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NSW Renewable Energy Zones

What is a Renewable Energy Zone?

Renewable Energy Zones (REZs) are the modern-day equivalent of traditional power stations. They combine renewable energy generation such as wind and solar, storage such as batteries, and high-voltage poles and wires to deliver energy to the homes, businesses and industries that need it. By connecting multiple energy generation and storage projects in the same location, REZs capitalise on economies of scale to minimise local impacts while delivering cheap, reliable and clean electricity for NSW.

They will unlock a significant pipeline of new large-scale wind, solar and energy storage projects across NSW. The Central-West Orana, New England and South-West REZs alone are expected to support an estimated \$20.7 billion of private investment by 2030, and over 5,000 construction jobs at their peak.

The NSW Government's Electricity Strategy and NSW Electricity Infrastructure Roadmap set out a plan to deliver REZs in the State's Central-West Orana, New England and South-West regions that will co-exist with existing land uses. This builds on the NSW Transmission Infrastructure Strategy and supports the implementation of the Australian Energy Market Operator's (AEMO) Integrated System Plan. Further REZs will also be developed in the Hunter and Central Coast, and Illawarra regions, as set out in the Electricity Infrastructure Investment Act 2020.

Why do we need REZs in NSW?

With four of NSW's five remaining coal-fired power stations scheduled for retirement in the next 15 years, we need new sources of electricity to deliver affordable, reliable and clean energy for the people of NSW. The Australian Energy Market Operator (AEMO) and the CSIRO have found that a combination of renewables and storage will be the cheapest way to deliver new energy in Australia.

As of December 2020, over 120 large-scale generation proposals worth around \$27 billion in potential investment are either approved or progressing through the NSW planning system. However, the existing transmission system is congested and its capacity to connect new generators is limited. It is estimated that only one in 20 of these projects will be able to connect to the current network.

New transmission projects that would improve capacity in the network have long lead times and can take many years to develop. These projects also cannot currently be approved unless there is a matching forecast need to connect generation. At the same time, generators will not commit to build new projects unless the transmission has been approved to be built. This creates a 'chicken and egg' problem that is currently stifling investment in the energy sector.

The REZs will increase network capacity to overcome this barrier by coordinating the build-out of new generation and storage with transmission infrastructure. Coordination will ensure that investment in the energy sector is timely, optimised and efficient. It will also allow consideration of community priorities and concerns.

What are the priority REZs?

The NSW Government's Electricity Strategy and NSW Electricity Infrastructure Roadmap set out a plan to deliver the following priority REZs:

- a pilot Central-West Orana REZ, with a capacity of 3,000 megawatts (MW) to be shovel-ready by end of 2022
- New England REZ, with a capacity of up to 8,000 MW
- South-West REZ, with a target capacity to be determined in time, linked with project EnergyConnect.

Further REZs will also be developed in the Hunter-Central Coast and Illawarra regions of NSW, as set out in the Electricity Infrastructure Investment Act 2020.

Why was the Central-West Orana region chosen for the pilot REZ?

Priority locations selected for REZs were those that benefit from exceptional energy resources, including wind, solar, bioenergy and hydro, and are relatively close to existing grid infrastructure. The locations were informed by independent technical analysis that included detailed assessment of geospatial mapping to identify areas with minimal environmental, heritage and land-use constraints.

The Central-West Orana region benefits from a strong mix of wind and solar energy resources, is close to the backbone transmission network and has significant existing interest from energy investors. In mid-2020, the NSW Government ran a Registration of Interest process for the Central-West Orana REZ. Private investors brought forward 27,000 MW of project proposals – more than nine times the amount needed to deliver the 3,000 MW REZ.

Is the Central-West Orana REZ recognised in AEMO's Integrated System Plan?

The Australian Energy Market Operator (AEMO) has outlined the development of REZs in its Integrated System Plan (ISP), as a cost-effective solution to replacing traditional generators as they retire over the coming decades. This includes identifying the Central-West Orana REZ as an actionable ISP project in its 2020 ISP, recognising that it is critical project to address cost, security and reliability issues across the entire National Electricity Market.

