



Central-West Orana Renewable Energy Zone

Regional Reference Group

Energy Corporation of NSW

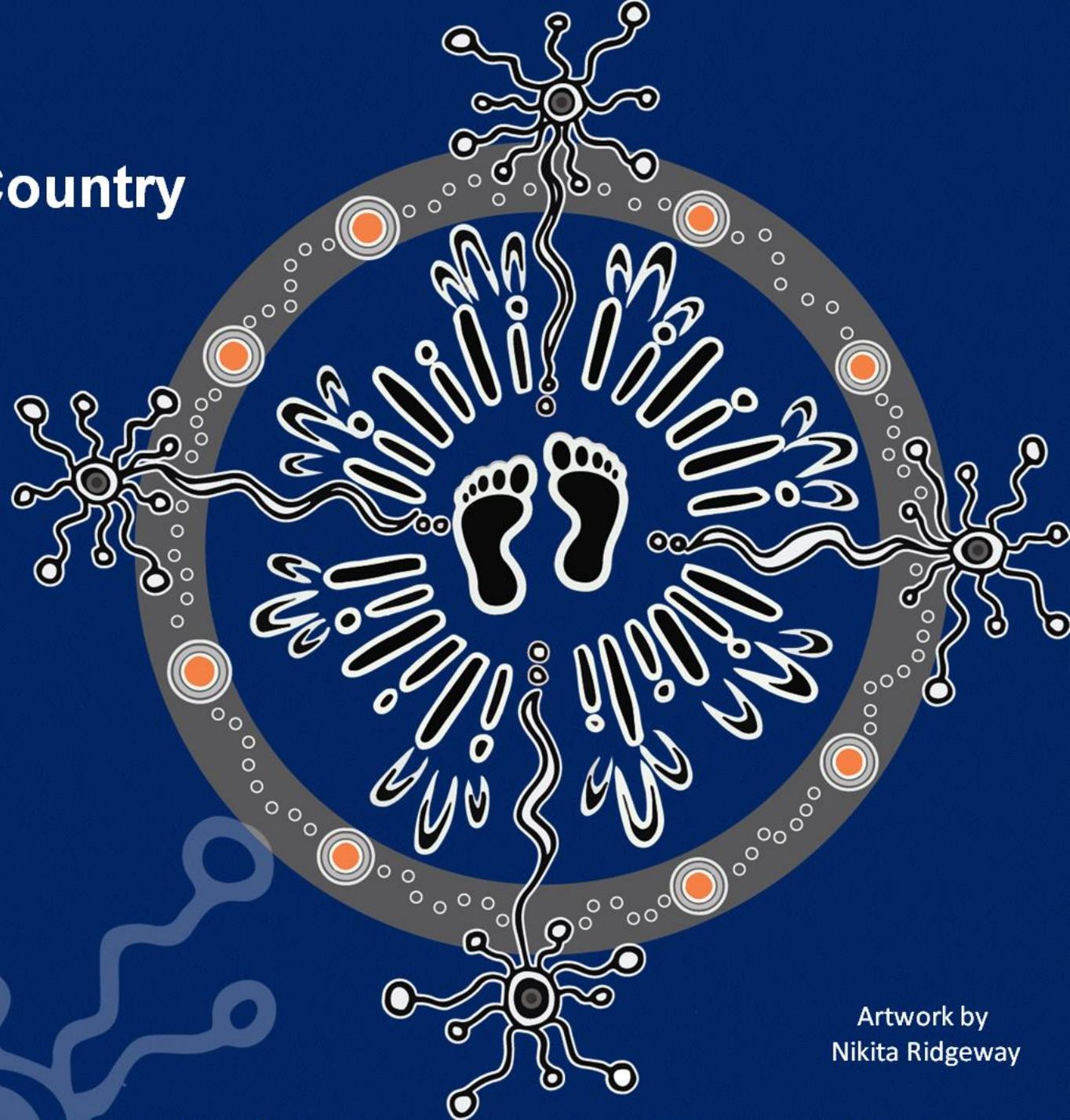
2 June 2021

Savannah Room, Taronga Western Plains Zoo

Acknowledgement of Country

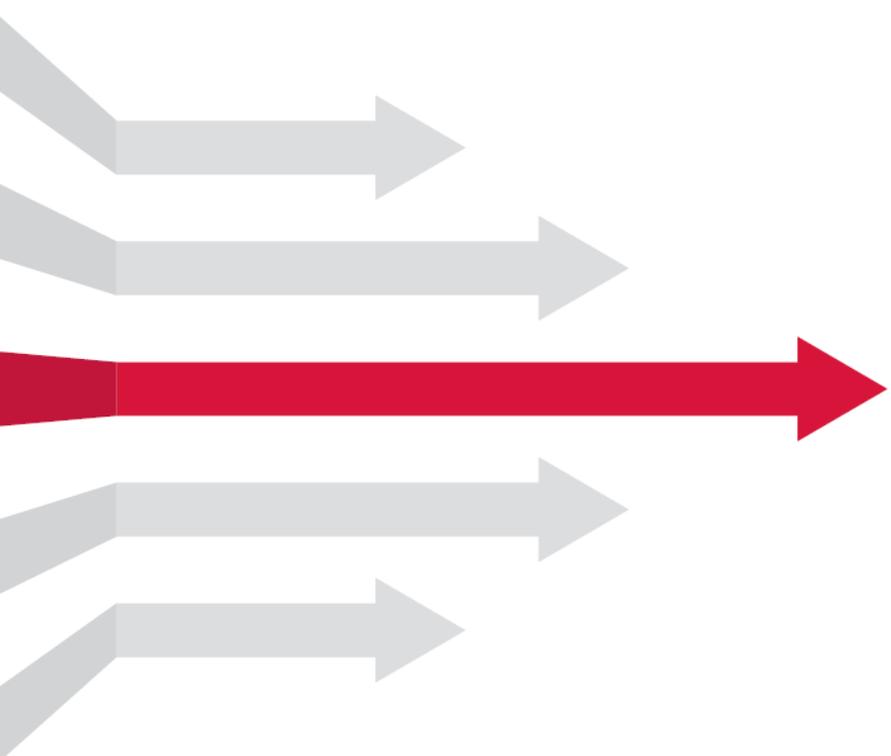
We acknowledge that today we meet on many Aboriginal lands.

We acknowledge the traditional custodians of the lands and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work.



Planning,
Industry &
Environment

Artwork by
Nikita Ridgeway



Agenda for today

1. Welcome and Acknowledgement of Country
2. Introductions
3. Central-West Orana REZ
4. Central-West Orana REZ Engagement
5. Central-West Orana REZ Transmission Project
6. REZ Regional Energy Strategy
7. Central-West Orana REZ Declaration Overview
8. Next steps

Introductions and review of actions from the February 2021 meeting



February 2021 meeting actions

No.	Action	Action Holder	Status update
F1	TransGrid to confirm the contact at the Upper Hunter Council who is receiving CWO REZ communication	TransGrid	Confirmed in previous meeting- Paul Jakes
F2	TransGrid to share feedback from community drop-in sessions and ongoing landowner and community consultation with local Councils	TransGrid	TransGrid to provide an update in this session
F3	DPIE to share feedback from the community deliberative forums with the broader group.	DPIE	Summary report circulated via email and update to be provided in this session
F4	Regional NSW to facilitate introductions and champion interactions between Energy Infrastructure and Zones team and the Inland Rail project	Regional NSW	Open
F5	Regional NSW to share information on critical minerals mapping and opportunities	Regional NSW	Completed
F6	Essential Energy to share information of the opportunities and constraints on the distribution network as inputs to the REZ Regional Energy Strategy	Essential Energy	Essential Energy have been collaborating with DPIE on the Regional Energy Strategy
O3	Dubbo Council to share Wellington social study	Dubbo Regional Council	Open

