Bowmans Creek Wind Farm

A photomontage showing what the wind farm would look like from Bowmans Creek Road, looking west from about 1 km away from the nearest wind turbine.

Bowmans Creek Wind Farm is a utility-scale wind energy generation project due to be installed on pastoral properties about 12 km east of Muswellbrook in the Hunter Valley region of New South Wales (NSW).

Planning and assessment

Utility-scale wind farm developments in NSW are considered State Significant Development (SSD) and subject to a rigorous assessment process managed by the NSW Department of Planning, Housing and Infrastructure (DPHI).

Bowmans Creek Wind Farm, involving 54 wind turbines with a generation capacity of 335 megawatts (MW), was approved by the NSW Independent Planning Commission in February 2024 and the Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW) in July 2024. In June 2025 Ark Energy lodged an application to add a battery energy storage system (BESS) to the project. The BESS, with a power capacity of up to 250 MW and storage capacity of up to 2,000 MWh over eight hours, would allow for efficient storage of excess energy generated during peak production for later use during low production periods or high demand, improving reliability and reducing energy costs.

A separate development application is being prepared for a Stage 2, for another 21 wind turbines that would add 120 MW of generation capacity. Planning Secretary's Environmental Assessment Requirements (SEARs) have been issued for the Environmental Impact Statement (EIS) and key matters to be addressed include landscape and visual impacts, noise and vibration, biodiversity, cultural heritage, transport, water and soils, land, hazards and risks such as aviation safety, telecommunications and bushfire, social impacts, economic impacts and waste.

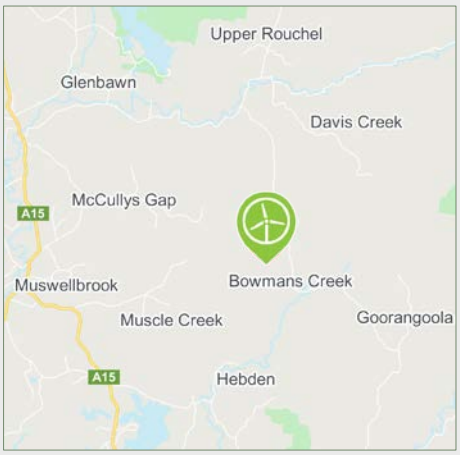
DCCEEW has also determined the proposal for Stage 2 to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), so it will require approval under the EPBC Act before it can proceed. The assessment will be completed by DPHI under the bilateral agreement between the NSW and Commonwealth Governments.

Planning documentation for both projects is available from the NSW Government's Major Projects Portal: www.planningportal.nsw.gov.au/major-projects

For the Bowmans Creek Wind Farm page (SSD-10315) scan QR code left

For the Bowmans Creek Wind Farm Stage 2 page (SSD-73123714) scan QR code right

Location



The Bowmans Creek Wind Farm site is approximately 12 km east of Muswellbrook, in the Hunter region of New South Wales (NSW), and within the Muswellbrook Shire Council, Singleton Council and Upper Hunter Shire Council areas.

The Hunter region is significant to the NSW energy system and well placed to continue this tradition into the future through renewable energy generation.

The project site has an excellent wind resource and is within the NSW Government's Hunter-Central Coast Renewable Energy Zone, an area identified as optimal for new renewable energy projects due to the natural resources and proximity to existing or planned network infrastructure.

Landscape and visual impact

Assessment of a wind farm's visual impact on the landscape is required for the EIS. The approach and technical requirements for a Landscape and Visual Impact Assessment are outlined in the Department's *Wind Energy: Visual Assessment Bulletin*. Assessments are done by specialist consultants and consider shadow flicker, which is the appearance of shadows from rotating turbines under certain conditions and times of day.

Tools for the assessment include photomontages, produced by technical specialists using specialist industry software, to show what the wind farm would look like from representative public viewpoints where it could be seen. These involve combining photographs with a digital representation of the wind farm called a wireframe. Photomontages are based on precise wind turbine locations and dimensions to give an accurate and correctly scaled representation.

Noise

Wind turbines are much quieter than most people expect. Noise output from a wind farm can be accurately predicted using acoustic modelling and a technical assessment by an acoustic specialist, based on the characteristics of the candidate wind turbine, is required for the EIS.

Operational noise limits for wind farms in NSW, and the technical criteria and methodologies for the assessment are outlined in the Department's *Wind Energy: Noise Assessment Bulletin*. The NSW Government has adopted the most stringent noise limit criteria for wind farms. The predicted equivalent noise level at a non-involved residence cannot exceed 35 dB(A) or the ambient background noise by more than 5 dB(A), whichever is greater. The diagram below shows the noise levels in decibels (dB) of various sounds for reference.

