

Chalumbin Wind Farm



A photomontage showing what the wind farm would look like from the Kennedy Highway

More than two years of ecological assessment work

More than two years of ecological assessment work has been done for the Chalumbin Wind Farm proposal by a team of ecologists in consultation with local and regional experts. To date, it has involved more than 300 days of onsite studies, 16 multi-seasonal survey periods, 5,490 camera trap nights across 55 sites and hundreds of hours of focused site investigations for key species.

This work has provided a comprehensive and deep understanding of ecology in the project area and added to scientific knowledge for key species. For example, species that have not been observed within the project area despite extensive site surveys include the red goshawk, koala, quoll, spectacled flying fox and cassowary.

Design changes to avoid impacts

Based on findings from the ecological work and consultation with Traditional Owners, stakeholders and the local community, 114 wind turbines from the initial design of 200 have been removed to avoid sensitive ecological and cultural heritage sites within the project boundary.

In the most recent changes, eight wind turbines have been removed and access roads reduced by 27 km, mostly in areas of wet sclerophyll forest. As a result the disturbance to wet sclerophyll has been reduced by 31% and 52.6 hectares, and the overall construction footprint by 61 hectares. Further refinements to minimise impacts, such as reduction of road widths during construction, have been made wherever possible and are ongoing.

Based on local feedback the project is also undertaking feasibility studies for an alternative access route to Wooroora Rd and a construction camp to avoid adding pressure on local housing costs.

The final proposed layout consists of 86 wind turbines and the project is less than half of its original size. It completely avoids all rainforest areas and the distance between any disturbance and the boundary of the Wet Tropics of Queensland World Heritage Area is 600m in only one location, 900m in a few others, and mostly a lot more.

Industry-leading commitments

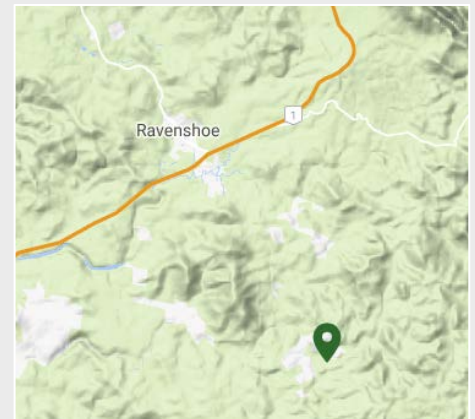
Most of the initial construction disturbance, which would be a maximum of 1,071 hectares, would be caused by construction of essential batters required for safe and stable roads, and 80% of clearing involves common vegetation classified as 'least concern'. The project has made a voluntary and industry-leading commitment to rehabilitate at least 70% - about 675 hectares - of the disturbance not required for operation.

Rehabilitation would involve revegetating road verges and would prioritise providing more habitat for key species. It is intended that the rehabilitation program would be undertaken in collaboration with local ecology stakeholders, facilitate capacity building for local restoration groups, and provide opportunities for Indigenous training and employment.

The project has also committed to not do any construction involving soil disturbance during the peak wet season months of January to March to prevent soil loss.

Post construction the final operational footprint would be 107 hectares, 0.3% of the project area, and all access roads would be only 5.5 metres wide.

Location



The Chalumbin Wind Farm project area is within two privately owned cattle grazing properties about 15 km south-west of Ravenshoe in North Queensland. They include existing access tracks and high voltage transmission lines. The project does not involve the Chalumbin wilderness area of the same name or the Wet Tropics of Queensland World Heritage Area, and completely avoids rainforest.



Improving protected habitat

In addition to rehabilitation, the project proposes significant and strategic land-based offsets totalling 7,454 hectares, more than seven times the initial construction disturbance. It is far in excess of statutory offset requirements. They would be between 6-11 times greater the size of the habitat areas impacted by construction.

Offsets would provide protected habitat for key species with active management regimes, including feral pest control, fire management and weed management, to deliver improved ecological outcomes. Importantly 5,700 hectares of proposed offsets are located next to the Wet Tropics of Queensland World Heritage Area. They would protect the largest intact patch of wet sclerophyll forest adjacent to Tully Falls National Park and improve connectivity between Koombuloomba National Park and Yourka Reserve Nature Refuge.

The project has also committed \$250,000 in research funding to improve scientific knowledge of the magnificent brood frog.

Chalumbin Wind Farm's ecological commitments will provide conservation benefits for key species and aim to ensure a net gain for biodiversity in the project area over the longer term.

Working with the Traditional Owners

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

A Cultural Heritage Management Agreement between the project and the Traditional Owners has been established to ensure protection of cultural heritage on the site. An Indigenous Land Use Agreement was signed in May 2022 and will provide a suite of benefits including financial, training and employment opportunities.

