

Boulder Creek Wind Farm

Project Overview

December 2021

Epuron has received planning consent from the Queensland Government for the Boulder Creek Wind Farm, approximately 40 km south-west of Rockhampton in central Queensland. This overview provides information about the project and answers to some frequently asked questions about utility scale wind farm developments.

Planning and assessment

State assessment

The development application for Boulder Creek Wind Farm was assessed by the Queensland Government's State Referral and Assessment Agency (SARA). SARA delivers a co-ordinated, whole-of-government approach for development applications where the state has jurisdiction.

The assessment framework for wind farm developments is provided by the State Development Assessment Provisions' (SDAP) *State code 23: Wind farm development*. This outlines the 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

The proposal has been determined a 'controlled action' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), so must also be assessed and approved by the Australian Department of Agriculture, Water and the Environment.

The project's original EPBC Act referral is available online at epbcnotices.environment.gov.au/referralslist/. The report for DAWE is now on public exhibition until Friday 17 December and can be accessed online at epuron.com.au/news/2021/12/1/264-invitation-for-comment-epbc-act-preliminary-documentation/

See the project's status in the planning and assessment process right.

State

- 1 Site selection, initial concept and preliminary investigations
- 2 Pre-lodgement meeting with State Assessment and Referral Agency (SARA)
- 3 Studies and assessments (prescribed by SARA State Code 23)
- 4 Application and assessments submitted to SARA
- 5 Assessment

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Determination: approved

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 2020/8772)
- 3 Request for information (RFI)
- 4 Prepare response
- 5 Response submitted

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Response accepted and on public exhibition

- 7 Determination

Ecology and wildlife

Developing Queensland's renewable energy capacity and protecting local wildlife are both critically important and achievable with careful planning and management. Minimising the impact on the natural environment is a priority for Epuron. The methodology for ecological assessment outlined in State code 23 includes assessing potential impacts on birds and bats, fauna habitat and on-site vegetation

Ecological assessment involved investigating flora and fauna species and habitats through field studies and surveys over multiple seasons, and risk modelling to assess and mitigate potential impacts.

Epuron has worked with its ecology consultants and environmental scientists to develop strategies for a net positive outcome for the area's biodiversity over the longer term. The project must also be approved under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

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.



Health

There is no evidence that wind farms cause adverse health effects to humans. The National Health and Medical Research Council Statement on the topic advises: *"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"*.

Aboriginal cultural heritage

Epuron recognises the continuing connection that Aboriginal peoples have to their land and acknowledges that the Boulder Creek Wind Farm is Darumbal and Gaangalu Nation Peoples country. Boulder Creek Wind Farm has Cultural Heritage Management Agreements with the Gaangalu Nation People (GNP) and the Darumbal People. Darumbal and GNP also assisted in site investigations and consultation to ensure the protection of cultural heritage on the site and that respect to traditional values and culture are upheld.

Landscape and visual aspects

A landscape and visual impact assessment a requirement of the development application. Epuron created a series of digital wireframe images to show where wind turbines, or parts of them, would be visible from viewpoints along the Capricorn and Burnett Highways. These illustrate what the wind farm will look like and its visual impact.