The noise limits have been established to ensure the health and safety of individuals and the community, and are designed to preserve peoples' amenity including the ability to sleep at night when background noise is usually low. Compliance with noise limits must be demonstrated before approval can be granted and via a noise monitoring program during operation.

Aboriginal cultural heritage

Ark Energy recognises the continuing connection that Aboriginal and Torres Strait Islander Peoples have to their land and Traditional Custodians are important project stakeholders. The project team is engaging with the project area's Traditional Custodians to ensure the protection and maintenance of cultural heritage on the site and respect to traditional values and culture are upheld.

Ecology

Avoiding, minimising and mitigating impacts to the natural environment and fauna species that might utilise the project area is a priority, and comprehensive and thorough assessment of potential ecological impacts is required by both the NSW and Australian Governments.

Key ecology matters that must be addressed in the EIS are identified in the SEARs and include assessment requirements under the Commonwealth EPBC Act provided by DCCEEW. The ecological assessment work is done by specialist ecologists and survey teams over multiple seasons. As findings from the ecology work become available the project's design may be refined and modified accordingly.

The project team is committed to collaborating with ecology stakeholders and host landowners to implement responsible strategies to mitigate construction impacts and a key aim of the project will be to achieve net gains for biodiversity in the area over the longer term.

Property values

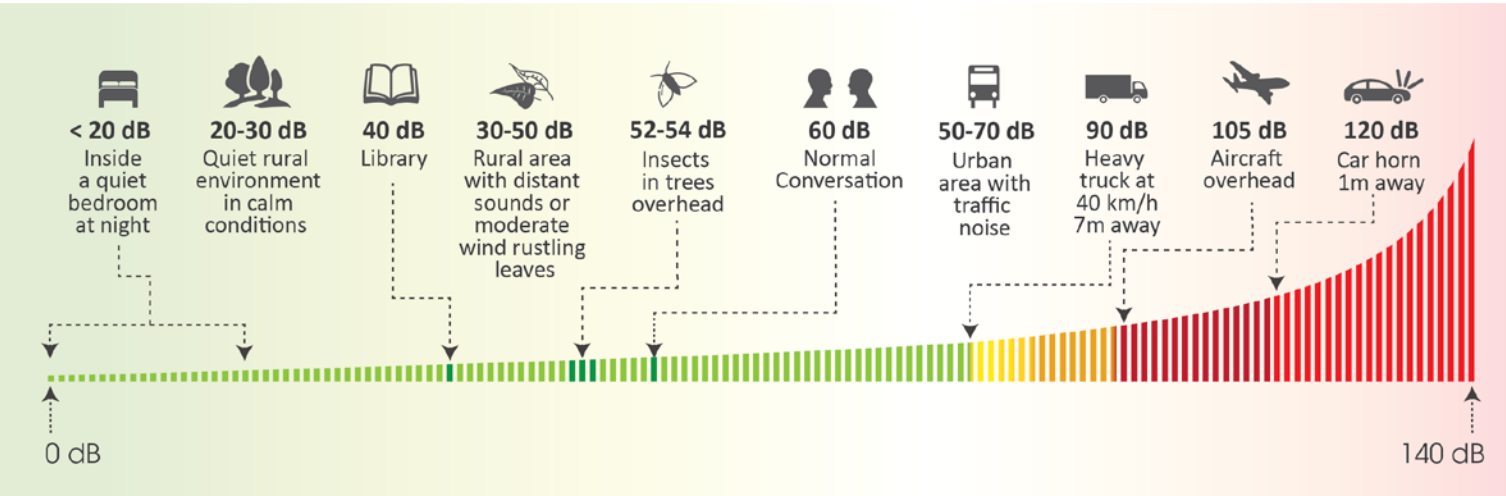
Property prices are influenced by many factors however there is no reliable evidence that proximity to a wind farm or the visibility of wind turbines has a measurable negative impact on land values and property sale prices. The potential for wind farms to impact the value of properties has been examined in studies by the NSW Valuer General and for the NSW Office of Environment and Heritage. These studies reviewed property transactions before, during and after the construction of nearby wind farms and analysed sale prices in the context of broader market trends. They did not find a negative impact on property prices from nearby wind farms.

More recently property market researchers and investors suggest that new renewable energy development is likely to have a positive effect on regional property markets.

