened ecological community

Koala (*Phascolarctos cinereus*)

#### Impact



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This species has been identified within the proposal area (BioNet record and opportunistic scat survey). This species has an extensive distribution and the Walcha Plateau is unlikely to support an important population.

Native vegetation clearing associated with the proposal will be minimised where possible (i.e. infrastructure situated in cleared areas where possible). The proposal is likely to result in the reduction of potential foraging habitat available for this species within the proposal area. The proposal has the potential to cause direct mortality events for this species via land clearing and vehicle/ machinery strikes.

It is expected that some infrastructure and operations may also generate indirect impacts which could include disturbance and displacement from light, noise and vibration impacts, fragmentation, edge effects and invasive species. Light, noise and vibration impacts from construction and permanent infrastructure have the potential to disrupt foraging patterns, communication and breeding attempts, and increase vulnerability to predation. Habitat for this species in the proposal area is already highly fragmented due to historical land clearing. Further land clearing could intensify fragmentation impacts such as reduced genetic diversity. A change in the extent of vegetation community boundaries (edge effect) from land clearing may also lead to adverse microclimate conditions (e.g. drying out or increased fire risk), increased risk of disease/predation and proliferation of pest species, which could lead to increased competition, predation and habitat disturbance for this species.

However, the impacts are unlikely to trigger any significant impact criteria for a vulnerable species.

### Species or threatened ecological community

Austral Toadflax (*Thesium australe*)

### Impact

This species has been identified within the proposal area (BioNet record only). This species has an extensive distribution and the Walcha Plateau is unlikely to support an important population of this species.

While avoidance will be the preferred mitigation measure, it is possible that individuals of this species (if recorded during targeted survey) will be removed to allow the development of infrastructure. The removal of individuals is a direct impact and will result in a reduction of the population, which may cause flow-on impacts like reduced genetic diversity and fragmentation.

It is expected that some of the infrastructure (e.g. turbines, access tracks) will be developed in close proximity to areas of potential habitat. This may result in indirect impacts to this species such as fragmentation, edge effects, dust deposition and potential introduction of invasive species. A change in the extent of vegetation community boundaries (edge effect) from land clearing may lead to increased risk of parasitism or disease, adverse microclimate conditions (e.g. drying out or increased fire risk) and potential introduction of invasive species. Increased dust deposition on vegetation from the proposal (e.g. during construction phase) could deleteriously affect plant physiological reactions (e.g. photosynthesis, respiration, transpiration). Increased vehicle movements could introduce invasive species which could disturb the individual species.

These impacts are likely to negatively affect this species. However, the impacts are unlikely to trigger any significant impact criteria for a vulnerable species.

### Species or threatened ecological community

Greater Glider (*Petauroides volans*)

### Impact

This species has been identified within the proposal area during preliminary site surveys (refer to Biodiversity Constraints Assessment 2020). The species has a broad distribution and the Walcha Plateau is unlikely to support an important population of this species.

While avoidance will be the preferred mitigation measure, it is possible that land clearing associated with the proposal will result in the reduction of foraging and possibly den trees available for this species within the proposal area. The proposal has the potential to cause direct mortality events for this species via land clearing and vehicle / machinery strikes.

It is expected that some infrastructure and operations may generate indirect impacts, which could include disturbance and displacement from light, noise and vibration impacts, fragmentation, edge effects and invasive species. Light, noise and vibration impacts from construction and permanent infrastructure have the potential to disrupt foraging patterns, communication and breeding attempts, and increase vulnerability to predation. Habitat for this species in the proposal area is already highly fragmented due to historical land clearing. Further land clearing could intensify fragmentation impacts such as reduced genetic diversity. A change in the extent of vegetation community boundaries (edge effect) from land clearing may also lead to adverse microclimate conditions (e.g. drying out or increased fire risk), increased risk of disease/predation and proliferation of pest species, which could lead to increased competition, predation and habitat disturbance for this species.

These impacts are likely to negatively affect this species. However, the impacts are unlikely to trigger any significant impact criteria for a vulnerable species.

### Species or threatened ecological community

Brush-tailed Rock-wallaby (*Petrogale penicillata*)



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## Impact

The Brush-tailed Rock-Wallaby has not been identified within the proposal area. The species has a broad distribution and the Walcha Plateau is unlikely to support an important population of this species. The adjacent Oxley Wild Rivers National Park is, however, likely to support important populations of this species and contains significant/critical habitat features. Any populations within the Oxley Wild Rivers National Park may also utilise some of the foraging resources available within the proposal area.

Land clearing associated with the proposal will likely result in the reduction of potential foraging habitat for this species within the proposal area. The proposal has the potential to cause direct mortality events for this species via land clearing and vehicle / machinery strikes.

It is expected that some infrastructure and operations may generate indirect impacts, which could include disturbance and displacement from light, noise and vibration impacts, fragmentation, edge effects and invasive species. Light, noise and vibration impacts from construction and permanent infrastructure have the potential to disrupt foraging patterns and increase vulnerability to predation when foraging within the proposal area. Habitat for this species in the proposal area is already highly fragmented due to historical land clearing. A change in the extent of vegetation community boundaries (edge effect) from land clearing may also lead to adverse microclimate conditions (e.g. drying out or increased fire risk), increased risk of disease/predation and proliferation of pest species, which could lead to increased competition, predation and habitat disturbance for this species.

