

# July 27 Community Update



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certificates n. 501008849 and n. 501008850.



# Living next to a wind farm

Sheep farmer Dimity Taylor knows something of what's ahead for New England. She lives in the rich farming area of Bannister, near Goulburn, southwest of Sydney.

Wind turbines line the ridge around her home, a solar farm sits in the flat, and high-voltage transmission towers from the HumeLink project will soon march near her property.

**She's not worried by any of it.**

*"What its like to live next to wind turbines*

*I'm living here next to the Gullen Ranges wind farm near Crookwell.*

*I've been living here for about 14 years, and the Gullen Range Wind Farm is just coming up to its 10<sup>th</sup> year anniversary.*

*We hear the turbines every now and again, but it's not very often.*

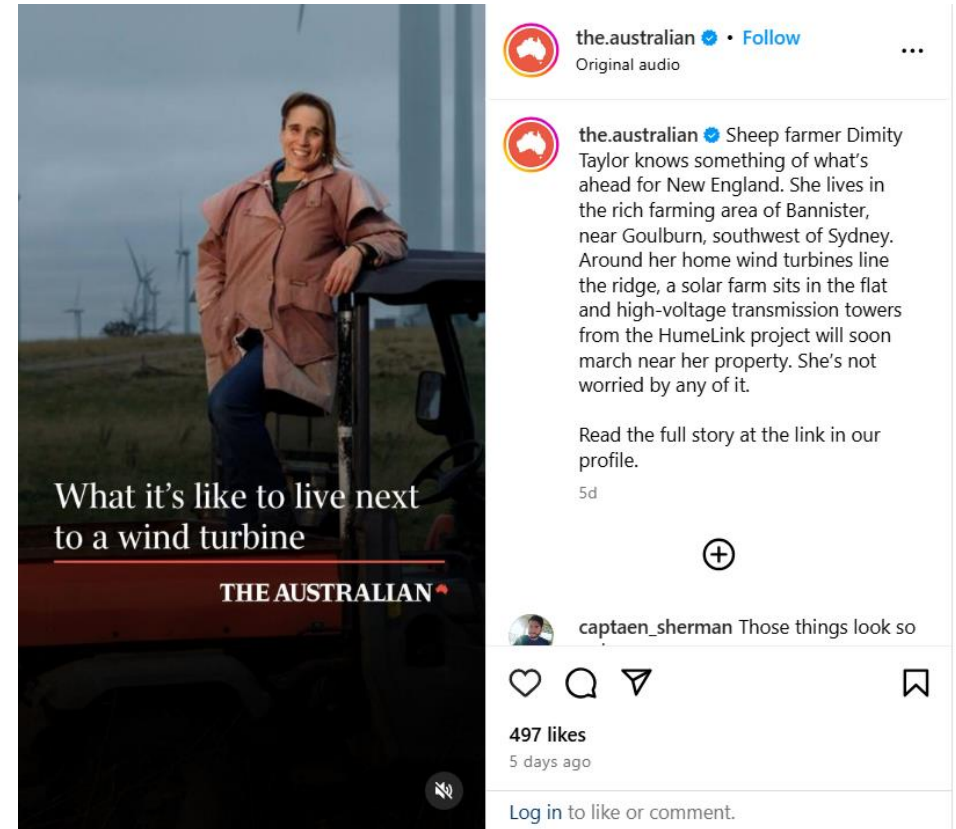
*And when we do, it's not annoying. Kind of sounds like the ocean. We can pretend we're living near the seaside out here in the country.*

*There have been quite a few properties that have been sold that have been well within the two-kilometer radius of the turbines, and they've all sold to really good prices.*

*So its really encouraging that land values near the wind farm are holding strong.*

*I think a lot of the concerns that come from the communities in regard to wind farms coming to the area have so much to do with how the project is communicated early on, and if people can feel empowered during that initial consultation process, it can just save people so much concern and worry and angst.*

*I think there needs to be a really good focus on making sure the whole community can really benefit from being in a region that's hosting renewable energy."*