Local economic benefits

It is estimated the project would create more than 400 direct and indirect jobs and generate \$300 million in direct and indirect expenditure within the local and regional economy during the construction period. It would also provide 15-30 ongoing full-time jobs for operation.

The project has also committed to a Community Benefit Program to share ongoing benefits across the local area and contribute in a meaningful way to issues that the local community cares about. The program would be based on an industry-leading funding commitment of \$500,000 per year from the start of construction and for the life of the wind farm.

About wind turbine noise

Today's wind turbines are much quieter than people generally expect. Infrasound, which usually refers to very low frequency sounds below 20 Hz, was a feature of some early wind turbine designs with blades down-wind of the tower. Today wind turbine blades are upwind of the tower and this type of noise is below the threshold of human perception.

Wind farm noise is predicted using acoustic modelling. The technical criteria and methodologies for noise assessment are prescribed in Queensland's *State code 23: wind farm development*. It states that: "The applicable acoustic criteria has been established based on national and international best practice, including a detailed review of the various standards, guidelines and frameworks in place throughout Australia, New Zealand and abroad."

Compliance with strict noise limits must be demonstrated before approval is granted and via a noise monitoring program during operation. A comprehensive technical noise impact assessment was done for the development application by acoustic specialists, and shows the project is predicted to be well within the noise limits.

About wind farms and health

The relationship between operating wind farms and human health has been the subject of extensive review by medical and research organisations, including the National Health and Medical Research Council (NHMRC) and the Australian Medical Association (AMA).

NHMRC is Australia's leading expert body promoting the development and maintenance of health standards and the authority in health and medical research. AMA is Australia's peak professional body for doctors.

Both organisations have published position statements in relation to wind farms and health, noting that there is no consistent evidence wind farms and wind turbine noise cause adverse health effects in humans.

Draft PER on exhibition

Development consent was granted by the Queensland Government in June 2022. The development application included various technical assessment reports including for noise, visual impact, ecology and electromagnetic interference, and preliminary management plans. More detailed pre-construction management plans required under the conditions of approval are now being developed, including for construction, vegetation, birds, bats, erosion, sediment control and traffic management.

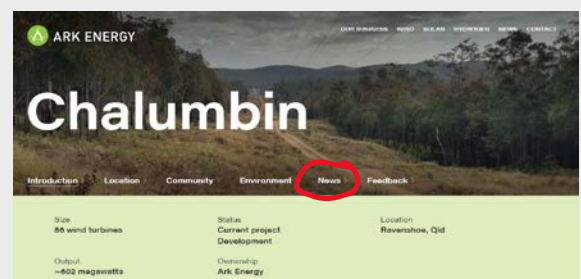
The project will also be assessed under the *Environment Protection and Biodiversity Conservation Act 1999* by the Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW) through a Public Environment Report (PER).

The draft PER is now on public exhibition until Friday, 16 December 2022. It includes full details of the ecological assessment work and findings, and the proposed impact mitigation measures, offset strategies and plans.

Hard copies of the draft PER and supporting documents are on display and available for review at the following locations:

- Tablelands Regional Council, front reception, 45 Mabel St, Atherton.
- Ravenshoe Library, public reading area, 24 Moore St, Ravenshoe.
- The Chalumbin Wind Farm Information Hub, 55 Grigg St, Ravenshoe.

The draft PER and supporting documents are also available on the project website, chalumbinwindfarm.com.au, and can be found in the *Invitation to comment – EPBC Act Public Environment Report* post under the 'News' tab.



Local community information sessions

Community information sessions will be held at the project's information hub in Ravenshoe on Tuesday 29 and Wednesday 30 November 2022 at 10am, 1pm, 3pm and 5pm each day.

At the information sessions the project team will present an overview of the draft PER and be available to discuss its contents and answer questions.

In the meantime, open times for the information hub have been extended to Wednesday and Thursday afternoons, as well as by appointment. For any questions or the latest information on the project please drop in or contact the project team – details overleaf.

Chalumbin Wind Farm Proposal – Balance Sheet

Increasing renewable energy supply is urgent to reduce carbon emissions, replace fossil fuel energy sources and meet growing electricity demand. Conserving the natural environment and the unique biodiversity of the Tablelands region is equally important.

Building new infrastructure involves some unavoidable impacts and achieving these priorities together through sustainable development that delivers nature-positive outcomes requires robust science, an interdisciplinary approach, and careful planning and management.

The Chalumbin Wind Farm project area has an excellent wind resource and includes high voltage transmission lines with capacity, so could be connected to the grid sooner and without requiring more construction for new transmission infrastructure.

The project team has focused on developing a proposal to deliver a significant boost to Queensland and Australia's renewable energy capacity, and also provide local social, environmental and economic benefits that outweigh the development's unavoidable impacts.

Based on the current proposal following is a summary of the impacts and benefits of this project for the local area and community.

