


# Project description and context


## Central-West Orana REZ transmission project


September 2023


EnergyCo is delivering the Central-West Orana Renewable Energy Zone (REZ) to provide a clean, affordable and reliable power supply for energy consumers across NSW. The Central-West Orana REZ transmission project will involve the construction of new transmission lines, energy hubs, switching stations and related infrastructure. The new REZ network infrastructure will enable renewable energy from solar, wind and storage projects to be distributed to energy consumers across the State via the existing NSW transmission network.


### Key features


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New twin double circuit 500 kV transmission lines (around 90 kilometres) which will form the backbone of the REZ network, supported on a series of towers.
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New single and double circuit 330 kV transmission lines (around 150 kilometres), supported on a series of transmission line towers and poles.
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Two new energy hubs at Merotherie and Elong Elong which will collect energy from nearby generation projects, transform it to 500 kV and distribute it to the transmission network.
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A new 500 kV switching station at Wollar to connect the new REZ network to the existing transmission network.
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Thirteen 330 kV switching stations to provide a connection between renewable energy generation projects and the new 330 kV transmission lines.
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Underground fibre optic communication cables to monitor and control the network infrastructure and generator performance.
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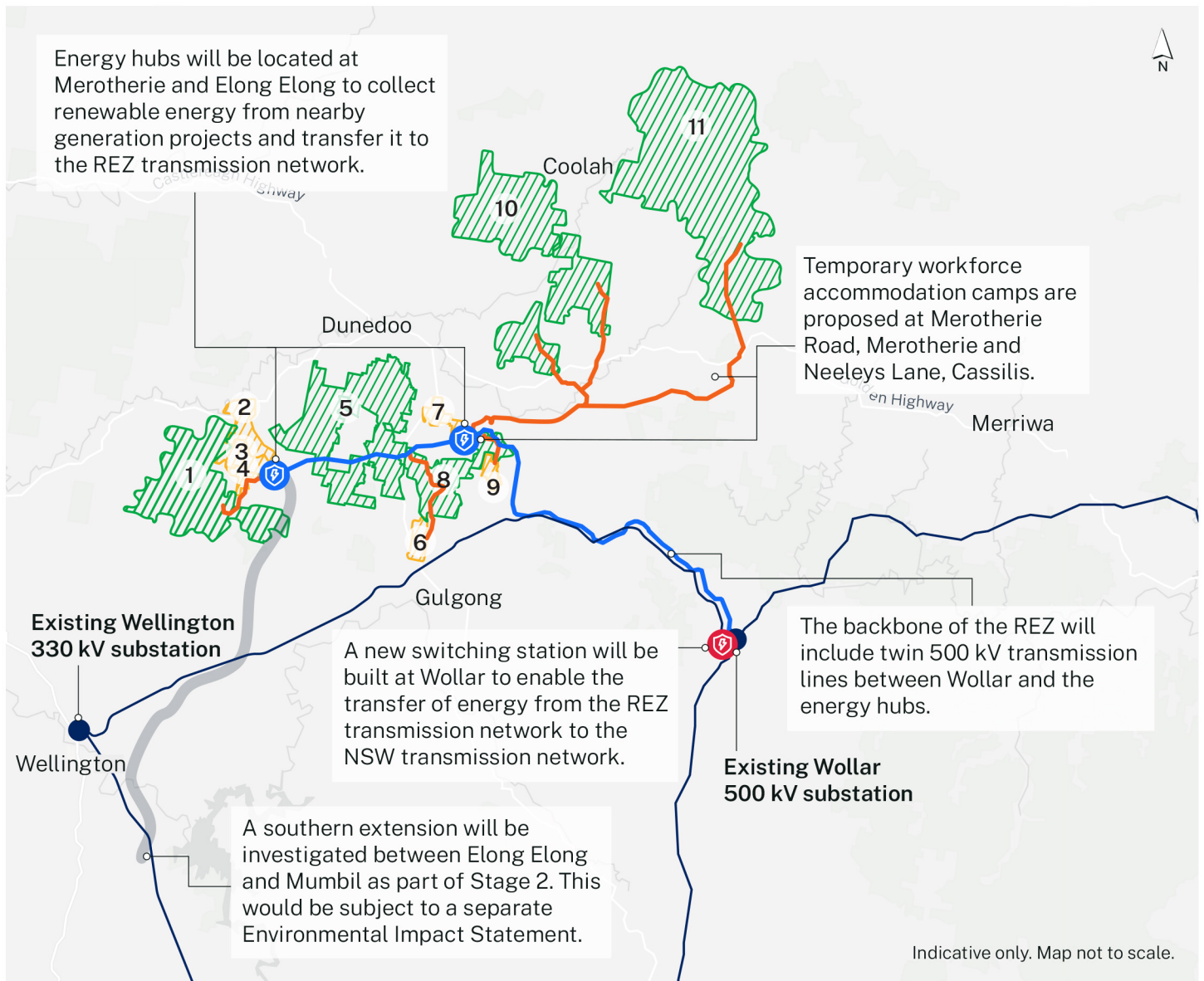
A new microwave network to provide a secondary communications link between the project and the existing electricity transmission and distribution network.
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New and upgraded access tracks to transmission lines, energy hubs and switching stations from private access points to the nearest public road.
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Adjustment of the existing transmission network.