**Link**

<https://www.instagram.com/reel/C8iqAERi9kk/?igsh=MWk1MXZ3eGtrMXdhaQ==>

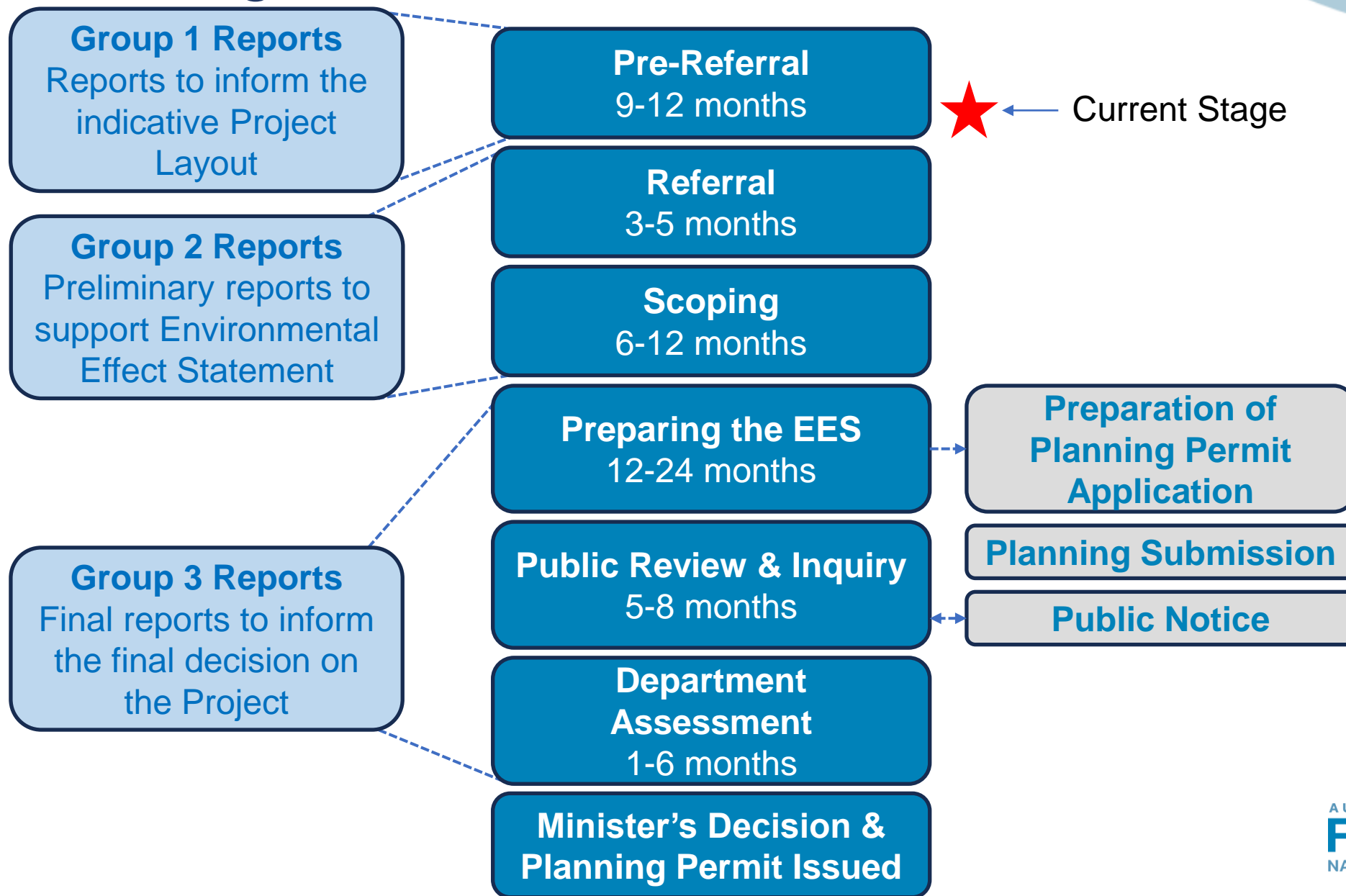


Estimated production of the wind farm:  
**1 Million MWh per year**  
This is equivalent to:

- Powering 200,000 homes.
- Planting 3 million trees
- Displacing 1 million tonnes of CO2
- Taking 350,000 cars off the road



# Planning Process





## Planning:

We are working the planning and studies program. We aim to have the project supported by VicGrid as a Victorian foundation project, which would result in the REZ (Renewable Energy Zone) being realigned and the project being fully included in the updated REZ zones. These are set to be updated through 2025.

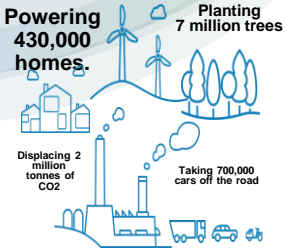
### *Key Investigations / Reports:*

**Group 1** Reports/Information/Advice will be used to inform the Site Layout (i.e. micro-siting of turbines and infrastructure to avoid areas of highest sensitivity/constraint)

- Biodiversity/Ecology (Flora & Fauna) (i.e. identifying no-go areas)
- Cultural Heritage (i.e. identifying any no-go areas)
- Desktop Geotechnical
- Bushfire

**Group 2** Reports/Advice (to be prepared in relation to the micro-sited layout plan, and to respond to the EES Referral criteria & EES referral form)

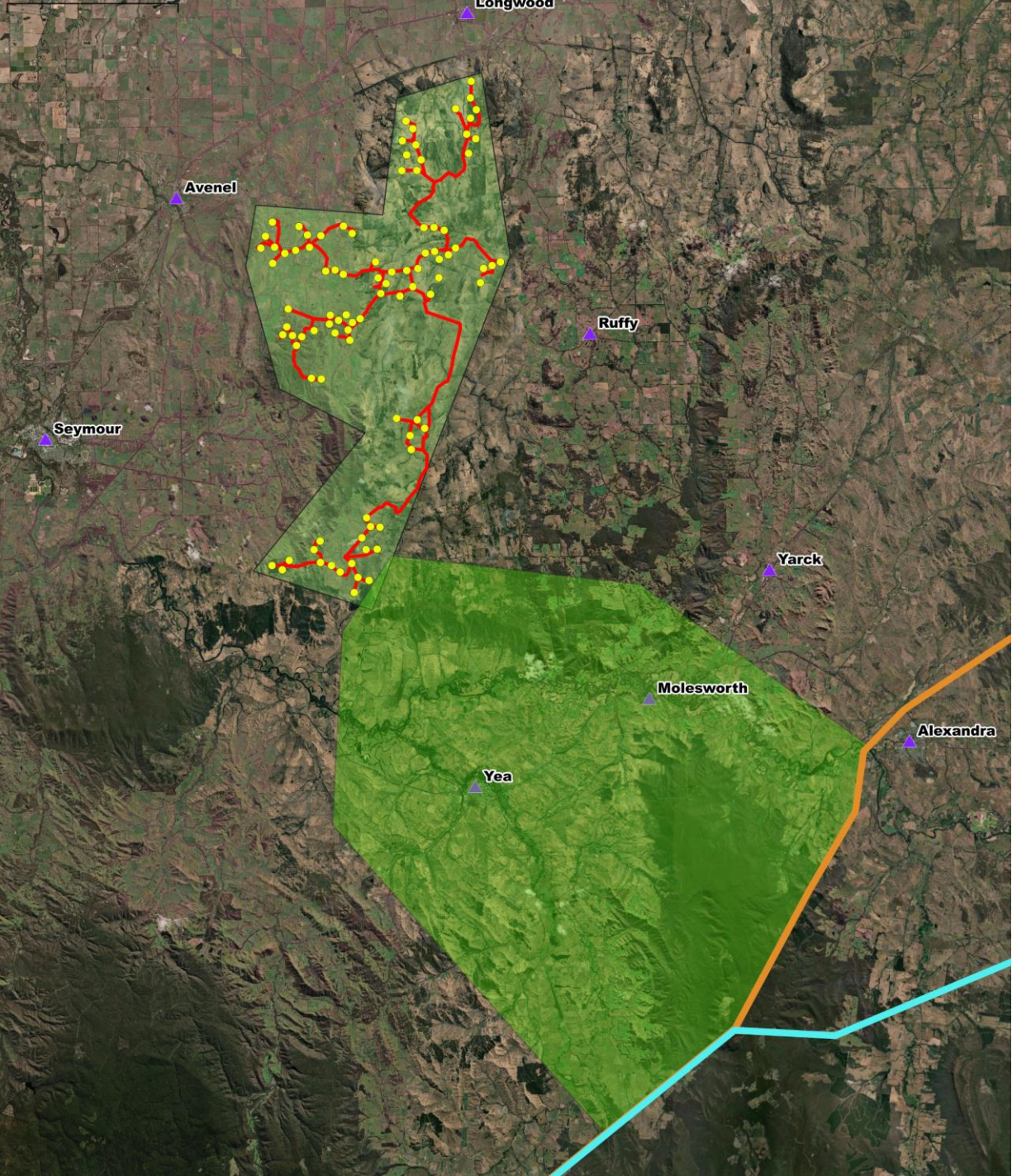
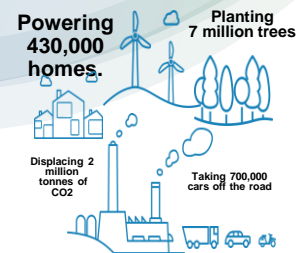
- Biodiversity/Ecology (Expand upon Group 1 work to include findings of survey work to date, addressing EES referral criteria)
- Cultural Heritage (Expand upon Group 1 work Preliminary assessment of cultural heritage obligations)
- Desktop Geotechnical (same info as prepared in Group 1)
- Bushfire (same info as prepared in Group 1)
- Noise/Vibration
- Preliminary Landscape and Visual Impact Assessment
- Traffic
- Water/Hydrology
- Desktop Aviation
- Land Use Planning
- Consultation Plan