These impacts are likely to negatively affect this species. However, the impacts are unlikely to trigger any significant impact criteria for a vulnerable species.

## Species or threatened ecological community

Narrow-leaved *Bertya* (*Bertya ingramii*)

## Impact

This species has not been identified within the proposal area during the preliminary surveys although it is known to occur within the locality. This species has a limited distribution and the Walcha Plateau is known to support populations of this species.

While avoidance will be the preferred mitigation measure, if this species occurs within the proposal area it is possible that individuals will be removed to allow the development of infrastructure. The removal of any individuals is a direct impact and will result in a reduction of the population, which may cause flow-on impacts such as reduced genetic diversity and fragmentation.

It is expected that some of the infrastructure (e.g. turbines, access tracks) will be developed in close proximity to areas of suitable habitat. This may result in the following indirect impacts:

- Fragment sub-populations within the proposal area, which may lead to reduced genetic diversity.
- Increase the extent of vegetation community boundaries (edge effect) from land clearing, which may lead to increased risk of parasitism or disease, adverse microclimate conditions (e.g. drying out or increased fire risk) and potential introduction of invasive species.
- Increased dust deposition on vegetation (during the construction phase), which could affect plant physiological reactions (e.g. photosynthesis, respiration, transpiration).
- Increased vehicle movements, which could introduce invasive species which could disturb the individual species.

## Species or threatened ecological community

Beadle's *Grevillea* (*Grevillea beadleana*)

## Impact

Beadle's *Grevillea* (*Grevillea beadleana*) has not been identified within the proposal area during the preliminary surveys although it is known to occur within the locality. This species has a limited distribution and the Walcha Plateau is likely to support a population for this species.

While avoidance will be the preferred mitigation measure, if this species occurs within the proposal area it is possible that individuals will be removed to allow the development of infrastructure. The removal of individuals is a direct impact and will result in a reduction of the population within the proposal area, which may cause flow-on impacts such as reduced genetic diversity and fragmentation.

It is expected that some of the infrastructure (e.g. turbines, access tracks) will be developed in close proximity to areas of suitable habitat. This may result in the following indirect impacts:

- Fragment sub-populations within the proposal area, which may lead to reduced genetic diversity.
- Increase the extent of vegetation community boundaries (edge effect) from land clearing, which may lead to increased risk of parasitism or disease, adverse microclimate conditions (e.g. drying out or increased fire risk) and potential introduction of invasive species.
- Increased dust deposition on vegetation (during the construction phase), which could affect plant physiological reactions



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(e.g. photosynthesis, respiration, transpiration).

- Increased vehicle movements, which could introduce invasive species which could disturb the individual species.

**2.4.2 Do you consider this impact to be significant?**

Yes  No

**2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or their habitat?**

Yes  No

**Migratory species**

White-throated Needletail (*Hirundapus caudacutus*)

**Impact**

The White-throated Needletail (*Hirundapus caudacutus*) was identified flying over the site during the preliminary surveys (refer to Biodiversity Constraints Assessment 2020). This species utilises a broad range of habitat types (aerial forager) while it winters in Australia. It is unlikely that the proposal area supports important habitat or an ecologically significant proportion of this species.

This species is vulnerable to turbine blade strikes, which could cause serious injury or mortality events. As described in the approved Conservation Advice (Threatened Species Scientific Committee (2019), collision with wind turbines and overhead wires is of low severity and affects a small number of birds. Land clearing associated with the proposal could reduce some roosting habitat for this species and a relatively minor reduction of invertebrate prey.

It is expected that some infrastructure and operations may generate indirect impacts which could include disturbance and displacement from light, noise and vibration impacts and invasive species. It is possible that light, noise and vibration impacts from construction and operations may disrupt foraging patterns and increase vulnerability to predation.

**Migratory species**

Fork-tailed Swift (*Apus pacificus*)

**Impact**

The Fork-tailed Swift (*Apus pacificus*) was identified flying over the site during the preliminary surveys (refer to Biodiversity Constraints Assessment 2020). This species utilises a broad range of habitat types while in Australia and is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground to forage. It is unlikely that the proposal area supports important habitat or an ecologically significant proportion of this species.

This species is vulnerable to turbine blade strikes, which could cause serious injury or mortality events. Land clearing associated with the proposal could cause a minor reduction of invertebrate prey.

It is expected that some infrastructure and operations may generate indirect impacts, which could include disturbance and displacement from light, noise and vibration impacts and invasive species. It is possible that light, noise and vibration impacts from construction and operations may disrupt foraging patterns and increase vulnerability to predation.

**2.5.2 Do you consider this impact to be significant?**

Yes  No

**2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?**

Yes  No

**2.7 Is the proposed action likely to be taken on or near Commonwealth land?**

Yes  No



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

<b>2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>2.10 Is the proposed action a nuclear action?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>2.11 Is the proposed action to be taken by a Commonwealth agency?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwealth marine area?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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## Section 3

### Description of the project area

#### 3.1 Describe the flora and fauna relevant to the project area

A Biodiversity Constraints Assessment (ERM 2020) has been prepared to support the application for the Secretary's Environmental Assessment Requirements (SEARs) which will guide the preparation of an Environmental Impact Statement (EIS) for the proposal under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The Biodiversity Constraints Assessment includes the results of a detailed desktop assessment and preliminary field surveys to identify key biodiversity values within the proposal. The full report has been attached and is summarised below.

