

Energy Corporation of NSW



# Central- West Orana Renewable Energy Zone

Project Overview

February 2022





# Message from The Hon. Matt Kean MP

Treasurer and Minister for Energy

The Central-West Orana Renewable Energy Zone will be a game changer for NSW.

This modern day power station will revolutionise the way energy is generated and transmitted across the State and set the benchmark for future Renewable Energy Zones (REZs) across the country.

The NSW Government is leading the way in reducing emissions and transforming our electricity system into one that is cheap, clean and reliable through the *Electricity Strategy* and *Electricity Infrastructure Roadmap*.

The Central-West Orana REZ will be the first of five new REZs across NSW

and will attract around \$5.2 billion of private investment into the Central-West Orana region by 2030, and support around 3,900 peak construction jobs and 500 ongoing jobs.

The NSW Government is committed to preserving the State's social licence through a safe, environmentally responsible and culturally respectful approach, and engagement with the community and stakeholders will be a primary focus as we deliver this pilot REZ.

The NSW Government has appointed the Energy Corporation of NSW (EnergyCo) as the Infrastructure Planner for the Central-West Orana REZ. EnergyCo

will lead the development process, including community and stakeholder engagement, property negotiations, environmental assessments and coordination of new generation.

EnergyCo will also lead a competitive process to appoint a Network Operator to design, build, finance, operate and maintain the new transmission infrastructure in the REZ.

This is an exciting time for renewable energy in NSW, and I look forward to hearing the results of the stakeholder and community engagement process.

**Matt Kean MP**  
Treasurer and Minister for Energy

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# The energy transformation

The State's five existing coal fired power stations will progressively close, starting with Liddell in 2022-23.

These power stations currently provide around three quarters of NSW's electricity supply and two thirds of the firm capacity required during summer heat waves.

The NSW Government is taking action to lead investment in new renewable generation to ensure an orderly transition away from coal. With some of the best renewable energy resources in the world, NSW is in a unique position to benefit from emerging low-cost technologies like wind, solar, batteries and pumped hydro.



The NSW Government has published the Electricity Infrastructure Roadmap. For more information about the Roadmap please **scan the QR code** to visit the **[online interactive portal](#)**.

# Renewable Energy Zones

Renewable Energy Zones are modern-day power stations, connecting new clean generation and storage to electricity consumers across the State.

The NSW Government is leading the development of Renewable Energy Zones (REZs) across NSW. REZs will deliver wind and solar generation and storage such as batteries in a planned way where there is community support.

The REZs will be serviced by new high-capacity transmission infrastructure to deliver energy to the homes, businesses and industries that need it. This will achieve economies of scale for cheap, clean and reliable electricity.

Factors considered when planning a REZ include:

- availability of wind and solar resources
- land uses impacts, including strategic agricultural land
- environmental values
- population and dwelling density
- distance to existing high voltage transmission lines.