EnergyCo has prepared an Environmental Impact Statement (EIS) for the REZ transmission project. Information about the project description and context can be found in **Chapter 2: Strategic context** and **Chapter 3: Project description**. For information about the EIS exhibition, including details of upcoming information sessions and how to make a submission, visit [energyco.nsw.gov.au/cwo](https://energyco.nsw.gov.au/cwo).

# REZ transmission project study area – Stage 1



## Legend

- 330 kV transmission corridor
- 500 kV transmission corridor
- Ⓟ Energy hub sites
- Ⓟ New Wollar switching station site
- Existing substations
- ▨ Planned wind project
- ▨ Planned solar project
- Potential southern extension (Stage 2)
- Existing NSW transmission network

## Candidate Foundation Generator projects with proposed connections to the REZ network

- |  |   |
|--|---|
| 1. Spicers Creek Wind Farm (Squadron Energy) | 6. Tallawang Solar Farm (RES)                   |
| 2. Cobbora Solar Farm (Marble Energy)        | 7. Birriwa Solar Farm and BESS (ACEN Australia) |
| 3. Sandy Creek Solar Farm (Lightsource BP)   | 8. Barneys Reef Wind Farm (RES)                 |
| 4. Dapper Solar Farm (Origin Energy)         | 9. Narragamba Solar Farm (ACEN Australia)       |
| 5. Orana Wind Farm (Acciona Energia)         | 10. Valley of the Winds (ACEN Australia)        |
|  | 11. Liverpool Range Wind Farm (Tilt Renewables) |

Renewable energy generation projects are shown for information purposes only. The projects identified may not proceed or connect to the REZ transmission network, while other projects not shown may proceed and be connected on a merit basis. Projects will require individual planning approvals and access rights to the new transmission line before any work starts.

# Project context

## NSW's energy system is transforming

Three of the remaining four coal fired power stations in NSW are scheduled to close by 2033. Taking action now is critical to ensuring a clean, affordable and reliable power supply for NSW energy consumers.

The Electricity Infrastructure Roadmap (the Roadmap) is the NSW Government's plan to transform our electricity sector. The Roadmap aims to coordinate investment in transmission, generation, storage and firming infrastructure to replace ageing power stations.

Information about the NSW energy transition and the Roadmap can be found at [energyco.nsw.gov.au/about-energyco/electricity-infrastructure-roadmap](https://energyco.nsw.gov.au/about-energyco/electricity-infrastructure-roadmap).

