

TCHELERY

WIND FARM

Community Information Booklet

February 2023

NEOEN



tchelerywindfarm.com.au



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GLOBALLY

The company is headquartered in Paris, France, and has six Australian offices in Brisbane, Sydney, Canberra, Melbourne, Adelaide and Perth.

We operate across renewable energy technologies including solar, wind and storage in Europe, the Americas, Africa, and Australia.

Neoen's total capacity in operation and under construction is currently 6.6 GW and we are aiming for 10 GW by the end of 2025.



LOCALLY

Neoen Australia began operations in 2012. Over the last eleven years, the company has developed close to 3 GW of solar and wind projects through organic growth, local partnerships and strategic acquisitions.



Neoen produce green electricity from renewable sources such as sunlight and wind using mature, tried and tested technologies. We are also leaders in energy storage.

NEARBY NEOEN PROJECTS: COLEAMBALLY & GRIFFITH



ABOUT THE SOLAR FARMS

Coleambally and Griffith solar farms provide jobs for full time staff who live in the surrounding community as well as ongoing opportunities for local business and agrisolar partnerships.

Together, they are able to produce over 450,000 MWh per year which is the equivalent of displacing 364,000 tonnes of CO₂ emissions, powering 116,620 homes, removing 93,000 cars from the road or planting 3.5 million trees.

ARENA FUNDING

Coleambally and Griffith Solar Farms were two of 12 successful projects that received funding from the Australian Renewable Energy Agency (ARENA) in 2016.

The federal funding was provided to assist to develop large scale solar industry in Australia and demonstrating the feasibility of delivering sustainable, affordable and reliable renewal energy.



AGRISOLAR

Agrisolar is the co-existence of agriculture and solar power generation on the same land.

Our trial

Our first sheep grazing trial was conducted at Parkes Solar Farm in 2017 during a high rainfall and high produce year. The 3 week trial involved 400 sheep within a 15 hectares zone to help reduce dry grass under the solar panels in order to manage grass fire hazard.

It successfully showed that this combined land use had positive outcomes for farmers and solar operators.

DELIVERING CHEAPER ENERGY



GOYDER SOUTH STAGE 1

BHP Olympic Dam

We have signed a 70 MW renewable energy baseload contract with BHP to supply power its Olympic Dam operations from July 2025. We will combine output from our Goyder South Stage 1 and our Blyth Battery to deliver a 24/7 green energy solution to the mine, along with associated large-scale certificates (LGC).



KABAN GREEN POWER HUB

CleanCo

Our 157MW Kaban Green Power Hub is a renewable energy project located in the Atherton Tablelands of Far North Queensland. The project has a power purchase agreement with CleanCo to provide energy in support of Queensland's target of 50% renewable electricity by 2030.



HORNSDALE WIND FARM

ActewAGL

Our Hornsdale Wind Farm in South Australia provides 100% of the energy output of the 309 MW wind farm for 20 years.



LEADERS IN THE ENERGY TRANSITION



HORNSDALE POWER RESERVE

World's first big battery

The 150MW Lithium-ion Tesla battery is located next to Hornsdale Wind Farm in SA. The battery is providing system stability and virtual inertia services to AEMO.

Our Hornsdale Power Reserve has saved energy consumers over \$150 million in its first two years and is reducing the risk of blackouts in SA.



VICTORIAN BIG BATTERY

Australia's largest big battery

The Victorian Big Battery is a 300 MW / 450MWh grid-scale battery storage project in Geelong, VIC.

The battery has a 250 MW grid service contract with AEMO under direction from the Victorian Government. It will support Victoria's clean energy transition and secure reliable, affordable power for Victorians, helping the state meet its renewable energy target of 50% by 2030.



WESTERN DOWNS GREEN POWER HUB

Australia's largest solar farm

The Western Downs Green Power Hub is a large 460 MW solar farm project under construction. Once operational the project will contribute to over 30% of the energy required for CleanCo to meet its target of 1 GW of new renewable energy generation by 2025. Neoen was successful in ARENA's Large Scale Battery Storage Funding Round to provide advanced inverter capabilities. This project is currently under development.



WE OWN & OPERATE OUR PROJECTS

Tchelery Wind Farm

The Tchelery Wind Farm will be managed from Neoen's 24/7 Operational Control Centre in Canberra, which currently operates our 14 existing projects across Australia. This office coordinates with local maintenance contractors for safe, effective and compliant operations.

Neoen's Portfolio

Neoen develops renewable energy projects to own and operate them – not to on-sell them. With close to 3 GW of operating projects connected to Australia's National Electricity Market (NEM), our asset and operations team play an important role in managing our power plants.