The proposal is located wholly within the New England Tablelands Bioregion and is characterised by non-native grasslands, which is a result of historic vegetation clearing and pasture improvement. These areas are now regularly grazed by livestock although there are still some vegetation patches scattered within the proposal boundary and many small vegetation patches and tree lines that maintain connectivity to the surrounding bushland and the Oxley Wild Rivers National Park. In addition to the Eucalyptus woodland and forest communities, there are also scattered paddock trees, rocky outcrops, escarpments, native sedgeland, rolling hills, gullies and artificial dam habitats.

Vegetation mapping and the results of preliminary field surveys undertaken in November 2019 and February 2020 suggests that New England Peppermint Woodland and Box-Gum Woodland both occur within the proposal area. These vegetation communities have the potential to align with both EPBC Act and BC Act criteria for Threatened Ecological Communities (TEC) although surveys have not yet confirmed if the vegetation patches had a predominantly native understorey (a key criteria for these EPBC listed communities). Detailed mapping of the vegetation communities will be undertaken as part of the BDAR and EIS process and will be informed by additional flora integrity plots in accordance with the BAM. One threatened flora species, *Eucalyptus nicholli*, was recorded 15 times during the field surveys as isolated individuals within the proposal boundary, as well as six records within vegetation communities (more than one individual present).

The proposal area contains a significant assemblage of fauna species and associated habitat. Important habitat types and features include: hollow-bearing trees, possum dreys, burrows & dens, rocky outcrops, lotic and lentic systems. These habitat types and features are significant for roosting/ denning/ refuge/ breeding/ foraging for native fauna including threatened fauna species. Improved pasture grazing areas are likely to contain less habitat features than other areas within the proposal area. A total of 50 bird species, 8 mammal species, 0 reptile species and 0 amphibian species were recorded during the Spring Surveys (November 2019). This included 1 EPBC listed fauna species, 2 BC listed fauna species, 5 fauna species vulnerable to turbine blade strikes and 4 introduced fauna species.

A total of 106 birds, 16 mammals, 4 reptiles and 10 amphibians were recorded during the Summer Surveys (February 2020). This included 12 BC listed fauna species, 5 EPBC listed fauna species, 10 fauna species vulnerable to turbine blade strikes and 7 introduced fauna species.

Known EPBC listed species include Fork-tailed Swift (migratory), White-throated Needletail (migratory), Tiger Quoll (endangered), Greater Glider (vulnerable), Koala (vulnerable), Austral Toadflax (vulnerable) and Narrow-leaved Black Peppermint (vulnerable).

Likely EPBC listed species includes the Narrow-leaved *Bertya* (endangered), Beadle's *Grevillea* (endangered) and Brush-tailed Rock-wallaby (vulnerable). Known BC listed species also include the Dusky Woodswallow, Turquoise Parrot, Scarlet Robin, Diamond Firetail, Glossy Black Cockatoo, Little Lorikeet, Speckled Warbler, Little Eagle, Varied Sittella, Tiger Quoll, Koala, Austral Toadflax and Narrow-leaved Black Peppermint.

Known species that are vulnerable to turbine strikes include the Wedge-tailed Eagle, Brown Falcon, Black Kite, Peregrine Falcon, Collared Sparrowhawk, Little Eagle, Nankeen Kestrel, White-throated Needletail, Fork-tailed Swift and White Striped Mastiff Bat.

Numerous aquatic-associated species were detected during the surveys, which included the Masked Lapwing, Pacific Black Duck, Hard Head Duck, Australian Wood Duck, White-faced Heron, Purple Swamphen, Straw-necked Ibis, and Australasian Grebe. Many parrot species were also detected during the surveys, which included the King Parrot, Little Corella, Yellow-tailed Black Cockatoo, Sulphur-crested Cockatoo, Galah, Crimson Rosella, Eastern Rosella, Red-rumped Parrot and Musk Lorikeet.

#### 3.2 Describe the hydrology relevant to the project area (including water flows)

The proposal is located within the Macleay River Catchment. The geology of Walcha plateau consists of basalt rock and extensive sedimentary rocks with granite intrusions. More specifically, the proposal contains extrusive mafic rock, intermediate intrusive rock, intrusive felsic rock and clastic sedimentary rock. The terrain of the proposal is characterised by rolling hills, summits, valleys and floodplains, which have influenced the direction, size and extent of surface waterbodies. Notably, significant gorges exist in the eastern part of the Walcha Plateau (outside proposal area), which include Apsley Falls and Tia Falls.

The proposal includes over 100 individual drainage features and includes several creeks (stream order 6 and greater). Drainage features that intercept or are in close proximity to existing infrastructure drain into the following watercourses: Scrubby Creek, Emu Creek, Jack Creek, Mihi Creek, Grose Creek, Ohio Creek, Ladys Creek, Washpool Creek, Lambing Flat Creek, Eagle Gully, Hole Creek, Winterbourne Creek, Port Macquarie Creek, Dog Trap Creek, Snake Creek, Brookmount



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Creek, Rowleys Creek, Ellas Creek, Majors Creek, Graveyards Creek, Stockyard Creek and Moona Creek.