## Why renewable energy zones?

Renewable energy zones (REZs) group new renewable energy generation in locations where it can be efficiently generated and transmitted across NSW. Five REZs have been identified so far and will keep the NSW electricity system reliable as coal-fired power stations retire, delivering large amounts of new energy to power our regions and cities.

## How the Central-West Orana REZ was identified

The Central-West Orana REZ was the first to be declared in Australia and will play a pivotal role in underpinning NSW's transition to a clean, affordable and reliable energy sector.

The region was selected as it has a strong mix of energy resources and significant investor interest. It has large wind and solar generation potential and good access both to quality renewable resources and to the existing electricity network.

The Central-West Orana REZ boundary was developed following a detailed geospatial analysis in 2018 which considered a range of factors, including availability of renewable energy resources, proximity to the existing transmission network, environmental and land use constraints, the presence of high value agriculture land and other factors.

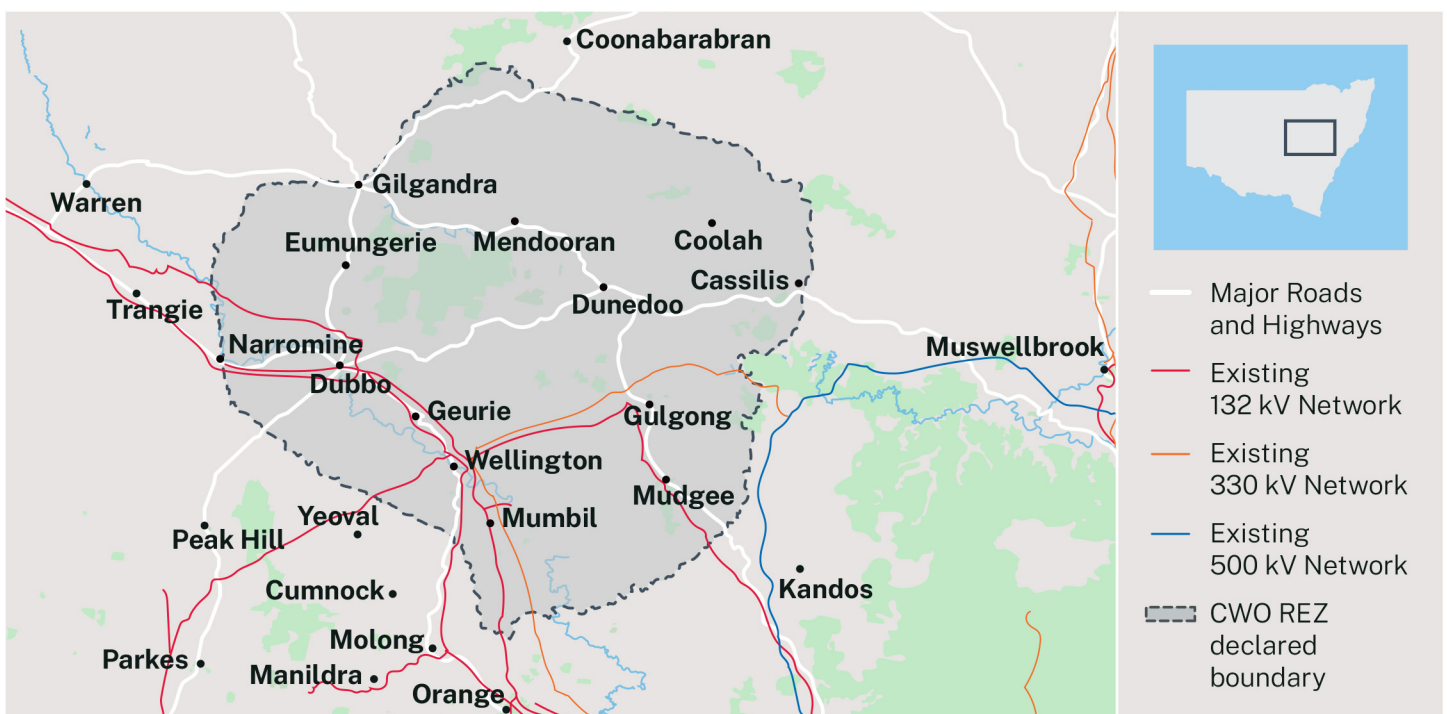
Further details about the methodology for determining the REZ declared area can be found at [energyco.nsw.gov.au/cwo-rez](https://energyco.nsw.gov.au/cwo-rez).

