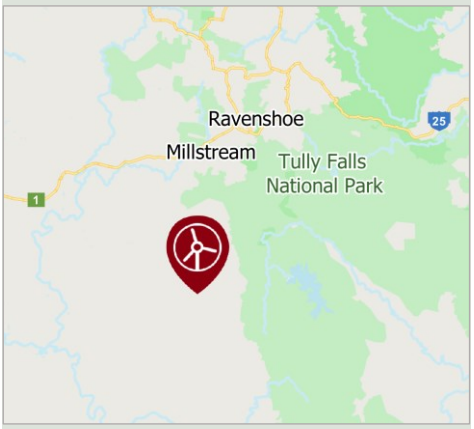
Chalumbin Wind Farm

Project Overview April 2022

Location



The Chalumbin Wind Farm site is approximately 15 km south-west of Ravenshoe, in the Tablelands Region of North Queensland.

- Up to 94 wind turbines.
- Capacity of ~650 megawatts, enough clean energy to power 350,000 homes.
- Community benefit program of approximately $500,000 per year for the life of the project.
- Up to 350 direct jobs during construction and 15-30 ongoing jobs during operation.

The Chalumbin Wind Farm would be approximately 15 km south-west of Ravenshoe, within two cattle grazing properties Wooroora and Glen Gordon Stations. The proposal involves 94 wind turbines and associated infrastructure, connected to existing powerlines.

Planning & assessment

The proposal is subject to a rigorous and comprehensive assessment process at both the state and federal level.

State assessment

The development application and assessments have been lodged with the Queensland Government's State Referral and Assessment Agency (SARA). SARA delivers a co-ordinated, whole-of-government approach to assessment with requirements outlined in the State Development Assessment Provisions' (SDAP) *State code 23: Wind farm development.*

State code 23 outlines matters to be assessed and prescribes the methodology for technical assessments, minimum actions and acceptable outcomes to demonstrate compliance. It aims to make sure that a wind farm is appropriately located, sited, designed, constructed and operated to ensure:

- Safety, operational integrity and efficiency of air services and aircraft operations.
- Risks to human health, wellbeing and quality of life are minimised by ensuring acceptable levels of amenity and acoustic emissions at sensitive locations.
- The development avoids, or minimises and mitigates, adverse impacts on the natural environment (fauna and flora) and associated ecological processes.
- The development does not unreasonably impact on the character, scenic amenity and landscape values of the locality.
- The safe and efficient operation of local transport networks and road infrastructure.

Commonwealth assessment

The project has been determined a 'controlled action' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) by the Australian Department of Agriculture, Water and the Environment (DAWE).

This means the proposal must also be assessed and approved by DAWE, and will require controlling provisions for key species.

DAWE will assess the proposal through a Public Environment Report (PER), which is a rigorous, multi-step assessment process that invites public participation. The draft PER has been submitted for adequacy review and is expected to be put on exhibition in Q2 2022.

The project's EPBC Act documentation is available on the EPBC Act – Public notices portal: epbcnotices.environment.gov.au/referralslist/ (Reference: 2021/8983).


Photomontage of what the wind farm would look like from the Kennedy Highway

Aboriginal cultural heritage

Epuron recognises the continuing connection that Aboriginal and Torres Strait Islander Peoples have to their land and acknowledges that the Chalumbin Wind Farm is Jirrbal Peoples country.

The project team has been working closely with representatives of the Traditional Owners of the project area, the Wabubadda Aboriginal Corporation and the Jirrbal #4 Native Title Applicants.

A Cultural Heritage Management Agreement has been established to ensure protection of cultural heritage on the site and an Indigenous Land Use Agreement is due to be signed in Q2 2022.

Ecology

Avoiding and minimising ecological impacts is a priority. Comprehensive and thorough ecological assessment is required by both the Queensland and Commonwealth governments, in accordance with State code 23 and the EPBC Act.

The ecological assessment work has been done over 18 months by independent ecologists and species specialists. It has involved investigating species and habitats over multiple seasons through field studies and surveys. As the work has been done the project design has been modified accordingly to avoid and minimise impacts.

Epuron is committed to working with ecologists and stakeholders to develop strategies to mitigate impacts including industry-leading rehabilitation plans, and to provide a meaningful and generous offset package. The project's goal is to achieve a net positive outcome for the area's biodiversity over the longer term.

Landscape and visual impact

Epuron has created photomontages to show what the proposed 94 wind turbine layout would look like from various public viewpoints where it can be seen. Photomontages are based on combining location photographs with a technical digital representation of the wind farm called a wireframe. Wireframes are produced using specialist industry software and based on precise distances and dimensions of the proposed wind turbine model to provide an accurate and correctly scaled representation.

