

Chalumbin Wind Farm

Project Information

September 2021

Australian renewable energy company Epuron is preparing a development application for the proposed Chalumbin Wind Farm, located approximately 10-15km south of Ravenshoe in north Queensland. This overview provides information about the project.

Planning & assessment

State assessment

The development application for Chalumbin Wind Farm will be managed by the Queensland Government's State Referral and Assessment Agency (SARA).

SARA delivers a co-ordinated, whole-of-government approach by providing a single agency lodgement and assessment point for development applications where the state has jurisdiction.

The assessment framework is provided by the State Development Assessment Provisions' (SDAP) *State code 23: Wind farm development*. This outlines matters to be assessed and prescribes the methodology for technical assessments, minimum actions and acceptable outcomes to demonstrate compliance.

The code 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

Following Epuron's referral of the project to the Federal Department of Agriculture, Water and the Environment (DAWE) for review under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) it has been determined a 'controlled action' (Reference number 2021/8983).

This means the proposal will require controlling provisions for key species and the application must also be assessed and approved under the EPBC Act.

See right for an outline of the planning and assessment process and the status for the project.

Process and key steps

State

- 1 Site selection, initial concept and preliminary investigations
- 2 Pre-lodgement meeting with State Assessment and Referral Agency (SARA)

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Studies and assessments
(prescribed by SARA State
Code 23)

- 4 Application and assessments submitted to SARA
- 5 *If required* - further information requested and further assessment
- 6 *If required* - public notification of proposal
- 7 Assessment
- 8 Determination

Commonwealth

- 1 Referral for review under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

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HERE

Determination:
controlled action

- 3 *If required* - request for further information (RFI)
- 4 *If required* - response to RFI submitted
- 5 *If required* - response accepted and put on public exhibition
- 6 Determination



Landscape & visual impact

A landscape and visual impact assessment is a requirement of the development application.

Epuron has created photomontages to show what the proposed 95 wind turbine layout would look like from various public viewpoints where it can be seen. These images 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 example above shows a photomontage of the view facing south-east from a point on the Kennedy Highway, approximately six kilometres from the nearest wind turbine.

Ecology & biodiversity

Avoiding and minimising impacts to local flora and fauna species and the area's biodiversity is a priority. Developing a new renewable energy project and protecting local species are both achievable with careful planning and management.

Ecological assessment involves investigating flora and fauna species and habitats by conducting field studies and surveys over multiple seasons, and risk modelling to assess and mitigate potential impacts, in particular for species, habitat and on-site vegetation.

A thorough and comprehensive ecological assessment will be done by independent specialists in accordance with state and federal requirements.

Epuron is committed to working closely with its ecology consultants and environmental scientists to develop strategies for a net positive outcome for the area's biodiversity over the longer term.

Health

The relationship between operating wind farms and health effects has been the subject of extensive review by independent medical and research organisations including the Australian Medical Association (AMA) and the National Health and Medical Research Council (NHMRC). To date there is no evidence of a causal relationship between operating wind turbines and adverse health effects.

NHMRC Statement:

"After careful consideration and deliberation of the body of evidence, NHMRC concludes there is currently no consistent evidence that wind farms cause adverse health effects in humans."

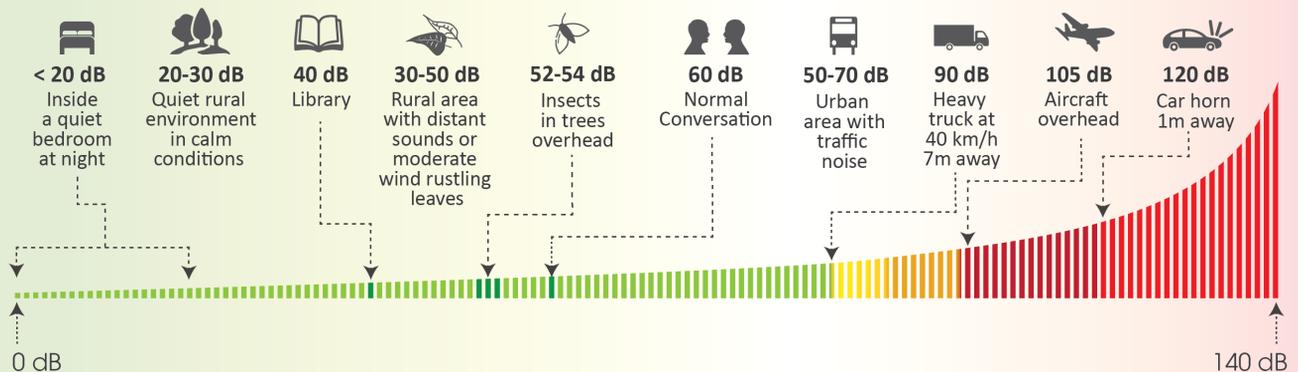
Noise

Modern wind turbine technology aims to reduce noise and wind turbine noise can be accurately predicted. The Queensland Government requires a rigorous and technical assessment based on predictive noise modelling for the development application.

Procedures and methodology for noise assessment are prescribed by State code 23. 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.

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



Livestock

Wind farms and grazing are complementary land uses. There is no evidence that wind turbines have any adverse effects on domestic animals and livestock. Livestock appear to be unaffected by the presence of wind turbines and will often graze beneath them and use the posts for shelter and shade.



EMI & 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.

The methodology for assessing potential impacts from EMI and shadow flicker are outlined in State code 23 however due to the project's location it is not anticipated that the turbines will cause EMI or that shadow flicker would be an issue.

Roads & traffic

Preparing for construction may require upgrades to the access road, which will need to be at least six metres wide. The development application will also include a planning report and design demonstrating compliance with the relevant access, manoeuvring and parking policies of the local government planning scheme.