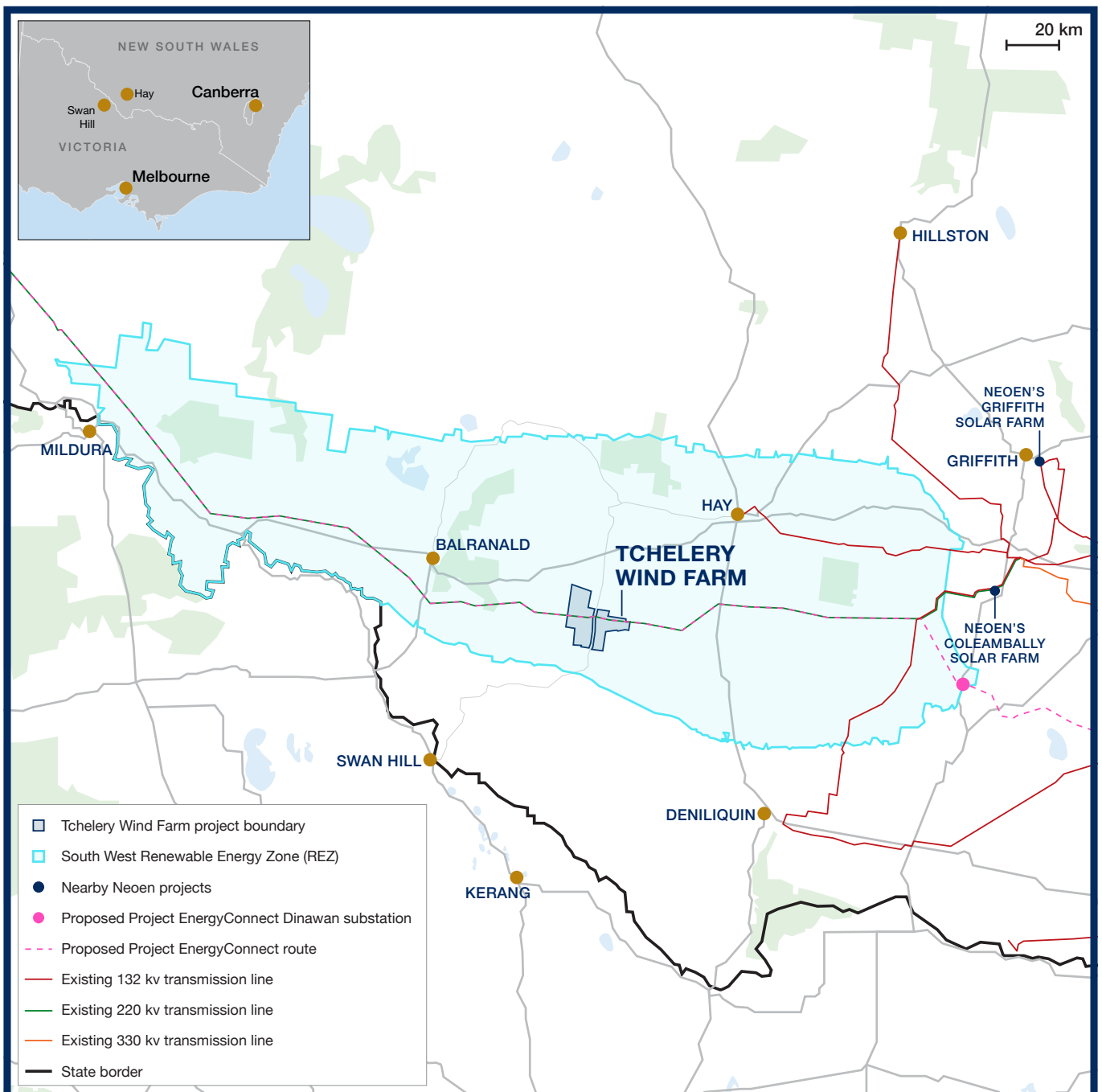
Our Operational Control Centre oversees our interactions with the National Electricity Market: a wholesale electricity market which spans the eastern and south-eastern coast of Australia.

The market works as a pool or spot market, where power supply and demand are instantly matched via a centrally coordinated dispatch process overseen by the Australian Energy Market Operator.

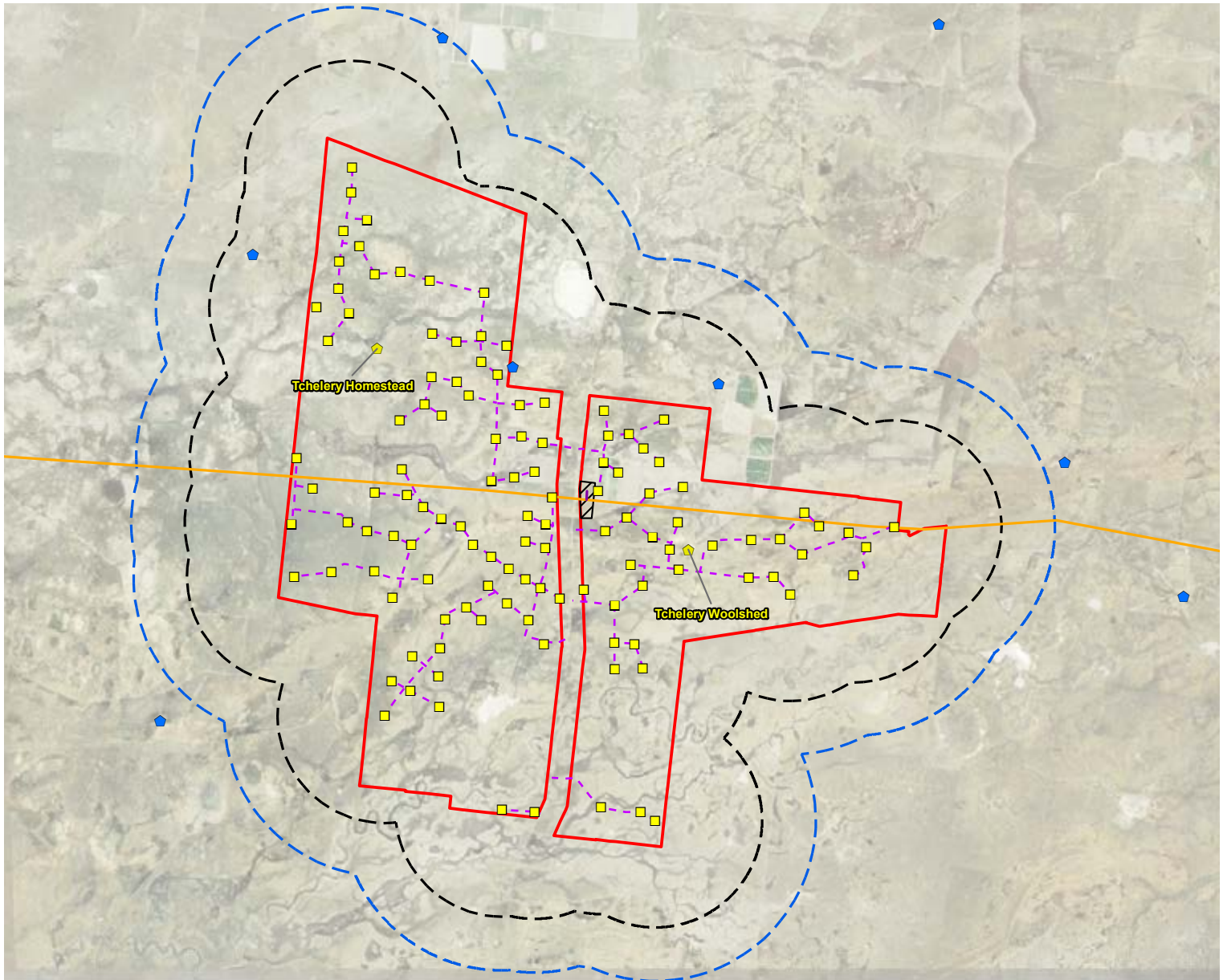
PROJECT LOCATION

The Tchelery Wind Farm will be located in the proposed South West Renewable Energy Zone, approximately 30 km north-east of Moulamein, within the Edward River Council Local Government Area (LGA). The Proposal also borders the Hay LGA and Murray River LGA.

The wind farm, including ancillary infrastructure, is proposed to be located on freehold land titles with a total area of approximately 28,000 hectares. The turbines will be installed on the flat land of this freehold properties.