# Draft Project Layout July 2024

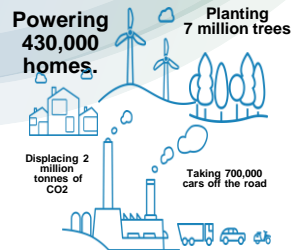


Turbine layout,  
July 2024

Transmission  
zone under  
investigation

Target: Single line  
alignment,  
December 2024





## Transmission Alignment:

A key focus is continuing the investigation of the transmission alignments to connect the project. We are focussed on 2 alignments with the aim of narrowing down to a single alignment over the coming months. The target is to have the transmission alignment by the end of July.

There continues to be a lot of activity across all areas of the project and 2024 will see detailed investigations across all required planning assessments. Robert Gardiner (lives in Yea) and I have been working away on route options for the Transmission line.

We developed an agreement for the Transmission alignment landholders. They are significantly more generous than the state government announced flat 200k or 8k per annum payments. The approach is to try to make sure that the offer is attractive and provides strong incentive to support the transmission line.

Basis for Transmission Agreement payments:

\$5,000 Initial payment / \$25,000 second payment  
150% construction payment (based on value before and after works)  
\$10,000 per km per annum Operational payment.



## Ecology:

Biosis Initial Survey – preliminary turbine and access track site inspections (late November, Early December 2023)

- Biosis: Matt Looby, Ian Smales
- Fera: Sebastiano Falesi, Robert Gardiner, Cristiano Diaz.

The group inspected the turbine locations and potential access roads to identify any potential ecology issues. Matt is developing a simple report – his verbal feedback indicated there were 5-6 locations that may require further investigation (potential relocation or deletion) but the vast majority were located in farmland and appeared to have no ecology issues.

## ***Landcare / Environmental group consolation:***

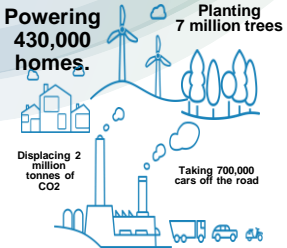
To ensure that all key ecology elements are included in the detail surveys we met for the 3<sup>rd</sup> time with the Landcare and Environmental group representatives from across the project in February in Yea. These meetings have been constructive and progressed to engaged discussions and good sharing of information.

## ***Key Environmental / Cultural Heritage activities***

We have set up a portal for local ecology information to be uploaded.

Biosis will soon finalise the Survey Protocols for project Bird and Bat studies

The preliminary Cultural Heritage desktop analysis is also programmed to start in Q2.





## Community Consultation

We have put together a draft charter and have the outline of a Community Consultation Plan coming along.

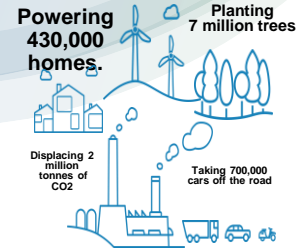
## 2024 Community Consultation

Having conducted quarterly public sessions (Ruffy and Upton Hill in 2023) we have looked to continue in 2024 with local events where we can participate and have time to explain and discuss the project. Back in April, we set up a stand at the Seymour Farming Expo over the 3 days (Friday 12/4 – Sunday 14/4). This approach was a success, with our stand attracting strong interest across the 3 days,

In March, Robert Gardiner presented to the Yea 2030 group (following on from my presentation to the group last August). We have had meetings in Euroa and with BEAM and remain keen to meet with all interested groups in the area.

Over the last month we have provided updates to the Rotary and Probus groups in Seymour, Yea and Alexandra.

We will participate in future events throughout the year







## Community Consultation

### Cherry Tree Community visit (Nov 25, 2023)

Everyone had a good day at Cherry Tree with 40-45 attendees. Virtually to a person, they all came up and said they enjoyed the visit. I wish all community sessions were as positive and well-received by the community.

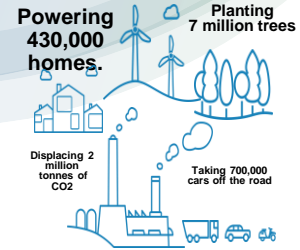


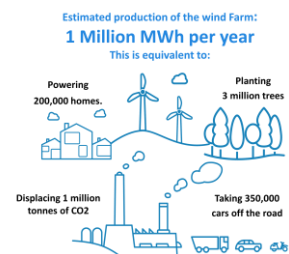
### Seymour Farm Expo, 12-14 April 2024,

We set up a stand at the Seymour Farm Expo from Friday April 12 to Sunday. The expo was well attended, and we had a good opportunity to talk with people over the 3 days. A strong success.

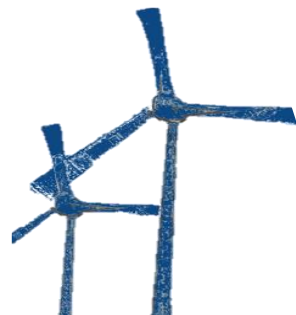
In total we talked with 318 people.

We asked them to complete a survey and received 95 responses. The results have been included below.





# Community Benefit Program



**Support for local houses close to the project infrastructure,**  
(1-3 km from wind turbines or transmission lines)

- Construction Payment: \$15,000 per property

**Annual Energy Support,**

(1-5 km from wind turbines or transmission lines)

- Annual Energy payment per property: \$1,000-2,000 per property

## Wider Community Benefit Program

Establish Community Consultation Committee (CCC) to manage annual projects:

[Dedicated annual budget funded]

- CFA / local schools / Sports clubs / community facilities, Landcare & environment programs

**Base Projects:**

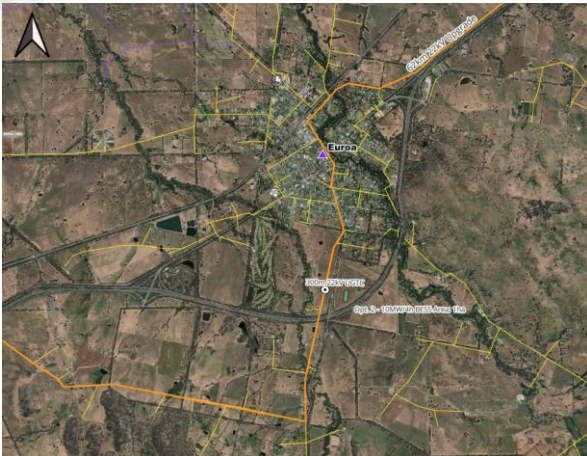
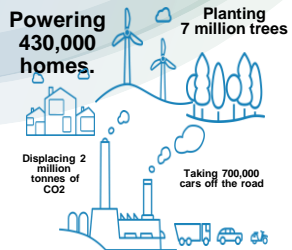
- Comms network installed across project area
- Free charge stations, powered by wind energy
- CCC contribution: \$500,000 per annum







# Euroa: Energy Security – preliminary investigation



## Euroa Energy Security:

Following a request from several Euroa community members we have followed up with the local community group, Strathbogie Council and stakeholders to discuss the potential for the project to send some of its energy production to Euroa. Over the last 12 months Euroa has continued to experience more than 100+ blackouts / losses of energy supply.