Drainage features, gullies and creeks flow direction is generally controlled by the topography of the region. The majority of onsite watercourses converge into Apsley River and Salisbury Waters. Both these watercourses flow east over the Great Dividing Range and feed into the Macleay River. The Macleay River crosses the Great Dividing Range, moving through several large national parks (e.g. Cunnawarra National Park and Oxley Wild Rivers National Park) and eventually reaches the Tasman Sea.

Due to the elevated nature of turbine infrastructure and the presence of existing access tracks, the majority of the infrastructure will avoid watercourses, drainage features, wetlands and artificial dams. Nevertheless, it is expected some proposed infrastructure (predominantly access tracks) will intercept watercourses, drainage features and artificial dams. The majority of lentic ecosystems within the proposal are artificial farm dams. These dams are generally small (<0.1 hectares) and contain few microhabitat features (e.g. woody debris). These dams could provide habitat for amphibians and water bird species, and are considered to be an important water source for local macropod populations.

### 3.3 Describe the soil and vegetation characteristics relevant to the project area

The proposal is characterised by dry and wet sclerophyll open and closed Eucalyptus woodlands and forests, sedgeland, herblands, native and non-native grasslands. The distribution of broad vegetation classes is largely dependent on the topography and geology of the proposal area. The proposal area is likely to contain two threatened ecological communities, being New England Peppermint (*Eucalyptus nova-anglica*) Grassy Woodlands and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

The geology of Walcha plateau consists of basalt rock and extensive sedimentary rocks with granite intrusions. More specifically, the proposal area contains extrusive mafic rock, intermediate intrusive rock, intrusive felsic rock and clastic sedimentary rock.

A range of soil landscapes are mapped within the proposal area, and are described in accordance with eSpade V2.0 below.

Kelly Plains soil landscape is characterised by moderately well drained Black and Red Chromosols. Ferrosols (Chocolate Soils) are the most widespread soil type occurring on most foot slopes. The area mapped as Kellys Plains has been subject to extensive clearing and is now predominantly characterised by improved pasture (*Trifolium repens*, *T. subterranean*, *T. pratense* and *T. campestre*).

Rowleys Creek soil landscape is characterised by Red coloured subsoils with approximately 70% of the landscape being composed of Red Kurosols (Red Podzolic Soils), Yellow Kandosols and Yellow Kurosols/Yellow Chromosols (Yellow Earths/Yellow Podzolic Soils) and minor soils making up the remaining 30% of the landscape. It is naturally associated with woodland and open forest communities characterised by *E. nicholii*, *E. viminalis*, *E. laevopinea*, *E. caliginosa*, *E. stellulata* and *Acacia filicifolia*.

McCanns Flat soil landscape is characterised by moderately well drained Haplic. Most plains and foot slopes are composed of Bleached and Bleached-Mottled Eutrophic Yellow Kurosols, and leached-Mottled Mesotrophic and Eutrophic Yellow Chromosols (Yellow Podzolic Soils). It is extensively cleared open woodland and forest community. Associated tree species include *E. bridgesiana*, *E. viminalis*, *E. obliqua* and *E. pauciflora*.

The Mihi soil landscape is characterised by imperfectly drained Bleached and Bleached-Mottled Eutrophic and Mesotrophic Yellow Chromosols/Kurosols (Yellow Podzolic Soils). Open woodland and forest communities comprised largely of *E. blakelyi*, *E. dalrympleana*, *E. melliodora* and *E. pauciflora*.

The Whites Hill soil landscape is characterised by Yellow coloured subsoils (Yellow and Brown Kandosols; Yellow Chromosols – Yellow Earths/Yellow Podzolic Soils), which are most widespread and occur on most topographic positions. Stringybark open forest and woodland communities of *Eucalyptus caliginosa* are widespread especially on crests, upper slopes and midslopes. Other species include *E. laevopinea*, *E. bridgesiana*, *E. melliodora*, *E. nicholii*, *E. dalrympleana*, *E. viminalis*, *E. andrewsii*, *Acacia filicifolia* and occasionally *E. moluccana*. Lower slopes sometimes have *E. blakelyi* and *E. nova-anglica*.

The Winterbourne soil landscape is characterised by Yellow Chromosols/Kurosols (Yellow Podzolic/Lateritic Podzolic Soils). *E. caliginosa*, *E. amplifolia*, *E. nicholii*, *E. moluccana* and *E. williamsiana* are among the main tree species recorded.

The Salisbury Plains soil landscape is characterised by moderately well drained Mottled Eutrophic Yellow and Brown Chromosols (Soloths/Yellow Podzolic Soils/Lateritic Podzolic Soils) on most footslopes and plains. Tree species where present include *E. nova-anglica*, *E. stellulata* and *Populus* spp. (poplar). Understories are mostly grassy with *Sorghum leiocladum*, *Danthonia* sp. and *Phalaris aquatica* among the species commonly encountered.

The Dwyers Range soil landscape is characterised by well to rapidly drained Ferrosols/Dermosols (Krasnozems/Chocolate Soils) on most crests. Communities are open forests or rarely open woodlands and dominated by *Eucalyptus viminalis* (ribbon gum), *E. dalrympleana* and *A. floribunda*. Other less commonly encountered tree species include *E. melliodora*, *E. caliginosa*, and *E. laevopinea* and *Acacia filicifolia*.