Identifying the Central-West Orana REZ as an actionable ISP project streamlines the regulatory approval process required to build the new high voltage transmission for the REZ and provides greater certainty to energy proponents and investors that the REZ will be delivered.

How will the REZs be delivered?

The regulatory and market frameworks we currently rely on to deliver electricity infrastructure are not set up to enable the private sector to deliver REZs in the time and at the scale needed.

The NSW Electricity Strategy and Electricity Infrastructure Roadmap (the Roadmap) sets out a plan for how the NSW Government will coordinate investment in REZ generation, storage and transmission infrastructure in the long-term interest of consumers and host communities.

For generators and storage proponents, a new network access scheme will be created within each REZ. Dedicated access rights for generation and storage projects will provide more certainty to investors, incentivising them to commit to projects in the REZ and lowering project costs. The

Electricity Infrastructure Investment Safeguard will ensure that investment signals for developers are aligned with the long-term needs of the energy system.

A Consumer Trustee will be tasked with assessing generation and storage projects against a range of eligibility and merit criteria to ensure they meet the NSW Government's objectives of delivering low cost electricity as well as strong community outcomes.

The NSW Government will also make targeted reforms to ensure the delivery of transmission projects is coordinated with generation and storage development to ensure they are scale-efficient and in the long-term interest of consumers and host regions.

A coordinated, consultative approach to infrastructure delivery in the REZ will be led by the Energy Corporation of NSW (Energy Corporation), improving regional community outcomes while protecting their agricultural, heritage and environmental character.

Who is responsible for delivering the REZs?

The Energy Corporation, a Government-controlled statutory authority, will lead the delivery of NSW REZs.

The Energy Corporation will coordinate the development of transmission, generation and storage projects in each REZ, working closely with Government, energy market bodies and industry to ensure the timely and efficient development of new energy infrastructure.

The Energy Corporation will also work directly with communities to maximise the flow of benefits to host regions and realise opportunities for long term regional development.

How will the Energy Corporation of NSW support the development of NSW REZs?

The Energy Corporation will coordinate REZ transmission, generation and storage projects to deliver efficient, timely and coordinated investment. This includes taking a holistic view of REZ planning and consultation.

The Energy Corporation will work with communities to ensure that the benefits of investment are equitably shared within host regions. It will also seek to maximise opportunities for energy-intensive and other industries to co-locate within the REZ, providing further employment and economic diversity in the region.

The Energy Corporation will also be able to restrict network connection of projects over 30 MW in REZs where reasonably necessary to maintain social licence and meet community expectations, such as where projects would be in close proximity to towns and face significant community opposition.

How will REZs benefit regional communities?

The Central-West Orana, New England and South-West REZs alone will unlock a significant pipeline of new large-scale wind, solar and energy storage projects and support an estimated \$20.7 billion of private investment up to 2030 around 5,200 construction jobs at their peak, and 1,700 ongoing jobs in 2030. The majority of this investment and these jobs is expected to be in regional NSW.

Hosting generation projects, such as solar panels or wind turbines, can also enable landholders and farmers to establish an additional long term, guaranteed income stream from renewable energy generators. Farmers and landholders who want to host generation projects receive lease payments for doing so. The Government estimates around \$1.5 billion in lease payments are expected to flow

to landholders by 2042 through implementation of the Roadmap, including in REZs. In this way, REZs help provide new, secure incomes for landowners who host energy generation infrastructure.

In addition, in return for the certainty provided by the access scheme for generation and storage projects to connect to shared transmission infrastructure in REZs, generators will pay access fees, a portion of which will be used for community purposes through community benefit sharing schemes. Experience from recent projects suggests that developer contributions, such as community enhancement funds, are expected to contribute up to \$265 million to host communities by 2042.

In addition to direct financial contributions, major energy infrastructure projects will also bring flow on benefits to communities, including improvements to roads and telecommunications.

What opportunities will REZs create for local industries?