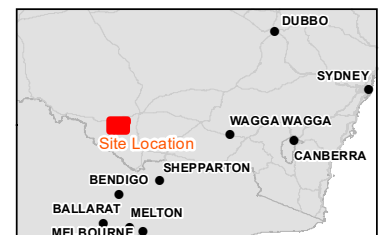
INDICATIVE PROJECT LAYOUT



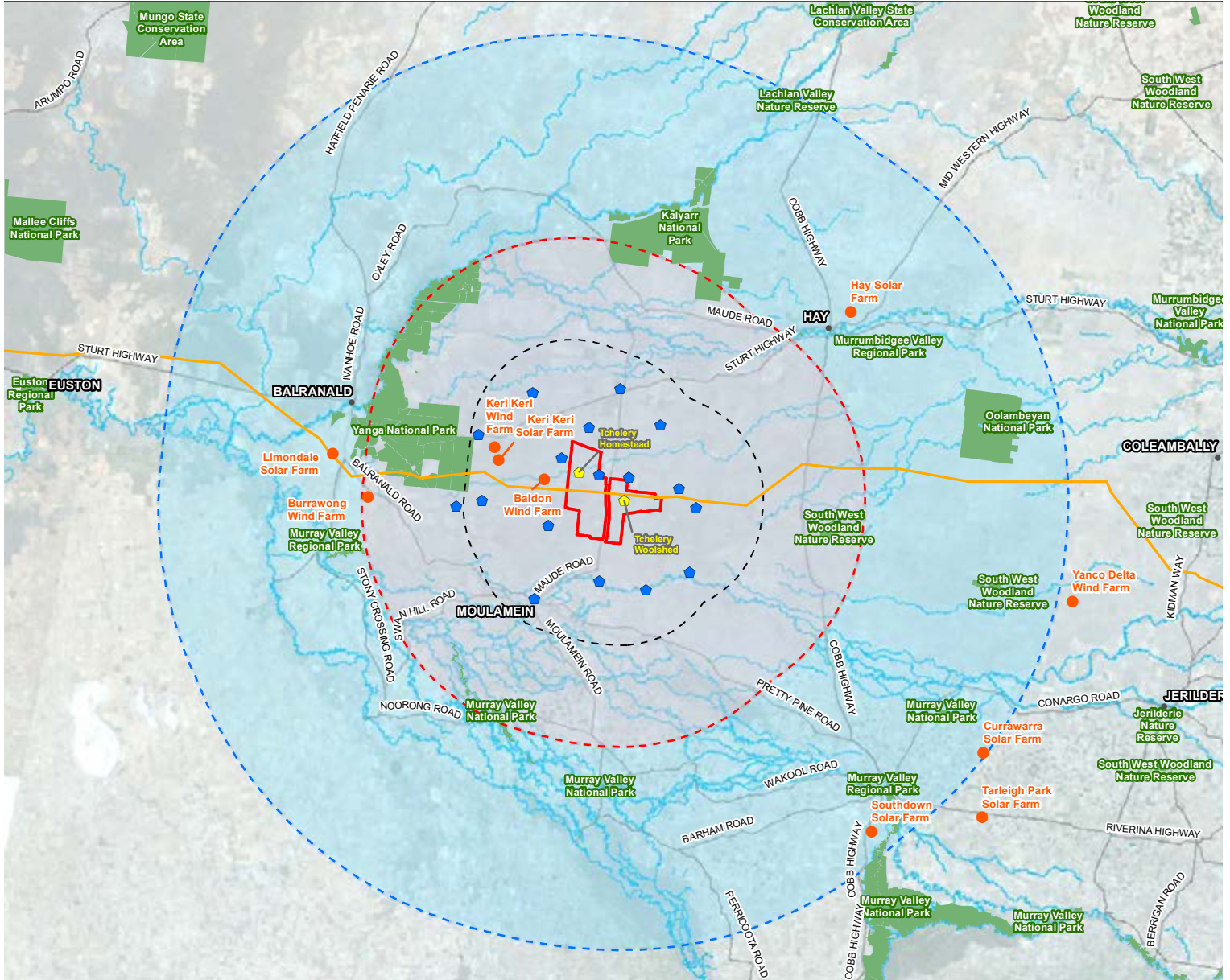
The wind farm layout will inevitably go through minor changes. These changes may arise from the planning process, finalising studies, constructability analysis and input from the landholders.

Legend

- Houses within Project Boundary
- Nearby Houses
- Wind Turbines
- Connection to Project EnergyConnect
- Internal roads and access tracks
- Roads
- Watercourse
- Project Boundary
- Substation and Site Compound
- Wind Turbines 3.8km Buffer
- Wind Turbines 5.7km Buffer

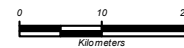
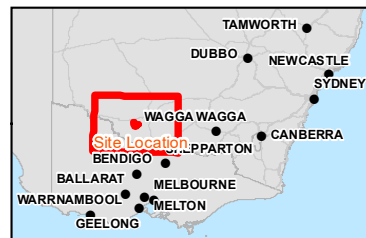


KEY SURROUNDING FEATURES



Legend

- Nearby Projects (approximate)
- ◆ Houses within Project Boundary
- ◆ Nearby Houses
- Project EnergyConnect Eastern Section
- Watercourse
- Roads
- Project Boundary
- Project Boundary 25km Buffer
- Project Boundary 50km Buffer
- Project Boundary 100km Buffer
- National Parks and Reserves



NEOEN AND THE SA-NSW INTERCONNECTOR



Project EnergyConnect is one of the nation's largest electricity infrastructure projects. It will support Australia's transition to a clean energy future and includes a new 900 km electricity transmission line between states known as an interconnector.