Impacts

- ❖ Initial clearing of up to 1,071 hectares - 80% common vegetation - within two privately owned cattle-grazing properties.
- ❖ Impact on areas of habitat for the northern greater glider, masked owl and magnificent brood frog.
- ❖ Although species not observed in the project area, impact on areas of potential habitat for the spectacled flying fox and koala.
- ❖ Changes to the visual landscape and views from nearby areas.
- ❖ Proximity to the western boundary of Tully Falls National Park and Koombooloomba National Park, part of the Wet Tropics of Queensland World Heritage Area.
- ❖ Construction traffic disruption for ~2 years.
- ❖ Greenhouse gas emissions (GHG) including materials, transport and clearing of 900,076 t CO₂-e.
- ❖ Residual operational footprint of ~107 hectares.

Benefits

- ✓ New protected habitat on privately owned land of 7,454 hectares, with management regimes for pest control, fire and weeds.
- ✓ Expansion of conservation areas adjacent to Tully Falls National Park and between Koombooloomba National Park and Yourka Reserve Nature Refuge.
- ✓ Protected and managed habitat 6+ times the size of the habitat impacted for the northern greater glider and masked owl, and 11+ times the size of the habitat impacted for the magnificent brood frog.
- ✓ Protected and managed habitat 6+ times the size of the potential habitat impacted for the spectacled flying fox and koala.
- ✓ Research funding of \$250,000 for the magnificent brood frog, an endangered species that is not well understood.
- ✓ Significant land care capacity building and Indigenous employment opportunities through the rehabilitation program.
- ✓ New and more opportunities for Traditional Owners to spend time on country in the project area through the Cultural Heritage Management Agreement.
- ✓ Financial, training and employment benefits for Traditional Owners through the Indigenous Land Use Agreement.
- ✓ Funds of \$500,000 per year for ~25 years to support community-selected initiatives and projects through the Community Benefit Program.
- ✓ Hundreds of jobs, 400+ direct / indirect, that will prioritise local employment.
- ✓ Estimated \$300 million injection into the local economy during construction – benefitting contractors and businesses.
- ✓ A number of long-term full-time jobs, 15-30, for operation.
- ✓ Clean energy equivalent to the electricity needs of ~320,000 households by 2026.
- ✓ Increased renewable energy supply to add downward pressure on electricity prices.
- ✓ Reduction in GHG emissions by 596,309 t CO₂-e/year, achieving net positive after 1.5 years of operation.

Congratulations Nicole, Marshall and Skylar!

Thank you to everyone who dropped by to chat to the project team during the Torimba Festival on Saturday, 8 October. Especially to all those visitors who gave us their valuable feedback by completing a Community Benefit Program survey. Special congratulations go to our LEGO® Vestas Wind Turbine set winners, Ravenshoe's Nicole Bowen and her children Marshall and Skylar, pictured here celebrating their win with a friend and Anthony Russo, Ark Energy's General Manager for Development in Queensland.



Have your say on Chalumbin Wind Farm's Community Benefit Program

Community members and local stakeholders are invited to help guide the design of the project's Community Benefit Program to ensure it meets local needs and priorities.

The program would be based on funding of \$500,000 per year, commencing from the start of construction and for the life of the wind farm. The program's aims are to:

- ✓ **Share** a generous allocation of returns with the community as a whole.
- ✓ Contribute in a **meaningful** way to issues the community cares most about.
- ✓ Allow for **flexibility** to handle changing priorities over time.
- ✓ Provide a way to integrate Chalumbin Wind Farm into the local area that is **positive, rewarding and beneficial**.
- ✓ Advance **community connectedness** and **inclusivity**.

To have your say complete the *Community Benefit Program Survey* available to download from the 'Community' page of the project website or in hard copy at the information hub.