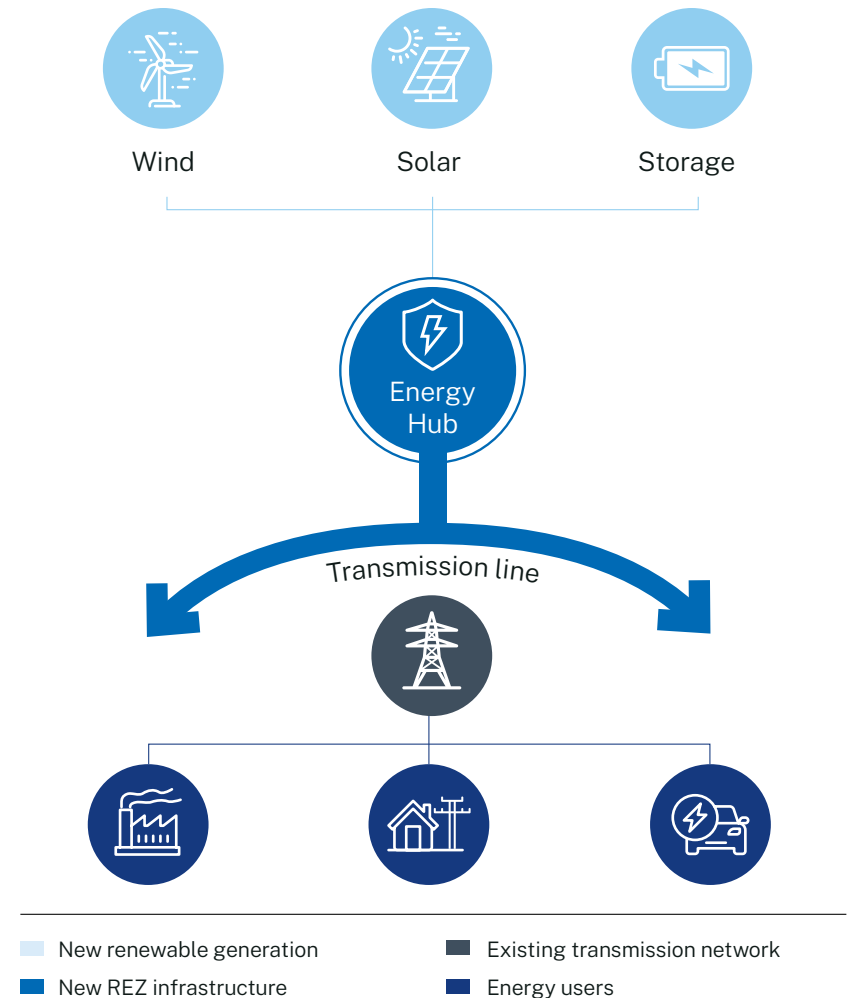
## Renewable Energy Zone locations

Five REZs have been announced in NSW. The first REZ declared was Central-West Orana and the second was New England. The South West, Hunter and Illawarra REZs will be declared in due course.

## Benefits for communities

The REZ is expected to bring in more than \$5 billion of new investment to the region and more than 3,900 jobs in construction.

The Government has legislated funding for community purposes in declared REZs funded by new generators.



# EnergyCo

EnergyCo is a NSW Government statutory authority responsible for the delivery of the Electricity Infrastructure Roadmap.

The NSW Government has appointed the Energy Corporation of NSW (EnergyCo) as the Infrastructure Planner responsible for delivering the Central-West Orana REZ.

This recognises the critical importance of the energy transition to our State's economy and the need to engage with a wide range of stakeholders.

EnergyCo has responsibilities including:

- working with developers of proposed wind, solar and storage projects to understand their needs and plan for efficient solutions that minimise cumulative impacts on the community
- leading engagement with the community and stakeholders
- developing the Reference Scope for the project
- acquiring land and easements required for the REZ network infrastructure
- developing and overseeing the Environmental Impact Statement processes
- running a competitive tender process to appoint a Network Operator to design, build, finance, operate and maintain the REZ network infrastructure.

## The Consumer Trustee

AEMO Services has been appointed as the Consumer Trustee. The Consumer Trustee acts independently to protect the long term financial interests of energy consumers and hence the affordability of electricity.

If appropriate, the Consumer Trustee will approve the infrastructure solution proposed by EnergyCo and authorise the Network Operator for the Central-West Orana REZ. The Consumer Trustee will also run an auction process to award access rights to developers of wind and solar generation projects. Further information about AEMO Services and its role as the Consumer Trustee is available at [aemo.com.au](http://aemo.com.au)

## Australian Energy Regulator (AER)

Once a Network Operator is selected, the AER will review the overall costs of the project to ensure that they are prudent, efficient and reasonable.

## Transgrid

Transgrid operates and maintains the existing NSW high voltage transmission network. Transgrid will undertake upgrades to its network to connect to the Central-West Orana REZ.



# The Central-West Orana REZ

## Why the Central-West Orana region?

The Central-West Orana region has a strong mix of energy resources and significant investor interest. It also benefits from lower transmission build costs due to its proximity to the existing high voltage network.

## What is planned?

Stage 1 of the REZ is planned to unlock at least 3,000 megawatts (MW) of new network capacity by the mid-2020s, enough to power 1.4 million homes.

Following a registration of interest process in 2020, EnergyCo is now engaging with developers to coordinate the approach for developing the first stage of the REZ.

EnergyCo will develop plans for additional Energy Hubs and transmission lines in the REZ to respond to further development of renewable energy projects.

## What has happened so far?

In November 2021, the Central-West Orana REZ was formally declared by the Minister for Energy and Environment and EnergyCo was appointed as the Infrastructure Planner. A **community feedback report** was prepared by Transgrid following consultation carried out in late 2020 and 2021.