As part of the Electricity Infrastructure Roadmap, the NSW Government is establishing a long term investment signal called the Electricity Infrastructure Investment Safeguard (the Safeguard). The Safeguard will encourage projects to compete on delivering jobs and economic benefits for local communities in order to secure Long Term Energy Service Agreements in the REZs. This will be achieved through merit criteria which include the number of local jobs supported and proportion of project costs offered to local contractors.

Abundant, cheap, clean and reliable energy also provides a platform to attract international investment in emerging, energy intensive industries to NSW, and importantly to NSW regions. The NSW Government will work to attract co-located industries, such as minerals processing, IT and data centres, agriculture, manufacturing or food processing to maximise the benefits of low-cost clean energy to local communities and ensure these benefits last beyond construction.

The NSW Government has committed to establishing a NSW Renewable Energy Sector Board. The Board will set out a plan to maximise the use of locally produced and supplied goods and services and maximise the employment of local workers, including apprentices and trainees. The NSW Government will also appoint a 'Electricity Jobs Advocate' to provide advice about strategies and incentives to encourage investment, workforce development, employment, education and training in the energy sector in REZ host regions, and any required rail and port infrastructure to promote generation, storage and network technology export opportunities.

How will the NSW Government ensure renewable energy developments are compatible with agricultural land?

Strategic land use planning has been a key objective of the REZ program since we first mapped out REZ locations in 2018. This means understanding current agricultural land values and uses, and balancing agriculture, heritage, mining, and other primary production land uses within the proposed REZs. The REZ framework will focus on complementing existing agriculture and primary land uses, reflecting local priorities and retaining existing economic activity and social values.

By taking a coordinated, regional approach to energy infrastructure development, the Energy Corporation will also be able to ensure that community priorities are accounted for in decision making processes.

The Energy Corporation will also be able to restrict network connection of projects over 30 MW in REZs where reasonably necessary to maintain social licence, such as where projects would be in close proximity to towns and face significant community opposition.

What is the planning and environmental framework for REZs?

REZ transmission or generation projects will be assessed under the applicable NSW and Commonwealth environmental and planning approval pathways and associated regulatory frameworks.

The REZs will seek to balance agriculture, heritage, mining, and other land uses, as well as consider ways the REZ can unlock regional growth opportunities and maximise long term economic benefits to the region. Outside of the planning approval process, project proponents will also be required to meet a high standard of environmental and social performance.

Central-West Orana REZ Transmission

What is the Central-West Orana REZ Transmission?

The Central-West Orana REZ Transmission refers to the new high-voltage transmission lines, substation(s) and other electricity infrastructure required to connect energy generators (such as solar and wind) and storage projects (such as batteries and pumped hydro) participating in the REZ to the existing electricity network.

Where required, the Central-West Orana REZ Transmission also involves upgrading or establishing supporting infrastructure such as access tracks and roads.

Why do we need the Central-West Orana REZ Transmission?

The existing high voltage electricity transmission network was developed to connect large power stations built predominately along Australia's eastern seaboard. Areas that are suitable for solar and wind farms, however, are typically located further west, in regions that benefit from strong natural energy resources but are not as well connected to the high voltage transmission network.

As of 2020, over 120 large-scale energy generation proposals are either approved or progressing through the NSW planning system. However, the lack of transmission capacity in areas with strong renewable energy resources is creating a bottleneck that means only one in 20 of these projects will be able to connect to the network.

The Central-West Orana REZ Transmission will allow energy generation and storage projects participating in the Central-West Orana REZ to connect to the network, providing NSW consumers with clean, affordable and reliable energy for the future.

Who is delivering the Central-West Orana REZ Transmission?

The Central-West Orana REZ Transmission will be delivered by the NSW electricity transmission planner and operator, TransGrid. TransGrid is responsible for operating the high-voltage transmission network across NSW.

The NSW Government is working with TransGrid to coordinate the design and development of the Central-West Orana REZ Transmission in a way that efficiently unlocks new generation capacity, minimises cost to consumers and delivers the best outcomes for local communities.

Where is the Central-West Orana REZ Transmission study corridor, and how do I find out if my property is affected?

