WestWind ENERGY

Frequently asked questions

Updated June 2025

Transforming Australia's energy future since 2004

Acknowledgement of Country

We acknowledge the Traditional Owners of the land on which we work and live, and recognise their continuing connection to land, waters, and community.

We pay our respects to Elders past, present, and emerging, and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

Latest information

This FAQs booklet was last updated in June 2025.

For the latest FAQs including links to source content, new questions and/or additions to existing content, please scan the QR code below and visit the FAQs page on WestWind Energy's website (or search for www.w-wind.com.au/FAQ).

The latest version of this booklet will be available on the website as a downloadable PDF.

Scan the QR code to visit WestWind's FAQ webpage

Contact

- Call 03 5421 9999
- Email reception@w-wind.com.au
- Visit www.w-wind.com.au
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Cover image: Lal Lal Wind Farm, Victoria

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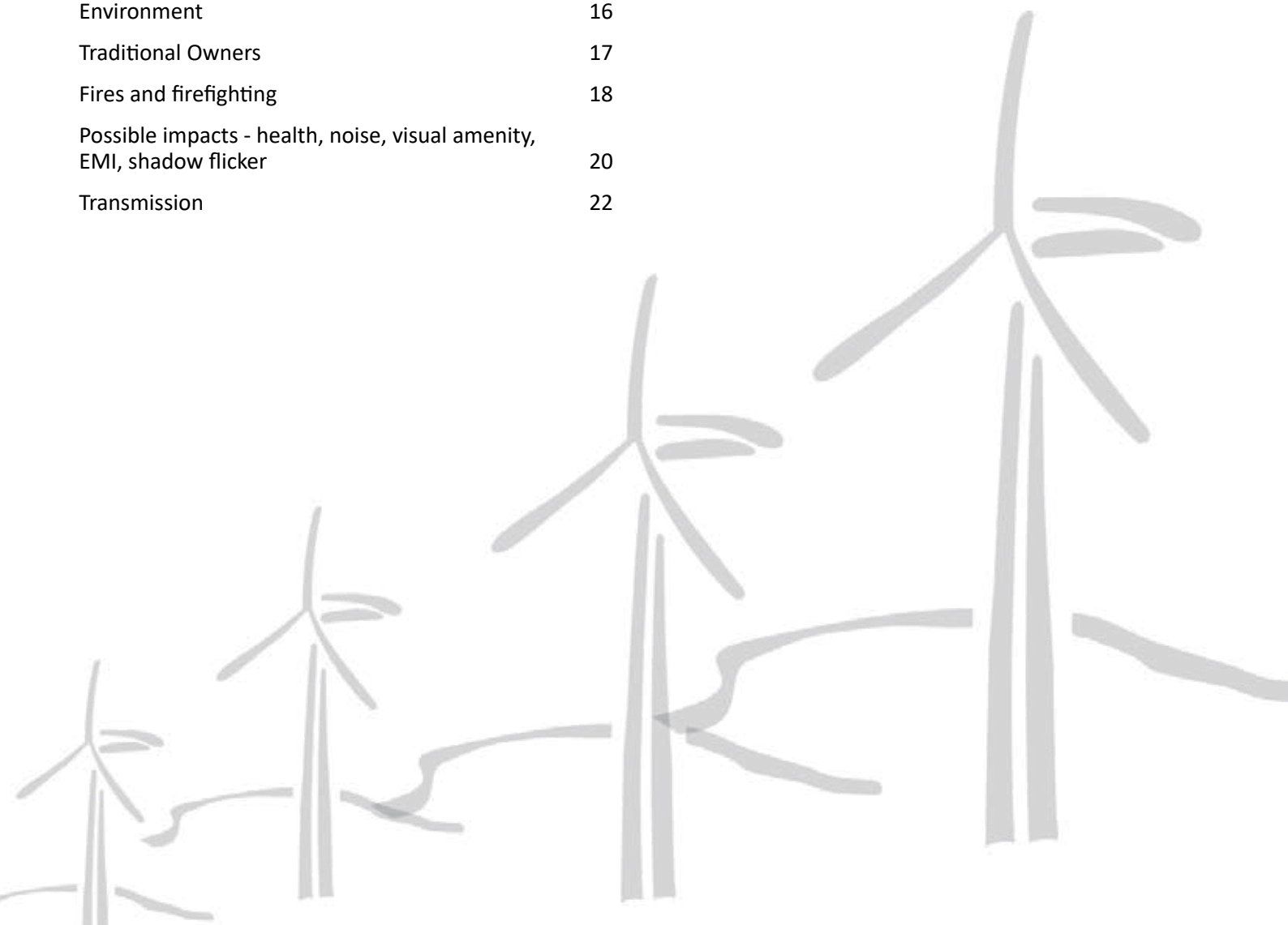


FAQs about WestWind Energy

How long has WestWind Energy operated in Australia?

WestWind Energy was established in Australia in 2004 at the invitation of the Federal and Victorian Governments.

Decades of experience in the local market has shaped our in-depth understanding of the Australian renewable energy sector.

Learn more:

- WestWind Energy - About Us (w-wind.com.au/about-us/)

How is WestWind working to improve climate change and sustainability?

The CSIRO state that human activities have increased the amounts of carbon dioxide and other greenhouse gases in the air, warming the planet and changing our climate.

In Australia, annual carbon emissions totalled 465 million tonnes at June 2023. Energy production was the largest contributor, accounting for 32.6% of the total.

Renewable energy solutions will make a significant contribution to combatting climate change by reducing greenhouse gas emissions generated by fossil fuel energy sources.

At a local level, we do our utmost to protect biodiversity and culture heritage.

Learn more:

- Sources of CO2 - CSIRO (csiro.au/en/research/environmental-impacts/climate-change/Climate-change-QA/Sources-of-CO2)

How many wind farms has WestWind been involved with?

WestWind has developed three operational wind farms to date: Lal Lal Wind Farm, Mount Mercer Wind Farm and Moorabool Wind Farm.

We also developed the Golden Plains Wind Farm which is under construction. When fully operational it will become Australia's largest.