## Coordinating new transmission in the REZs

The state's existing transmission networks need to be developed to serve the best locations for renewable energy generators. New high capacity transmission infrastructure is required to connect renewable energy from the REZs to energy consumers across NSW.

In May 2023, EnergyCo released its Network Infrastructure Strategy which provides a 20-year strategy for the practical coordination of NSW network infrastructure to connect new generation, firming and storage across the five REZs. The Strategy is available to view at [energyco.nsw.gov.au/industry/network-infrastructure-strategy-nsw](https://energyco.nsw.gov.au/industry/network-infrastructure-strategy-nsw).

## Map of the Central-West Orana declared area



## Network capacity of the Central-West Orana REZ

Network capacity in a REZ is the maximum amount of power that can be transferred from renewable energy generated and stored within the REZ to the NSW transmission network. The Central-West Orana REZ was declared in 2021 with an initial intended network capacity of 3 gigawatts (GW).

The Network Infrastructure Strategy outlines options to increase the network capacity of the Central-West Orana REZ from 3 GW up to 4.5 GW initially under Stage 1, and around 6 GW by 2038 under Stage 2. This supports recent modelling by the Consumer Trustee in its draft 2023 Infrastructure Investment Objectives Report showing more network capacity will be needed to meet NSW's future energy needs as coal-fired power stations progressively retire.

Importantly, Stage 1 would not change the proposed transmission infrastructure that EnergyCo has been consulting on over the last two years.

EnergyCo invited feedback in August 2023 on a draft amendment to the Central-West Orana REZ declaration which would increase the intended network capacity from 3 GW to 6 GW in line with the Network Infrastructure Strategy.

For further details about the proposed amendment, visit [energyco.nsw.gov.au/cwo-rez](https://energyco.nsw.gov.au/cwo-rez).

## Potential future extensions

Extensions to the REZ network may be developed in the coming decades to support future energy needs. These would form part of Stage 2 of the Central-West Orana REZ transmission network. Potential options for expanding the REZ network are identified in the Network Infrastructure Strategy.

Any future expansions to deliver Stage 2 would be subject to separate planning and regulatory approval processes including detailed community consultation and environmental assessment under the NSW planning system. We will keep the community informed of our plans for future extensions and give opportunities to provide feedback.

## For more information

You can find further details on our website about the Central-West Orana REZ and the transmission project. You can also find our interactive map of the REZ by visiting [caportal.com.au/energyco/rez](https://caportal.com.au/energyco/rez). The map includes the locations of proposed and existing renewable energy projects in the REZ, as well as the transmission project study corridor.

## About EnergyCo

The Energy Corporation of NSW (EnergyCo) is a statutory authority responsible for leading the delivery of Renewable Energy Zones (REZs) under the NSW Government's Electricity Infrastructure Roadmap. For more information, visit our website at [energyco.nsw.gov.au/about-energyco](https://energyco.nsw.gov.au/about-energyco).

## Contact Us

For more information about the Central-West Orana REZ project, you can visit our website or contact the project team:

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🗣️ If you need help understanding this information, please contact the Translating and Interpreting Service on **131 450** and ask them to call us on **1800 061 114**.

EnergyCo wants to hear what you think about our plans. If you have questions or want to give feedback, please get in touch with our team. You can find more information on our website by scanning the QR code or by visiting [energyco.nsw.gov.au](https://energyco.nsw.gov.au).