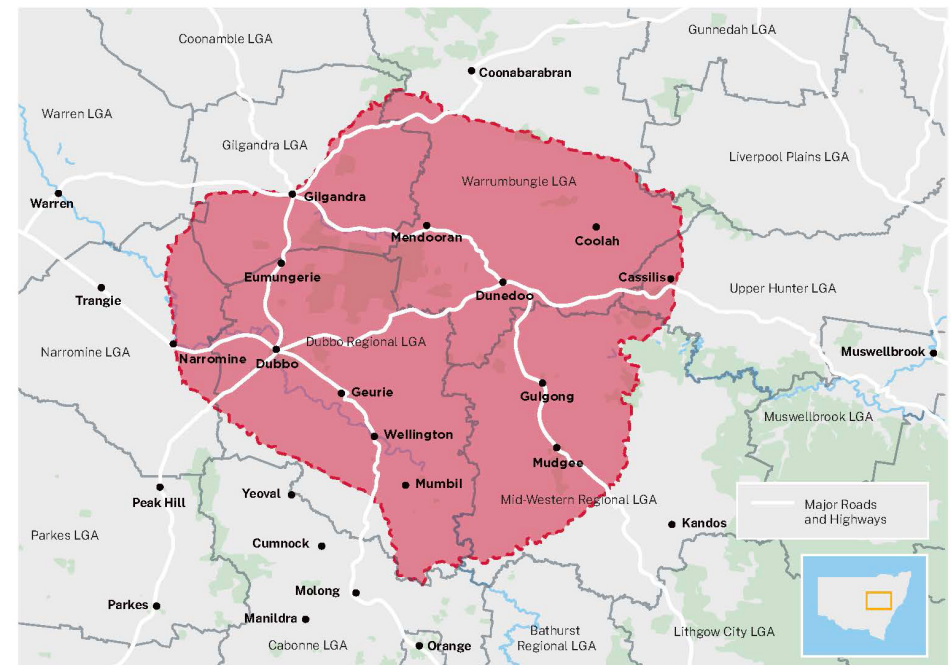
## What are the economic benefits?

The Central-West Orana REZ will deliver over \$5 billion of new investment in the region and over 3,900 jobs during construction.

## Where is the REZ?

The Central-West Orana REZ is approximately 20,000 square kilometres centred by Dubbo and Dunedoo, on the land of the Wiradjuri, Wailwan and Kamilaroi people.

## Central-West Orana REZ declared area



# REZ network infrastructure

## Energy Hubs

The three Energy Hubs proposed for Stage 1 of the Central-West Orana REZ will collect electricity from renewable energy generators in the surrounding area. This power will be transformed to a voltage suitable for transmission on to the Transgrid network.

The Energy Hubs are proposed for localities close to major planned wind and solar developments. EnergyCo is working with prospective generators to coordinate impacts and ensure that transmission lines are built in an orderly manner. Each Energy Hub will occupy up to 50 hectares plus a buffer.

EnergyCo will engage directly with landowners in the localities of the Energy Hubs to obtain feedback. Subject to landowner agreement, EnergyCo aims to secure suitable sites by mid 2022.

## Transmission Lines

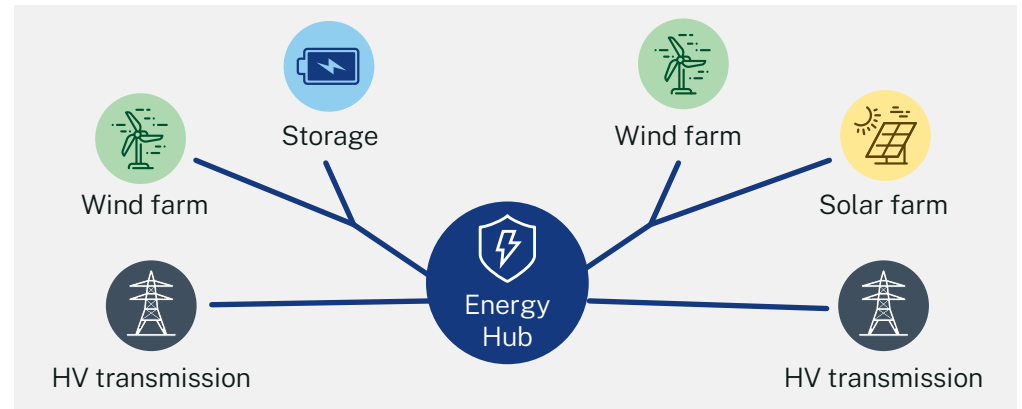
The Central-West Orana REZ requires new high voltage transmission lines to transfer renewable energy from the REZ to electricity consumers.

The backbone of the new network is expected to be rated at 500 kV. This is the highest voltage used on the NSW network and reduces the number of circuits and lines required. Branches will be built at 330kV as required.