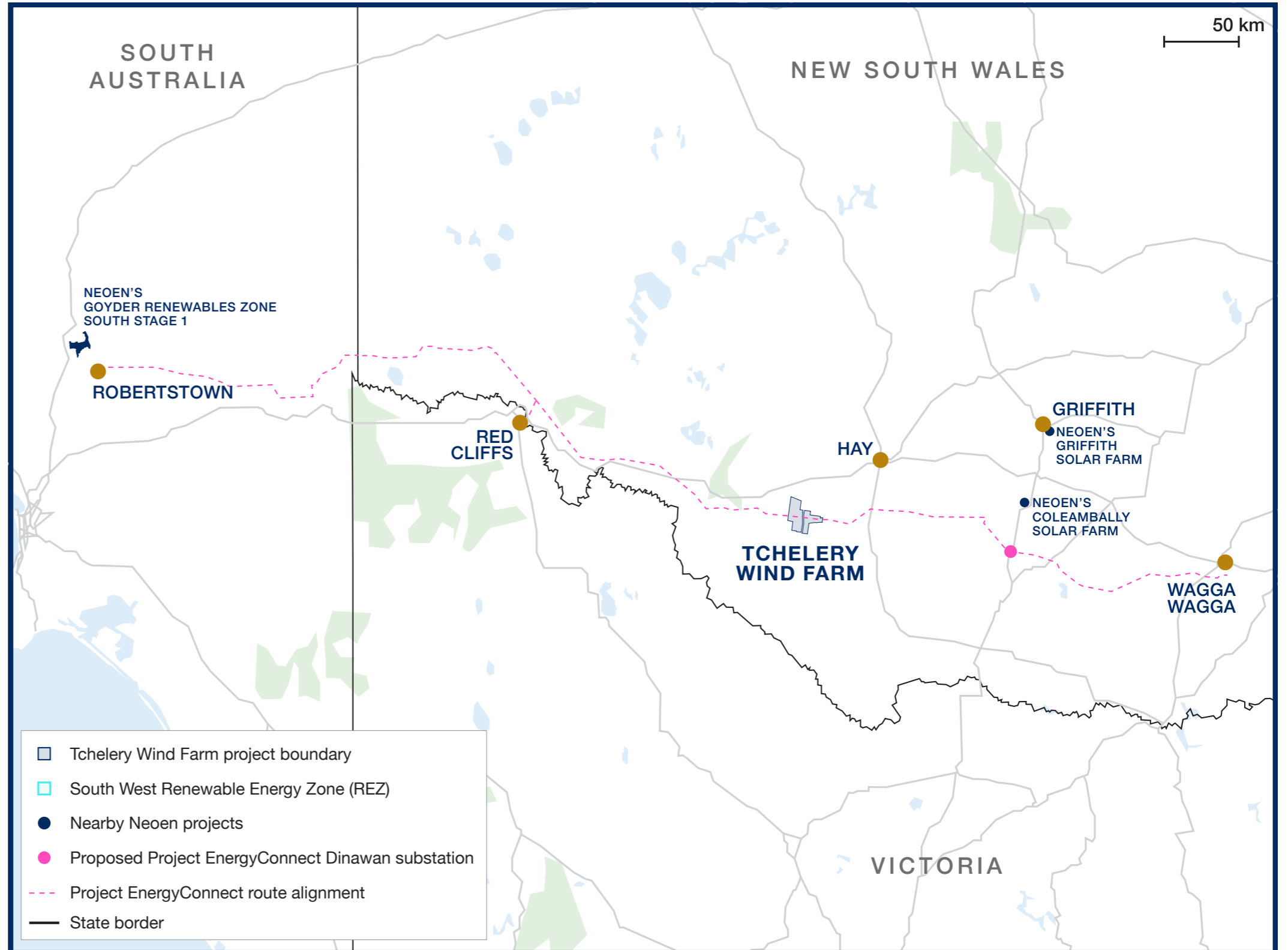
The interconnector is being built between Wagga Wagga in NSW and Robertstown in SA, with a connection to Red Cliffs in Victoria, connecting the power grids of the three states. Through supporting new renewables to come on line, Project EnergyConnect will create 1,500 jobs during construction, primarily across regional NSW. It will contribute towards lower energy bills for homes and businesses through supporting more renewable projects to come online.

Both the SA section and NSW western section are currently under construction. The NSW eastern section has received approval with construction scheduled to start in 2023.

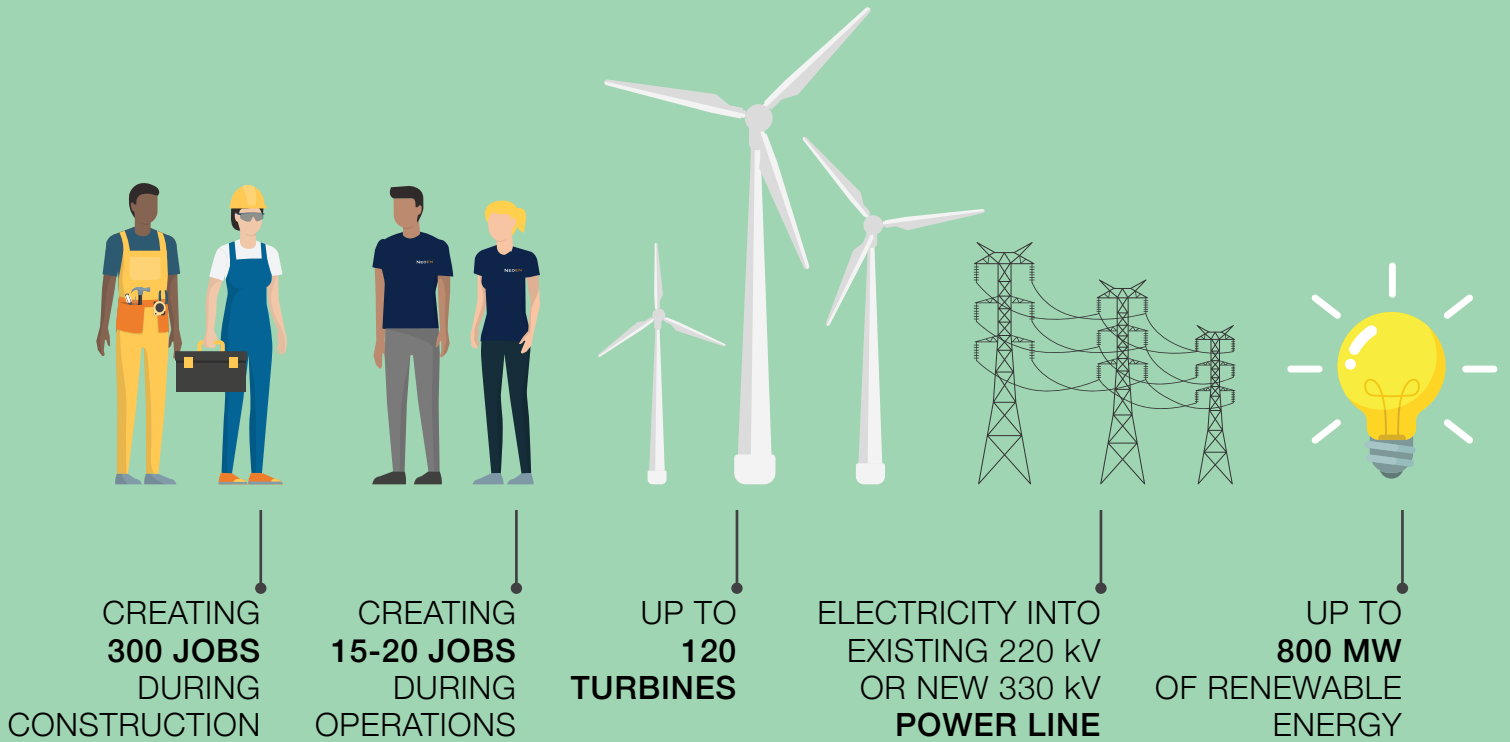
GOYDER
RENEWABLES ZONE

Goyder Renewables Zone is a large hybrid renewable energy project being developed by Neoen in the region around Burra and Robertstown in SA.