Planning & Assessment

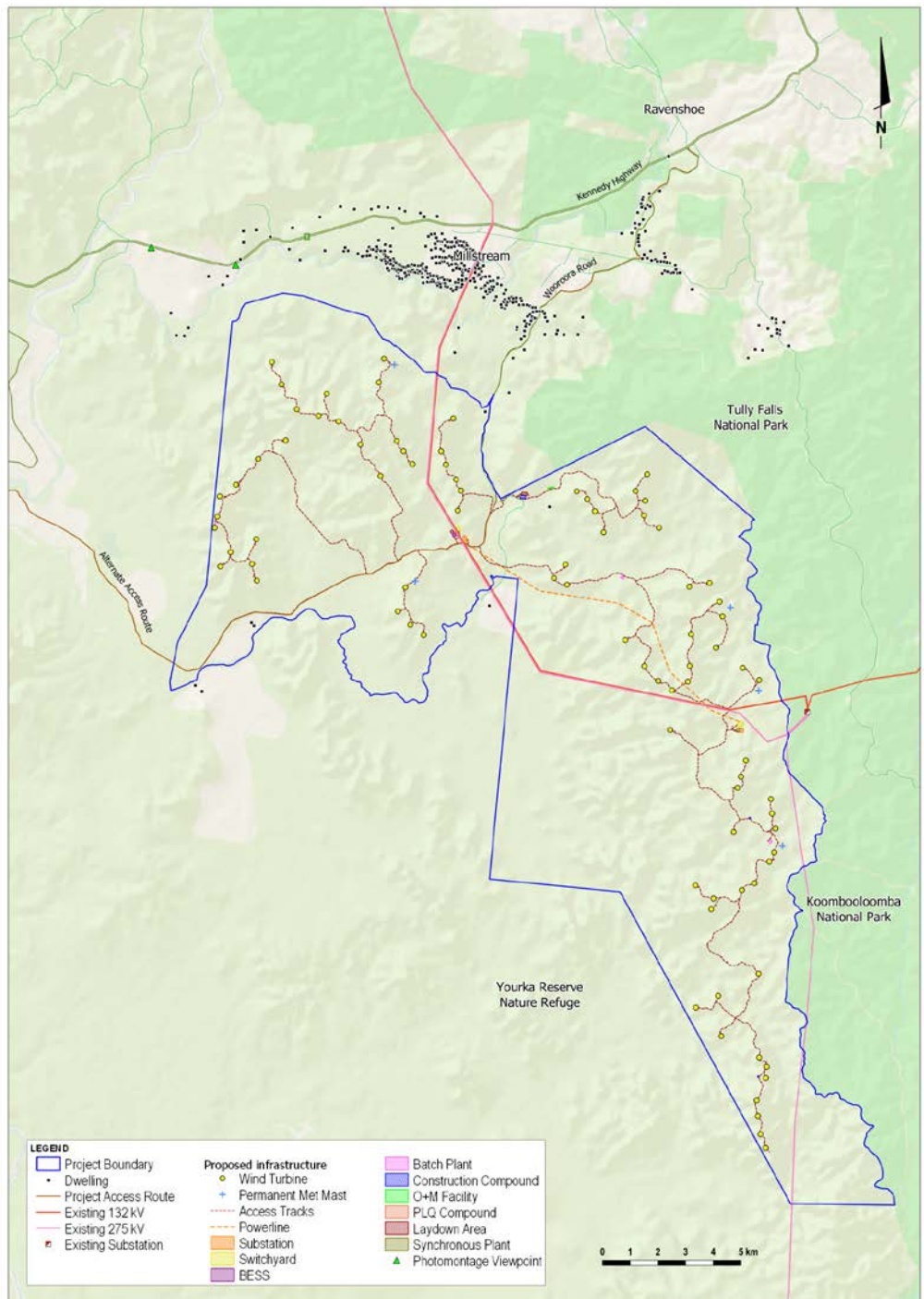
Queensland Government

- 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 Application and assessments Lodged with SARA ✓
- 5 Request from SARA for further information and response ✓
- 6 Assessment ✓
- 7 Determination: approved **WE ARE HERE**



Australian Government

- 1 Referral to the Department of Climate Change, Energy, the Environment and Water for review under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) ✓
- 2 Decision: controlled action, assessment by Public Environment Report (PER) ✓
- 3 Guidelines issued for draft PER ✓
- 4 Preparation of draft PER ✓
- 5 Draft PER submitted for review ✓
- 6 Draft PER on public exhibition **WE ARE HERE**
- 7 Response to submissions and preparation of final PER
- 8 Final PER submitted
- 9 Determination



The Chalumbin Wind Farm project area is located within two cattle grazing properties about 15km south-west of Ravenshoe and west of Tully Falls and Koombuloomba National Parks. The project would involve 86 wind turbines and associated infrastructure, and would be connected to the grid via the high voltage transmission lines that traverse the site.

More information

Visit - Chalumbin Wind Farm Information Hub, 55 Grigg Street, Ravenshoe. Open Wednesday and Thursday afternoons or by appointment via the contact details below.

Tel - 1800 731 296

Email - info@chalumbinwindfarm.com.au

Sign-up for newsletters - arkenergy.com.au/mailling-list-details/

Website - chalumbinwindfarm.com.au or scan QR code right



Scan QR CODE to visit the website

Note: In May 2022 Ark Energy completed its friendly acquisition of Epuron, proponent for the Chalumbin Wind Farm, and in October 2022 the Epuron brand was retired. Ark Energy is an Australian subsidiary of Korea Zinc, the first major refiner to join RE100 and commit to powering its global operations from 100% clean energy by 2050. There are no changes to the investment partner and future owner of the Chalumbin Wind Farm as a result of Ark Energy's acquisition.