Piambong
WIND FARM

FAQ

Frequently Asked Questions

Key information about the Piambong Wind Farm project to help answer common queries.

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The project

The Piambong Wind Farm is a proposed renewable energy project in the Central-West Orana Renewable Energy Zone of New South Wales near Mudgee, about 200km from Sydney.

The proposed project will comprise between 75 and 85 wind turbines, each with a maximum blade tip height of 230 metres and with a combined capacity between 510 and 580 megawatts (MW). The proposed project is expected to generate enough to power more than 350,000 average NSW homes.

If approved, the wind farm will deliver renewable, low-cost energy to the national grid and contribute to the NSW Government's net-zero emissions target by 2050. The proposed project will provide a significant amount of the new generation capacity required as coal-fired power stations are retired over the next decade.

Vestas has been involved with the project since 2020 and is progressing project planning and approvals, with construction expected to start in 2026.

Project at a glance

Status	Planning and approvals stage
Planned capacity	Between 510MW and 580MW
Investment	More than $1 billion
Turbines	Between 75 and 85 turbines
Blade tip height	Up to 230m
Connection	Either existing 330kV transmission line (5km) or the proposed new 500kV RNI infrastructure (25km)

Between **510** and **580** MW
Renewable energy capacity

350,000
The equivalent number of homes that could be powered by the energy produced annually from the wind farm

Did you know?

The generation from 1.3 turbines produces enough power in 12 months to power the town of Mudgee for one year.

Who we are

Vestas, one of the most experienced wind energy providers globally, is developing the project. Vestas will design, supply, construct and maintain the proposed wind farm for the life of the project.

Vestas is a global leader in sustainable energy solutions. Vestas designs, manufactures, installs and services wind turbines around the world. Vestas has delivered more than 166,000 MW or about 86,000 wind turbines in 88 countries, which accounts for almost 20% of the total worldwide installed capacity.

Vestas has been active in Australia since 2001 and employs around 800 staff in Australia and New Zealand across the sales, construction and maintenance of wind farms.

Vestas is funding the development and design of this wind farm project and is committed to supplying the wind turbines, managing project construction and providing long-term operation and maintenance services for the plant. Vestas has also recently been awarded the title of most sustainable company in the world.

Learn more about Vestas at **www.vestas.com**

Vestas®

29,000
people employed worldwide

40+
years of experience with wind energy

86,000
turbines installed in 88 countries worldwide

Why wind energy?

Driven by the urgency of climate change, Australia and the world are transitioning from traditional fossil fuel generation. Wind is a clean and inexhaustible resource that generates zero pollution or carbon emissions during operation.

Wind energy is now cheaper than new generation from coal and natural gas. Together with solar and other renewable energy projects, wind energy is helping to drive down the cost of wholesale electricity.

Wind turbines convert the natural movement of air into mechanical energy through rotation of the turbine blades. This mechanical energy is converted into electricity, which is sent to the electrical grid.