Fire safety & 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 the Queensland Rural Fire Service (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 way they would other obstructions like powerlines.

Construction

Construction of the wind farm can commence after the development application has been approved and the detailed engineering design has been completed.

We anticipate construction could commence towards the end of 2022 and the construction period would be approximately 18-24 months.

A comprehensive management plan will include compliance with Queensland Occupational Health & Safety legislation and cover all aspects of construction consistent with standard working hours, noise, traffic and dust management.

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, repowering the site with new infrastructure or decommissioning.

If the operator decides not to extend or refurbish the facility it will be decommissioned, probably 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.

State code 23: Wind farm development Planning guidelines

State code 23 can be downloaded from tinyurl.com/y3meslhf or by scanning the QR code right:



Project benefits

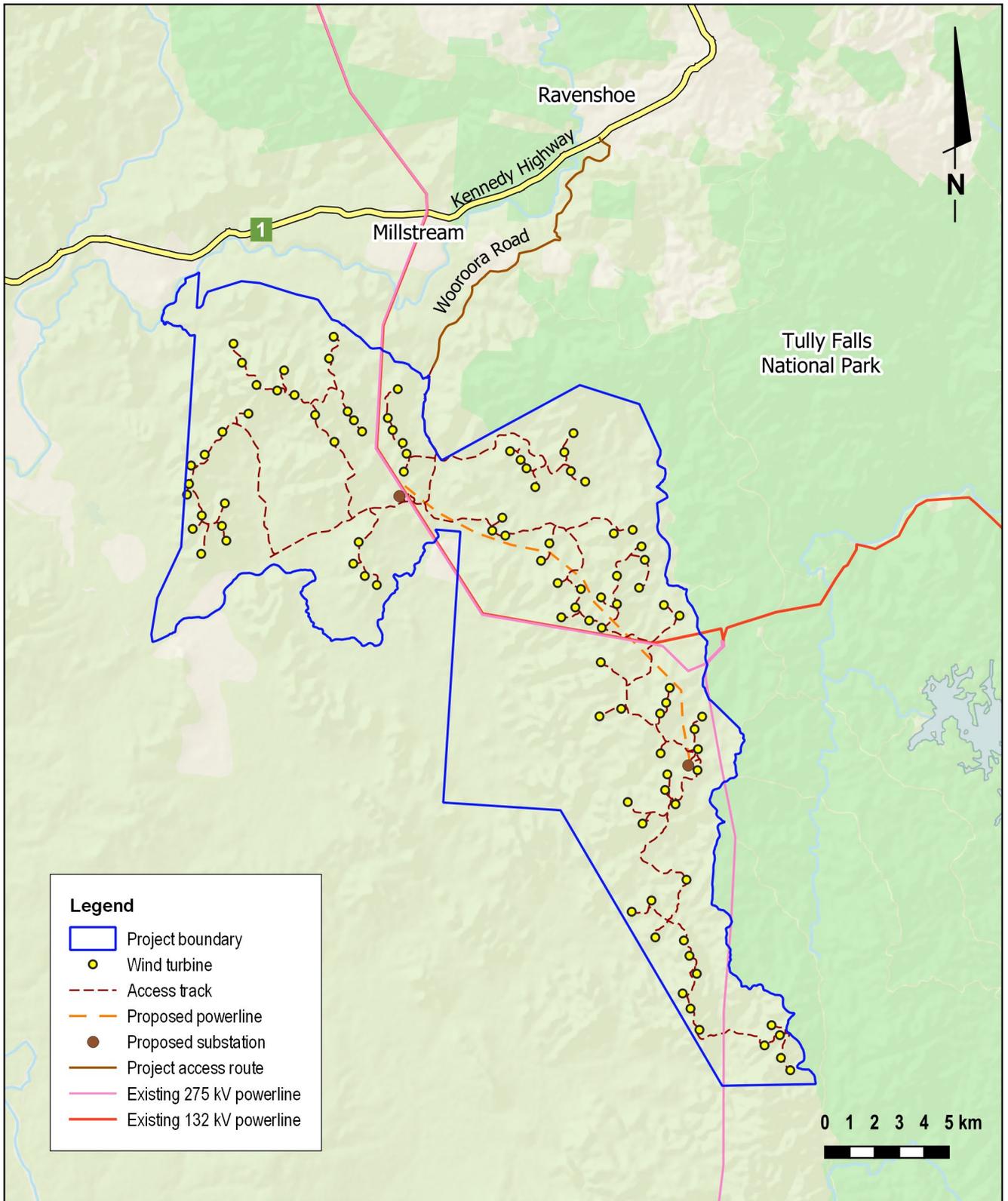
Renewable sources of energy are the most efficient and cheapest new sources of bulk energy generation. Growth in Queensland's renewable energy capacity will deliver clean, cheaper and reliable electricity to households and businesses, and create economic opportunities for nearby communities.

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

ECONOMIC BOOST: It is anticipated that construction would provide work for local contractors, attract new workers to the area, and provide a significant boost to the local economy, in particular for surrounding accommodation, retail and hospitality businesses.

CLEAN ENERGY: The Chalumbin Wind Farm would contribute 570 megawatts to the Queensland grid and support the Queensland Government's target of 50% renewable energy generation by 2030.

Chalumbin Wind Farm, North Queensland - map of the proposed site layout with 95 wind turbines



Register for updates: to receive updates by email register online at epuron.com.au/mailling-list-details/ and select 'Chalumbin WF' in your project preferences. To receive updates by post please provide your mailing address details to the project team via info@chalumbinwindfarm.com.au



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

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