Preliminary investigation based on the following:

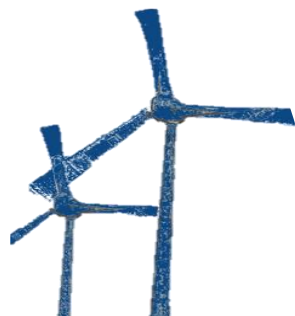
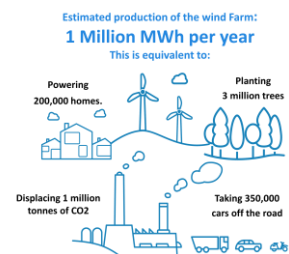
- The addition of a Euroa substation and upgraded line from Shepparton / Benalla (State Government)
- Upgrade connection line on existing poles between a number of the northern turbines (2-6 depending on demand to the Euroa township and connected distribution). (Fera)
- Local battery adjacent to new Euroa substation. (Fera)

## Benefits:

- A project that has the potential to increase the stability of the northern domestic energy network and directly benefit the northern residents who are connected to Euroa and the wider area.

Whilst still early in the investigation, there appears to be merit in the approach with the majority (90 - 100 turbines) of the Seymour project continuing to be connected to 330 KV lines (southeast, National Grid) and 2-6 turbines connected to Euroa (northwest, domestic distribution network) as outlined above.





# Technical Detail

Understanding some of the metrics of the turbines



# Construction Process

The Construction of a Wind Farm, includes the following main activities:

## CIVIL WORKS

- Access roads,
- Crane and equipment hardstands,
- Turbine foundations

## ELECTRICAL WORKS

- Cable Trenches and reticulation

## MECHANICAL INSTALLATION

- Wind Turbine Generators (WTGs)

## ELECTROMECHANICAL FINISHING AND COMMISSIONING







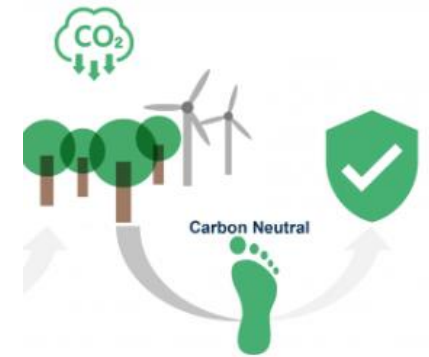
# Dimensions, Sustainability

Wind turbines are large in size but generate a substantial amount of energy.

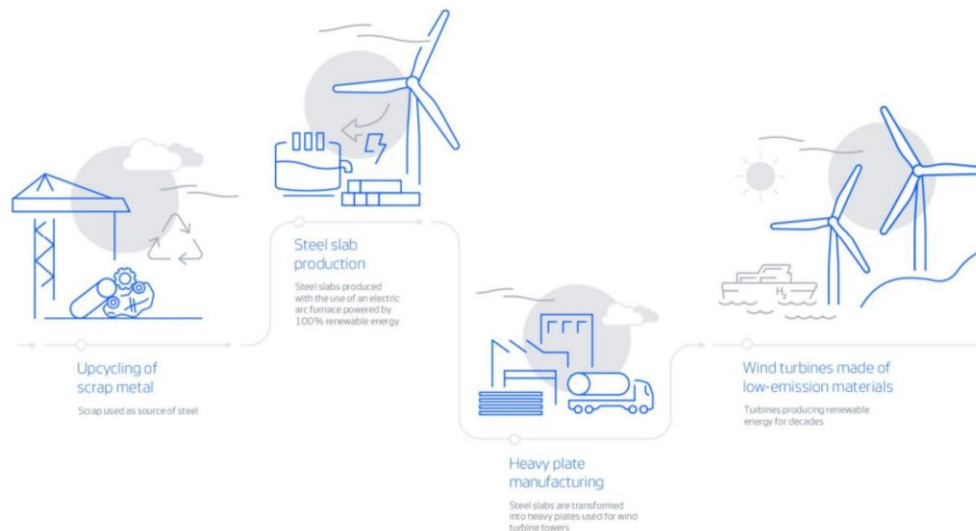
In this project, we plan to install turbines with a capacity of approximately 7 MW, with hub heights between 120 and 160 metres and rotor diameters of 160 - 170 meters.

Each turbine of this size can power around 4,000 homes and offset carbon emissions equivalent to 60,000 trees (a small forest).

Recently Vestas announced the success of their turbine blade recycling trials. They have developed technology capable of breaking down the resins used in blade construction, allowing them to recycle the turbine blades at the end of their life.



End of life:  
90+% of the Wind  
Turbine is Recycled



# Farming and Turbines

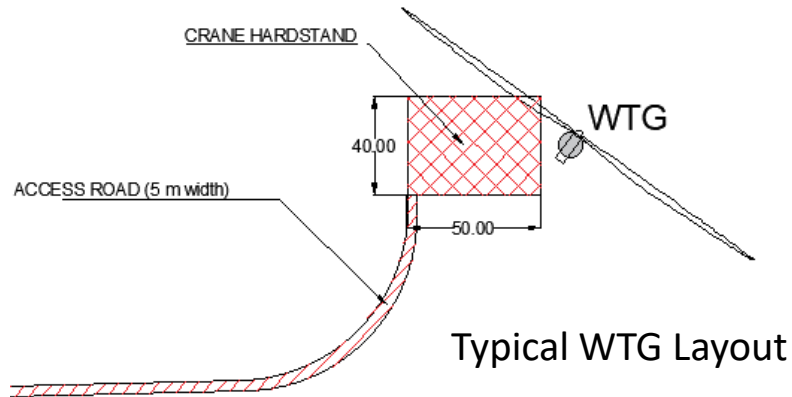
A wind farm is fully compatible with current land uses. Numerous properties host wind turbines with minimal impact on farming activities.

The area occupied by a wind turbine is insignificant compared to the total scale of each property.