### 3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area

The proposal area is located within the Great Escarpment and the broader region exhibits significant geodiversity, which includes major deep rugged gorges and granite tor landscapes. The proposal area is in close proximity to Apsley Falls and Tia Falls, which are major gorge systems that have slate bedrock. Not only are Apsley Falls and Tia Falls significant



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geological features, but they also provide cultural significance to Indigenous and non-Indigenous Australians.

The proposal area is situated immediately adjacent to the Oxley Wild Rivers National Park, which contains Gondwana Rainforests of Australia. Gondwana Rainforests of Australia (GRA) is declared World Heritage Property and a listed National Heritage Place. The GRA exhibits a unique assemblage of biota that has a high frequency of closely related ancestors in the fossil record. As such it gives an insight into the fossil record. Furthermore, it contains significant biodiversity, with more than 200 plant species found in the GRA.

Due to the close proximity to the Oxley Wild Rivers National Park, the proposal area is likely to support a significant assemblage of fauna and flora species. There are records of 33 threatened and migratory species within a 10 km radius of the proposal area.

### **3.5 Describe the status of native vegetation relevant to the project area**

The proposal area is comprised of dry and wet sclerophyll open and closed Eucalyptus woodlands and forests, sedgelands, herblands, native and non-native grasslands. Grasslands are the dominant vegetation community within the proposed development footprint. The vast majority of grasslands within the proposal area have not been ground-truthed, therefore, it cannot be confirmed whether these grasslands are of native or non-native origin. However, considering the majority of properties within the proposal area are used for livestock grazing, it is likely a large proportion of these grasslands have been improved and predominantly contain non-native flora species. Many of the proposal area grasslands contain paddock trees and remnants of woodland communities. Although there has been significant vegetation clearing, the proposal area still contains a variety of Eucalyptus woodlands and forests. These woodlands and forests exist in a range of forms including tree lines, small (<1 ha), moderate (1 ha – 20 ha) and large (> 20 ha) patches. Tree lines are the most frequent remaining form of woodland and forest communities within the proposal area.

### **3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area**

The proposal area is located wholly within the Walcha Plateau of the New England Tablelands Bioregion. The elevation of the proposal area varies from 1,000 m to 1,300 m (above sea level). The proposal area is comprised of ridgelines, rolling hills, mountains, valleys and floodplains. The proposal area is located within the Great Escarpment and the Great Dividing Range. To the east of the proposal area (Oxley Wild Rivers National Park), the elevation significantly varies due to the presence of gorge systems (e.g. Apsley Falls).

### **3.7 Describe the current condition of the environment relevant to the project area**

Aerial imagery and preliminary field surveys indicate that the proposal area has been subject to extensive vegetation clearing. The dominant land use within the proposal area is livestock grazing on improved pastures. The majority of native vegetation communities have been converted to non-native grasslands in order to support livestock.

Most woodland and forest communities within the proposal area maintain little connectivity to surrounding bushland (except for woodland/ forest along the northern and eastern boundary), although there is some connectivity among some woodland and forest communities via semi-cleared areas and paddock trees. The New England Tablelands has been subject to extensive dieback in native vegetation. Due to the extensive vegetation clearing and reduced connectivity throughout the proposal area dieback is common in eucalyptus trees, particularly paddock trees. Dieback results in a reduction in primary crown, death of leaf bearing branches, associated secondary shoot development and loss of secondary crown and associated death of secondary shoots.

Agricultural activities and the movement of vehicles and machinery has likely caused the spread and proliferation of weeds within the proposal area and the introduction of many animal species such as European Rabbits (*Oryctolagus cuniculus*), Feral Cats (*Felis catus*), Feral Pigs (*Sus scrofa*) and European Hares (*Lepus europaeus*). These introduced animals compete with and prey upon native species and cause land degradation.

A large proportion of NSW has been subject to extensive drought since approximately 2017. The drought has impacted native vegetation within the proposal area. More specifically, there have been major reductions in grass and herbaceous plant cover and reductions to mid-stratum plant species. The loss and reduction of native plants has been exacerbated by grazing pressures. The proposal area has received significant rainfall since January 2020 (260 mm in February 2020), which may have eased the impacts of drought on native vegetation.

The proposal area was also subject to impacts from the 2019-2020 Australian Bushfires. Oxley Wild Rivers National Park was subject to significant bushfires. Many areas within the proposal area, particularly those adjacent to Oxley Wild Rivers National Park, were engulfed with bushfires. Consequently, there was a significant reduction in native vegetation.

In December 2018, the Walcha region experienced a severe storm, which had winds up to 190 km/hr. This storm event impacted vegetation communities within the proposal area, resulting in a reduction of native vegetation. Mid-strata vegetation and trees were felled, which resulted in a significant increase in woody debris.

Vegetation clearing, livestock grazing and drought have likely increased erosion rates within the proposal area. The proposal area is likely susceptible to the following types of erosion: sheet, gully, rill, landslips, and tunnel erosion.