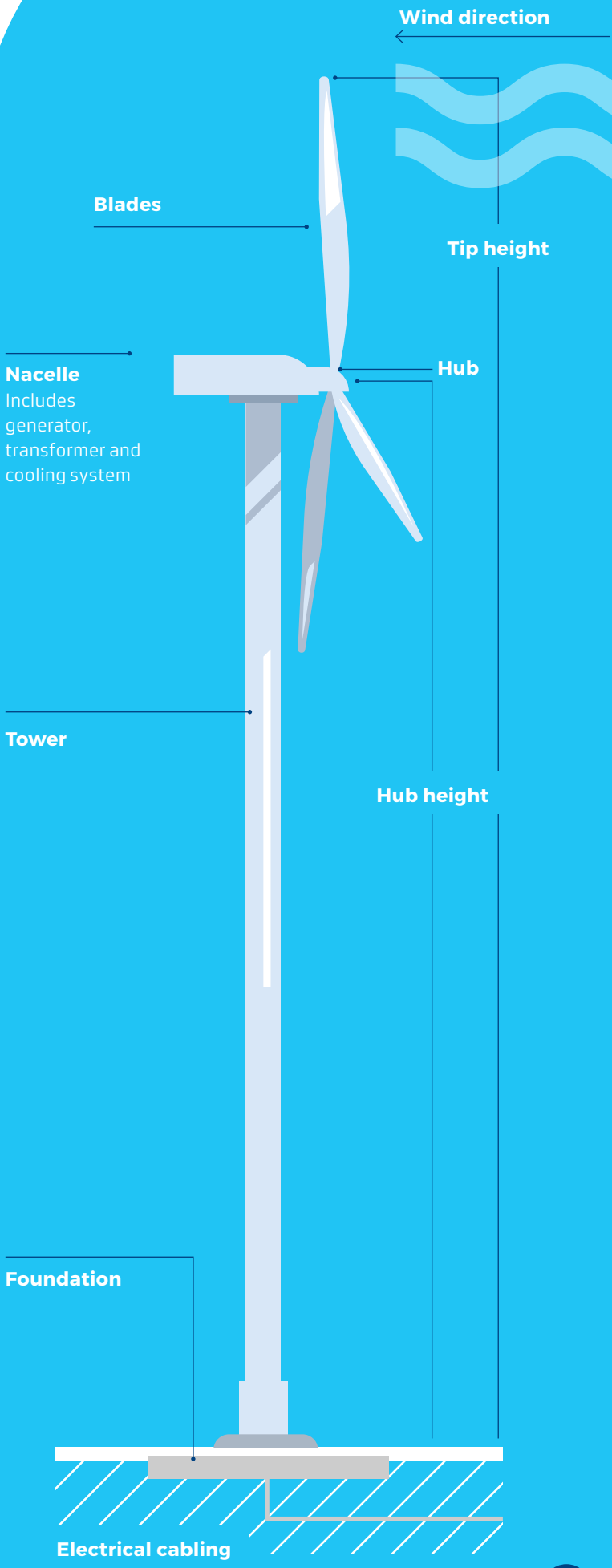
Wind farms accounted for almost 13% of the total electricity generated in Australia in 2022, up from 11.7% in 2021, and 9.9% in 2020 (source: Clean Energy Australia report 2022).

How do wind farms compare to traditional energy sources?

Compared to traditional energy sources such as coal and gas, wind farms:

- require no invasive mining, extraction or burning of fossil fuels
- emit no greenhouse gas during operations
- emit no fine particle pollution, sulphur dioxide, or oxides of nitrogen
- require no water during operation
- have limited environmental impacts from construction.

All emissions generated across the turbine lifecycle are offset in the first year of plant operation.



What is the process to build a wind farm?

Developing and constructing a wind farm is a complex task that requires many years of planning and design.

- **Stage 1** — Project development and permitting
- **Stage 2** — Construction and commissioning
- **Stage 3** — Operation and maintenance
- **Stage 4** — Decommissioning

Why is the proposed Piambong Wind Farm near Mudgee?

Wind speed is critical to energy generation, so it is very important to place turbines in areas of high and consistent winds. The Mid-Western area is considered one of the best wind resource areas in NSW. It is within the Central-West Orana Renewable Energy Zone, identified by the NSW Government as one of five priority areas for renewable energy development.

Stage 1

Project development and permitting

The development stage of a wind project includes:

- discussions with potential host landowners
- installation of wind monitoring equipment such as masts or remote sensing units
- identification of potential wind turbine locations, and design of access routes and electrical infrastructure
- consultation with local councils and State/Federal government stakeholders
- engagement with the local community and project neighbours
- environmental impact assessment including potential biodiversity, noise, visual, traffic, socioeconomic, bushfire, heritage, aviation and other impacts
- preparation of State and Federal permitting applications and documentation
- grid connection studies in accordance with requirements set by the Australian Energy Market Operator (AEMO) and the local network service provider (Transgrid)
- financial modelling
- project funding and investment decisions.

Project development is complex and requires continuous adjustment to meet the NSW Department of Planning and Environment's stringent environmental requirements and the challenging technical requirements of connecting a power station into the grid network.

What are the steps in the approval process?

The diagram below shows the key steps in the environmental permitting process for wind farms in New South Wales. Project development is an iterative process that takes into consideration the results of technical and environmental investigations, and feedback from the community and other stakeholders.

Project timeline

2020 2021
Site identification: early project development and wind monitoring.

2020 2025
Wind assessment: monitoring available wind resource.

2020 2022
Environmental studies: preliminary environmental impact assessments.

2022
Community consultation begins

2023
Scoping Report: Submitted to NSW Department of Planning and Environment (DPE).

2023
SEARs: DPE to issue Secretary's Environmental Assessment Requirements (SEARs).

2023 2025
Environmental Impact Study (EIS): detailed study of potential environmental impacts and benefits.