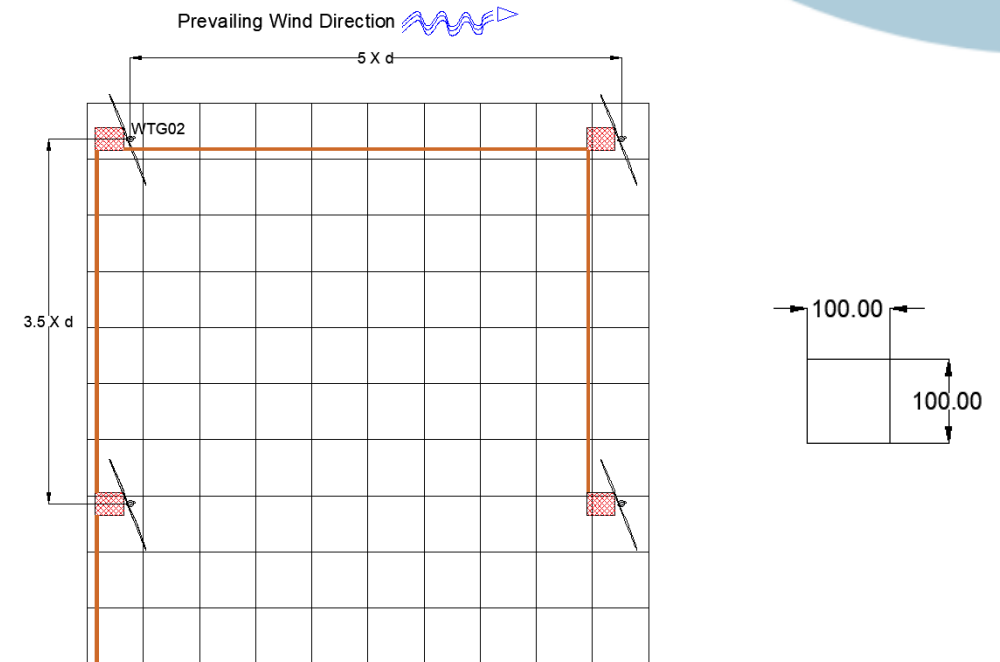




# Area Consumption



Plus similar offsets around the turbine locations.



## Indicative example of WTG separation and surface consumption

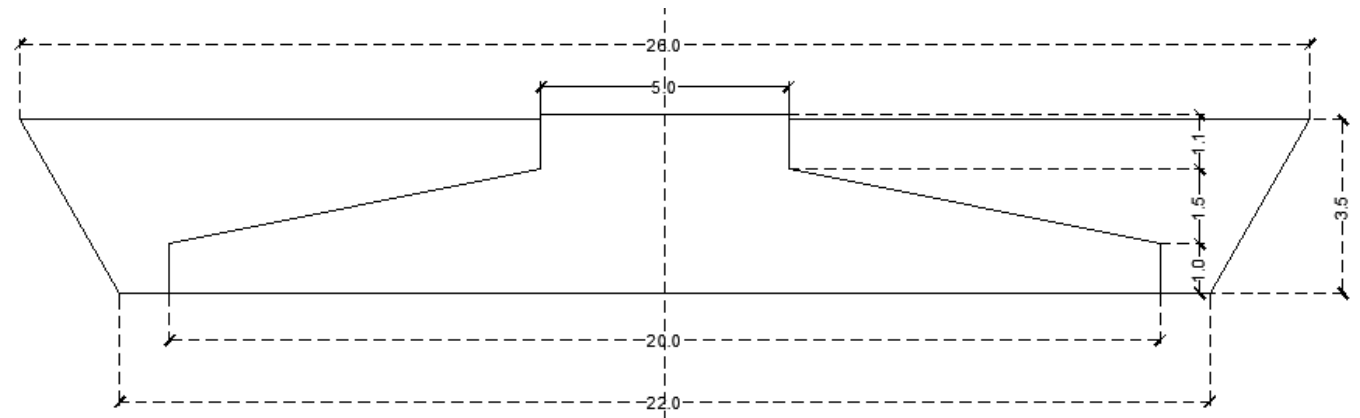
- Parallel to Wind: 5 diameters
- Orthogonal to Wind: 3.5 diameters
- Example surface 100 hectares (1 square km)

Surface utilized by the wind farm:

- Wind Turbine footings: 4 x 350sqm	= 0.14 Ha
- Access roads: 5m width	= 1.15 Ha
- Crane Hardstands: 4 x (50m x 40m)	= 0.80 Ha
<b>TOTAL</b>	<b>2.06 Ha</b>

**SURFACE CONSUMPTION: 2.06% approx.\***

\*100-hectare reference area.



Example WTG Foundation

# Typical Wind Farm Construction Site Schedule

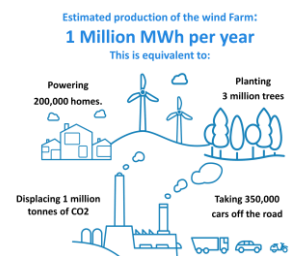
		Month 1				Month 2				Month 3				Month 4			
TASK	(* Hypotesis of 2 WTGs)	CW01	CW02	CW03	CW04	CW05	CW06	CW07	CW08	CW09	CW10	CW11	CW12	CW13	CW14	CW15	CW16
1	Site Preparation	X															
2	Earthworks		X	X													
3	Execution of Access roads			X	X	X	X										
4	Foundation works						X	X	X								
5	Cable Trenches								X	X	X						
6	Mechanical erection of WTG01											X					
7	Electromechanical finishing of WTG01												X	X			
8	Commissioning and ramp up of WTG01														X	X	
9	Mechanical erection of WTG02												X				
10	Electromechanical finishing of WTG02													X	X		
11	Commissioning and ramp up of WTG02															X	X

A Wind Farm Construction site has 2 typical working areas:

- A) Civil and Electrical BoP (Balance of Plant): Access roads, cable trenches and concrete works.
- B) Mechanical erection of the Wind turbines, electromechanical finishing, commissioning and ramp up.

The mechanical erection of the wind turbines is the most critical phase of the construction process. This involves managing heavy lifts with one main crane, assisted by smaller auxiliary cranes and additional equipment. Typically, a single wind turbine is installed within one week. After completion, the cranes and equipment are moved to the next installation site. This process is repeated in sequence until all turbines are installed.



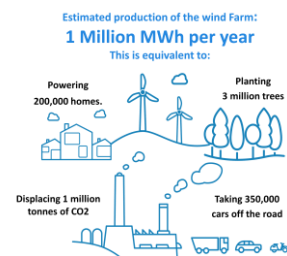


# General Discussion

## Questions and Answers



# Turbine Placement (Questions raised over the last month)



How many turbines do you have planned for the project in this area? Where are these to be located? I.e. provide details of road boundaries of the proposed sites? What is the proposed height of the towers (including blades).