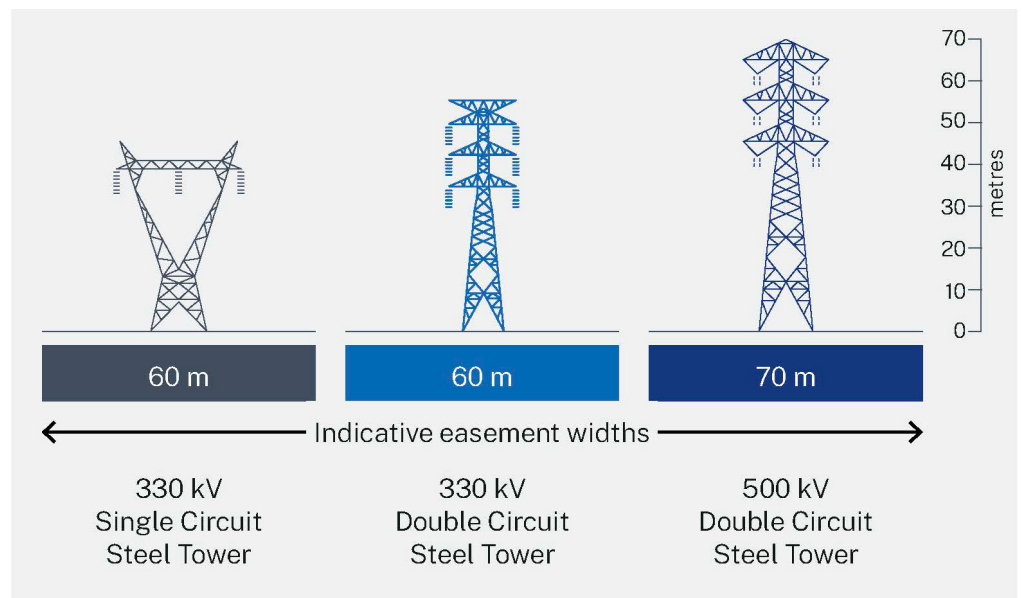
The towers will be between 45 and 70 metres high and are generally spaced 400 to 600 metres apart. The transmission lines have a minimum clearance of 7.5 metres off the ground to allow farming and other activities to take place safely.

The height of these towers is carefully calculated to provide appropriate insulation for energy being transferred through the high voltage lines and maintain safety clearance from the ground and surrounding vegetation.

## Energy Hubs



## Basic tower designs





# Route selection process

As Infrastructure Planner, EnergyCo is responsible for selecting the location of Energy Hubs and the route of the new transmission lines. We are considering a number of important factors including:

- location of proposed new generators
- existing and planned land use
- natural hazards (e.g. bushfire or flood prone land)
- environmental planning issues
- time and cost of construction.

Based on feedback to date, we are taking steps to minimise impacts on prime agricultural land by moving the corridor away from the Merriwa Cassilis plateau and instead going through mining areas around Ulan. We are looking to consolidate infrastructure impacts and keep away from dwellings where possible.

Community and stakeholder feedback is a critical part of the development process to make sure we deliver the best outcomes for communities, energy consumers and the REZ.

EnergyCo will be making contact with potentially affected landowners within the proposed study corridor.

## Four stages of consultation

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### Stage 1 – Late 2020 and 2021

#### Consultation on preliminary study corridor

- Transgrid released a study corridor for initial consultation
- Community feedback report prepared
- Feedback incorporated in development of revised study corridor

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### Stage 2 – Early 2022

#### Consultation on revised study corridor

- Revised study area to connect Stage 1 wind and solar proposed projects
- Localities for Energy Hubs proposed
- Study corridor for transmission lines
- Discussions with potentially affected landowners

We are here

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### Stage 3 – Mid 2022

#### Consultation on Reference Scope

- Specific Energy Hub locations identified
- Transmission line corridor generally narrowed to approx. 1 km
- Land and easement acquisition processes commence