It is likely that surface waters within the proposal area are subject to nutrient runoff from agricultural operations. Nitrogen and phosphorous are likely the major nutrients derived from agricultural operations within the proposal area. Algal blooms are likely to occur as a result of the nutrient runoff, which could devastate lentic ecosystems and reduce biodiversity in lotic



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ecosystems.

Salinity and acid sulphate soils have not been identified as an issue in the Walcha Local Government Area in accordance with the Integrated Water Cycle Management Evaluation Study Part 1.

**3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project**

The proposal area is situated immediately adjacent to the Oxley Wild Rivers National Park, which contains Gondwana Rainforests of Australia. Gondwana Rainforests of Australia (GRA) is declared World Heritage Property and a listed National Heritage Place. The GRA exhibits a unique assemblage of biota that have a high frequency of closely related ancestors in the fossil record. As such it gives an insight into the fossil record. Furthermore, it contains significant biodiversity, with more than 200 plant species found in the GRA.

The GRA spans over several nationally protected areas and is situated predominantly along the Great Escarpment. The outstanding geological features displayed around shield volcanic craters and the high number of rare and threatened rainforest species are of international significance for science and conservation. The GRA provides an outstanding example of major stages of the earth's evolutionary history; an outstanding example of significant ongoing geological processes and biological evolution; and contains important and significant habitats for the in-situ conservation of biodiversity.

GRA also contains high waterfalls that feed into steep gorges, which are spectacular examples of an important ongoing natural process - erosion. Speciation within GRA is augmented by the natural separation and isolation of rainforest stands. Many plants and animals found in the GRA are locally restricted to a few sites or occur in widely separated populations.

**3.9 Describe any Indigenous heritage values relevant to the project area**

The proposal area is situated within the traditional lands of the Anaiwan, Amaroo, and Dunghutti Peoples, who have lived in the region for more than 6,000 years. Occupation and movement of Aboriginal people within the Walcha district prior to European settlement is not well understood by researchers. Archaeological investigation of the Walcha Local Government Area (LGA) has been limited and relates largely to land within the National Parks. Recorded sites in the area include artefacts, scarred trees, axe grinding grooves, stone arrangements and burial sites. Some of these sites are well known, including a carved tree, originally situated at 'Rosevale', which was donated to the Walcha Historical Association and now resides at the Amaroo Museum. This indicates an understanding in the community of the importance of these sites.

A total of 35 sites were identified within the search area (1 km buffer around proposal area); of these, one occurs within the proposal boundary. The sites within the search area included: Aboriginal Ceremony and Dreaming (2 sites), Artefact (22 sites), Artefact Grinding Groove (1 site), Burial Aboriginal Ceremony and Dreaming (1 site), Ceremonial Ring (stone or earth) Stone Arrangement (1 site), Conflict (1 site), Grinding Groove (2 sites), Modified Tree (Carved or Scarred) (1 site), Ochre Quarry (1 site), Stone Arrangement Burial (1 site), Stone Quarry Artefact (2 sites).

Comprehensive site investigations including pedestrian field survey, consultation with Aboriginal stakeholders, sensitivity mapping, and archaeological test excavation (as required) will be undertaken during the EIS preparation.

**3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area**

The tenure of land within the proposal boundary is freehold land. No Native Title claims are present within the proposal boundary. There are a number of Crown roads within the proposal boundary. This will be investigated further during preparation of the EIS.

**3.11 Describe any existing or any proposed uses relevant to the project area**

The primary land use within the proposal area is livestock grazing on improved pastures. A large proportion of the proposal area has been converted from native vegetation communities to non-native grasslands (improved pastures). Some areas within the proposal area are subject to legally binding agreements with land care groups, NGOs and government organisations that permit the protection of land for biodiversity purposes (e.g. Conservation Zones). The proposal area contains numerous unsealed roads and causeways. There are 120 residential dwellings within ~5 km of any of the 126 proposed turbine locations. Of these 120 dwelling locations, 41 are classified as involved landowners who are actively participating in and associated with the proposal. In addition, a review of aerial photography has identified 12 residential dwellings within approximately 2 km of the proposed transmission line route (not including any residences already identified as being within 5 km of a proposed turbine location). Of these dwellings, six are classified as involved landowners who are actively participating in and associated with the proposal.



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## Section 4

### Measures to avoid or reduce impacts

#### 4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action

The proposal is still in the planning stage and the proposal design is being developed. The proposal will be subject to an environmental impact assessment via the preparation of an Environmental Impact Statement. As such, the full extent and magnitude of environmental impacts associated with the proposal is yet to be determined. Nevertheless, the initial biodiversity studies associated with the proposal suggest key biodiversity constraints. A range of general and site-specific mitigation measures is proposed to avoid or reduce impacts associated with the proposal.

To date, the proposed design layout of infrastructure has been updated twice for the purpose of avoiding and minimising impacts to biodiversity. A total of 14 turbines have been moved or omitted to avoid or minimise impacts to threatened ecological communities, native vegetation communities and threatened species habitat. Infrastructure has been largely concentrated to non-native grasslands as opposed to extant native vegetation communities (e.g. Eucalyptus woodland). It is proposed that Vegetation Community Mapping and Threatened Species Habitat Mapping Surveys will be undertaken within the development footprint. Results from these mapping surveys will assist in the design update process.