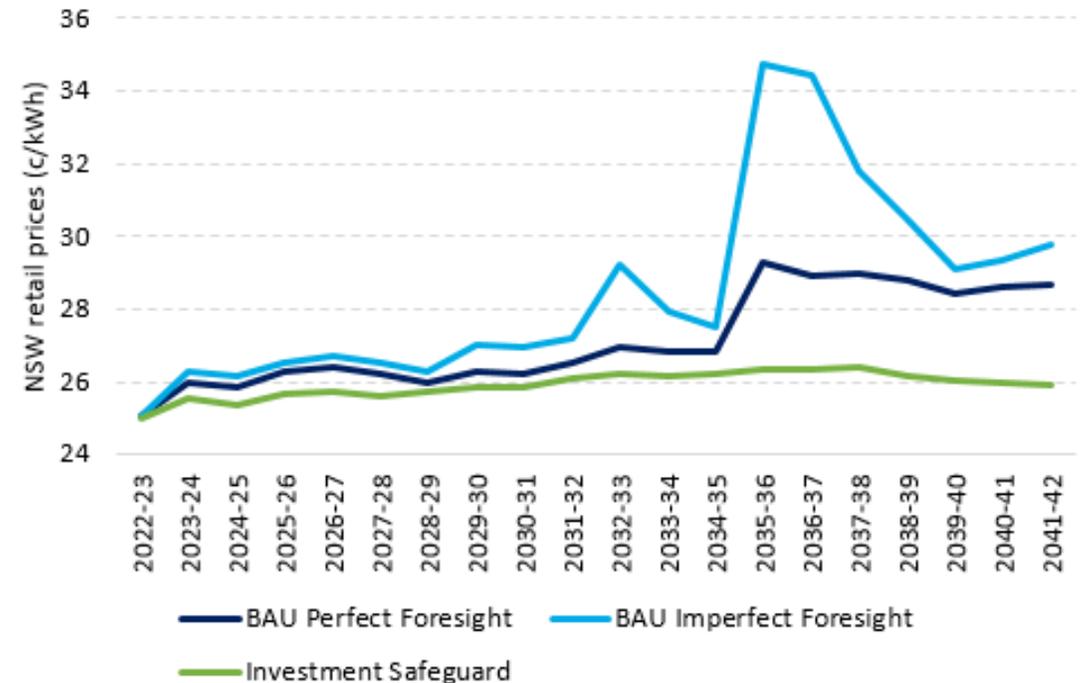
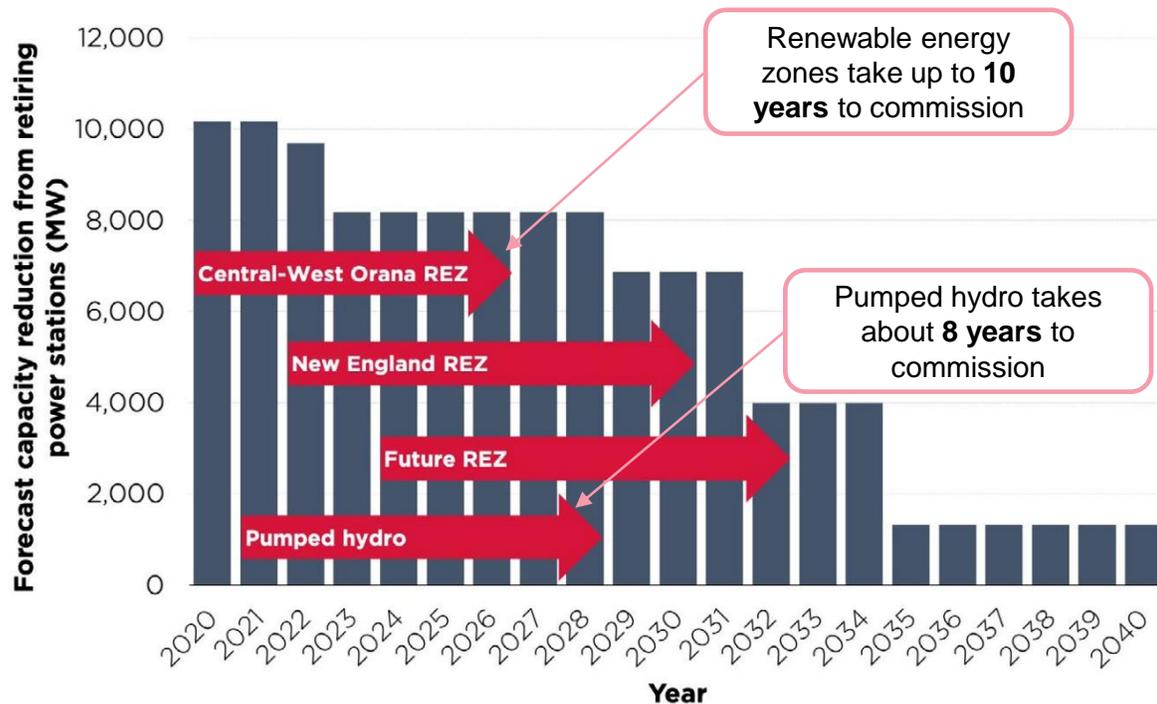
Central-West Orana REZ



NSW's energy system in transition

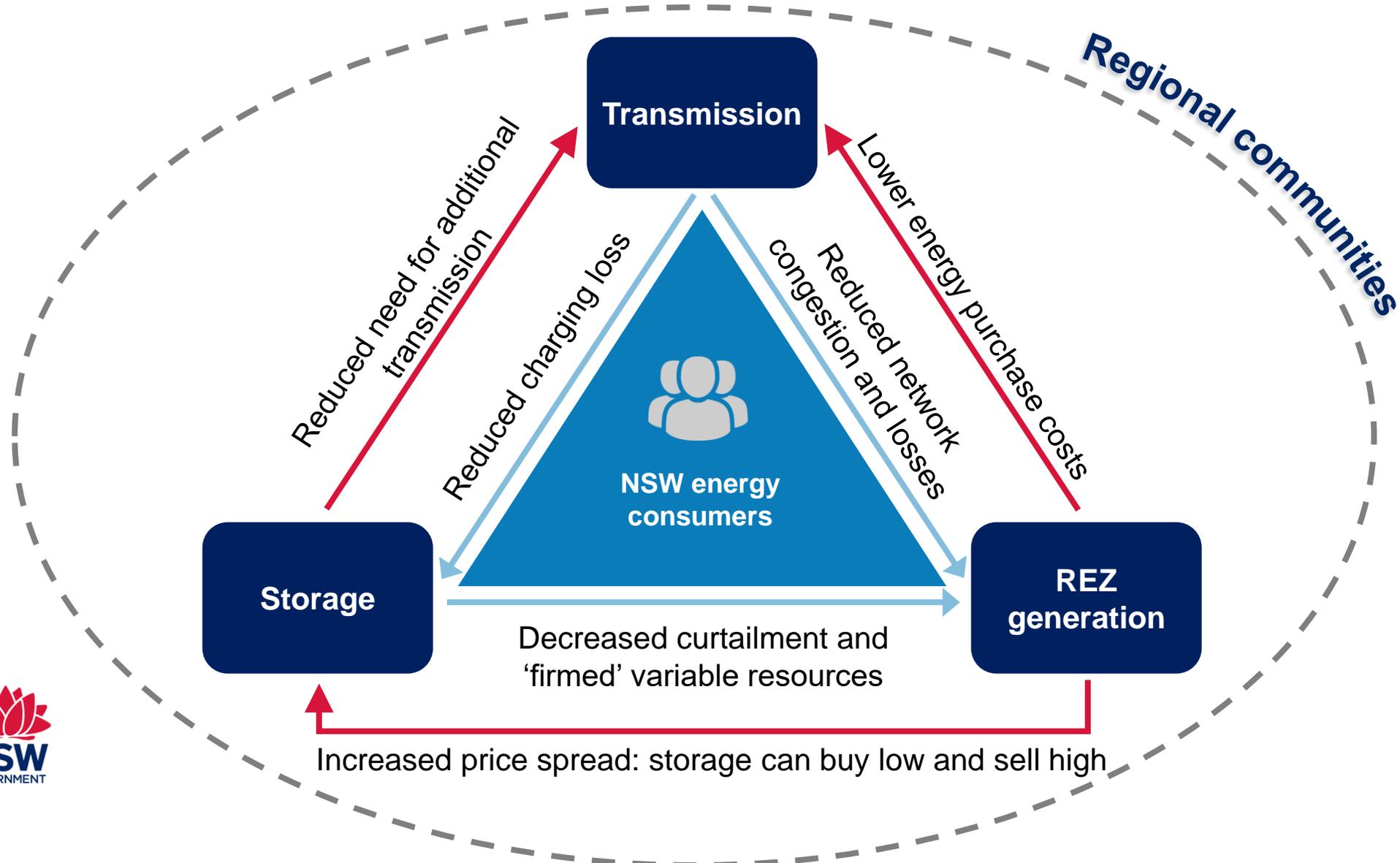
Our current infrastructure took 30 years to build - we need to replace it in less than 15 years

If the investment comes too late, NSW consumers face much higher electricity prices



Source: NSW Electricity Infrastructure Roadmap, November 2020

NSW Electricity Infrastructure Roadmap



What will the Roadmap deliver?