In addition, WestWind has a pipeline of numerous wind farm projects in development across Australia. The image below shows all projects which are either completed or in development.

Learn more:

- WestWind Energy - Our Projects (w-wind.com.au/our-projects/)

FAQs about wind farms

How do you choose a wind farm location?

Australia has world-class wind resources along with an abundance of wide-open spaces. Wind farm locations are selected where there are good wind resources, typically in elevated or open areas.

We also consider a range of other factors including wind variability, infrastructure transport access, grid capacity, geographical positioning and the potential for environmental and social impacts.

How do you monitor wind?

Wind speed is traditionally measured by an anemometer placed high above the ground on a tall meteorological ('met') mast. The anemometer has 3-4 'cups' that rotate when the wind blows. Wind speed is measured by how many times the cups spin around in a given time.

Newer methods for measuring wind speeds send sound or light waves up into the air. These devices are called a LiDAR (light detection and ranging) or SoDAR (sonic detection and ranging). When the waves meet wind, they bounce back to the device below - collecting wind speed information up to 300 metres high.

Learn more:

- Wind Map of Australia (globalwindatlas.info/en/area/Australia)

How long does it take to develop a wind farm?

It typically takes between 4 and 9 years to develop a wind farm, but this schedule can be impacted by a range of factors. The average time for each phase of the development process is shown in the image below.

What planning processes does WestWind undertake when developing a wind farm?

State and Federal Government planning guidelines demand that rigorous environmental, technical and planning assessments are conducted over several years to gather seasonal data before an application for a wind farm can be submitted.

Studies undertaken during the planning and environmental approval stages include:

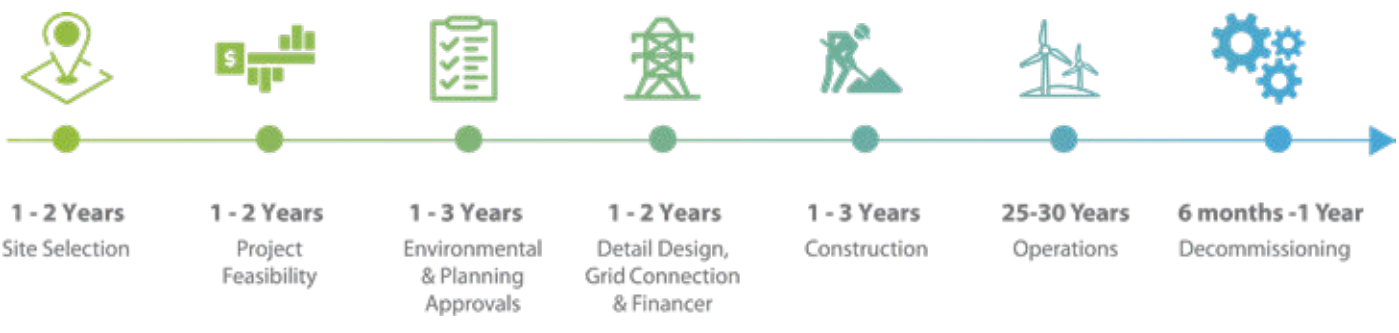
- Visual and noise assessments
- Flora and fauna
- Cultural heritage
- Electromagnetic Interference (EMI)
- Hydrology assessments
- Bush fire
- Community and social assessments
- Grid connection assessments
- Traffic and transport engineering assessments
- Shadow flicker assessments
- Commercial feasibility assessments

Critical legislation governing the federal approval process is set out in the Environment Protection and Biodiversity Conservation Act 1999. Additionally, each state has their own planning and environmental impact assessment processes and legislation.

Learn more:

- *Environment Protection and Biodiversity Conservation Act 1999* (dcceew.gov.au/environment/epbc)

Wind farm development process timeline



FAQs about wind farms cont.

What type of infrastructure can be found on a wind farm?

Typically, wind farms include:

- wind turbines (foundations, towers and blades) and their hardstands
- access tracks
- wind monitoring equipment
- underground cabling (to connect the turbines to where the generated electricity enters the grid)
- operation and maintenance buildings
- one or more substations, and
- overhead or underground power lines to connect into the electricity grid.

They can also include a temporary quarry, concrete batching and working areas as well as battery energy storage systems.

Learn more:

- WestWind Energy - Technology (w-wind.com.au/technology)

Do wind farms operate 24/7?

There will be times when the wind does not blow, or turbines are off for routine maintenance.

At a typical Australian wind energy facility, turbines are in operation more than 95% of the time. Every project undertakes significant grid modelling and testing to ensure the electricity network can accommodate fluctuations in the supply of renewable energy from wind.

Managing fluctuations can also be enhanced by battery energy storage systems. These enable operators to store excess energy when demand is low.

Learn more:

- Blowing in the wind - Australian Academy of Science (science.org.au/curious/technology-future/blowing-wind)

What is the expected lifespan of a wind farm?

The lifespan of a wind farm is currently 25-35 years, typically around 25 years. This is impacted by the amount of load and stress the wind turbine structure is put under by the wind. At the end of its lifespan, a wind farm may:

- continue to operate as it is (usually with some refurbishment)
- be repowered (this requires both the landholder's consent and planning consents and will depend on whether repowering is commercially viable)
- be decommissioned.

If a wind farm ceases operation for an extended period during the typical lifespan period, regulations require that it be dismantled, and the site returned to the same conditions as it was prior to the wind farm's construction.

Learn more:

- Visit How long do wind turbines last? - Energy Follower (https://energyfollower.com/how-long-do-wind-turbines-last/)

How many turbines do wind farms have?

There is no set minimum or maximum number of turbines for a wind farm. The number of turbines constructed is determined by a range of factors including land availability, environmental and planning constraints, wind resource, population density, grid capacity availability, electricity demand, and project economics.

Are mining developments linked to your wind farms?

No. Our wind farm developments are not linked to any mining developments. Wind farms do not require mines being developed nearby. While some raw materials will be required for wind turbine components, these will be sourced where the turbines are manufactured (currently only overseas).

Overall, renewable energy projects require significantly less mining and resource extraction than fossil fuel energy.

What about nuclear energy solutions?