The preliminary assessment has identified 108 potential turbine locations, the final project is expected to be between 80-100 turbines.

Each turbine will generate power for 4,000-5,000 homes depending on the final turbine selected.

Who would be responsible for the ongoing maintenance? What happens at the end of the turbine's life? Is it replaced or disassembled? Who is responsible for that?

Fera would be responsible for all roads involved in the project for the life of the project:

- Existing local roads
- Upgrade of existing internal farm tracks
- New tracks

Tracks and roads will be designed to allow the transport of the turbine and related infrastructure to each final location. These roads will be designed to ensure there are no runoff issues. The roads will be maintained throughout the project by Fera.





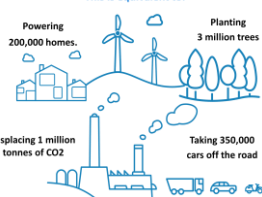


# Connection (Questions raised over the last month)

Estimated production of the wind Farm:

**1 Million MWh per year**

This is equivalent to:



Where does the power get connected? What are the proposed routes for the transmission towers? How high will the towers be?

Planning for the connection of turbines will begin now that we have an initial turbine layout.

The turbines will be connected by an underground transmission line; the final section of the transmission line will be a single overhead 330KV line.

The transmission line is expected to be 35-40 m tall.

What vibrational impact and noise studies will be conducted on the surrounding wildlife, farm animals and people? Is an independent study planned? If so, when will this occur.

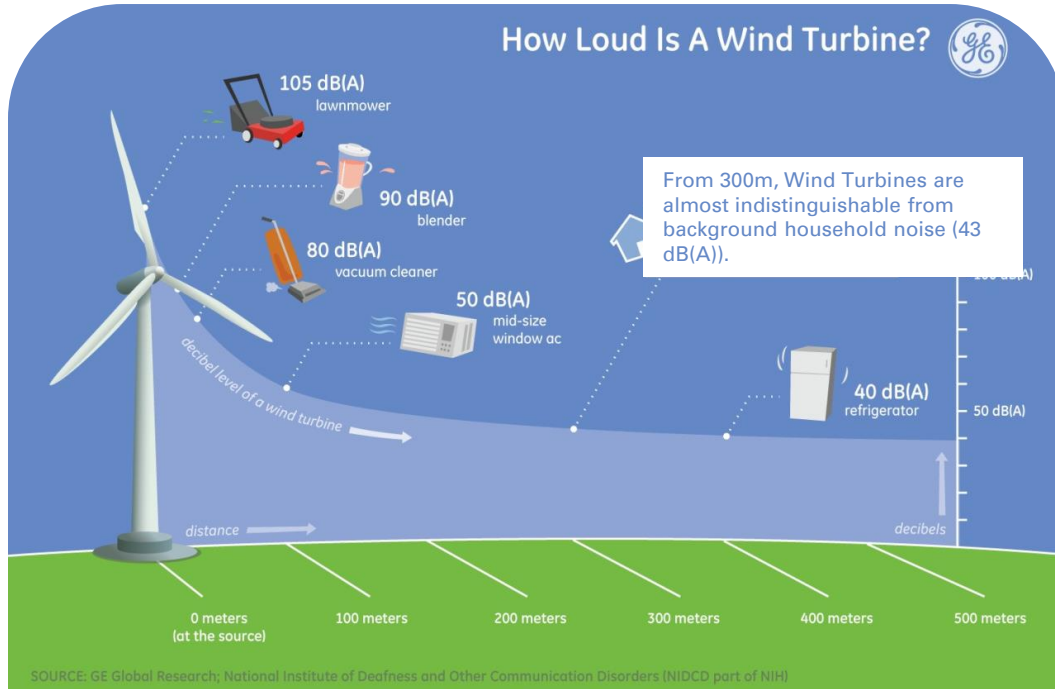
There are no vibration impacts caused by wind turbines. Independent experts will be engaged to conduct detailed flora and fauna studies over each season for 2 years to ensure the local ecology is understood and any impacts of the project are minimised. Work will also investigate programs and projects that can be pursued across the area to ensure the project has a positive impact on the area's ecology.

All studies will be shared with the community and published to the Fera Australia website.



# Environmental Impacts,

Noise monitoring will ensure that project noise impacts are minimised and in line with Victorian guidelines.



In Australia, turbines cannot be installed within 1000 metres of homes or sensitive locations

## Noise Impacts

New turbines continue to increase in size and reduce their noise levels.

Blades rotate at 5-10 revolutions per minute

- Noise levels at 300m, ~ 40-50 dbA
- Noise levels at 500m, ~ 30-45 dbA
- Noise levels at 1000m, ~ 25-40 dbA

(example: the sound of leaves rustling in a tree is 30-40 dbA)

## Noise Monitoring:

A Background Noise Monitoring Report and Environmental Noise Assessment will be conducted per Victorian regulations.

The process for the noise assessment has the following steps:

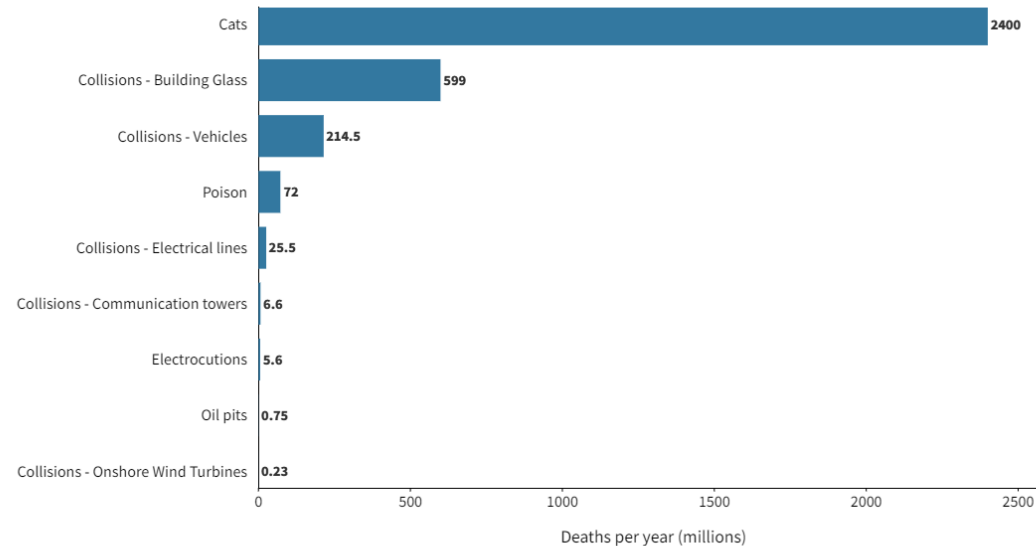
- Assess the background noise levels at residential properties
- Establishing the background noise levels
- Model the level of noise expected to result from the wind farm infrastructure and compare it to the background noise monitoring.
- Ensure the project is below the noise requirements and complies with all guidelines and legislation.
- Background noise monitoring is expected to commence in 2025.