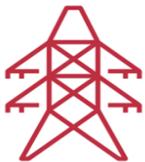
The Roadmap will help deliver cheap, clean and reliable energy for NSW



Forecast **\$130 a year saving** on an average household electricity bill and **\$430 a year saving** on an average small business electricity bill from 2023 to 2040



\$32 billion in regional energy infrastructure investment expected to 2030



12 gigawatts (GW) in new generation and **2GW of long duration storage** by 2030



90 million tonnes of reduced carbon emissions to 2030



Benefits for regional NSW



6,300 construction jobs and **2,800 ongoing jobs** expected in 2030, mostly in regional NSW



Up to **\$265 million in community enhancement funds** to host communities by 2042



\$1.5 billion in lease payments estimated by 2042 to landholders hosting new infrastructure



Improved **competitiveness of regional energy intensive industries**

NSW Renewable Energy Zones

Renewable Energy Zones (REZ) are modern day power stations

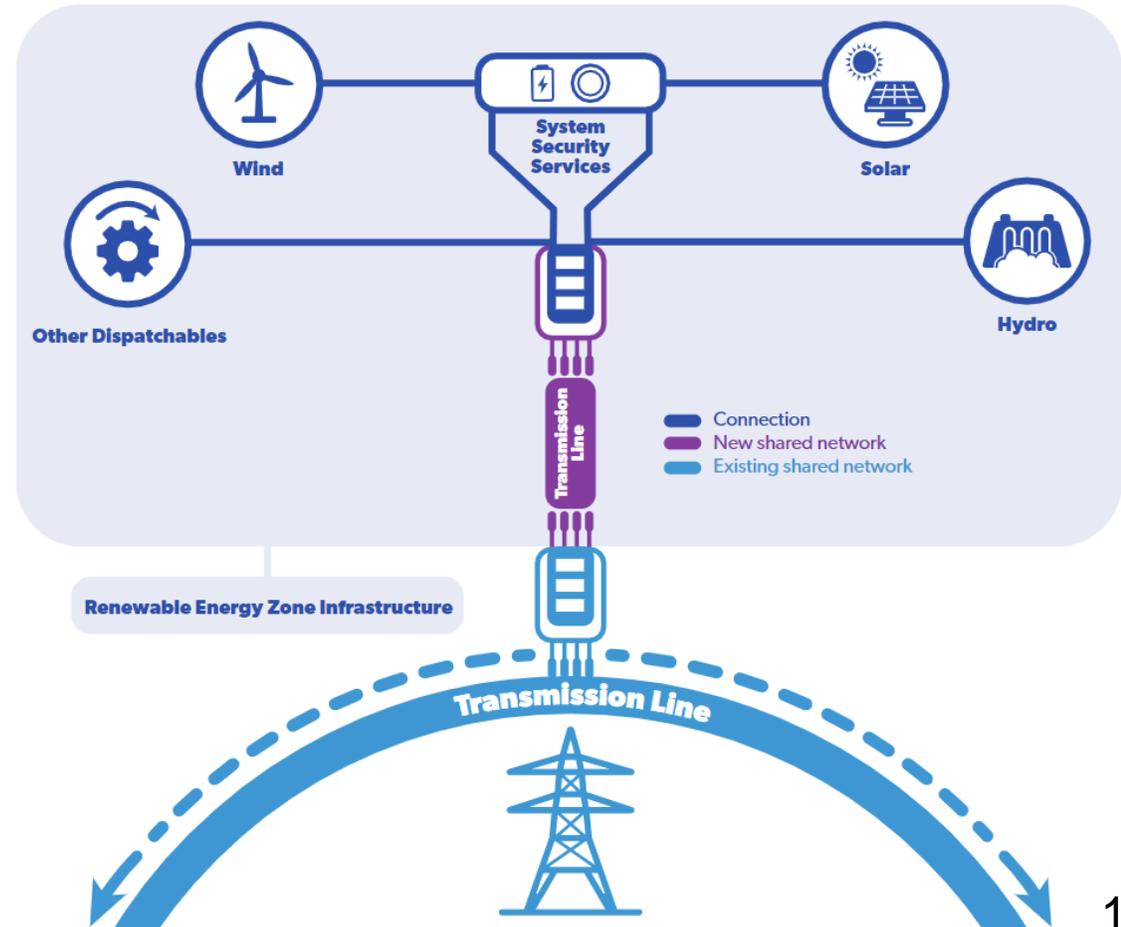
Private developers and investors build generation, storage and system strength with support from:

- REZ access scheme
- Long-term Energy Service Agreements

Network providers develop network infrastructure with support from:

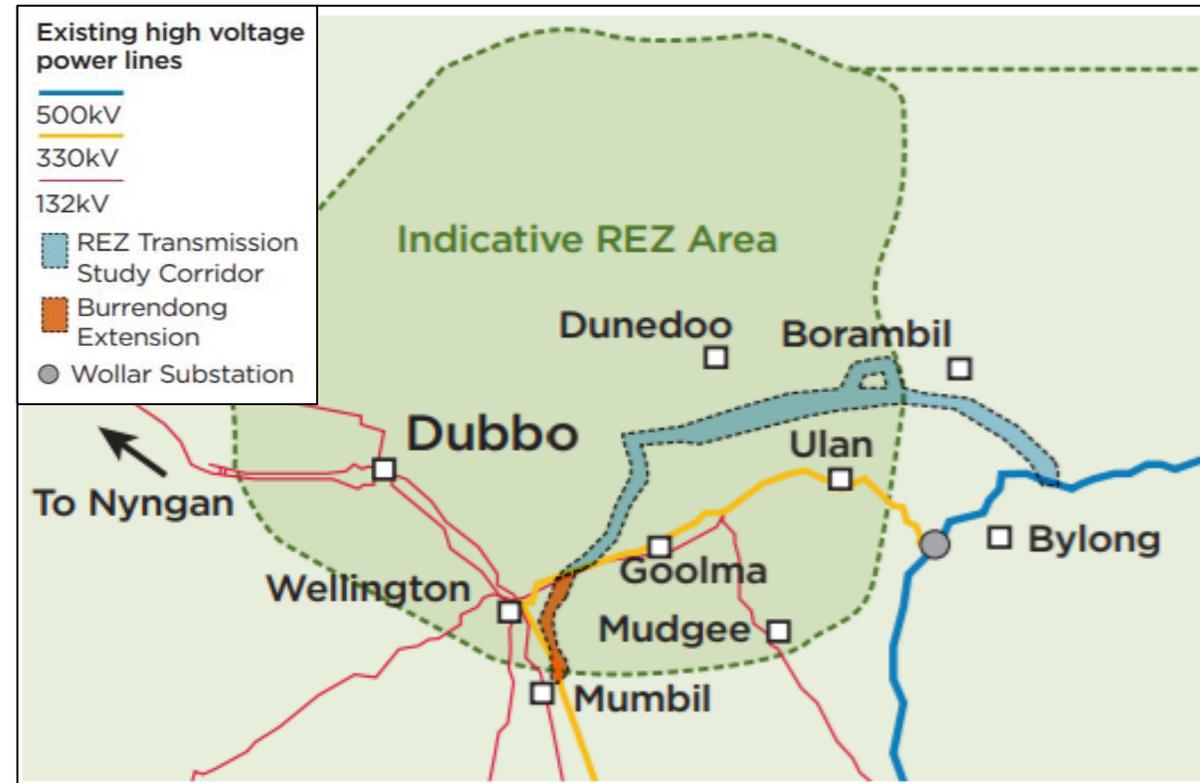
- Transmission Efficiency Test
- Infrastructure Planner