Australia's leading scientific research organisation, the CSIRO, have investigated the current opportunity for nuclear energy for Australia.

They concluded that despite nuclear power being a component of electricity generation for 16% of the world's countries, it does not currently represent a timely or efficient solution for meeting Australia's net zero target.

CSIRO found:

- Nuclear is not economically competitive with solar PV and wind and the total development time in Australia for large or small-scale nuclear is at least 15 years.
- Small modular reactors (SMRs) are potentially faster to build but are commercially immature at present.
- The total development lead time needed for nuclear means it cannot play a major role in electricity sector emission abatement, which is more urgent than abatement in other sectors.

Learn more:

- CSIRO's Nuclear explainer (csiro.au/en/news/all/articles/2024/december/nuclear-explainer)

Do wind farms receive Government subsidies?

As a developer, WestWind Energy does not receive any Government subsidies. However, projects under construction may attract Government support to build and mature the renewable energy sector. The amount of support provided will vary by project.

At the same time, the fossil fuel industry currently also receives billions in subsidies.

For more FAQs on wind farms, visit the section at the end of this booklet on Possible impacts - health, noise, visual amenity, EMI, shadow flicker

FAQs about wind turbines

How does a wind turbine make electricity?

A wind turbine generates electricity by converting the kinetic energy of wind into electrical energy through the following steps:

- Wind turns the blades - The wind hits the blades of the turbine, causing them to spin. The blades are shaped like an airplane wing to harness lift from the wind, making them rotate.
- The rotor spins the shaft - The rotating blades are connected to a central hub, which in turn is connected to a main shaft inside the turbine. As the rotor spins, it turns this shaft.
- The shaft connects to a gearbox -The main shaft connects to a gearbox. Since the blades rotate relatively slowly (10-20 revolutions per minute), the gearbox increases the rotation speed significantly to power a generator. The gearbox steps up the speed to around 1,500–3,000 revolutions per minute, which is needed to produce electricity efficiently.
- The generator converts mechanical energy into electrical energy - The fast-rotating shaft drives a generator inside the turbine's nacelle (the housing unit at the top of the tower). The generator contains magnets and coils of wire. As the shaft rotates, it moves magnets past the wire coils inside the generator. This creates an electromagnetic field, inducing an electric current.
- Electricity flows to the grid - The electricity generated is alternating current (AC), which is then sent through a transformer to increase the voltage for efficient transmission over long distances. The electricity is transmitted from the wind farm to a local substation and then connected to the larger electrical grid for distribution to homes, businesses, or industrial users.

How large are wind turbines?

Typical onshore wind turbines in operation today are up to 230 metres tall with rotor diameters of up to 180 metres. As technology evolves, onshore wind turbines could be up to 280 metres to the blade tip with rotor diameters of up to 200 metres.

Learn more:

- What Height Are Wind Turbines Around The World? (climatebiz.com/wind-turbine-height)

How much energy does a turbine produce?

Each megawatt hour (MWh) of wind energy generated replaces the production of that MWh by another source, which in Australia in 2024 is still predominantly coal fired power generation.

Hence, for every MWh produced by a wind turbine about one tonne of greenhouse gases (and their resulting impact on our climate) are not produced by other generators. In typical conditions, each wind turbine will produce between 2.6 million and 3.9 million kilowatt hours of electricity per installed MW per year.

So, a modern 6 MW wind turbine will produce between 15.6 and 23.4 million kWh per annum, which is equivalent to the consumption of between 2,800 to 4,200 average Australian homes.

Learn more:

- How Much Energy Does a Wind Turbine Produce? (uti.edu/blog/wind-turbine/how-much-energy-does-a-wind-turbine-produce)
- Watt's Watt? A guide to renewable energy capacity and generation from (climatecouncil.org.au/resources/watts-watt-a-guide-to-renewable-energy-capacity-and-generation)

How efficiently do wind turbines create energy?

Wind turbines are quite efficient at converting wind energy into electricity, with the peak efficiency being around 44-48% at the design wind speeds (typically between 6-9m/s).

At higher wind speeds the efficiency drops as more and more wind is 'spilled' to avoid overloading the wind turbines and noise.

This compares favorably with coal fired power stations, which typically have efficiencies between 25-36% (meaning only 25-36% of the energy in coal is converted to electricity).

What is the energy payback time for a wind turbine?

The embodied energy in a wind turbine is the energy used in its manufacture, transport, erection and operation. It is generally paid back within 6-12 months of operation. Over its lifetime, a turbine can produce more than 50 times its embodied energy. Factors influencing energy payback time include:

- Turbine size: Larger turbines typically have shorter energy payback times relative to their output because they produce more energy.
- Location and wind Resource: In areas with strong and consistent wind (high capacity factor), the energy payback time will be shorter.
- Manufacturing and materials: The production of materials, such as steel for the tower and composites for the blades, accounts for a large part of the turbine's energy consumption. Advances in material efficiency and design have helped reduce the energy required to manufacture turbines.
- Transportation and installation: The energy used to transport components (especially for remote or offshore sites) and the energy required for cranes and other heavy equipment for installation can vary. However, even these energy demands are typically paid back within a short period.

Learn more:

- Energy Payback & Return on Energy (vestas.com/en/sustainability/environment/energy-payback)

What maintenance is required on wind turbines?

During a wind farm's operation phase, turbines are regularly serviced – typically every 12 months – depending on the design of the particular turbine.

This will include activities like visual inspection, blade maintenance, lubrication of bearings, gearbox checks, electrical system testing and sensor monitoring.

The wind turbines are installed with sophisticated smart systems that constantly monitor their condition in real time, helping maintenance teams spot and fix issues or replace parts early to reduce downtime, and keep turbines running efficiently.

How much oil do turbines use?

Modern wind turbines contain moving parts (e.g. in the gearbox) that require lubrication to protect them from premature wear and achieve optimal performance.

Oil condition is checked as part of the regular servicing regime to maintain performance. Any oil that is replaced is then recycled or disposed of responsibly.

The amount of oil used by a turbine varies greatly depending on the size and type of turbine.