# Environmental Impacts - Birds,

We are working on detailed ecology investigations that will ensure the wind farm project minimises impacts on the local bird and bat populations.

**Leading anthropogenic causes of bird mortality in the United States**

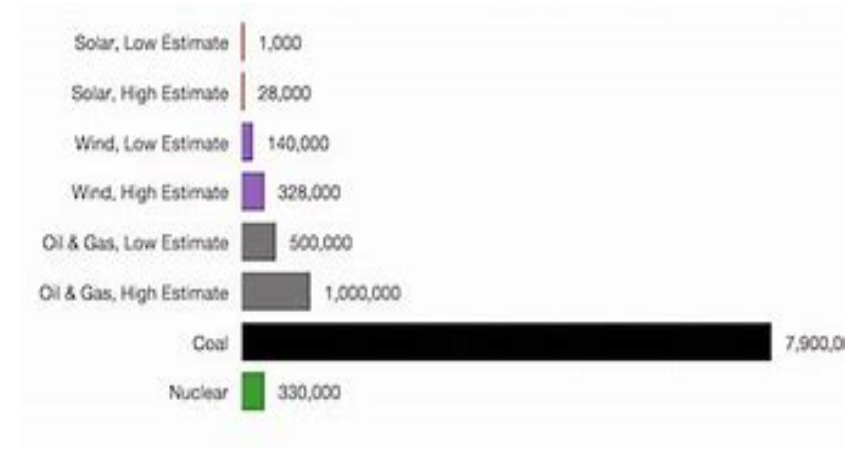


Source: Source: US Fish and Wildlife Service (2017)  
Boston University Institute for Global Sustainability | visualizingenergy.org | CC BY 4.0

visualizingEnergy

**For every 10,000 bird deaths caused by humans, less than one is caused by wind turbines**

**Bird deaths – by energy source**

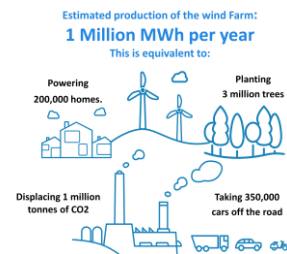


## **New Audubon Science: Two-Thirds of North American Birds at Risk of Extinction Due to Climate Change Oct 2019**

“Two-thirds of America’s birds are threatened with extinction from climate change, but keeping global temperatures down will help up to 76 percent of them. There’s hope in this report, but first, it’ll break your heart if you care about birds and what they tell us about the ecosystems we share with them. It’s a bird emergency,” said David Yarnold, (@david\_yarnold), CEO and president of Audubon.



# Turbine Placement (Questions raised over the last month)



How much funding are you receiving from the state or federal government per turbine?

Zero – there is typically no state or federal funding for wind projects.

How are the neighbouring properties protected from potential fire hazards?

As part of the project planning, a detailed Bushfire and Fire Management Plan will be developed in consultation with the local CFA. This will include access and communication plans.





# Turbine Fires

28/6/24 – A turbine at the Cape Nelson South Wind Farm caught fire.

- The fire started at 8pm and was deemed under control by 11pm.
- The next morning the CFA were called to extinguish a small grass fire.
- No persons were harmed, and no structures other than the Turbine were lost.

**Fire Rescue Victoria Commander** Greg Kinross told the ABC:

*“[Wind turbine fires] are no more risky than other structure fire that may occur at this stage in the in-country area of Victoria.”*



Statistically, Wind Turbine Fires are extremely rare.

**11.3GW** of Wind Energy is installed in Australia, across **104 Wind Farms** and **over 2,700 Wind Turbines operational**. 31 of these Projects are over 15 years old in 2024.

In these thousands of hours of operation in Australia, there have been **less than 10** turbine related fires.

# Comparing the cost of Energy Production

## Annual wholesale electricity prices fall by 59% as households face surging power bills

New figures from the Australian Energy Market Operator (AEMO), which runs the national electricity market for the eastern states, show wholesale electricity prices fell to **\$108** per megawatt hour in the June quarter, compared to the **\$264** per megawatt hour average seen last year when the National Electricity Market was suspended.

The quarterly report also said renewable energy sources — specifically wind and solar — along with less volatile market conditions and improved generation ability had put downward pressure on wholesale prices.

"The drivers of those changes in the prices are really threefold," Daniel Westerman, Chief Executive of AEMO, told RN Breakfast.

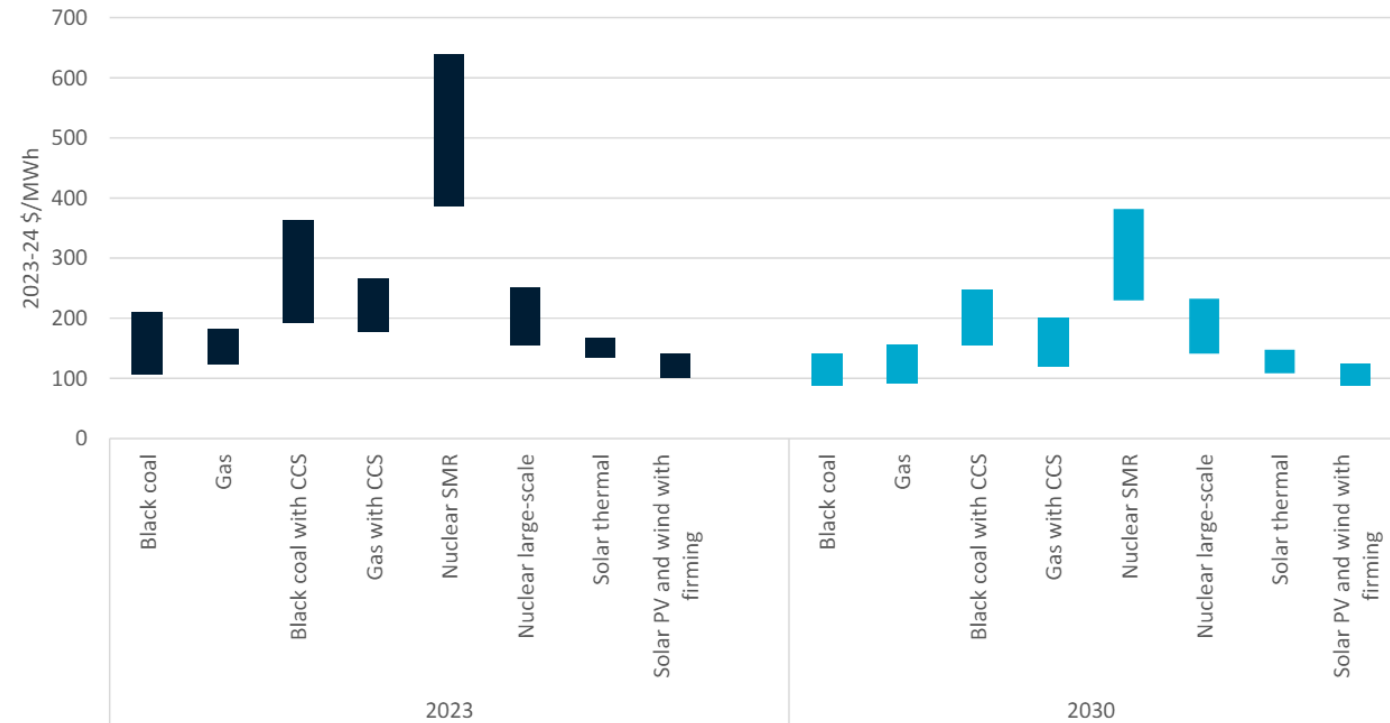
"The first is that coal-fired power stations, which still supply about 60 per cent of Australia's energy, are down because coal prices are down.