Energy Corporation of NSW coordinates REZ delivery and acts as Infrastructure Planner for NSW REZs



Central-West Orana REZ

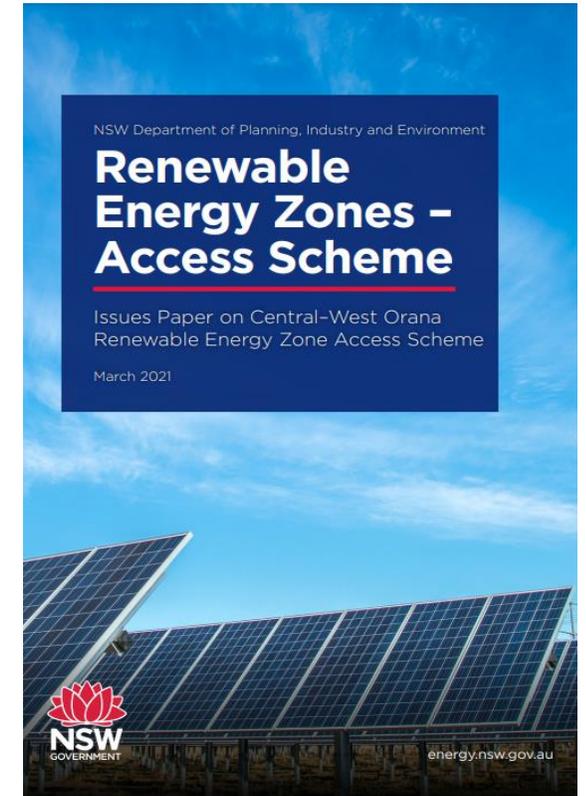
- 3 GW of new electricity capacity – enough to connect up to 5 GW of generation projects
- ‘Shovel-ready’ by end 2022
- \$5.2 billion in private investment
- Around 3,900 construction jobs at peak
- We began consultation in the area in late 2020
- Deliberative forums, Regional Reference Group, First Nations Steering Group and other community forums
- Minister will declare the Central-West Orana REZ in coming months



Central-West Orana REZ Access Scheme

The Access Scheme will coordinate energy generation and storage projects in the REZ and help realise community engagement and benefit sharing objectives by:

- Enabling the planned connection of energy generation and storage projects
- Governing the volume of projects allowed to connect to a REZ
- Reducing the risk and uncertainty of investment in low-cost generation and storage projects in REZs under the current 'open access' regime
- Optimising network utilisation and reduce bills for energy consumers
- Allocating a component of access fees towards community and employment purposes



Access Scheme Consultation

We released an Issues Paper for consultation on different access models for the Central-West Orana REZ

Snapshot of consultation:

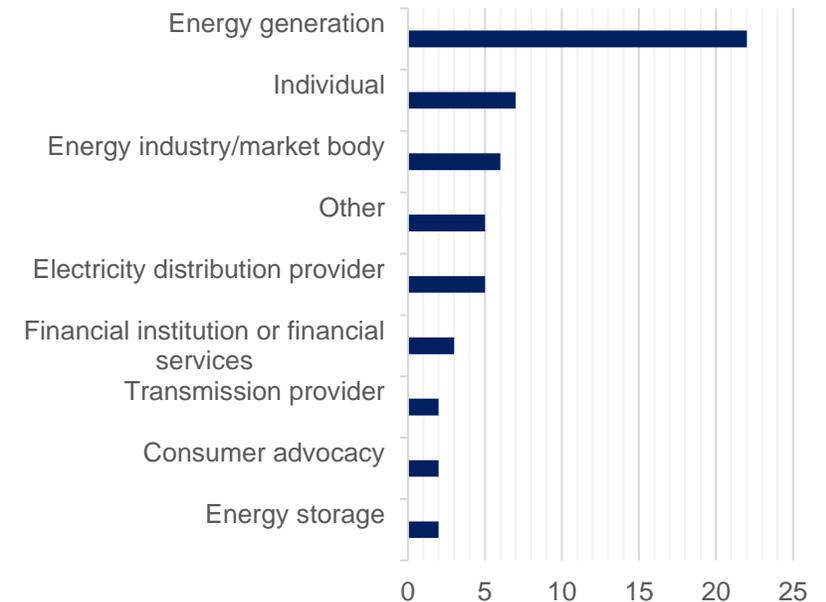
- 22 March - 30 April: Public submissions period (55 written submissions received)
- 15 April: Public webinar (503 registrants, ~285 participants)
- 3 May – 14 May: Targeted and follow-up engagement (17 interviews)

Next steps

1. Synthesising and assessing submissions
2. Analysing costs of a preferred access model
3. Consulting on the preferred access model
4. Declaring a finalised model in law



Written submissions



Energy Corporation of NSW

The Energy Corporation of NSW (EnergyCo) is responsible for coordinating \$20.7 billion of investment in REZs and will work with communities, investors and Government to:

- Coordinate community engagement and benefit sharing
- Lead strategic planning
- Promote local development opportunities, including co-located infrastructure
- Recommend technical design and network solutions
- Develop access scheme frameworks
- Design and implement commercial investment frameworks and coordinate competitive delivery of common assets

EnergyCo will be led by the Chief Executive and three new Executive Directors across Technical, Commercial and Planning & Communities workstreams



Central-West Orana REZ Engagement



Outcomes of community deliberative forums

In February, we held community deliberative forums with a range of people across the Wellington, Gulgong and Dubbo communities.

We heard about:

- Local employment
- Visual impacts
- Land use conflicts

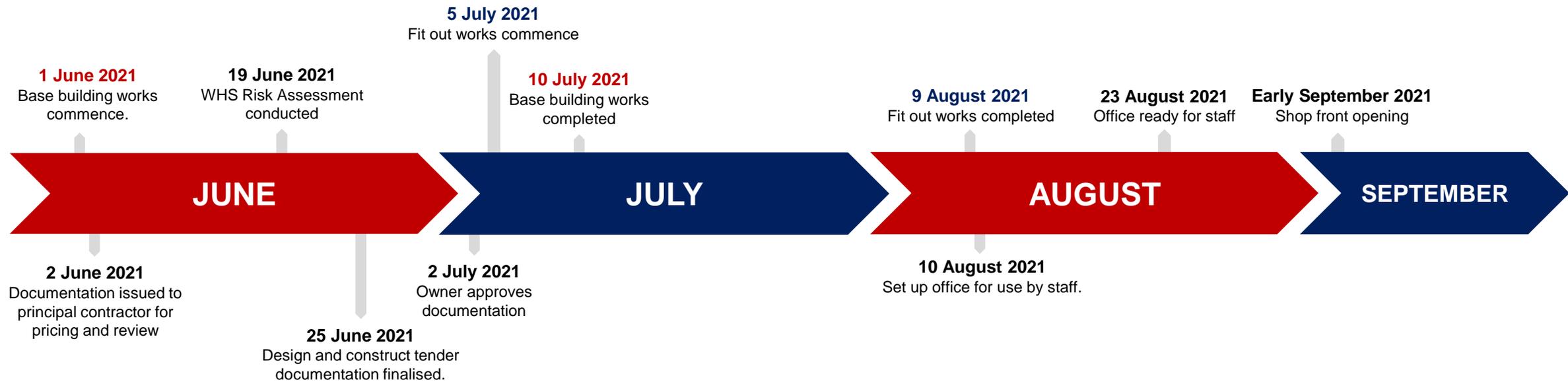
We are committed to sharing the benefits of the REZ with the communities within the REZ, lower prices, jobs and new infrastructure.

- We got a clear understanding that each community is different and a **“1-size-fits-all” approach will not work.**



Dubbo community hub construction timeline

Base building works are expected to be complete by 10 July 2021, with the fit out to be completed by 9 August 2021. It is expected that the earliest the shop front can open is late August 2021 with a potential launch on 2 September 2021.