The first stage of Goyder South is a 412 MW wind farm currently under construction. It will connect into the existing Robertstown substation, on the SA side of Project EnergyConnect.

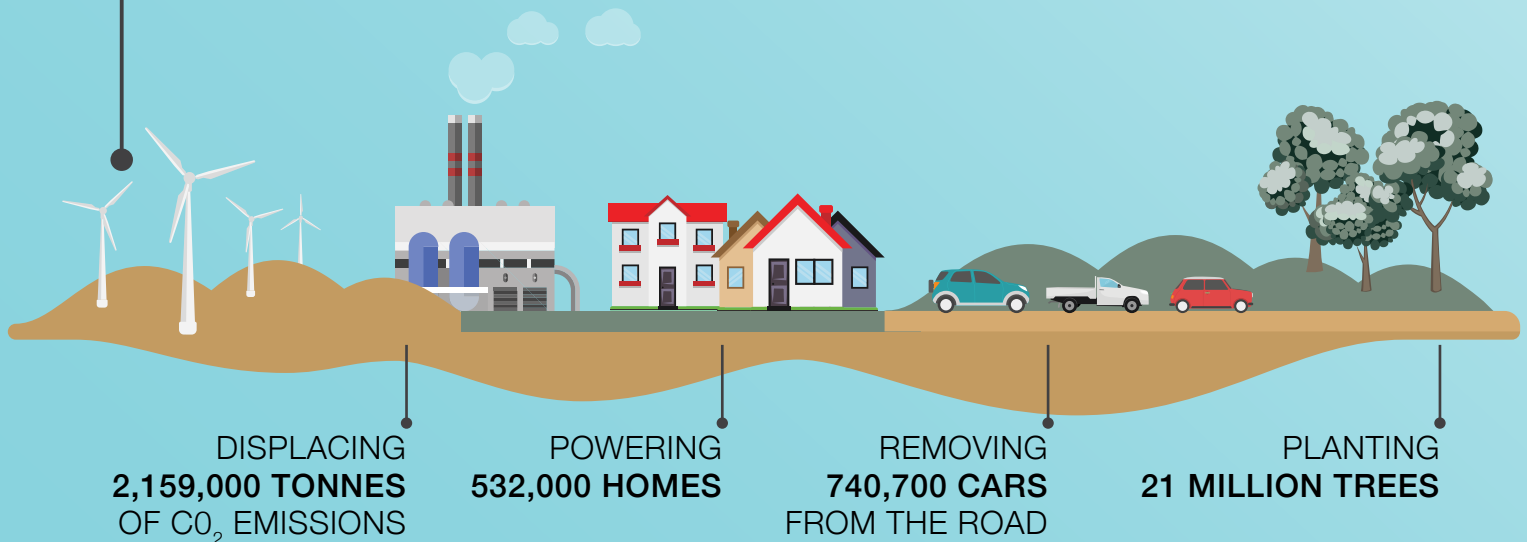


PROJECT FACTS



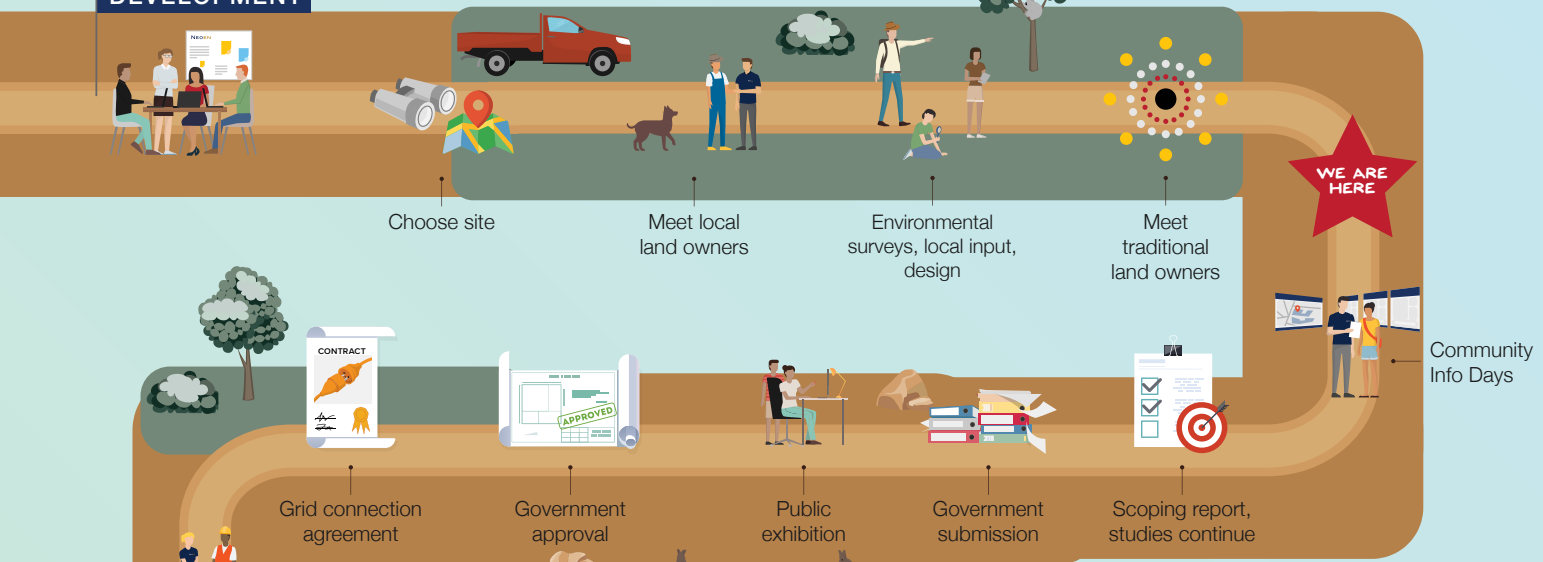
ENVIRONMENTAL BENEFITS

ABILITY TO PRODUCE ROUGHLY
2.73 GWh
PER YEAR WHICH IS EQUIVALENT TO:



PROJECT LIFECYCLE

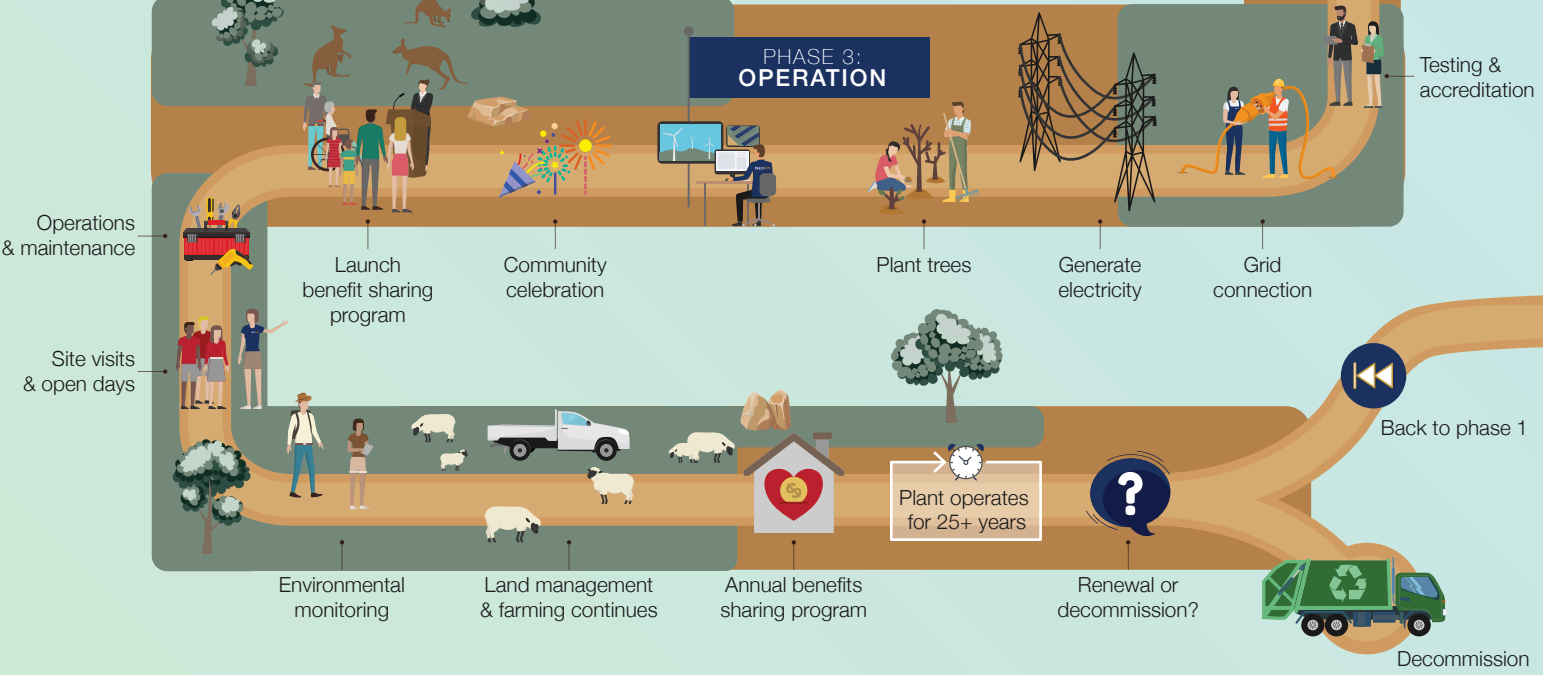
PHASE 1: DEVELOPMENT



PHASE 2: CONSTRUCTION



PHASE 3: OPERATION



COMMUNITY BENEFITS



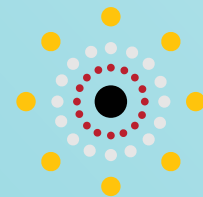
Community benefit fund

The funds would be allocated to local community projects through a competitive annual grants process.



Education & training

For local and regional education and training initiatives, such as scholarships for renewable energy engineering.



First Nations opportunities

Allocated funds to local First Nations community for heritage conservation and self determined initiatives.



Local arts and tourism

On each of our projects we deliver a public artwork which celebrates local culture and renewable energy, creating tourism opportunities.

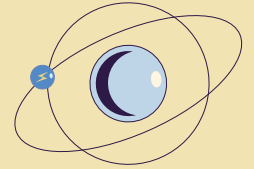


Tell us your ideas

To submit your ideas, please fill out our online survey: surveymonkey.com/r/tchelerywindfarm

Learning Hub

Take your students on a journey of discovery into the wonders of electricity and renewable energy



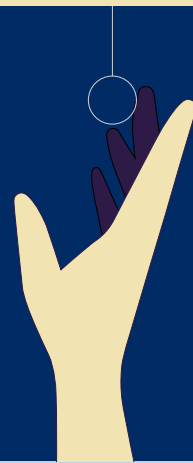
Create dynamic, engaging lessons

The Learning Hub covers the basics of electricity, through to the environmental and social impacts of renewable and non-renewable energy sources.

Curriculum-aligned videos, resources and classroom activities give you everything you need to create dynamic, engaging lessons for your students.

Each topic features a comprehensive set of teacher notes, giving you flexibility to build the lessons best suited for your classroom.

The Learning Hub was developed by Neoen to strengthen engagement with regional communities around renewable energy projects.



Perfect for the Australian Curriculum

Grade 5 & 6 Upper Primary

Topics include:

- Why do we use electricity?
- Could the world run out of electricity?
- Can you store electricity in a bottle?