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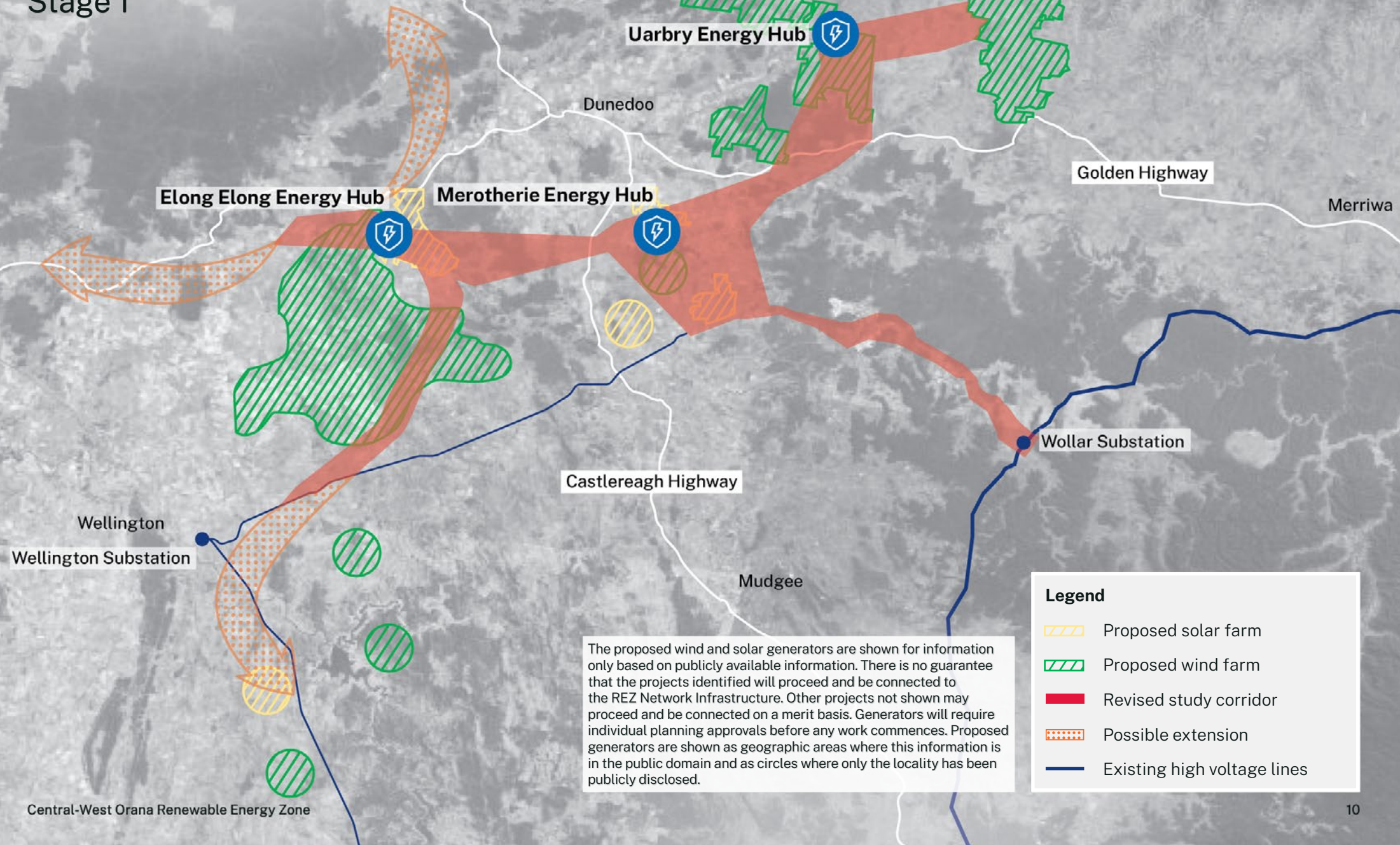
### Stage 4 – 2023

#### Consultation on EIS

- Environmental Impact Statement exhibited
- Public submissions received and responded to
- REZ Network Infrastructure Project determined and relevant regulatory conditions imposed

# Study area

Stage 1



The proposed wind and solar generators are shown for information only based on publicly available information. There is no guarantee that the projects identified will proceed and be connected to the REZ Network Infrastructure. Other projects not shown may proceed and be connected on a merit basis. Generators will require individual planning approvals before any work commences. Proposed generators are shown as geographic areas where this information is in the public domain and as circles where only the locality has been publicly disclosed.

**Legend**

- Proposed solar farm
- Proposed wind farm
- Revised study corridor
- Possible extension
- Existing high voltage lines

# Environmental planning

There is a high level of community interest in how the Central-West Orana REZ will avoid, mitigate or manage impacts on the environment.

This includes a wide range of factors including: flora and fauna, construction impacts, water and drainage, noise, competing land uses, cumulative impacts and visual amenity.