Upcoming engagement activities

- Landholder workshops in Wellington and Dunedoo in late July:
 - Overview of the Central-West Orana REZ and what it means for landholders/communities
 - Planning processes and information for landholders who might host/live next to energy generation projects
- Community information sessions in 8-10 locations in August
- Supporting TransGrid's second phase of community and landholder engagement for the CWO transmission project
- Second Central-West Orana REZ community newsletter
- Engagement on Regional Energy Strategy and REZ declaration



First Nations Guidelines

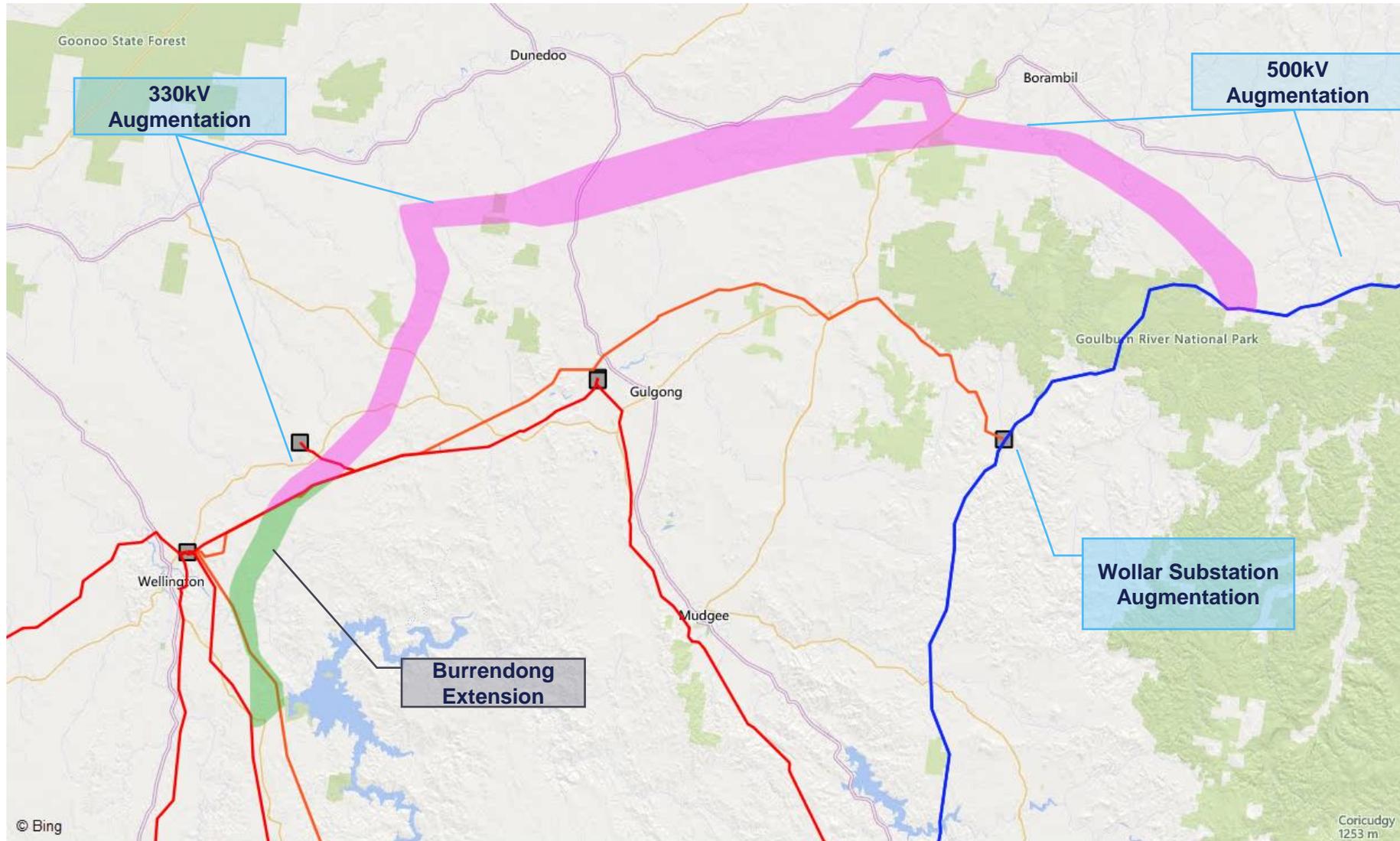
We are committed to meaningful and genuine engagement and partnerships with First Nations every step of the way in implementing the Roadmap.

- Once-in-a-generation opportunity to make sure First Nations communities can contribute to, and benefit from, this investment in regional energy infrastructure
- Importance of engagement and economic empowerment of First Nations communities is recognised in the objects of the Act and built into how the Roadmap will be delivered
- The Minister will publish guidelines about consultation and negotiation with the local Aboriginal community for relevant projects for the purposes of increasing employment and income opportunities
- The Guidelines would apply on a State-wide level for projects delivered under the Roadmap
- We set-up a Steering Group to guide the development and implementation of the Guidelines and invited key stakeholders including NSW Aboriginal Land Council, Aboriginal Affairs, Department of Regional NSW, NIIA and others
- First meeting of the Steering Group held on 7 May 2021- now looking at undertaking initial, targeted consultation with stakeholders

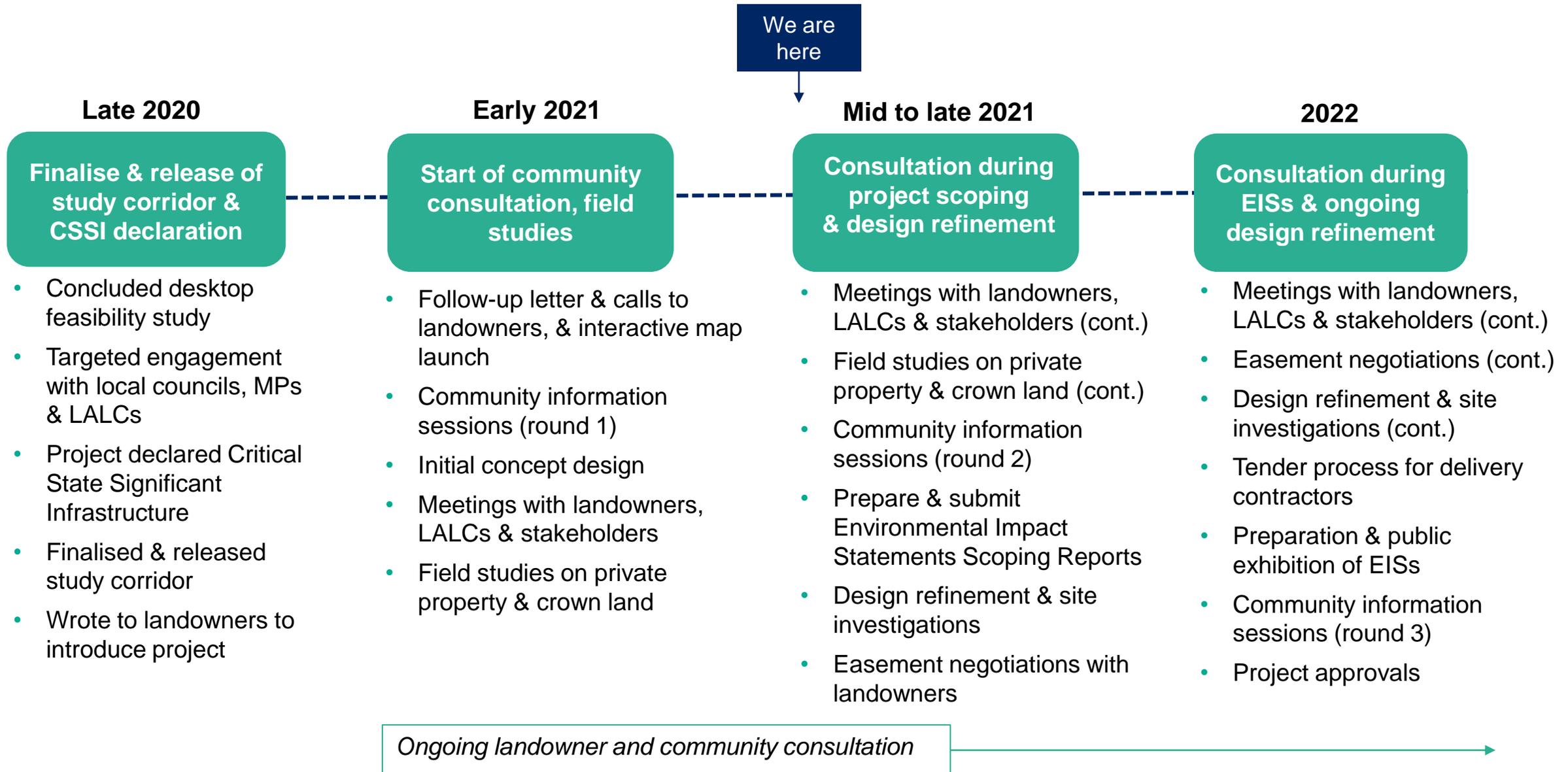
Update on Central-West Orana REZ Transmission