Health

The relationship between operating wind farms and human health has been the subject of extensive review by medical and research organisations, including Australia's National Health and Medical Research Council (NHMRC) and the Australian Medical Association (AMA). Both organisations have published statements in relation to wind farms and health, stating that there is no consistent evidence that wind farms and wind turbine noise cause adverse health effects in humans.

Similarly, there is no evidence that wind farms cause adverse health impacts to livestock or domestic animals.



Opportunity for co-existence - Hosting wind farm infrastructure is a productive land use that's complementary to agriculture and can provide a reliable supplementary income stream. Livestock are unaffected by wind turbines and will often use the towers for shelter and shade.

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 follow automatic 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 Fire and Rescue NSW, the local Fire Control Centre, National Parks and Wildlife Services and the NSW Rural Fire Service.

Fire services 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 obstruction such as buildings or powerlines.

Construction and traffic

Preparing for construction will require upgrades to local roads and some key intersections.

A Traffic and Transport Impact Assessment is required for the EIS, and the project will involve comprehensive construction management and traffic management plans, compliant with Occupational Health & Safety legislation and the local government planning scheme. These will cover all aspects of construction and traffic management including working hours, noise, traffic and dust.

Construction can only commence after the detailed engineering design has been completed. A detailed Construction Environment Management Plan will outline measures to mitigate and manage biosecurity risks and the spread of weeds or pathogens between infected areas and non-infected areas during construction. This will include cleaning of vehicles and construction equipment prior to entering the project site and crossing property boundaries. There will be a particular focus on weeds listed under the *NSW Biosecurity Act* (2015).

End of operation

Wind turbines have an operational life of approximately 25-30 years. Options at the end of this period include extending the life of the facility via refurbishment, repowering with new infrastructure or decommissioning.

If the operator decides not to extend or refurbish the facility it will be decommissioned, usually within 12-18 months of ceasing operation.

The costs of decommissioning are the responsibility of the asset owner. 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 be returned to its former state where practicable.

Wind turbines are predominantly made of recyclable materials and approximately 85-94% of today's wind turbines are recyclable. Research and developments in technology continue to advance recyclability of wind turbine components. Most – if not all - of the materials would be reused, repurposed, recycled and recovered.

What can the project bring to the community?

JOBS - Expected to generate more than 200 direct / indirect jobs during construction and 30 direct / indirect jobs during operation.

ECONOMIC BOOST – Expected to generate $179 million in the regional economy through direct / indirect expenditure including work for contractors and increased patronage for surrounding accommodation, retail, service and hospitality businesses.

COMMUNITY BENEFIT PROGRAM - A neighbour benefit program and significant community benefit funds from the start of construction and for the life of the project, to provide meaningful and lasting benefits for the local community.

RENEWABLE ENERGY - Renewable energy is the cheapest source of energy and will reduce carbon emissions and meet growing electricity demand. Growth in renewable energy capacity will put downward pressure on wholesale electricity prices and deliver affordable, cleaner, reliable electricity for households and businesses.

NET GAINS FOR ECOLOGY – A goal of the project will be to achieve a net gain for biodiversity and key species in the project area over time. This might involve initiatives such as rehabilitation of the construction disturbance, strategic environmental offset management areas, and improved management regimes for fire, weed and pest control.

More information about renewable energy

Energy Fact Check is a website to help answer questions about the energy transition, and provides information on the energy system, electricity costs, renewable energy and storage.

Visit energyfactcheck.com.au or scan QR below.