Learn more:

- How Much Oil Do Wind Turbines Use (Wind Turbine Magazine) - https://www.windturbinemagazine.com/how-much-oil-do-wind-turbines-use/

Are towers and turbines manufactured overseas safe?

Wind farms in Australia must follow a rigorous quality assurance process to ensure all towers built for wind turbines meet the highest standards. Every turbine must comply with the global requirements and is designed in line with standards used worldwide. All wind turbines must also comply with the relevant HSE laws in Australia.

FAQs about construction

What is the wind farm construction process?

Once approved, wind farms can take between one and three years to construct.

The construction process includes:

- road upgrades
- civil and electrical works
- turbine (and ancillary infrastructure) delivery and installation
- grid synchronisation, and
- turbine commissioning.

How are local roads impacted?

Depending on the size of the project, there is likely to be increased activity on local roads during construction - as is the case for any major infrastructure project.

Developers work closely with local and state authorities to ensure that road use complies with safety regulations and that roads are restored to their original condition or better.

Further, a detailed Traffic Management Plan (TMP) is developed to manage traffic, which include designated routes and times of day for deliveries (to avoid peak traffic).

The TMP also stipulates that host landholders and community members are kept up to date about roadworks and traffic impacts. In many cases, the wind farm's development can lead to permanent improvements in local infrastructure, such as:

- Upgraded roads: The roads widened or reinforced for wind farm construction can benefit local communities by improving access and road quality in the long term and by creating fire breaks and access for emergency vehicles.
- Better access: Rural areas may benefit from better road networks for local traffic and agricultural use.

FAQs about decommissioning

Does the landholder pay for decommissioning?

Decommissioning is the wind farm owner's responsibility. This is a requirement of all permits for wind farm development.

WestWind also includes conditions in our commercial lease agreements with landholders so it's clear from the beginning of the project how a decommissioning fund will be established to provide landholders with the assurance that the wind farm has the funds to decommission the project.

Additionally, the wind farm has to pay lease fees to host landholders until all infrastructure is removed.

How can the landholder be sure the project owner is financially viable to cover the cost for decommissioning?

Decommissioning is the project owner's responsibility. This is a requirement of all development permits and a condition of all of WestWind's commercial lease terms with host landholders.

The wind farm project owner will set aside money prior to the end of the operational stage to cover the cost of decommissioning.

What options are there when a wind farm is coming to end of operations?

At the end of a wind farm's lifespan, a project will either be repowered or decommissioned. Decommissioning involves removing the wind turbines and restoring the site to its original condition or to a state agreed upon with landowners and regulatory bodies.

The decision to repower requires the landholder's consent and planning consents. This decision will depend on whether repowering is commercially viable.

Learn more:

- Winding Up: Decommissioning, recycling and resource recovery of Australian wind turbines (cleanenergycouncil.org.au/documents/Wind-turbine-recycling-report-2023.pdf)

What happens if the project is sold – will the new owner still cover the costs of decommissioning?

When a wind farm is sold, the new owner assumes all future responsibilities related to the project, including the costs of decommissioning at the end of the wind farm's life. The new project owner will be required to honour the cost of decommissioning.

FAQs about decommissioning cont.

What happens during decommissioning?

Decommissioning a wind farm is a detailed process that involves dismantling the wind turbines and restoring the site to its original condition.

Prior to the end of the operational stage, funds are set aside for decommissioning activities and a decommissioning plan is prepared to ensure compliance with any agreements and conditions of approval.

This plan outlines how the wind farm will be dismantled and restored, including timelines, methods, and any environmental considerations.

The decommissioning plan must be approved by relevant regulatory authorities, ensuring compliance with current legislation and environmental regulations.

During decommissioning, the wind turbines, site office and any other related infrastructure will be removed from the site.

Foundations will be removed to at least half a meter below ground level to allow for agricultural activities to resume above. The landholder can request to retain the access tracks if considered useful for their agricultural operations.

In some cases, electrical infrastructure (e.g. substations) may remain on site if owned by the network service provider and if being used by other projects.

Learn more:

- Winding Up: Decommissioning, recycling and resource recovery of Australian wind turbines (cleanenergycouncil.org.au/documents/Wind-turbine-recycling-report-2023.pdf)

What happens to the wind turbine components after decommissioning?

Right now, about 85-90% of turbine materials are recyclable. This recovery rate exceeds the National Waste Policy Action Plan target of 80% average resource recovery from all waste streams by 2030.

However, the turbine industry is on the path to zero waste through ongoing research and technology improvements.

The main barrier to achieving zero-waste turbines are the turbine blades. These are made of epoxy and composite materials - such as fibreglass or carbon fibre - which are currently difficult to recycle.

The renewable energy industry is committed to sustainability, and we fully expect to be a lot further down this path by the time today's wind farm developments are decommissioned.

Major turbine manufacturers like Vestas are continuing research into recycling blades and have released blades that will be 100% recyclable by 2040.

For those components that are not recyclable, the wind farm owner will focus on reuse and waste minimisation. Any materials unable to be recycled will be disposed of in the most environmentally responsible manner.

Learn more:

- Recycling renewable energy technologies (cleanenergycouncil.org.au/for-consumers/fact-sheets/recyling-wind-turbines-solar-panels-batteries)
- Zero-Waste (vestas.com/en/sustainability/environment/zero-waste)

FAQs about host landholders

Am I able to host a wind farm?

If you are interested in hosting wind farm infrastructure on your property, we would be happy to discuss the opportunity.

We follow a very thorough and detailed process when developing a wind farm, to ensure project viability and to generate positive outcomes for the community and host landholders.

For more information, send your query to reception@w-wind.com.au or call (03) 5421 9999.

Learn more:

- WestWind Energy - Host Landholders (w-wind.com.au/hosting-landholders)

How much of the land is taken up by the wind farm?

Once constructed, the land given over to the typical wind farm infrastructure footprint is around 1-2% of the hosting land.

Livestock grazing and cropping can continue right up to the edge of all turbines, hardstands and access tracks.

Learn more:

- WestWind Energy - Host Landholders (w-wind.com.au/hosting-landholders)
- Wind Farm Guide for host landholders (nswfarmers.org.au/NSWFA/NSWFA/Content/IndustryPolicy/Resource/wind_farm_guide.aspx)

Can I still use hosting land for agriculture?