Study corridor



Project activities



Project update

- EIS Scoping Reports to be submitted October 2021
- 500kV & 330kV lines, substation location(s) being considered but not yet determined
- For technical & reliability reasons, two single circuit 80m easements may be needed in eastern section
- Initial concept design based on existing technical option and corridor to be completed in June 2021
- Land access consultant engaged to arrange field studies (ecology, flora & fauna surveys etc) on private property & crown land (subject to consent)
- 147 (65.9%) landowners within the study corridor have provided feedback to date.



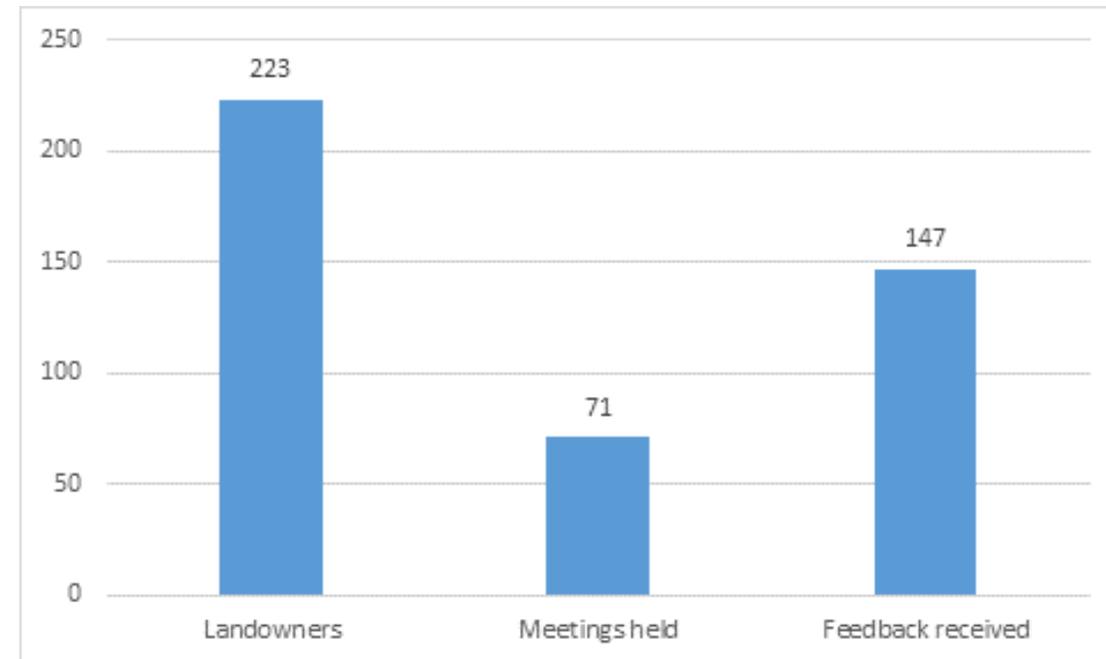
Existing 330kV Wollar to Wellington transmission lines

TransGrid landowner & community engagement

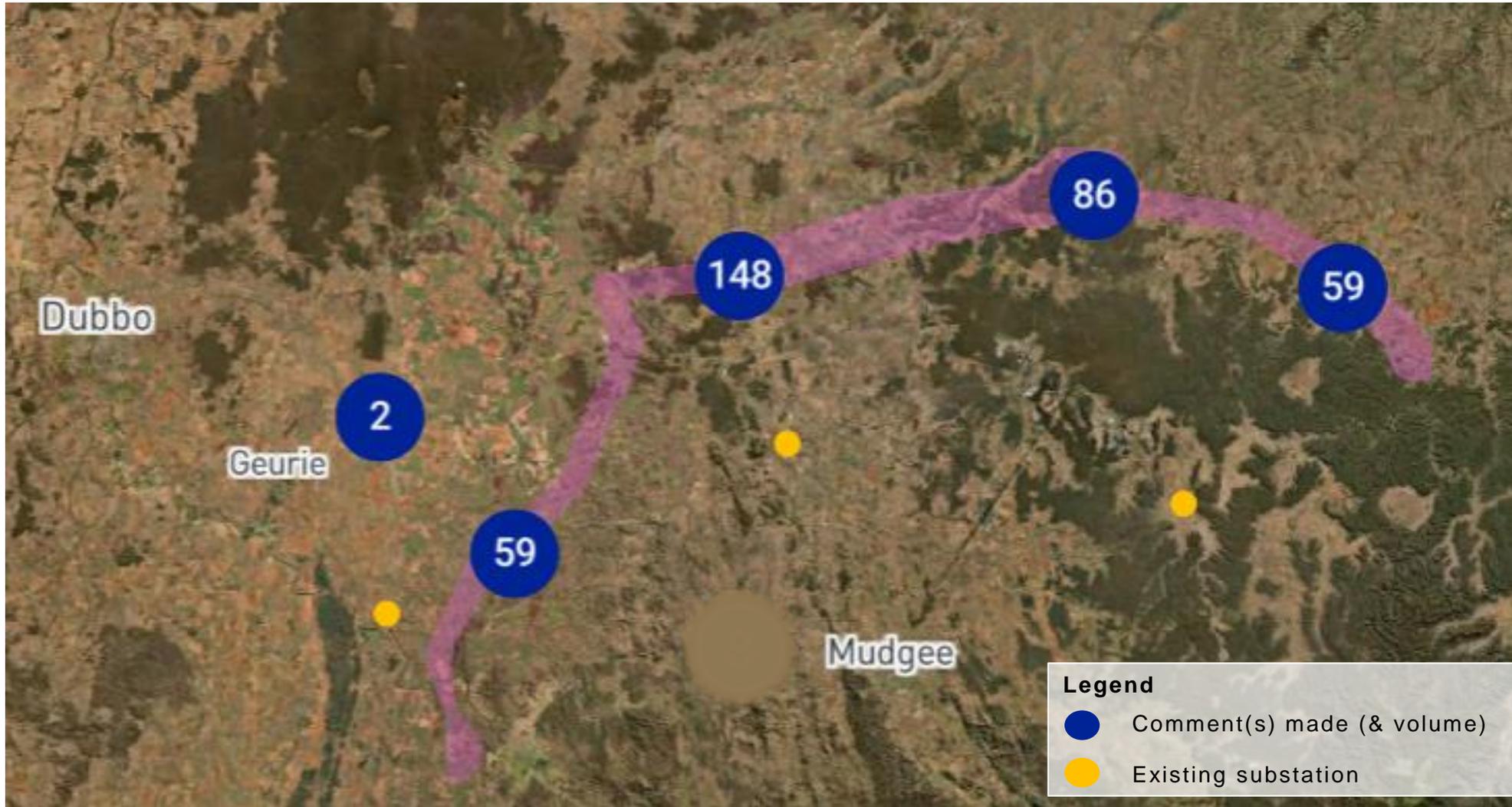
What's happening?