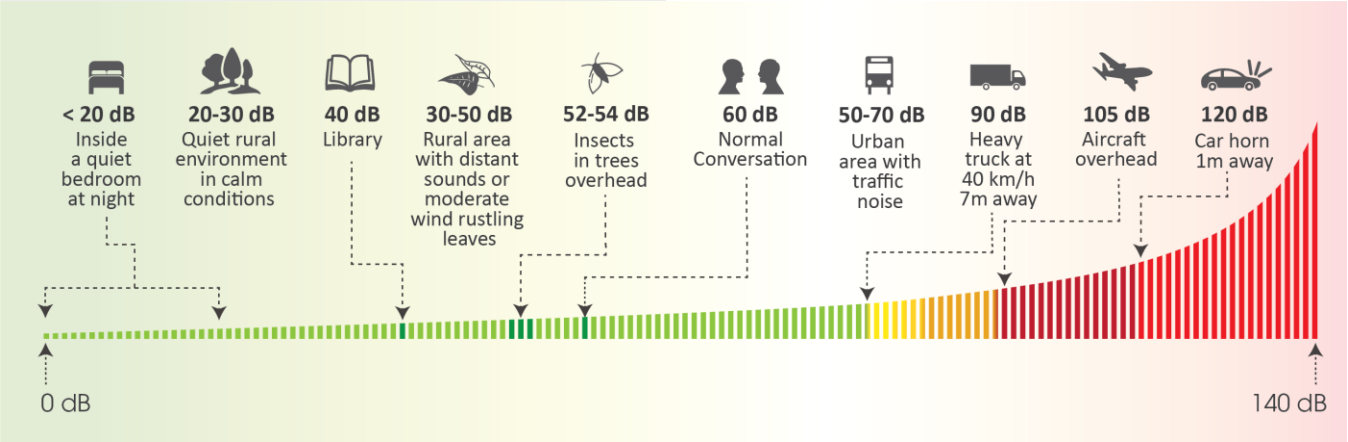
The photomontage above shows what the wind farm would look like from a location on the Kennedy Highway facing south-east, approximately six kilometres from the wind farm.

Noise

Wind turbine noise can be predicted based on acoustic modelling and a comprehensive technical noise assessment is required for the application. Compliance with strict noise limits must be demonstrated before approval is granted and via a noise monitoring program during operation.

For host lots the noise level at a residence must not exceed 45dB or the background noise by more than 5dB at night (10pm-6am). For non-host lots it must not exceed 35dB or the background noise by more than 5dB at night (10pm-6am) and 37dB or the background noise by more than 5dB during the day (6am -10pm). The diagram below shows familiar sounds for reference.

The technical noise assessment has been done using predictive modelling by leading independent acoustic specialists and the project is predicted to be well within the noise limits.



Livestock

Wind farms and cattle farming are complementary land uses. Livestock appear to be unaffected by wind turbines and will often use the towers for shelter or shade.

Construction and traffic

The project will involve comprehensive construction management and traffic management plans, compliant with Queensland Occupational Health & Safety legislation and the local government planning scheme. They will cover all aspects of construction including working hours, noise, traffic and dust management.

Construction can only commence after the detailed engineering design has been completed and preparation may require upgrading the access road. Access tracks would be the standard width of 5.5 m and only wider where required due to topography or for parts, cabling, safety, fire management and erosion and sediment control. Where roads are temporarily wider for construction they will be rehabilitated afterwards.

Fire safety and management

Wind turbines are designed to mitigate fire risk. They are constructed with fire resistant materials and operated by sophisticated monitoring systems that automatically follow shutdown procedures in response to operational issues, and can be remotely shut down in the event of fire in the area.

Wind turbines also provide a safe path for lightning strikes to the ground and access tracks serve as natural fire breaks.

A comprehensive bushfire management plan for the site would be developed in consultation with Queensland Fire and Emergency Services (QFES).

QFES would manage firefighting on the site in the same way as any other area, using ground and air based resources subject to prevailing weather conditions, and avoiding wind turbines in the same manner as an other obstructions such as buildings or powerlines.

End of operation

Wind turbines have an operational life of approximately 25 years. Options at the end of this period include extending the life of the wind farm via refurbishment, repowering the site with new infrastructure or decommissioning.

If the operator decides not to extend or refurbish the facility it will be decommissioned, usually within 12 months of ceasing operation.

Decommissioning would involve the establishment of a decommissioning fund by the operator, the removal of above ground infrastructure including wind turbines, electrical infrastructure and maintenance buildings, and returning the site to its former state where practicable.

EMI and shadow flicker

Electromagnetic interference (EMI) refers to interference by operating wind turbines with the transmission of magnetic waves emitted from a source such as television, radar or radio signals. Shadow flicker refers to the appearance of shadows from rotating turbines under certain conditions and times of day. Expert consultants have determined that the project would not cause any EMI impacts and that shadow flicker would not be an issue.

Key benefits

COMMUNITY BENEFIT PROGRAM - The project has committed to a Community Benefit Program with funding of $500,000 per year, from the start of construction and for the life of the wind farm. This will support local projects and initiatives, and will be co-designed with the community and local stakeholders to ensure it serves local priorities.

JOBS - The project is expected to provide 250-350 direct jobs during construction and 15-30 ongoing jobs during operation.

ECONOMIC BOOST - Investment of more than $1 billion would be required to engineer, procure and construct the project. Construction is expected to generate significant direct and indirect expenditure within the local, regional and Queensland economy including work for contractors and increased patronage for surrounding accommodation, retail, service and hospitality businesses. Economic analysis indicates benefits to the local and regional economy of about $300 million in expenditure, value-add and household income.