A wind farm is highly compatible with agricultural operations. Livestock grazing and cropping can continue right up to the edge of all turbines, hardstands and access tracks during the operational life of a wind farm. During construction, we work directly with landholders to explain possible disruptions to agricultural activities to minimise impacts where possible.

Learn more:

- Wind Farm Guide for host landholders (nswfarmers.org.au/NSWFA/NSWFA/Content/IndustryPolicy/Resource/wind_farm_guide.aspx)
- Renewable Energy Landholder Toolkit - Qld Farmers Federation (qff.org.au/projects/renewable-energy-landholder-toolkit/)

What are the costs and benefits of hosting a wind farm?

Landholders and the neighbouring community will benefit directly from a wind farm development.

We take care of all development costs and landholder payments begin early in the development process.

When construction commences, landholder payments increase and are paid annually throughout the project's lifespan. This generates a secure, supplementary income for decades, helping counteract swings in commodity prices and helping to drought-proof farming operations.

The loss of visual amenity, turbine noise and the long-term commitment may be considered costs to host wind farm infrastructure.

Overall, hosting a wind farm can provide significant economic and environmental benefits, but it also comes with costs and considerations that landowners should evaluate carefully.

Conducting thorough research, consulting with professionals, and engaging in open dialogue with our team can help landowners make informed decisions about hosting a wind farm.

Learn more:

- Send your query to reception@w-wind.com.au or call (03) 5421 9999.

FAQs about host landholders cont.

Will hosting a wind farm increase my property rates?

Local government will take into account a number of factors when assessing land values for the purposes of establishing rates. How wind farm infrastructure is taken into account may vary between different local government areas.

The wind farm owner will pay additional council rates or land taxes related to the project directly to the relevant council. How this is calculated will differ by state.

WestWind includes provisions in its leases that the project will reimburse the landholder (or pay the council directly) for increases in rates that are directly related to the landholder hosting the wind farm. This provides extra protection to landholders.

Does WestWind compulsorily acquire land for wind farm developments?

As a private entity, we cannot compulsorily acquire your land.

We enter into agreements with landholders in order to obtain your approval to access and install infrastructure on your land.

How long are site leases?

The lease becomes valid just before the wind farm is being constructed and continues throughout the operational life of the wind farm until all infrastructure is removed.

Typically, the wind farm lease applies for 25-30 years, with an option to extend for 7 years + an additional 7 years.

What are access tracks?

Access tracks are required to support delivery of turbine components and to ensure all weather access during the operational life of the wind farm. Host landholders also have rights to use these tracks when not in use by the wind farm. The access track layout is completed in consultation with the landholder with consideration given to existing and future land uses.

When the wind farm is decommissioned, the landholder can choose to retain the access tracks rather than have them removed if they are considered useful.

How much money could renewables bring Australian farmers?

Analysis by the Clean Energy Council and Farmers for Climate Action shows that large-scale wind and solar projects across the Australian electricity market are expected to deliver between $7.7 billion – $9.7 billion in direct payments to landholders over the coming decades to 2050.

Learn more:

- Billions in the Bush Report - Clean Energy Council (cleanenergycouncil.org.au)

Are all landholder contracts and neighbour agreements the same?

At WestWind, we strive to ensure fair and consistent terms for all host landholder contracts and neighbour benefit schemes within a project.

Payments under neighbour agreements are structured on a sliding scale, meaning those living closer to the wind farm receive higher compensation rates than those further away. This approach ensures that benefits are distributed equitably based on proximity to the project.

Will wind farms result in caveats on host landholder or neighbour property titles?

A caveat on a property title serves as a legal notice to potential buyers that a portion of the land may be subject to an option or wind farm lease agreement.

For host landholders, the right to register a caveat is included in the contract. However, a caveat can only be registered if there is a formal agreement between the landholder and the developer that meets specific legal requirements.

If a caveat is in place, WestWind works closely with host landholders to ensure it does not prevent them from entering into other agreements related to their land, as long as WestWind's interests are protected.

Importantly, caveats do not apply to neighbouring properties. They are only relevant to landholders who have signed agreements to host infrastructure on their property with the wind farm.

FAQs about neighbours

How are neighbouring properties engaged on the project and compensated?

We engage with neighbours from early in the development process so we can gather feedback and address any concerns.

Once construction commences, we may provide compensation payments for eligible near neighbours as part of the project's community benefits schemes. These payments are typically based on the size of the project and the proximity to turbines.

We can also support nearby neighbours with landscaping payments or services to help address reduced visual amenity from the wind farm.

Do properties near a wind farm have to pay more for insurance cover?

The Insurance Council of Australia has noted that insurers do not have specific concerns related to insuring properties that neighbour clean energy infrastructure. Additionally, increases in premiums are highly unlikely to occur as a result of neighbouring clean energy projects.

Wind farms have their own public liability insurance which will cover damage to local properties caused by the wind farm should that occur.

Learn more:

- Renewable energy rising: Property values and insurance (cleanenergycouncil.org.au/for-consumers/fact-sheets/local-benefits-of-renewable-energy-projects-8481a5bc6764f03190370663d69da6ab)

Will the wind farm restrict where I can build a house?

The setback distances between wind farms and dwellings are important to avoid amenity conflicts. In Victoria, a planning permit will be required for any proposed dwelling within 1 km of a wind farm.

New dwellings may achieve planning approval within proximity to wind farms where agreement between the landowner, wind farm operator and Council are put in place to the reduced amenity from the wind farm.

We will work with applicants on where best to site the dwelling to minimise impact from noise and shadow flicker.

WestWind is committed to working directly with project neighbours to identify and discuss any planned dwellings within the neighboring areas of our projects in order to ensure the most appropriate siting of dwellings on the land to minimise the impacts of our project and any future dwellings.

Additionally, WestWind will collaborate openly with both Council and relevant neighbours via an agreement so the conditions of the use or development of the land are agreed and understood by all relevant parties.

Please contact us on (03) 5421 9999 or email reception@w-wind.com.au if you would like to know more about the requirements in your area.