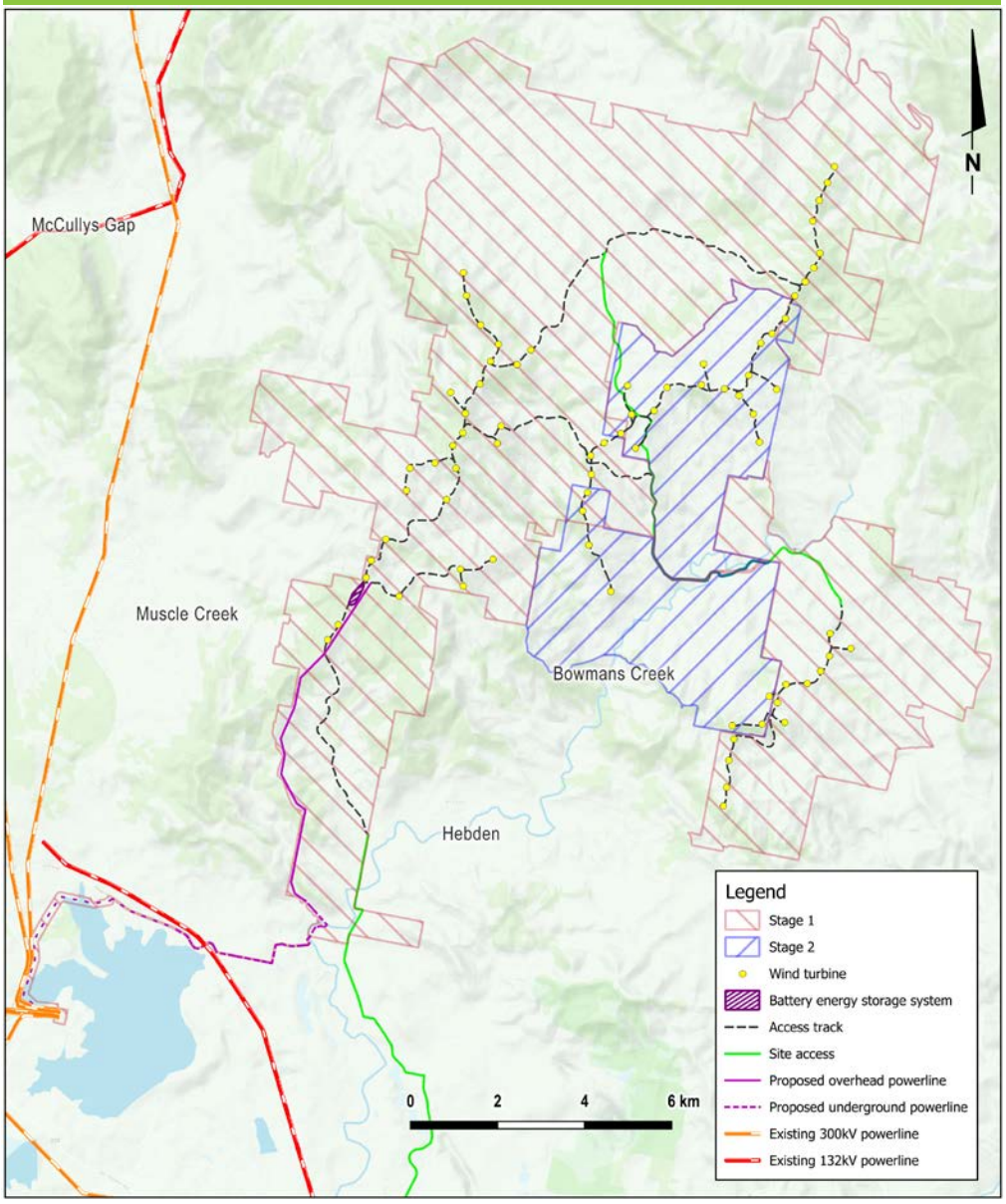
ENERGY FACT CHECK

Planning and assessment Stage 2

Utility-scale wind farms in NSW are considered State Significant Development and assessed by the NSW Government.

1. Site selection and preliminary investigations ✓
2. Initial concept and consultation ✓
3. Referral to the Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW) for review under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). ✓
4. Scoping Report submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) ✓
5. Determination on EPBC Act referral by DCCEEW ✓
6. Secretary's Environmental Assessment Requirements (SEARs) for the Environmental Impact Statement (EIS) issued by DPHI ✓
7. Studies, assessments — **WE ARE HERE**
8. Finalising EIS for lodgment
9. Development application (DA) and EIS lodged with DPHI
10. DA and EIS on public exhibition and open for submissions
11. Response to submissions and requests for further information (if required)
12. Assessment by DPHI
13. DPHI assessment report and recommendation
14. Final determination by DCCEEW

Bowmans Creek Wind Farm, Stage 1 and Stage 2



The Bowmans Creek Wind Farm project area is about 12 km east of Muswellbrook and located within the Hunter-Central Coast Renewable Energy Zone in the Hunter region of NSW.

Questions and feedback welcome

Ark Energy appreciates the importance of involving local stakeholders, and input from interested community members is welcome and valued.

Comments and feedback can be sent directly to the project team at any time via the details below. Where practicable input from local stakeholders will be factored into the project's design to improve outcomes and community benefits.

Companies interested in providing services to the project are also invited to register their interest through the form under the 'Suppliers' tab on the project website.

More information

Telephone - 1800 731 296

Email - info@bowmanscreekwindfarm.com.au

Register for newsletters - arkenergy.com.au/mailing-list-details for email news, or to receive newsletters by post, send us your postal address and a request to be added to the mail list.

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

Scan QR code to visit the website

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