- Phone calls – to set up on-farm meetings with landowners
- On-farm meetings – to seek feedback & discuss land access.
 - 71 (31.8%) meetings held
 - 25 (11.2%) Consent-to-Enter documents signed & returned.
- Online interactive map
 - About 350 comments received to date
 - Information / comments kept private (unless you elect to make public)
- Study corridor workshops scheduled with the Merriwa-Cassilis Alliance (MCA) – starting 10 June

No. of landowners, meetings held & feedback received



Interactive map



Landowner feedback

Opportunities

- Preference for lines to go along fence lines, on less productive land & away from houses
- Preference for lines to go along the southern edge of corridor
- Preference for use of public land to host new lines

Topics & issues raised

- Impacts to farm operations such as movement of equipment under lines
- Biosecurity requirements (introducing weeds to important crops)
- Impacts to bushfire management
- Health & wellbeing – heart devices, electric magnetic fields (EMF)
- Compensation / impact on market value
- Location of new substation(s) & footprint of generators
- Transmission structure height & visual amenity impacts.



What's coming up

In the community

- Study corridor workshops with the MCA to start in June 2021
- Meetings with landowners, LALCs & key stakeholders to discuss land use & arrange access for studies
- Field studies – Spring surveys
- Site investigations – Q3 2021

Behind the scenes

- Design refinement, determine substation locations – mid to late 2021
- Preparation of Environmental Impact Statement (EIS) Scoping Reports.



Questions



Update on REZ Regional Energy Strategy



Regional Energy Strategy

Ensure regional communities within Renewable Energy Zones have access to cheap, clean and more reliable energy, and are beneficiaries in their development and operation, and to enhance social licence.



Ground truthing

Gaining a better understanding of distribution level network constraints and needs



Regional Benefits

Facilitate benefit realisation of the REZ to the distribution network and host communities - cheap reliable energy, jobs, community values, infrastructure



Collaboration

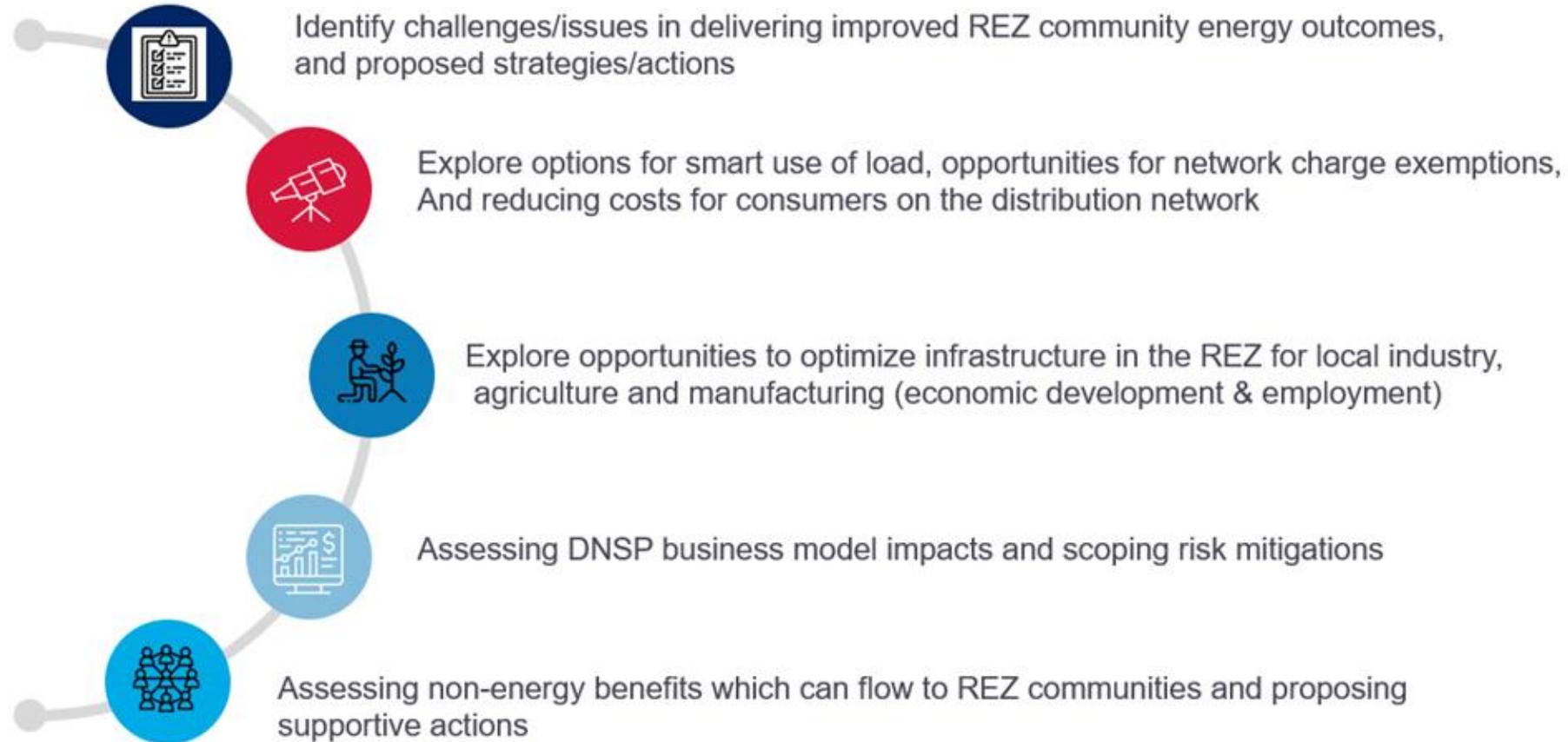
Working with Distributed Network Service Providers and community to deliver network, consumer and community focused outcomes



Innovation

Identify innovative ways to transition and support new industries within REZ communities and use load in regions to provide technical benefits to the REZ network

Key elements of the strategy scope



Progress update and stakeholder engagement

Work underway:



Directly engaged with Essential Energy to identify distribution network specific perspectives, challenges and opportunities.



Progressing and development of “CWO REZ dataset” with Essential Energy as an evidence base for strategy development