Shadow flicker

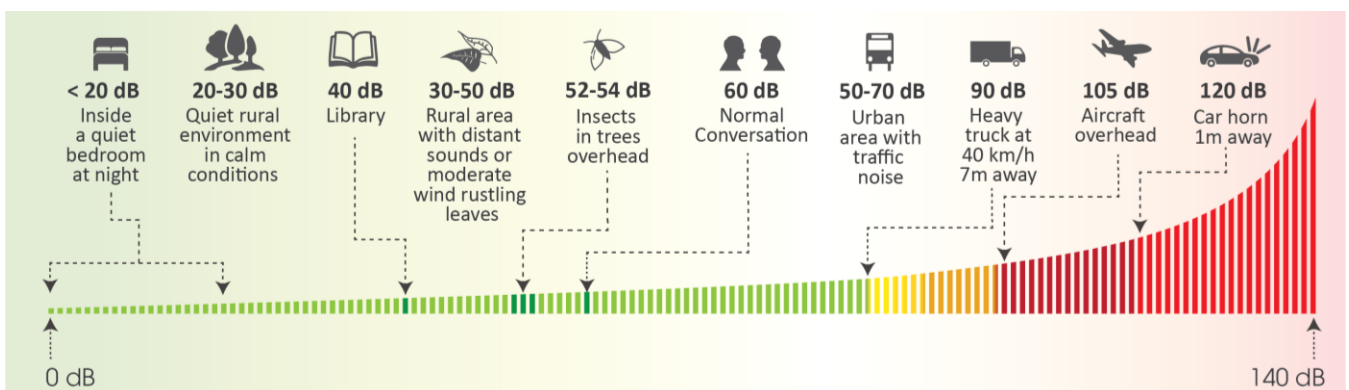
Under certain conditions and times of day rotating wind turbine blades can cause shadows that appear to flicker. Shadow flicker is not identified to be an issue for this project due its location.

Noise

Modern wind turbine technology aims to reduce noise and wind turbine noise can be accurately predicted. A rigorous and technical assessment based on predictive noise modelling was required 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.



Electromagnetic interference

Electromagnetic interference (EMI) can occur when wind turbines interfere with the transmission of magnetic waves emitted from a source such as television, radar or radio signals. Due to the project's location it is not anticipated that the wind turbines will cause any EMI.

Construction

Preparation for construction can only commence after the proposal has also been approved under the EPBC Act and detailed engineering design has been completed. We anticipate construction could commence towards the end of 2022 and the construction period would be 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 and the removal of above ground infrastructure including wind turbines, electrical infrastructure and maintenance buildings. The site would then be returned to its former state as much as practicable.

How can I stay informed?

Mail - email your address with a request to be added to the mailing list to info@boulder creek wind farm.com.au

Email - register online and select 'Boulder Creek WF' in your preferences to receive project updates directly to your inbox: epuron.com.au/mailling-list-details

Website - all project updates are filed under the 'News' tab on the website: boulder creek wind farm.com.au

Questions and comments

Questions and comments can be sent to the project team via email to info@boulder creek wind farm.com.au or via the online feedback form on the website: boulder creek wind farm.com.au

Thank you

Epuron values input from the community. Thank you to all those who have engaged with us on this project so far, in particular members of the communities of Westwood and Mount Morgan and other interested stakeholders.

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 operational issues and can be remotely shut down in the event of fire in the area. Wind turbines also provide a safe path to ground for lightning strikes and access tracks serve as natural fire breaks.

A comprehensive bushfire management plan for the site will 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 manner as any other obstructions such as buildings or power lines.

Roads and traffic

Preparing for construction may require upgrades to access roads. The proposal includes a new site access road from the Capricorn Highway north of Westwood.

The development application includes a planning report and design demonstrating compliance with the relevant access, manoeuvring and parking policies of the local government planning scheme.