Targeted biodiversity surveys will also be completed over numerous seasons to identify the presence or absence of threatened species within and adjacent to the proposal area that have the potential to be impacted. As the results of these surveys become available, the biodiversity values and constraints mapping will be updated and communicated to the design team.

A suite of management plans will be prepared and implemented for the proposal and are expected to include:

- Fauna Relocation and Habitat Plan to standardise vegetation clearing (e.g. fencing of 'no go zones'), reduce impacts to fauna during vegetation clearing (e.g. fauna spotter/catcher services) and enhance habitat (relocation of hollow-bearing limbs).
- A Bat and Avifauna Management Plan to establish mitigation measures (e.g. Injured Bird and Bat Protocol) and monitor for species impacted by turbine blade strikes.
- A Weed and Pest Animal Management Plan to reduce and control spread of weed and pest animals within the proposal area.
- A Biodiversity Management Plan to outline rehabilitation management, operational phase management (e.g. Injured Threatened Species Protocol) and miscellaneous management (e.g. fencing of sensitive environmental areas).
- An Erosion and Sediment Control Plan to control dispersal of sediments and manage erosion rates.
- A Construction Environmental Management Plan to minimise and mitigate environmental impacts during the construction phase (e.g. proliferation of weeds).

#### 4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved

The proposal has potential to significantly impact at least two migratory species, five threatened species and two TECs.

The two migratory species are vulnerable to turbine blade strikes, a major impact associated with wind farms. A Bat and Avifauna Management Plan will be implemented to address impacts to these species. The plan will aim to provide a thorough monitoring program and an adaptive management framework, which allows the proponent to address increased instances of turbine blade collisions. The plan will contain impact triggers which will allow identification of increased instances of turbine blade collisions. The plan will also contain mitigation measures to reduce the risk of blade strikes such as carcass removal.

In terms of the potentially occurring TECs (Box-gum Woodland, New England Peppermint Woodland) the proposal will aim to commit to a no-net loss of TECs. Therefore, infrastructure that intercepts TECs will be adjusted in the design phase to avoid the removal of TECs. In addition, mitigation measures listed in relevant management plans will be implemented to minimise indirect impacts (e.g. proliferation of weeds) to TECs.

For threatened flora, the proposal will aim to avoid removal via updating design layout and micro-siting. Where micro-siting and design update is not possible other measures will be implemented (e.g. translocation). The proposal will aim to minimise removal of threatened fauna habitat during the detailed design phase. Infrastructure will be prioritised to non-remnant vegetation areas or vegetation communities that do not provide habitat for known or likely threatened species. Where possible, key habitat features for threatened species (e.g. hollow-bearing trees, den sites) will be avoided or salvaged during the clearing process.

Compensatory measures will also be considered to minimise any impacts. This may include revegetation within grazing lands, management of native grasslands, remediation of erosion and/or removal of invasive pest plants.



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## Section 5

### Conclusion on the likelihood of significant impacts

#### 5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled action

- World Heritage properties
- National Heritage places
- Wetlands of international importance (declared Ramsar wetlands)
- Listed threatened species or any threatened ecological community
- Listed migratory species
- Marine environment outside Commonwealth marine areas
- Protection of the environment from actions involving Commonwealth land
- Great Barrier Reef Marine Park
- A water resource, in relation to coal seam gas development and large coal mining development
- Protection of the environment from nuclear actions
- Protection of the environment from Commonwealth actions
- Commonwealth Heritage places overseas
- Commonwealth marine areas

#### 5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action

At this early stage we recognise potential significant impacts could arise that we aim to mitigate through design and a suite of management protocols such as clearing limits and operational bird and bat monitoring.



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## Section 6

### Environmental record of the person proposing to take the action

**6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail**

Yes. WinterbourneWind Pty Ltd (WWPL) has not breached any environmental management requirements and standards.

**6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application**

None

**6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?**

Yes  No

**6.3.1 If the person taking the action is a corporation, provide details of the corporation's environmental policy and planning framework**

Not available at this time.

**6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**

Yes  No



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## Section 7

### Information sources

#### Reference source

ERM (2020) Biodiversity Constraints Assessment Report

#### Reliability

Moderate reliability but further assessment is required to determine likelihood of occurrence for threatened species, migratory species and TECs. Fieldwork is limited by spatial and temporal variation. The collection of additional ecological data during targeted surveys will continue to inform the proposal design. As much as is feasible, impacts to MNES will be avoided through detailed design.

#### Uncertainties

Uncertainties regarding likelihood of occurrence of likely, potential and unlikely threatened species, migratory species and TECs. The collection of additional ecological data during targeted surveys will continue to inform the proposal design. As much as is feasible, impacts to MNES will be avoided through detailed design.

#### Reference source

ERM (2020) Scoping Report

#### Reliability

Moderate but further assessment is required for technical scope (e.g. heritage, biodiversity).

#### Uncertainties

Uncertainties regarding some technical environmental baseline data. Further assessment is required for technical scope (e.g. heritage, biodiversity). The collection of additional ecological data during targeted surveys will continue to inform the proposal design. As much as is feasible, impacts to MNES will be avoided through detailed design.