Do wind farms impact property values?

Studies show that impacts of large-scale renewable energy projects are small and temporary, generally limited to the construction phase.

Any negative effects typically recover within 3-5 years after project operation begins, and some areas even see increased property values due to improved local infrastructure and economic growth.

Learn more:

- Renewable energy rising: Property values and insurance (cleanenergycouncil.org.au/for-consumers/fact-sheets/local-benefits-of-renewable-energy-projects-8481a5bc6764f03190370663d69da6ab)

FAQs about community

How does a community benefit from a wind farm?

We are committed to sharing the financial benefits of our projects with the local community. We provide support for local community initiatives from the early stages of a project's development.

Once a wind farm is operational, a Community Benefit Fund is established in consultation with the local community. This fund is generally based on an agreed amount per turbine per year. For larger projects, this can amount to hundreds of thousands of dollars per year.

Examples of different schemes developed on our previous projects include community benefits funds, supported by an annual contribution from the wind farm, free electricity, neighbour payments, landscaping programs, and scholarships.

Learn more:

- The local benefits of renewable energy (cleanenergycouncil.org.au/for-consumers/fact-sheets/local-benefits-of-renewable-energy-projects)
- Benefit sharing options for renewable energy projects (cleanenergycouncil.org.au/news-resources/benefit-sharing-for-renewable-energy-projects)

How much money could regional communities gain from renewable energy projects?

Analysis by the Clean Energy Council and Farmers for Climate Action expects renewable energy projects will contribute around $213 million to regional communities by 2030. Through to 2050, large-scale wind and solar projects are expected to provide $1.9 billion in contributions to regional communities and councils.

Learn more:

- Billions in the Bush Report (cleanenergycouncil.org.au)
- Renewable energy: powering jobs and regional communities (cleanenergycouncil.org.au/getmedia/d1238b95-5b2c-412b-b84b-1c3d7ea549f8/renewable-energy-jobs-and-regional-communities.pdf)

Who decides how community benefit funds are allocated?

When the community benefits scheme is established for the project, we will consult with local community representatives and will form a Community Reference Group to formally advise on how the funds should be allocated.

The final decision on the distribution of the funding is at the discretion of the wind farm operator. This is to ensure the funding distributions align with governance and compliance requirements of the wind farm owner.

Learn more:

- Jo Sibbison discusses the Community Reference Group for Golden Plains Wind Farm (vimeo.com/manage/videos/912772508)

How are tourism and recreational activities factored into wind farm planning?

We work closely with the communities where we are developing projects to fully understand any impacts to local tourism and recreation. These impacts are fully assessed during the approval process for the project.

Will there be job opportunities for locals?

Renewable energy projects offer the potential to drive wider economic benefits across the local region, including new jobs. Typically, a significant number of direct and indirect jobs are created during the project's construction phase, with a smaller number of jobs during the operations phase.

Local businesses can benefit greatly from the extra economic activity generated by the wind farm - particularly during the construction phase. As a result, locals may be more willing to remain in the community and more visitors may be attracted to the area.

Learn more:

- Watch Building the 1,333MW Golden Plains Wind Farm by TagEnergy (youtube.com/watch?v=r022UuZ8L7I).
- Renewable energy: powering jobs and regional communities (cleanenergycouncil.org.au/getmedia/d1238b95-5b2c-412b-b84b-1c3d7ea549f8/renewable-energy-jobs-and-regional-communities.pdf)

How is the community updated about the project?

Each project team will host open days, door knock homes to meet and inform near neighbours, and attend local events in the community. We also have a dedicated project website and updates which are issued regularly by both email and mail. In addition, we use targeted advertising on Facebook to ensure we reach the local community.

WestWind also has an active social media presence with regular information on our LinkedIn, Facebook and Twitter channels. We also have team members available to meet at a convenient time and location. We encourage you to reach out at (03) 5421 9999 if you would like further information about our projects.

Learn more:

- Subscribe to WWE News and project updates via our website (w-wind.com.au)

If renewables are cheaper, why are energy prices going up?

Australia's Climate Council explains there are 5 reasons why power prices have been rising.

These include Australia's reliance on expensive fossil fuels, the high cost of gas, ageing coal-fired power stations, the need for more renewables and storage like batteries, and – in homes – shifting to electricity and increased efficiency.

While around 40% of our power now comes from renewables, the majority of our electricity still comes from coal and gas.

Electricity made from fossil fuels is far more expensive than renewable power. In 2024, the average price was almost twice that of electricity from renewables. This is due to ageing coal plants and high-cost gas.

The explainer from the ABC linked below provides great detail on how prices are set in Australia and why gas often sets the price for what we pay for electricity.

Learn more:

- ABC Online: What do more renewables mean for our electricity system? (https://www.abc.net.au/news/2025-04-26/renewables-versus-nuclear-in-evolving-energy-grid/104800790)
- Climate Council: Five reasons why your power prices are sky high and rising (https://www.climatecouncil.org.au/four-reasons-why-your-power-prices-are-sky-high-and-rising/)

FAQs about environment

How do you protect birds and other local flora and fauna when developing a wind farm?

If environmental constraints are properly considered during site selection and throughout infrastructure design iterations, wind farms can have minimal impact on flora and fauna.

The risk to birds, other animals and plants is carefully assessed during the rigorous environmental planning requirements for wind farm developments. This includes an analysis of bird flight paths and local species populations, as well as careful investigation of protected vegetation.

These studies are conducted at different times of year to ensure seasonality is considered. Armed with this knowledge, wind turbine layouts are carefully designed to avoid or minimise any impacts.

Learn more:

- Enhancing nature through renewable energy (cleanenergycouncil.org.au/for-consumers/fact-sheets/environmental-impacts-renewable-energy)
- Danish research shows almost no birds die in collisions with wind turbines (reneweconomy.com.au/danish-research-shows-almost-no-birds-die-in-collisions-with-wind-turbines-43335)

What government requirements are in place to protect the environment when developing and operating wind farms?

In Victoria, NSW and Queensland, wind farm development is governed by a range of environmental protection regulations. These include state and federal laws designed to safeguard ecosystems, wildlife, and local communities.