The Central-West Orana REZ study corridor runs from the existing transmission network near Merriwa, passes south of Dunedoo, before connecting to the existing transmission network east of Wellington. The study corridor also includes an option to extend further south near Lake Burrendong. This optional section is called the 'Burrendong Extension'. TransGrid's existing substation at Wollar will also be upgraded as part of the project.

A map of the Central-West Orana REZ Transmission study corridor can be found [here](#).

The study corridor is generally between 3km–6km wide and approximately 180km long. The final transmission line easements will be either 60m or 80m wide and will be informed by extensive consultation with local stakeholders and a detailed environmental assessment.

Landowners will receive a letter from TransGrid if their property is located inside, or within 1km of the study corridor. TransGrid will also have an interactive map available on their website for landowners to identify the exact location of their property relative to the study corridor.

For more information about TransGrid's consultation process, contact the TransGrid project team via phone 1800 313 212, email cwo@transgrid.com.au or visit their website transgrid.com.au/centralwestorana

How was the location of the Central-West Orana REZ Transmission study corridor determined?

In early 2020, the NSW Government formed a technical working group to identify potential route options for the Central-West Orana REZ Transmission.

On behalf of the Australian Government, ARENA also provided funding to support TransGrid to conduct a detailed feasibility study for the Central-West Orana REZ Transmission. The feasibility study identified and considered environmental and community constraints including:

- Ecology
- Cultural heritage
- Land tenure and use
- Bushfire prone land
- Existing infrastructure
- Proximity to towns and villages

The findings of the feasibility study allowed the technical working group to assess transmission route options against numerous social, environmental, technical and economic factors, and select a suitable study corridor that achieves the objectives of the REZ.

The study corridor was also informed by responses to the NSW Government's Registration of Interest process in June 2020, which helped to identify the size and location of potential energy generation and storage projects that are interested in connecting to the Central-West Orana REZ Transmission. A formal expression of interest process will follow in 2021 to refine the network design.

Landowner and community consultation, field work and environmental studies will help refine the study corridor and plan the preferred transmission route in a way that minimises adverse impacts to local communities and the environment.

Why does the study corridor split and widen near Uarbry?

When selecting a route for transmission lines, TransGrid needs to consider land use, terrain, bushfire prone land, proximity to towns and villages, environmental impacts and cultural heritage, engineering requirements, and cost.

Feasibility studies undertaken as part of this process identified a dense forest near the Uarbry area which is regarded as bushfire prone. The corridor splits and widens to mitigate risk with this type of land and includes route optionality around this area.

What is the Burrendong Extension?

The Burrendong Extension is a potential future section of the Central-West Orana REZ Transmission which, if developed, would connect generators and storage providers in the Lake Burrendong area.

This section may be built as part of the pilot 3,000 MW REZ, or as part of a subsequent extension of the Central-West Orana REZ, sometime in the future. This will be determined by community engagement and investor interest received through the competitive process expected to be run in 2021-2022.

I have been approached by a generator, but my property is not located near the study corridor, what does this mean for me?

Energy generation and storage proponents will continue to develop projects in the Central-West Orana region that are not close to, or do not connect to the Central-West Orana REZ Transmission. The location of the REZ Transmission study corridor will not impact the viability of projects in the region and should not influence discussions between landowners and energy proponents.

Landholders interested in finding out more about hosting renewable energy on their properties can consult the [Renewable Energy Landholder Guide](#), produced by NSW Farmers with funding from the NSW Department of Planning Industry and Environment. The Renewable Energy Landholders Guide provides information and guidance that will assist landholders at all stages of renewable energy development, from prospecting through to operation.

If you have any questions about your property, please do not hesitate to contact the REZ team by emailing rez@planning.nsw.gov.au or calling 1300 305 695.

When will construction start?

The Government is aiming to have the Central-West Orana REZ Transmission shovel-ready by the end of 2022 following extensive community consultation and detailed environmental assessment. This would mean construction of the project is anticipated to start in early 2023.

What are the next steps for the Central-West Orana REZ Transmission?