#### Reference source

Commonwealth of Australia (2013) Matters of National Environmental Significance - Significant Impact guidelines, Canberra

Commonwealth of Australia (2010a) Survey Guidelines for Australia's Threatened Bats. Canberra

Commonwealth of Australia (2010b) Survey Guidelines for Australia's Threatened Birds, Canberra

Commonwealth of Australia (2011a) Survey Guidelines for Australia's Threatened Reptiles, Canberra

Commonwealth of Australia (2011b) Survey Guidelines for Australia's Threatened Frogs, Canberra

Commonwealth of Australia (2011c) Survey Guidelines for Australia's Threatened Mammals, Canberra

Commonwealth of Australia (2011d) Survey Guidelines for Australia's Threatened Fish, Canberra

Commonwealth of Australia (2013) draft Survey Guidelines for Australia's Threatened Orchids. Canberra

#### Reliability

High

#### Uncertainties

None

#### Reference source

NSW Hydrography Mapping

#### Reliability

High

#### Uncertainties

Low



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

<b>Reference source</b>
Office of Environment and Heritage (2017) Biodiversity Assessment Method, NSW Government, Sydney
<b>Reliability</b>
High
<b>Uncertainties</b>
None
<b>Reference source</b>
NSW State Vegetation Type Map: VIS 3883
<b>Reliability</b>
Low. Limited description of vegetation communities. Ground-truthing found many communities incorrectly mapped. Many extant vegetation communities not mapped and cleared areas mapped as native vegetation communities. The collection of additional ecological data during targeted surveys will continue to inform proposal design.
<b>Uncertainties</b>
High
<b>Reference source</b>
NSW BioNet Atlas Record for threatened species.
<b>Reliability</b>
High
<b>Uncertainties</b>
Low



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## Section 8

### Proposed alternatives

Do you have any feasible alternatives to taking the proposed action?

Yes



No



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**Section 9**

**Person proposing the action**

9.1.1 Is the person proposing the action a member of an organisation?  
 Yes     No

**Organisation**

Organisation name: WINTERBOURNEWIND PTY LTD  
 Business name:  
 ABN: 59113000150  
 ACN:  
 Business address: Level 4, 312 St Kilda Road, Southbank, 3006, VIC, Australia  
 Postal address:  
 Main Phone number: 0436 927 806  
 Fax:  
 Primary email address: info@winterbournewind.com.au  
 Secondary email address:

9.1.2 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:  
 Small business  
 Not applicable

9.1.2.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations \*  
 Yes     No

**9.1.3 Contact**

First name: Doug  
 Last name: Landfear  
 Job title: Project Director  
 Phone: 0436 927 806  
 Mobile: 0436 927 806  
 Fax:  
 Email: dglla@vestas.com  
 Primary address: Level 4, 312 St Kilda Road, Southbank, 3006, VIC, Australia  
 Address:

**Declaration: Person proposing the action**

I, Doug Landfear of WinterbourneWind Pty Ltd, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity.

Signature:  Date: 21 July 2020

I, Doug Landfear of WinterbourneWind Pty Ltd, the person proposing the action, consent to the designation of WinterbourneWind Pty Ltd as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:  Date: 21 July 2020



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

**Proposed designated proponent**

**9.2.1 Is the proposed designated proponent a member of an organisation?**  
 Yes     No

**Organisation**

**Organisation name** WINTERBOURNEWIND PTY LTD

**Business name**

**ABN** 59113000150

**ACN**

**Business address** Level 4, 312 St Kilda Road, Southbank, 3060, VIC, Australia

**Postal address**

**Main Phone number** 0436 927 806

**Fax**

**Primary email address** dglla@vestas.com

**Secondary email address**

**9.2.2 Contact**

**First name** Doug

**Last name** Landfear

**Job title** Project Director

**Phone** 0436 927 806

**Mobile** 0436 927 806

**Fax**

**Email** dglla@vestas.com

**Primary address** Level 4, 312 St Kilda Road, Southbank, 3060, VIC, Australia

**Address**

**Declaration: Proposed Designated Proponent**

I, Doug Landfear, the  
 proposed designated proponent, consent to the designation of  
 myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:  Date: 21 July 2020



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

### Referring party (person preparing the information)

#### 9.3.1 Is the referring party (person preparing the information) a member of an organisation?

Yes  No

#### Organisation

Organisation name	NGH PTY LTD
Business name	
ABN	31124444622
ACN	
Business address	PO Box 470, Bega, 2550, NSW, Australia
Postal address	
Main Phone number	02 6492 8333
Fax	
Primary email address	ngh@nghconsulting.com.au
Secondary email address	

#### 9.3.2 Contact

First name	Louiza
Last name	Romane
Job title	Environmental Consultant
Phone	0415 143 295
Mobile	
Fax	
Email	louiza.r@nghconsulting.com.au
Primary address	PO Box 470, Bega, 2550, NSW, Australia
Address	

#### Declaration: Referring party (person preparing the information)

I, \_\_\_\_\_, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature: 

Date: 21/07/2020



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

<b>Appendix A</b>	
<b>Attachment</b>	
<b>Document Type</b>	<b>File Name</b>
public_consultation_reports	Appendix A.pdf
flora_fauna_investigation	Appendix C.pdf
impact_reduction_docs	Scoping Report.pdf

<b>Appendix B</b>
<b>Coordinates</b>
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