Requirements can be broken down into three categories - Planning and Permitting, Environmental Impact Assessment and Federal Requirements (EPBC Act).

What are the Planning and Permitting requirements?

- Victoria: Wind farms need a planning permit under the *Planning and Environment Act 1987*.
- NSW: Projects are assessed under the *Environmental Planning and Assessment Act 1979*, with large projects classified as State Significant Developments (SSD), requiring environmental impact assessments.
- Queensland: Permits are required under the *Planning Act 2016*, and larger wind farms are assessed through the State Assessment and Referral Agency (SARA).

What are the Environment Impact Assessment requirements?

All three states require impact assessments for large wind farms, considering impacts on people, wildlife, vegetation, noise and landscape.

Victoria: For larger projects, an Environmental Effects Statement (EES) may be required under the *Environment Effects Act 1978*.

NSW and Queensland: Both require assessments as part of SSD (NSW) or through SARA (QLD).

What are the Federal Requirements (EPBC Act)?

Across all states, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) applies if wind farms impact matters of national significance, such as endangered species or threatened flora.

How long do environmental assessments take?

Projects that trigger the requirement for Environmental Impact Assessments are required to undertake many years of environmental studies and extensive community consultation.

Often projects are required to undertake robust assessments under both State and Federal processes to ensure that a project's environmental impact is acceptable.

Does a wind farm developer have to meet all these environmental assessment requirements?

Compliance with these regulations is critical for obtaining the necessary permits to develop and operate wind farms in Australia.

The environmental assessment processes for wind farms directly inform the development of permit conditions and operational management plans.

These processes ensure that wind farms comply with environmental and social standards throughout their lifecycle, from construction to decommissioning.

FAQs about Traditional Owners

How do you engage with Traditional Owners?

We are committed to working closely with the Traditional Owners of the land on which our projects are located.

We aim to partner with Traditional Owners to ensure their knowledge and perspectives are integrated into our project planning, and their cultural heritage and values are respected and protected.

Through this approach we look to identify opportunities to provide social and economic benefits for Traditional Owners, and to build our cultural competency.

How is cultural heritage protected?

Throughout the planning process we undertake detailed cultural heritage assessments with independent consultants.

We use this information to make necessary changes or accommodations to the wind farm layout and design to protect cultural heritage where possible.

FAQs about fires and firefighting

Does lightning present a fire risk?

Wind turbines can be struck by lightning because they are tall structures. A great deal of research has gone into developing lightning protection systems for wind turbines and the risk of fire resulting from a lightning strike is therefore extremely low.

A modern turbine will often continue running after a direct strike and following relevant technical inspections.

Learn more:

- NSW Government's Wind farms and bushfire operations (energy.nsw.gov.au/sites/default/files/2022-08/2018_10_AFAC_windfarmsbushfiresoperations.pdf)

Do wind turbines cause fires?

Wind turbines can pose a risk of fire, but such incidents are relatively rare compared to fires caused by other forms of energy generation or typical agricultural activities (e.g. operating tractors, headers, power tools).

Modern wind turbines are extremely unlikely to catch fire, and measures are in place to address the unlikely event of a fire in a turbine. These include:

- controls to prevent fires from occurring (e.g. alarms and auto trips if risks are identified)
- ongoing inspections as part of maintenance schedule, and
- equipping turbines with automatic fire suppression systems.

Each wind farm project has its own statutory approved Emergency Response Plan that is completed in consultation with the local fire authority. Emergency response plans include protocols for dealing with fires, ensuring that local emergency responders are familiar with the site and equipment.

By integrating advanced technologies, rigorous maintenance, and effective design features, wind farms can significantly reduce the risk of causing a fire. Continuous monitoring and proactive measures contribute to making wind energy a safe and reliable source of power.

Do wind turbines limit aerial firefighting?

Aerial firefighting can occur at wind farms and there have been several examples in Australia (pictured Waubra Wind Farm, Vic - Jan 2017).

During a bushfire, the wind farm's emergency management plan requires the operator to be in regular contact with relevant authorities.

During design of the wind farm, turbines will have been sited more than the minimum 300 metres apart to ensure firefighting aircraft can operate in the area.

How do you work with local emergency services?

Local emergency services organisations are critical contacts across regional and rural Australia.

As we develop projects in local areas, we engage and work in collaboration with all important community organisations including the local emergency and fire services.

What are the firefighting restrictions, hazards and controls to address fire risk?

Every wind farm has an Emergency Management Plan which addresses fire safety. The wind farm operator will engage with local fire authorities to ensure alignment with local practices. In addition, the access tracks constructed for wind turbines have been found to help with fighting unrelated fires on properties.

Learn more:

- Victorian CFA's Design Guidelines and Model Requirements for Renewable Energy Facilities (cfa.vic.gov.au/plan-prepare/building-planning-regulations/renewable-energy-fire-safety)
- NSW Government guidelines - Wind farms and bushfire operations (energy.nsw.gov.au/sites/default/files/2022-08/2018_10_AFAC_windfarmsbushfiresoperations.pdf)
- South Australian Country Fire Service: Guidelines for Wind Farms (aeic.gov.au/sites/default/files/documents/2022-06/cfs-guidelines-wind-farms.pdf)

How are rural firefighting organisations involved in renewable energy projects?

When a renewable energy project is proposed, fire safety is one of the key considerations for communities. This is why local firefighting services are highly involved in the development of renewable energy projects in Australia.

For example, Victoria's Country Fire Authority developed Australia's first guidelines for the design and construction of renewable energy facilities. During the project's development phase, the CFA works actively with other stakeholders on fire prevention, appropriate maintenance, vegetation clearing, provision of firefighting water and preparation of emergency management plans.

The CFA has operational procedures to respond to emergencies at renewable energy facilities, and their leaders work closely at a local level to ensure brigades and volunteers are familiar with any renewable energy development and given the training to support this.