"The second thing is that we've had more coal plant availability, so it's been there when we need it.

"The third is that we've seen more and more renewables come into the system, and those renewables, as we know, really do push prices down."

Link to the article: [Annual wholesale electricity prices fall by 59 per cent as households face surging power bills - ABC News](#)

## CSIRO's GenCost 2023-24 summarises the costs of different energy generation:



ES Figure 0-3 Calculated LCOE by technology and category for 2023 and 2030

Link to the report: <https://www.csiro.au/en/research/technology-space/energy/GenCost>



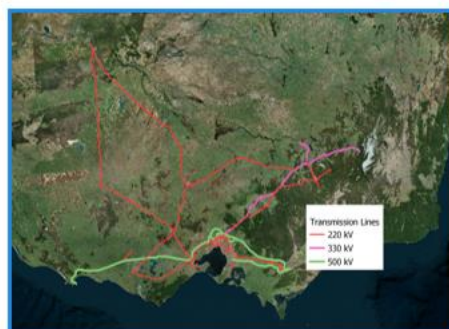
# Wind Farm Fact Sheets



## Why Here?

Why is the wind farm being built here instead of somewhere else?

The answer: This region is uniquely suited for producing clean and renewable wind energy.



Locations for wind farms are chosen for their strong wind resources and proximity to high-voltage transmission lines.

Many people ask, why can't we develop wind and solar farms out in the desert, away from populated areas?

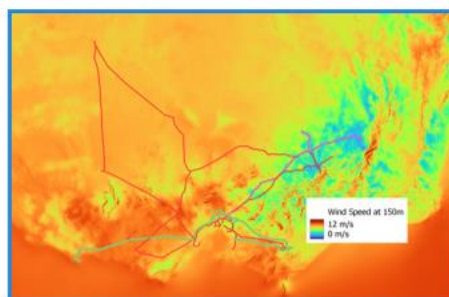
Unfortunately, Australia's electrical transmission network is centered around populated areas, where the electricity is needed most.

If electricity were produced in the outback, the necessary transmission infrastructure to transport it to where it's needed does not exist.

Renewable energy infrastructure cannot be built just anywhere.

To maintain reliable electricity while reducing carbon emissions, Australia must utilize areas capable of generating clean, renewable energy.

All areas Yellow to Orange are suitable for Wind Farms.



## Understanding Electromagnetic Radiation

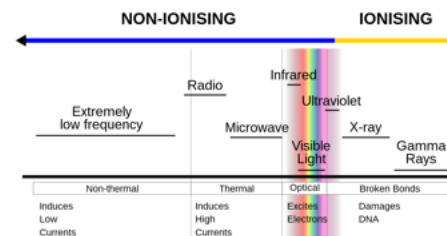
Powerlines generate low levels of electromagnetic radiation (or EMR) in the form of radio waves. This is caused by the alternating current (AC) flowing through wires, generating changing electric and magnetic fields.

Radio waves of regular intensity are **not considered harmful to the human body**. Radio waves are the same form of EMR used for Wi-Fi, phone signals, television, and radios. This is why your car radio can sometimes be disrupted when you drive under powerlines.

### Should I be concerned?

People often find the word 'Radiation' scary, but in truth, Electromagnetic Radiation is constantly all around us everyday. Light itself is a form of EMR. Microwaves, radio waves, and what we view as the visible spectrum, are all simply EMR of varying wavelengths.

Some EMR can indeed be harmful. High-frequency ionising EMR such as X-rays and Gamma rays can damage bodily cells and lead to cancers and ill-health when in high concentration.



However, one should not conflate this with non-ionizing EMR. Non-ionizing EMR (such as radio waves and light) are, in normal intensities, harmless.

At the edge of a transmission line easement (some 50 m away), transmission lines generate EMR at a lower intensity than a hairdryer.

Over 30 years, and 25,000 papers, no adverse health effects have been linked to low-level low-frequency EMR exposure.

Australia has strong and protective legal EMR public exposure standards, and Wind Farm transmission lines fall well below these conservative limits. As such, there is **no reason to be concerned** by EMR from Wind Farm powerlines.

Sources:  
<https://www.arpansa.gov.au/>  
<https://www.energyco.nsw.gov.au/sites/default/files/2022-09/cwo-rez-fact-sheet-electric-magnetic.pdf>

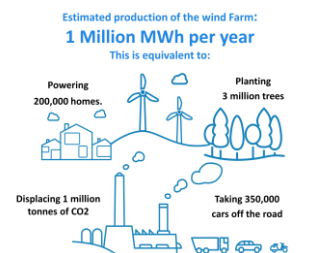


Scan for more



## Fact Sheets on:

- Wind Turbine Noise
- Electromagnetic Radiation
- Community Benefits
- Flora and Fauna
- Where Wind Farms are located
- Recycling Turbines
- Environmental Concerns
- The Climate and Climate change
- How Wind Farms benefit our world



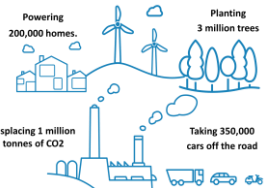




Estimated production of the wind farm:

**1 Million MWh per year**

This is equivalent to:



A photo of Fera's Olive picking day below in Upton Hill. The background to this weekend was to replicate a tradition in the Fera company.

In Italy, the company comes together and picks olives that are crushed and turned into oil. The oil is then given out as Christmas gifts.

On a weekend late in May the team came together and had a day picking olives. The olives were crushed locally in Yea and the oil is going through a settling period and then will be bottled and shared.

# Thank You

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