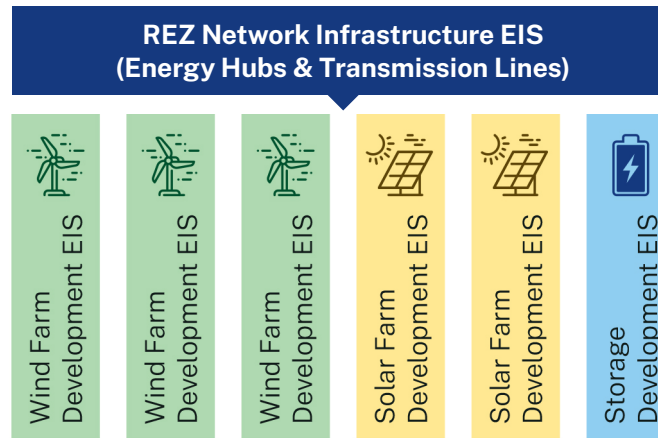
All projects in the Central-West Orana REZ will go through a comprehensive planning and environmental approvals process. The transmission infrastructure has been declared Critical State Significant Infrastructure project as it is considered 'essential for the State for economic, environmental or social reasons'.

EnergyCo will be the proponent of the Environmental Impact Statement (EIS) for the REZ network infrastructure, while developers will be responsible for preparing an EIS for each wind and solar development.

The EIS for the REZ Network Infrastructure is scheduled to be placed on display in Q2 2023. The timetable for the EISs for wind and solar farms will be determined by the developers.

Approval from the Minister for Planning is required for the Central-West Orana REZ to begin construction.

## Structure of planning approvals



## Network Infrastructure Planning Timeline

Event	Forecast
Scoping report	Q2 2022
Field studies and drafting of EIS	From Q2 2022
EIS on exhibition	Q2 2023
Determination of EIS	Q4 2023
Secondary planning consents	During 2024



# Working with landowners



EnergyCo is committed to working with potentially affected landowners to minimise impacts on farming, mining and other business activities through the life of the project.

## Planning

During the planning phase, we want to understand farming operations and other possible property impacts or concerns.

This informs the design scope of the infrastructure. This could include avoiding dwellings and high value land, minimising fragmentation of blocks, limiting construction access and respecting landscape.

If we need to access private land for survey and site investigations, we will always discuss with the landowner and seek their approval before entering the property.

## Construction

During the construction phase, EnergyCo will require its contractors to work closely with landowners in accordance with pre-agreed terms for access.

The contractors will be expected to adhere to rules protecting livestock, securing gates and biosecurity

## Operation

Once commissioned transmission lines do not generally have a significant impact on farming operations. While there will be some restrictions within the easement, farmers will still be able to grow crops and graze livestock by complying with easement usage guideline requirements.

# Property acquisition



Where an Energy Hub or transmission line easement is required to be built on private land, EnergyCo will work with the land owner to negotiate the acquisition of the land or easement.

The property acquisition process is designed for private land to be acquired for a public purpose.

The NSW Government has reformed the system to make the property acquisition process as supportive as possible by responding to individuals' circumstances and ensuring that you have all the information you need to make the best decisions for your future.

A dedicated personal manager will be assigned to the landowners to provide support through the negotiation process.

Once a need for acquisition is confirmed, EnergyCo will negotiate with landowners for at least six months to acquire land by agreement. Most acquisitions happen this way.

If an agreement cannot be reached through negotiation, EnergyCo has the authority to acquire land.

## Compensation

The acquisition and compensation process will take place in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991 (NSW)*.



For information about the property acquisition process **scan the QR code** or visit the NSW Government's property acquisition website at [www.propertyacquisition.nsw.gov.au](http://www.propertyacquisition.nsw.gov.au).

# Community & stakeholder consultation



EnergyCo is now starting a process of on-the-ground and on-line consultation with local communities and stakeholders regarding the proposals for the Central-West Orana REZ. This will build on the work previously undertaken by Transgrid.

This consultation will help us:

- determine the location of Energy Hubs and route of transmission lines
- understand what is required to establish and maintain support for the REZ
- consider local issues such as essential activities, sensitive land uses or planned development
- identify issues for consideration in environmental planning work
- confirm employment and investment opportunities for local people and businesses.

In mid 2022 EnergyCo will engage with the community and stakeholders on more specific proposals taking into account the results of consultation.



## Contact us

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EnergyCo wants to hear what you think about our plans. For more information or to subscribe to our project mailing list for regular updates please **scan the QR code** or visit [energy.nsw.gov.au/renewable-energy-zones](https://energy.nsw.gov.au/renewable-energy-zones)