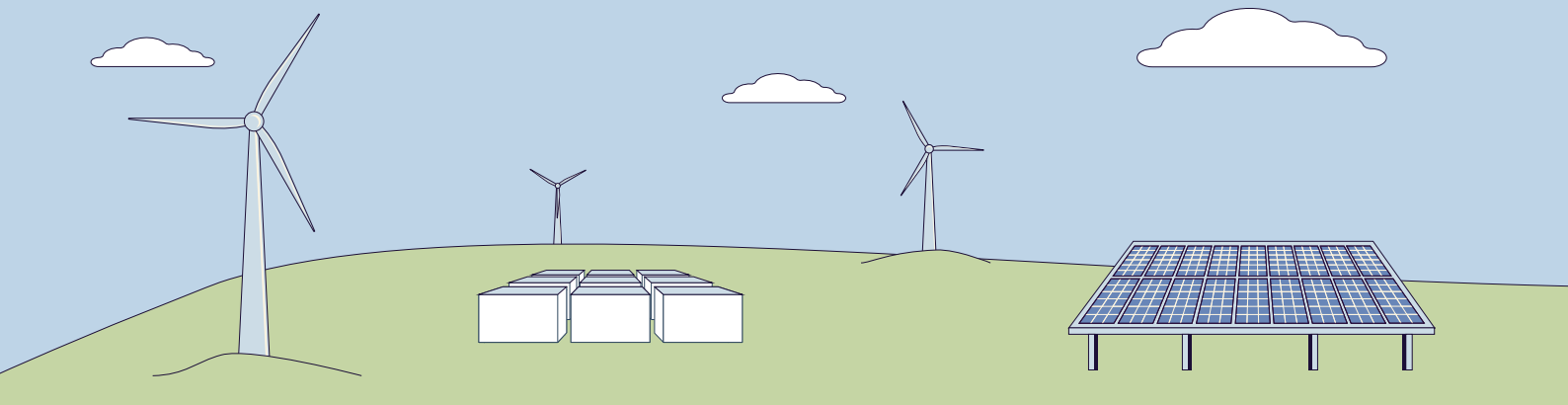
Grade 7 & 8 Lower Secondary

Topics include:

- How can sunlight charge my phone?
- Why is wind a renewable energy resource?
- How can solar energy power the night?

Interested? Learn more!

neoenlearning.com



WIND FARMS

1. How long does it take to build a wind farm?

The construction timeframe depends on the project size and the number of workers deployed on site. For a 500 MW power plant, a 24-month timeframe is expected.

2. What technology is used to build its wind farms?

Neoen's projects use premium quality wind turbines provided by leading manufacturers. This is selected through a competitive process for each project. All components come with long warranty periods – wind turbines are generally warranted for 20 to 25 years.

3. What is the lifecycle of a wind farm?

A wind farm will typically operate for between 25 and 30 years.

4. How do wind turbines work?

Wind turbines are designed to convert wind into mechanical energy by rotating the turbine blades. The mechanical energy is converted into electricity via a generator in the nacelle, which is sent directly to the grid. The electricity generated by the turbine is proportional to the wind speed cubed.

As an example, a wind turbine in 8m/s wind will produce about 8 times as much electricity as a wind turbine in 4m/s wind. This means the correct placement of turbines in high and consistently windy areas is important for achieving the lowest cost power generation for consumers.

5. How tall are the wind turbines?

Wind turbines are generally 150 to 285m high (at the highest point). There's approximately 500 to 1,000m between each turbine, but this varies between projects. Hub heights of turbines may vary between 90 to 180m.

Turbines continue to grow in size each year i.e. each new turbine model is larger than its predecessor. Often during permitting, higher hub and tip heights will be requested to accommodate the next generation of machines.

6. What are the advantages of taller, modern turbines?

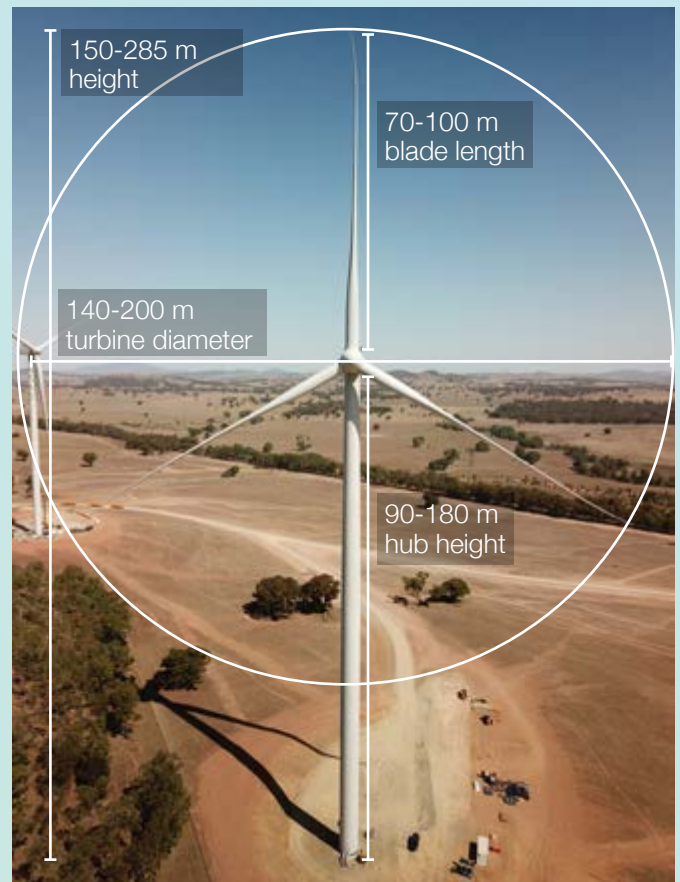
Economic: Larger turbines generate more and cheaper energy because they can access higher wind speeds at higher elevations. They also generate savings in civil and electrical costs (foundations, roads, cables, etc.).

Visual: Larger turbines are spaced further apart (up to 1000m) and have lower rotational speeds than smaller turbines.

Noise: Larger turbines don't necessarily make more noise than smaller turbines, due to their slower speed and improvements in blade design.

All turbines in NSW are subject to strict noise limits imposed by the Environmental Protection Authority. The noise impacts that are permitted are the same regardless of turbine sizing.

Environmental: Larger turbines require less concrete, roads and cables per unit of energy generated. This reduces carbon emissions, construction traffic, and vegetation clearance. Their blades are also above the flight paths of most birds, which greatly reduces the impact to avifauna.



7. How do you stop wind turbines impacting the landscape?

We understand that wind turbines do alter the landscape. But we are committed to working with communities to ensure our wind farms have the least possible detrimental impact on visual amenity.

We encourage individuals and groups with questions about visual impact and solutions to engage with us early.

8. What happens at the end of the wind farm's life?

At the end of the wind farm's life cycle (typically 25-30 years) the wind farm is decommissioned, and we remove the wind turbines and all above ground structures and rehabilitate the site. This is a condition of the wind farm's development approval from the State government and our agreement with the landowners. During decommissioning most of the materials the wind farm is made from can be reclaimed or recycled.