The study corridor for the Central-West Orana REZ Transmission is generally between 3km - 6km wide. TransGrid will begin comprehensive community consultation with landowners in the study corridor in late 2020 and start field studies to support this project in early 2021.

Information from these processes will help the Government and TransGrid plan the preferred transmission route in a way that minimises impacts to local communities and the environment.

These activities will also enable the identification of key opportunities within the corridor - such as aligning the new transmission line with existing transmission infrastructure, fence lines, roads and access tracks, as well as constraints - such as important agricultural land, conservation areas and cultural heritage sites.

The Central-West Orana REZ Transmission will ultimately be developed within easements that are either 60m or 80m wide.

The Government expects to run a competitive process for generation and storage projects in 2021-2022 and will work closely with local councils, communities and other regional stakeholders over the coming years as the REZ progresses to construction and operation.

Community and regional stakeholder consultation

How will the NSW Government and TransGrid consult with local communities and regional stakeholders on the Central-West Orana REZ Transmission?

The NSW Government has commenced on-the-ground engagement in the Central-West Orana region, holding two forums on the REZ with local councils and establishing a Regional Reference Group to bring together key representatives and regional stakeholders to input into the development and delivery of the REZ.

This consultation will help inform coordinated strategic planning to ensure the Central-West Orana REZ achieves a balance between electricity, agriculture, heritage, visual amenity, mining and other land uses, reflects local priorities, and complements existing economic activity and social values within the Central-West Orana region.

The Energy Corporation of NSW will work with energy proponents and local communities to ensure the economic benefits of REZs are equitably shared across the community through community benefit-sharing schemes.

The Energy Corporation will also have a regional presence in the Central-West Orana region and will lead the strategic coordination of community and stakeholder management for the Central-West Orana REZ.

TransGrid will be undertaking comprehensive community consultation as part of the Central-West Orana REZ Transmission, and will work with landowners and local communities in the coming months to gather local knowledge and information about land use and discuss preliminary works, including field studies.

Seeking input from landowners and the wider community is essential. People will be able to provide feedback in a number of ways including:

- COVID-safe meetings with landowners and community groups
- Marking up physical maps
- Input to an online interactive map
- Community information sessions (to be advertised via local media channels well in advance)

For more information about TransGrid's consultation process, contact the TransGrid project team via phone 1800 313 212, email cwo@transgrid.com.au or visit their website transgrid.com.au/centralwestorana.

For further information on the NSW Government's Renewable Energy Zones, please visit www.energy.nsw.gov.au/renewable-energy-zones or contact the REZ team by emailing REZ@planning.nsw.gov.au or calling 1300 305 695.

Information for energy industry stakeholders

How will the Central-West Orana REZ Transmission be funded?

As the NSW electricity transmission planner and operator, TransGrid is incurring the costs of the Transmission project to date, including the feasibility and scoping study activities. ARENA has also provided \$5 million of funding to help assess the technical and commercial options for the development of new high-voltage transmission lines to enable the Central-West Orana REZ and demonstrate a pathway for future REZs across the National Electricity Market.

The NSW Government is finalising the delivery model for transmission, generation and storage infrastructure in the Central-West Orana REZ. This includes:

- developing a bespoke access regime which provides investors with greater certainty in return for a financial contribution to the cost of the REZ network infrastructure, and
- changes to regulatory frameworks for transmission development which are required to support the timely and efficient delivery of the Central-West Orana REZ.

Under the NSW-Commonwealth Government Memorandum of Understanding, the Commonwealth will underwrite or financially support TransGrid to ensure the Central-West Orana REZ Transmission is developed to its full 3,000 MW capacity.

How will the development of the Central-West Orana REZ Transmission impact existing projects?

The NSW Government is working with TransGrid on the design and delivery program for the Central-West Orana REZ Transmission and is also finalising the design of the REZ delivery model. In both of these aspects of REZ delivery, the NSW Government will seek to minimise impacts on existing projects, as far as possible, to provide ongoing investor certainty, and ensure the REZ does not have adverse impacts on the broader electricity system.