CLEAN ENERGY - Growth in renewable energy capacity will deliver affordable, clean, reliable electricity to households and businesses. A carbon lifecycle analysis shows that when operational the wind farm is predicted to reduce Australia's greenhouse gas (GHG) emissions by 651,779 t CO_{2-e}/year. The project would offset its own GHG emissions within the first 1.5 years of operation.

Planning and assessment

Queensland Government

1. Site selection, initial concept and preliminary investigations
2. Pre-lodgment meeting with State Assessment and Referral Agency (SARA)
3. Studies and assessments (prescribed by SARA State code 23)
4. Applications and assessments submitted to SARA

WE ARE HERE — Request from SARA for further information and response

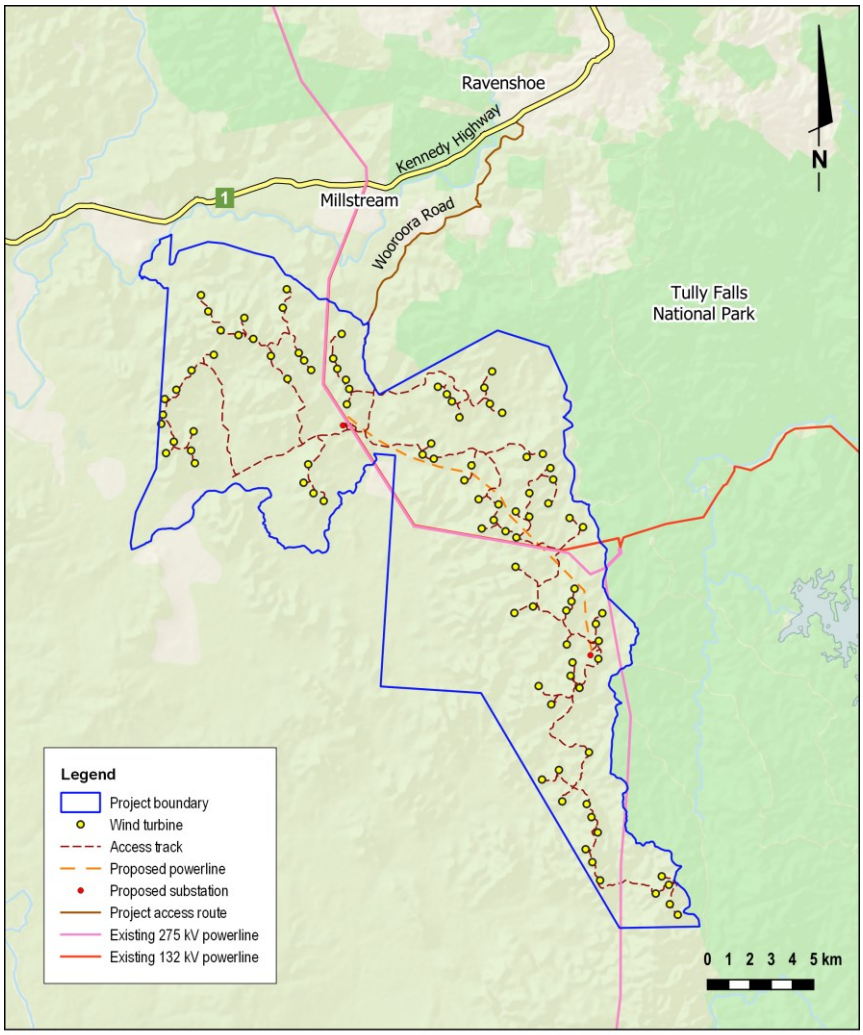
6. Assessment
7. Determination

Commonwealth

1. Referral to the Department of Agriculture, Water and the Environment for review under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
2. Decision: controlled action (Referral 2021/8983), assessment by Public Environment Report (PER)
3. Draft PER guidelines issued
4. Preparation of draft PER

WE ARE HERE — Draft PER submitted for adequacy review

6. Draft PER on public exhibition
7. Final PER submitted
8. Determination



The site is west of the Wet Tropics Queensland World Heritage Area boundary and Tully Falls National Park. As the assessment work has been done the project design has been refined and modified to reduce the disturbance footprint. The current proposal involves 94 wind turbines.

Questions

Questions and feedback are welcome at any time and where practicable we aim to incorporate community input into the project design to improve outcomes and benefits.

Questions and comments can be sent to info@chalumbinwindfarm.com.au or via the online feedback form on the website at chalumbinwindfarm.com.au.

Project updates

Project updates are available via post or email. For email updates register at epuron.com.au/mailing-list-details and select 'Chalumbin WF' in your preferences. To receive updates via post email your name, postal address and a request to be added to the mailing list to info@chalumbinwindfarm.com.au. We value your privacy and your details will only be used for this purpose.

More information

Website: chalumbinwindfarm.com.au or scan QR code:

Email updates: epuron.com.au/mailing-list-details

Contact: Anthony Russo, General Manager Development, Qld.

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