2025
EIS on public exhibition

2025
Permitting completion: state development consent and federal environmental approval.

2025
Grid connection: offer to connect.

2026
Begin construction: (up to 30 months).

What environmental studies are needed?

A wind farm project must obtain rigorous local, State and Federal approvals to ensure its compliance with relevant legislation and regulations.

To support the application for approval, various environmental studies are conducted to identify project impacts including:

- traffic and transport
- noise
- biodiversity
- visual & landscape
- Indigenous and historic heritage
- electromagnetic interference (EMI)
- bushfire
- waste
- socio-economic
- water.

Please visit our website piambongwindfarm.com.au for updates on studies, planning, and approvals as they become available for the Piambong Wind Farm.

What is the impact to biodiversity?

The proposed development must satisfy the very stringent biodiversity impact assessment requirements of both the NSW Government through the Environmental Impact Statement (EIS) and the Federal Government (through the Environmental Protection and Biodiversity Conservation Act).

The findings of the biodiversity assessment and proposed mitigation measures will be presented in the EIS.

What is the impact to cultural heritage?

The Environmental Planning and Assessment Act 1979 (EP&A Act) provides planning controls and requirements for environmental assessment in the development approval process. It also establishes the framework for Aboriginal heritage values to be formally assessed in land-use planning and development consent processes.

The findings of cultural heritage investigations will be presented in an Aboriginal Cultural Heritage Assessment Report (ACHAR), which will be included in the EIS.

Stage 2

Construction & commissioning

Pending planning and approvals, Piambong aims to begin construction in 2026. The build is expected to take up to 30 months and create up to 400 local construction jobs.

How do you minimise or avoid construction disturbance to the local community?

Piambong will work closely with contractors, local communities, neighbours and local councils to plan and manage construction to minimise disturbance. Construction management will include:

- regular and ongoing communication with the community
- working during standard construction hours as much as possible
- communicating with affected stakeholders where it may be necessary to work outside standard hours, or where work is expected to be disruptive
- a rigorous safety culture
- environmental monitoring.

What can I expect during construction?

Safety

Safety is our highest priority, and we will ensure it is the highest priority for all workers, contractors and visitors. We will prepare a detailed health and safety plan to identify and mitigate all potential safety risks, and we will ensure all construction employees and contractors are appropriately trained and qualified.

Working hours

If the project is approved, construction would occur during standard construction hours Monday through Friday 7am to 6pm and Saturday 8am to 6pm, with no work on Sundays and public holidays.

If works needed to happen outside these standard hours, we would provide advance notice and put in place measures to minimise disruption.

Noise

Some construction activities would create localised noise including road construction, turbine foundation excavation and construction, concrete batching, rock crushing and heavy vehicle movements.

Construction noise criteria would be specified in the conditions of consent for the project, and based on noise guidelines published by the NSW Government. We would take all feasible and reasonable control strategies to minimise noise impacts during construction, and provide advance notice if we expected noise levels to exceed the criteria.

Dust

Construction work may generate dust. We would wet down construction areas and unsealed roads to minimise the dust.

Traffic

Wind farm construction involves a large number of heavy vehicle movements to transport wind turbine tower sections, blades and other equipment. These movements would be planned and involve support vehicles and traffic control where required. Construction would also require transport of raw materials (e.g. sand, aggregate, cement, gravel), equipment (e.g. cabling, fencing, machinery). In addition, construction workers and project staff would travel to and from the site.

To minimise impact to the local community, we would use major roads to access the construction site whenever possible.

Piambong will prepare a detailed traffic and transport assessment, which incorporates input from Mid-Western Regional Council. This assessment will be included in the EIS and available for public comment.

We will also work with road authorities and local councils to prepare a Traffic Management Plan before construction, describing how we would manage traffic and transport to ensure efficient and safe movements.

Social and economic

There would be more people and vehicles in town and on the road during construction. This would mean more economic activity at local restaurants, shops and businesses and possibly higher occupancy rates in temporary accommodation. We will work with Mid-Western Regional council and our contractors to identify solutions and reduce impacts, and provide a strong economic benefit to the local area.

Cultural heritage

Vestas will consult with Aboriginal stakeholders through the life of the proposed project to ensure that all cultural heritage sites identified prior to construction, as well as any unexpected finds during construction, are protected and preserved in accordance with the wishes of these stakeholders.