FREQUENTLY ASKED QUESTIONS

ECONOMY

9. Do renewable projects benefit the Australian and local economy?

Each project benefits the local community by creating employment. At Neoen's Coleambally Solar Farm 300 people were employed locally during the construction phase and five are indirectly employed locally in full-time positions during operations. Neoen provides opportunities for local contractors to submit tenders and local jobseekers to seek employment by hosting a series of contractor sessions in the local area prior to any construction commencing. In addition, Neoen establishes a community fund for each wind farm to support community group projects.

10. How much do renewables cost compared with other energy sources?

The current cost of wholesale energy is \$80-\$100 per MWh on average. This comprises of existing coal, existing gas and renewable energy. The wholesale cost of large-scale renewable energy is considerably lower than this at approximately \$40 per MWh.

The wholesale costs of the individual sources of generation in 2020 were:

- Existing coal: approximately \$30-\$60/MWh
- New large-scale renewables: approximately \$40/MWh
- Gas generation: approximately \$120/MWh; and
- New coal: approximately \$90+/MWh.

11. Who pays for any road upgrades required?

Neoen pays for any upgrades to State or Local Government or landowner roads required for transporting wind turbine components to site. If we damage roads, we will pay for repairs.

12. Who will pay for any electrical transmission upgrades required?

Neoen pays for any electrical transmission upgrades necessary to connect and operate the project in the electricity grid. This includes construction and maintenance costs for the life of the project.

13. Does Neoen require government subsidies to build its projects?

Neoen does not require government subsidies to finance its projects. We finance our projects through a combination of our own equity and long-term bank loans. However, we sometimes enter into agreements with governments or businesses to sell the power produced by our projects.

14. Who assesses the projects?

All Neoen projects meet strict State and Federal Government regulations and are assessed under these regulations. We work closely with governments to ensure we meet all legal requirements and exceed these requirements wherever possible.

15. Do wind or solar farms cause property values to decrease?

Neoen fully appreciates that for most households, their home is their primary asset and that factors which may affect its value are of deep significance. Accordingly, the company takes concerns regarding property values very seriously.

However, Neoen is not aware of, and has not been presented with, any reliable, impartial research or evidence which establishes a correlation between real estate values and proximity to renewable infrastructure. Anecdotally, property values around several of our sites have increased.

The most recent and relevant study carried out in Australia was commissioned by the NSW Office of Environment and Heritage and published by planning consultancy Urbis in July 2016. This report comprised both an analysis of available sales data and a 'literature review' of Australian and international studies (including a 2009 report prepared for the NSW Valuer-General's office). Its conclusions are most easily understood when divided into 'agricultural' and 'lifestyle' land.

While property values are influenced by a range of factors and it is therefore difficult to determine if solar farms (or other similar infrastructure) can cause land values on neighbouring agriculture properties to increase or decrease, it is not expected that the Thunderbolt Energy Hub would affect the productivity of neighbouring agricultural properties

16. What happens when the project ends?

At the end of a project life cycle, the turbines are removed and the site is rehabilitated.

This is a commitment we make to the landholders and the State government, which is in the development approval and our contract with the host landholders.

After the assets are removed, most of the materials are reclaimed or recycled. This is because the steel, copper, lithium and other materials they are made of retain significant value.



Community open day for our Dubbo Solar Hub

HEALTH AND CULTURE

17. Are there any health risks associated with wind farms?

There are nearly 200,000 wind turbines installed worldwide — many of them in more densely populated areas close to houses.

Some 17 reviews of research literature from these leading health and research organisations concluded there is no published evidence linking wind turbines with adverse health effects:

- World Health Organisation
- Australia's National Health and Medical Research Centre
- UK Health Protection Agency
- US National Research Council

No health issues have been associated with wind turbines, and the Tchelery Wind Farm will use the same type of technology.

18. Can wind turbine noise affect local residents?

Before it can operate, a wind farm has to demonstrate that noise levels at neighbouring residences will meet strict noise limits. These limits are designed to ensure that noise from a wind farm is not intrusive for the average person.

19. Will the project reduce air quality?

Monitoring dust levels during construction is a basic requirement of each project. We use dust suppression measures wherever possible.

Dust-generating activities are assessed during windy conditions and are stopped and rescheduled if adequate control of dust levels cannot be achieved.

All machinery is checked during site inspections and daily pre-start checks. This ensures all machinery has appropriate emission control devices, is in good working order, and is maintained correctly.

20. Is cultural heritage taken into consideration?

Neoen complies with all legislation, including laws regarding the protection of cultural heritage. A cultural heritage assessment forms part of initial studies as does consultation with local Indigenous groups to ensure cultural heritage is protected.



Tree planting at our Bulgana Green Power Hub

ENVIRONMENT

21. Do wind farms impact flora and fauna?

We engage specialist consultants for detailed flora and fauna surveys to determine the ecological attributes of the land.

On all of our projects, we aim to minimise the impact on flora and fauna by designing projects outside areas of high conservation significance, and adopting control measures during construction.

During the detailed design, wind turbines will be micro-sited to minimise the potential impact on fauna habitat. Turbine heights will be selected to minimise the overlap between rotor swept area and bird flight heights.

Other mitigation measures include:

- preparing management plans
- identifying 'no-go zones' within the project site
- conducting pre-clearance surveys

We also consult with government departments of environment and biodiversity throughout development, construction and operation of projects, as well as local non-government organisations.

22. Do wind turbines affect farm or domestic animals?

We built and operate the Hornsdale Wind Farm across numerous properties near Jamestown in South Australia.

Stock, including sheep and cattle, take a couple of days to get used to wind turbines, then are very comfortable with them. They rub up against turbines and use the shade from the towers during summer.

23. Do wind farms harm birds?

While wind farms are sometimes said to threaten birds, an energy governance study completed in Singapore has shown that wind farms harm 17 times fewer birds per unit of electricity produced than fossil fuel generation.

Studies show that wind farms are probably responsible for impacting birds at rates that are:

- 400 times fewer than cars
- 500 times fewer than pesticides
- 1200 times fewer than high-tension wires

Larger, modern turbines have blades that are well above the flight paths of the vast majority of birds.

The main exception is raptors, and we carry out detailed nest surveys and place generous buffers of 1 to 2km around any viable nest that is found. There is also evidence to suggest that raptors adjust to the presence of turbines and will avoid the blades.

TCHELERY

WIND FARM



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