Learn more:

- Victorian CFA's Design Guidelines and Model Requirements for Renewable Energy Facilities (cfa.vic.gov.au/plan-prepare/building-planning-regulations/renewable-energy-fire-safety)
- Responding to emergencies at renewable energy facilities, Brigade Magazine, Summer 2024 (cfa.vic.gov.au/about-us/publications/brigade-magazine)

FAQS on possible impacts - health, noise, visual amenity, EMI and shadow flicker

How much noise does a wind turbine make?

Wind turbine noise is a key consideration in wind farm development and its management in Australia follows strict standards and guidelines. A typical modern wind turbine generates noise levels of around 45-55 decibels (dB) at a distance of 300-500 metres.

At distances typical to the nearest dwellings in the vicinity of wind farms (i.e. 1-2 km), wind turbine noise levels tend to be around 30-40 dB on average, depending on the wind farm.

For comparison, in rural environments, background noise levels would typically be measured around 20-40 dB during the evening and night periods.

The perception of noise is subjective and varies between individuals. For wind farm noise, it is dependent on a range of factors, including distance to the wind farm and the background noise environment.

Turbines produce two types of noise:

- Mechanical noise: From internal machinery such as the gearbox and generator.
- Aerodynamic noise: Caused by the blades moving through the air, which is the primary source of noise.

How is wind turbine noise managed in Australia?

Wind farm noise is managed through regulations and standards which vary by state. Following are the relevant noise standards and guidelines for receivers without a noise agreement:

- Victoria: Wind farms must comply with the New Zealand Standard NZS 6808:2010 Acoustics – Wind Farm Noise, as specified in the Environment Protection Policy 2021. The standard sets a limit of 35-40 dB(A) (dependent on land zoning), or 5 dB(A) above the existing background noise level, whichever is higher.
- South Australia: The SA EPA Wind farms environmental noise guidelines, dated 2021, have a noise limit of 35-40 dB(A) (dependent on land zoning), or 5 dB(A) above the existing background noise level, whichever is higher.
- NSW: The NSW Wind Energy: Noise Assessment Bulletin is based on the SA EPA guidelines but with a base noise limit of 35 dB(A).
- Queensland: The State code 23: Wind farm development sets a limit of 35-37 dB(A), depending on the time of day), or 5 dB(A) above the existing background noise level, whichever is higher.

What are the requirements for noise monitoring and compliance?

- Pre-construction noise assessment: Developers must conduct noise modeling during the planning stage to predict the impact of wind turbine noise on nearby residences and communities. This is part of the impact assessment of a wind farm.
- Operational noise monitoring: Once the wind farm is operational, developers are required to monitor noise levels to ensure they remain within permitted limits.
- Compliance reporting: Wind farms must submit reports to regulatory bodies, demonstrating that noise levels comply with the standards and permit conditions. Noise complaints from the community are also investigated, and mitigation measures may be required.

How are impacts on visual amenity managed by the wind farm?

Visual impacts from wind farms in Australia are managed through detailed Visual Impact Assessments (VIA) which consider turbine size, distance from viewpoints, and landscape sensitivity.

Mitigation strategies include optimised turbine placement, screening with vegetation, and community consultation. Regulations across different states set specific guidelines to ensure wind farms minimise disruption to visual amenity while balancing renewable energy goals.

Do wind farms cause health concerns?

Reviews conducted by leading health and research organisations from all over the world, including the Australian Medical Association and Australia's National Health and Medical Research Council, have found no direct link between wind farms and health effects. These include studies on turbine noise impacts including infrasound and low frequency noise.

Noise from wind farms is not a problem and does not cause negative health effects. Wind farms are considered a safe and clean source of renewable energy.

Learn more:

- Wind turbines and health, Clean Energy Council (https://cleanenergycouncil.org.au/for-consumers/fact-sheets/impacts-and-benefits-to-consumers-get-the-facts/wind-turbines-and-health)

Do wind turbines cause electromagnetic interference?

Yes, wind turbines can cause electromagnetic interference (EMI), but the effects are generally minimal and manageable. Wind turbines have the potential to interfere with electromagnetic signals like television, radio, radar, and communication systems due to the rotating blades and large metal structures. However, mitigation strategies are implemented to reduce or eliminate such interference.

Throughout the wind farm planning process, we undertake detailed studies into any potential electromagnetic interference (EMI). We use this data to adapt turbine layout and materials to minimise any impacts to satellite, radio and television services.

What is shadow flicker and how is it managed?

When turbine blades turn, they can create moving shadows which can appear as a flicker. However, shadow flicker is dependent on many factors. These include where the sun is, time of year, turbine and viewer positions, topography, vegetation, and weather.

In most states, the limit for shadow flicker is 30 hours per year for neighbouring dwellings.

Shadow flicker is modelled during the wind farm development to meet statutory requirements, and then monitored during the operations phase to ensure compliance.

Transmission FAQs

Why are new transmission lines needed for renewable energy?

Existing transmission lines were constructed to connect traditional energy sources (like coal and gas) to properties and businesses.

However, wind farms are often in locations far from traditional energy sources. To unlock the green energy potential in these areas we need to develop new transmission lines in collaboration with local landholders and communities.

Typically, this requires new transmission lines from the wind farm to the nearest suitable point in the electricity network.

In locations where there are a large number of renewable energy projects and/or limited capacity in the nearby grid, new transmission lines may be required over longer distances.

Learn more:

- Understanding Australian transmission projects resource hub - https://understanding-australian-transmission-projects.com/
- WestWind Energy - Hosting Transmission (w-wind.com.au/hosting-transmission)

How do you choose the transmission route and infrastructure?

WestWind works closely with landholders, government and industry experts to design transmission routes and infrastructure solutions that balance the technical and environmental requirements of the project with feedback from landholders and local community members.

This typically includes commissioning independent route assessment reports by expert consultants and conducting additional studies into the cost and feasibility of various technical solutions such as poles, transmission towers, partial or full undergrounding, alternating or direct current.

We are committed to minimising impacts where possible to agribusiness and communities where we are developing transmission projects. Each transmission route, topographic setting and community are a bit different. That is why we are tailoring solutions for every project with technical experts and in consultation with the community and affected landowners using state of the art Multi Criteria Analysis (MCA).

Learn more:

- WestWind Energy - Hosting Transmission (w-wind.com.au/hosting-transmission)

For more information

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