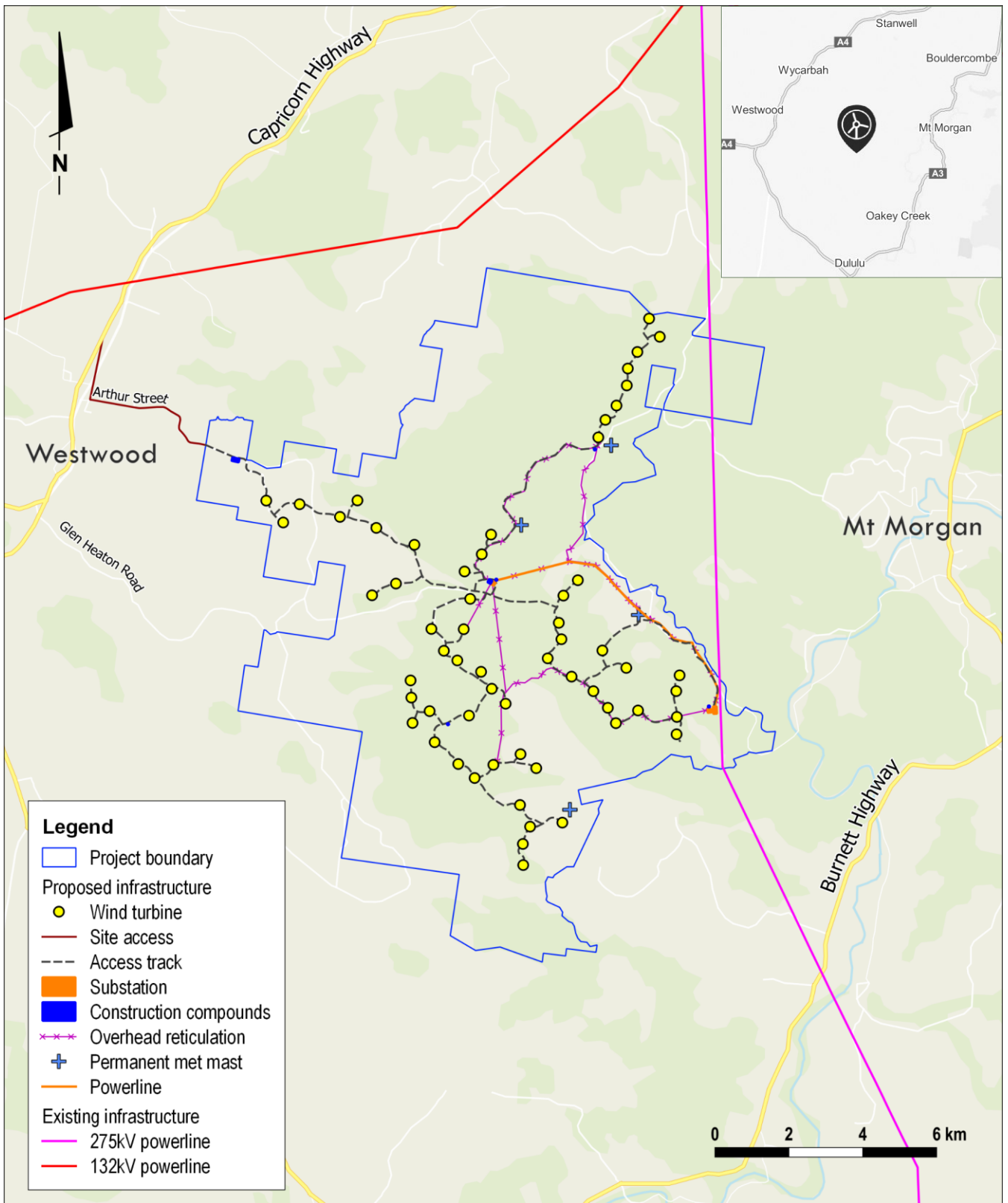
Project benefits

New renewable energy projects will help to reduce carbon emissions and mitigate the effects of climate change, help Australia to reach its renewable energy targets, and create economic opportunities for nearby communities.

JOBS - The project is expected to provide up to 350 jobs during the 18-24 month construction period and 15-20 ongoing jobs for operators, technicians, administration and landscaping.

ECONOMIC BOOST - It is anticipated that construction would provide work for local and Queensland-based contractors, attract new workers to the area, and provide a significant boost to the local economy, especially for surrounding accommodation, retail, service and hospitality businesses. Contractors and businesses can email the project team (see left) to register their interest in providing services or facilities.

CLEAN ENERGY - Renewable sources of energy are the most efficient and cheapest sources of bulk energy generation. Growth in Queensland's renewable energy capacity will put further downward pressure on wholesale electricity prices and deliver clean, affordable and reliable electricity to households and businesses. Boulder Creek Wind Farm would contribute up to 372 megawatts of clean energy to and support the Queensland Government's target of 50% renewable energy generation by 2030.



Boulder Creek Wind Farm location and site layout. The project site is approximately 40 km south-west of Rockhampton, between Mount Morgan and Westwood (see inset top right). The project involves up to 60 wind turbines and associated infrastructure, connected to the Queensland grid via an existing 275kV transmission line.

Website: boulder creek wind farm.com.au or scan QR code right

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