Will water be required, and where will it be sourced?

We understand that water is a critically important issue for the Mid-Western community. During construction, water would be required for concrete batching, earthworks and potentially for dust suppression. Piambong would source water from local supplies, subject to availability and within the constraints of the development consent for the project. Once the wind farm was operational, water would only be required to meet the domestic/ personal requirements for maintenance staff.

Stage 3

Operation

If the project is approved, Vestas will operate and maintain the wind turbines and other infrastructure to ensure safe and efficient works that optimise energy generation. The Vestas service team will include around 15 skilled staff permanently based in the Mid-Western region.

Do wind farms impact livestock or farming operations?

The majority of wind farms are developed on agricultural land and wind turbines are very much compatible with existing farming operations. Turbines occupy only a small amount of land, and landowners can continue normal grazing or cropping activities. Livestock has often been seen using turbine towers for shade and shelter from wind and rain. The income provided to landowners hosting wind farm infrastructure can help make farms more resilient to the impacts of droughts, fires and commodity price fluctuations.

Are there any health risks associated with wind farms?

Numerous reviews of research literature conducted by leading health and research organisations worldwide, including Australia's National Health and Medical Research Council (NHMRC), have concluded there is no published evidence to link wind turbines with adverse health effects.

Will there be loud noise from the turbines?

The NSW Wind Farm Noise Guidelines specify some of the most stringent noise criteria in the world and are lower than comparable criteria in the US and Europe. The allowable level is somewhere between a whisper and a quiet library in terms of noise. This level is set to ensure that noise levels from wind turbines are compatible with surrounding land uses and to ensure that noise levels do not significantly affect the living experience of people residing in the area.

The noise assessment for the Piambong project predicts the operational noise at all non-involved neighbouring dwellings will be lower than relevant noise criteria in accordance with the NSW Wind Farm Noise Guidelines.

The EIS will include a detailed noise assessment report prepared by a specialised third-party consultant. Our team will monitor noise during operations to ensure the actual operational noise does not exceed the relevant noise criteria and, if it does, we will fix the issue.

Will there be transmission lines?

The proposed wind farm would connect to the existing electricity grid via 5km of 330 kV transmission line or up to 25km of proposed new 500kV line. This will be similar to the existing transmission line that runs between Wellington and Wollar, north of Piambong and Gulgong. The transmission line will likely be constructed using steel lattice towers, spaced approximately 500 metres apart.

Will turbines affect property values?

Several studies commissioned by the NSW and Victorian governments examining the potential impacts of wind farms on property values have found no evidence that wind farms lower the value of a rural property.

Stage 4

Decommissioning

The Piambong Wind Farm has been designed to operate for 30 years. At the end of that period, replacing some equipment and extending the project may be possible. However, such an extension would require a new development approval.

Decommissioning wind farm infrastructure at the end of project life will be a legal condition of the development consent. In addition, contracts with landowners also require that wind turbines and other infrastructure are removed at the end of the lease term. At the end of the project life, Piambong Wind Farm will be fully responsible for plant decommissioning, including removing the wind farm infrastructure and rehabilitating the site in compliance with the conditions of development consent. The wind farm will be de-constructed in accordance with a Decommissioning Plan, which the NSW Department of Planning and Environment must approve. Decommissioning will involve de-energising, disconnecting, dismantling, demolishing and removing the wind turbines and other operational infrastructure (e.g. maintenance buildings, substations and power lines). We will also rehabilitate roads and fencing in consultation with host landowners.

The proposed Vestas wind turbine is around 88% recyclable, including the steel that forms the tower and the aluminium and copper used in electrical equipment within the turbine. The concrete foundations will be removed to a depth of at least 200 mm below ground surface, but the bulk of the foundation will be left in situ. The excavated area will be backfilled with compatible local material and then covered with 200 mm of topsoil to ensure that grazing and farming activities can be resumed.

Turbine blades

Decommissioned turbine blades will not be disposed of in Mid-Western region landfills.

Turbine blades are constructed of carbon and glass fibre composites, polyurethane foam and epoxy adhesives. They are designed to endure harsh conditions over several decades, and blade materials are strongly linked together, resulting in durable structures that are challenging to break down. The recycling process for composite materials aims to separate the polymer (resin) and fibre composites. Once separated, the resins are usually used for energy production, while the fibre can be re-used or recycled.

As the global wind industry grows, more commercial options for recycling wind turbine blades are available.

Vestas is currently upscaling a new chemical solution that can break down epoxy resin into virgin-grade materials. Once matured, this solution will eliminate the disposal of epoxy-based blades in landfills when decommissioned. In time, legacy blade material currently sitting in landfills and blade material in operational wind farms can be disassembled and re-used by applying this technology.

The newly-developed solution supports Vestas' goal of **achieving zero-waste wind turbines by 2040** and its commitment to not landfill any blades in Europe by 2025.

Learn more about Vestas' circular solution for turbine blades.

Did you know?

Energy payback is the time required for a wind farm to produce as much energy as it consumes over the full life cycle of the plant, considering manufacturing of components, transport, construction, operation and decommissioning. For Vestas turbines, the typical 'break even' point – where energy output exceeds energy required – is between 6 to 9 months, depending on the wind speed and other site-specific factors. This means that a typical wind farm becomes carbon neutral in less than one year of operation. By comparison, a coal-fired power station always consumes more energy than it generates, and never achieves an energy payback.

Energy amortisation time for construction, operations and disposal

Wind	6 to 9 months
Hydro	9 to 13 months
Solar PV	1 to 2 years
Natural Gas	Never
Nuclear	Never
Coal	Never

Local jobs

The proposed Piambong Wind Farm project will boost local jobs and create new opportunities for local businesses.

If approved, the Piambong Wind Farm will create up to 400 new jobs during construction and approximately 15 long-term service and maintenance jobs during operations.

Construction and operation will require a range of skills such as:

- engineering
- trade (electrical, mechanical, construction)
- transport
- building material providers
- equipment operators
- consultants
- project management
- administration.

The Service Team will include wind turbine technicians, managers, warehouse staff and administrative staff. These will be permanent roles, based in Mid-Western or surrounding communities.

Vestas is committed to ensuring strong local employment and economic benefit from the project. If you are interested in working for or with the project, you can register your interest at **piambongwindfarm.com.au**.

Up to 400 jobs during construction

Approx. 15 long-term service and maintenance jobs

Significant investment

Working with Piambong

We want to be part of the Mid-Western community for the next generation and are committed to working hard to build strong long-term relationships with residents, businesses and organisations.

What benefits will the region gain from the wind farm?

The proposed project will deliver significant benefits to the region and local community.

- Substantial capital investment in the Mid-Western region.
- Opportunities for local contractors and businesses to supply services to project construction and operation.
- Up to 400 new jobs to be created during construction.
- Up to 15 long-term service and maintenance jobs created during project operation.
- Training and development of new skilled labour in the region in the growing renewable energy industry.
- Upgrades to some local roads and construction of new access roads that may support emergency response activities in the future.

Will there be a community benefit fund or similar?

The Piambong Wind Farm project is in the early scoping stages. We are yet to determine what any community benefit may look like or how it may work. We look forward to speaking to the community about what's important for them when the time is right.

How can locals have a say in planning and decisions?

We are committed to the Clean Energy Council's Community Engagement Best Practice Charter for Renewable Energy Projects. We will continue to engage with local councils, landowners, neighbours and surrounding communities as early as possible, keeping people informed and involving them in decisions they can influence.

The feedback you provide us will help shape the wind farm design and determine the landscape and visual assessment process that we undertake. Please share your thoughts via our Community Feedback Questionnaire at piambongwindfarm.com.au/our-community/community-feedback or email us with any questions at info@piambongwindfarm.com.au

How do I stay updated on the project?

We keep the community up-to-date in various ways including our website, email updates, regular newsletters, information displays, local events, phone calls, direct emails and/or letters to anyone directly affected, and presentations to community groups and organisations.

For more information and to sign-up to our newsletter, visit **piambongwindfarm.com.au**.

How do I have my say?

Vestas is committed to ensuring that the local community has multiple opportunities to learn about, ask questions, and provide input to, the proposed wind farm. Opportunities to do this include:

Website	piambongwindfarm.com.au
Project update	Approximately quarterly
Email	info@piambongwindfarm.com.au
Phone	1800 719 687

We are committed to keeping you informed about the project, and we want to hear from you! Call **1800 719 687**, email **info@piambongwindfarm.com.au** or visit **piambongwindfarm.com.au** to learn more.

Piambong WIND FARM