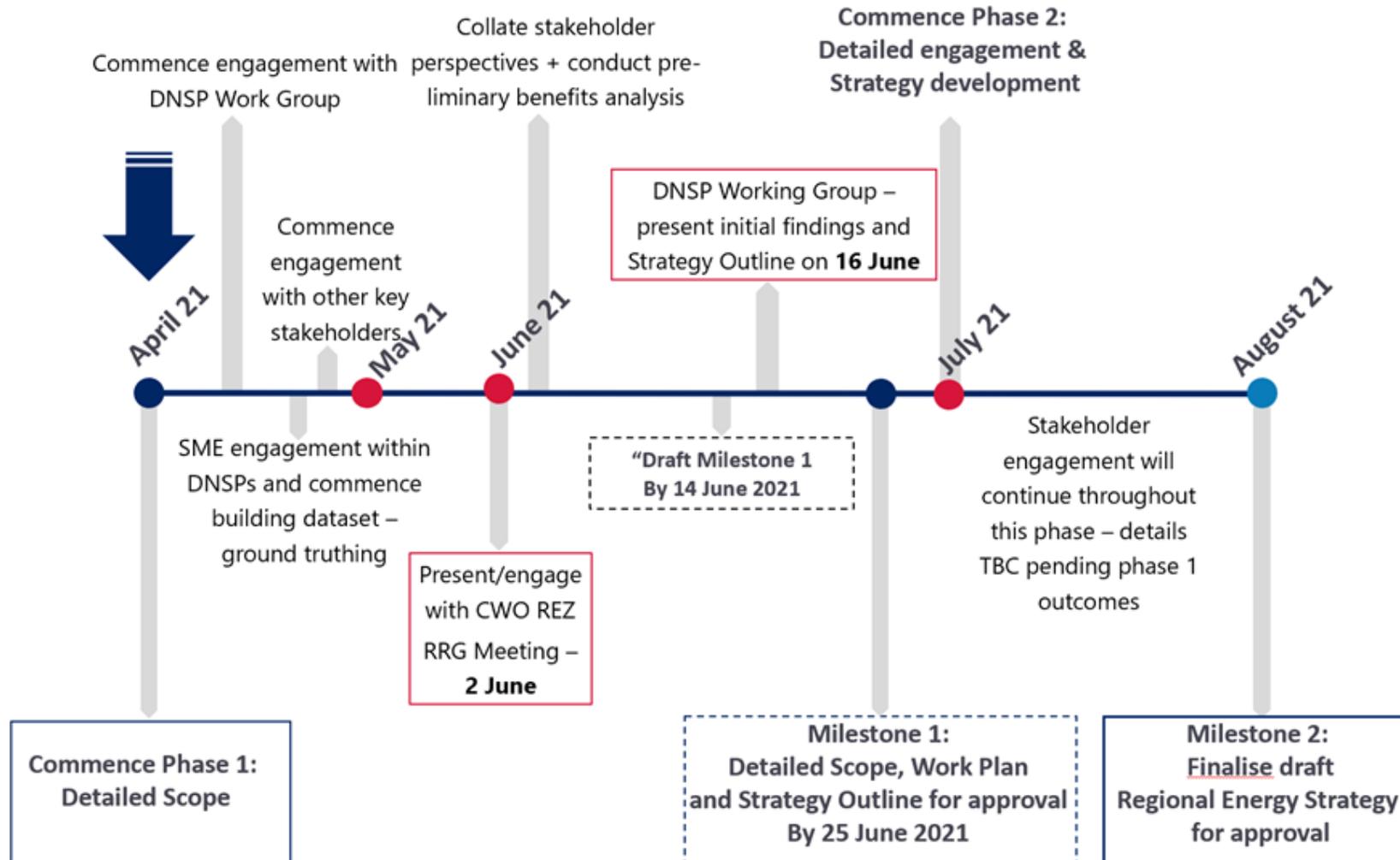


Further stakeholder engagement – Regional Reference Group members

What’s coming up:

- Further stakeholder engagement with other members of the CWO Regional Reference Group
- Draft “Detailed Scope and Strategy Outline” present to the DNSP Working Group **16 June 2021** and next Regional Reference Group Meeting

Key elements of the strategy scope



Overview of Central-West Orana REZ Declaration



Central-West Orana REZ Declaration process

The *Electricity Infrastructure Investment Act 2020 (EII Act)* requires the Minister to formally declare the Central-West Orana Renewable Energy Zone (REZ). The Declaration must include:

- intended network capacity of 3 gigawatts (GW)
- specified geographical area of the REZ (refined option for discussion today)
- specified generation, storage, or planned/existing network infrastructure – can be outside the REZ geographical area
- the Infrastructure Planner appointed for the REZ (EnergyCo as per the Act)
- other matters prescribed by regulation



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What does it mean to be in a REZ?

For investors

- **REZs are centres for energy infrastructure development** with generation and storage projects having greater certainty of connection and being prioritised for Long Term Energy Service Agreements.
- **Existing planning and approvals processes** will continue to apply in REZs.
- **Non-REZ projects can still go ahead:**
 - Doesn't stop projects outside the REZ going ahead
 - Projects inside the boundary do not have to be 'REZ' projects e.g. may connect to existing network outside of the declared access scheme through standard process

For communities and landholders

- **Coordinated consultation** on energy infrastructure development in REZs ensure local communities can consider cumulative impacts and have their say.
- **Benefit sharing schemes** will support community employment and development outcomes inside the REZ, including funding from access fees.
- **Overarching REZ planning strategy** and environmental planning will account for REZ constraints including towns, agricultural land and environmental land use.
- **Landholders** should expect approaches from renewable energy project developers
- **Prohibition to connect** powers will apply to projects in the REZ that do not secure adequate social licence



REZ Declaration and the EII Act

The Central-West Orana REZ Declaration enables delivery of the REZ and triggers responsibilities and powers under the Act.

Access scheme

Access rights can only be allocated to network infrastructure specified in the REZ declaration

Long Term Energy Service Agreements

Projects outside REZ geographic area must demonstrate 'outstanding merit' to secure an Agreement

Network infrastructure

REZ network infrastructure projects must form part of a REZ

Prohibition to connect

Under the Act the Infrastructure Planner can prohibit a participant connecting proposed infrastructure to REZ network infrastructure:

- if there is significant opposition from community in the local area to proposed infrastructure
- to maintain community support in the local area for other infrastructure in the REZ

Prohibition to connect only applies to projects in geographic area of the REZ (even if connecting to network infrastructure specified in the REZ declaration)

It only applies to generation or storage infrastructure with capacity of at least 30MW.

First Nations Guidelines

Scope for consultation and negotiation is limited to 'relevant projects' (e.g. specified REZ network infrastructure or Long Term Energy Service Agreement projects).

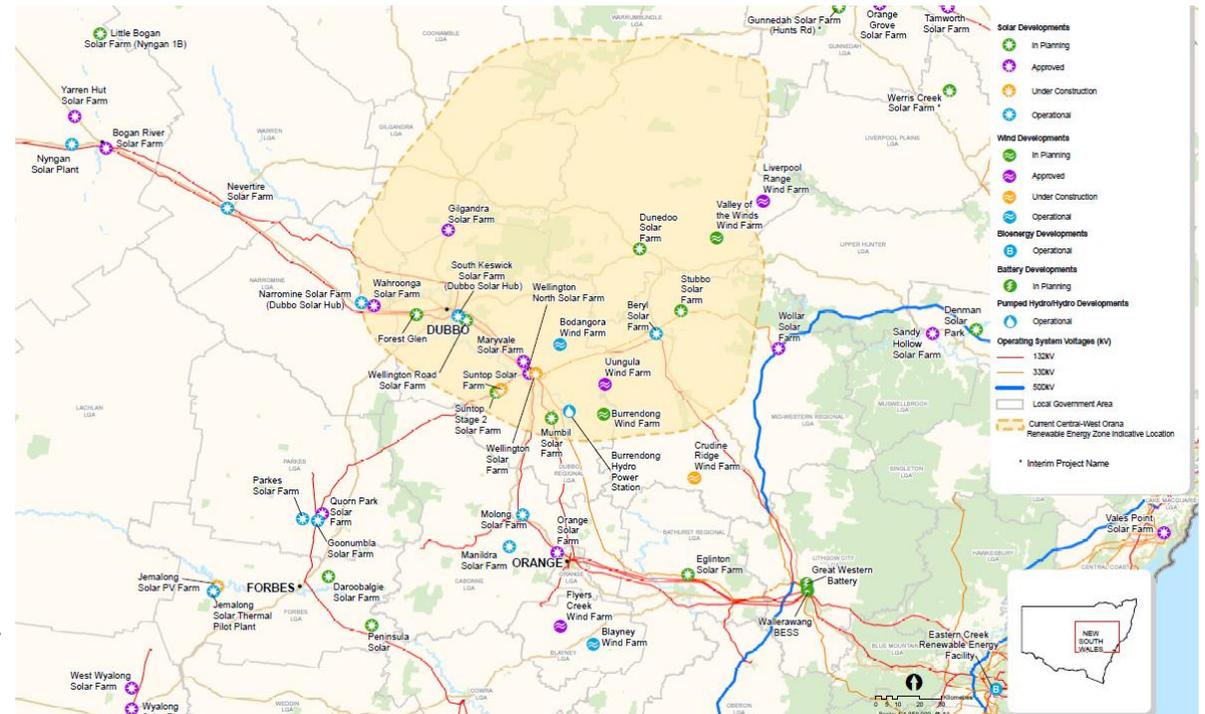
Regional benefit sharing scheme

Components of the access fees are required to be used in a way that benefits the local community and promotes employment, skills and training within the declared REZ geographic area.

Mar 2018 - Indicative CWO REZ mapping

NSW published 'Indicative Location' in March 2018 - selected for relatively low transmission build costs due to proximity to existing transmission, strong mix of energy resources, and investor interest

- 25 specific data layers scored on their suitability for hosting renewable energy projects including:
 - solar PV resource and wind speed resource
 - site aspect, site elevation and parcel size
 - land use, land cover and land zoning
 - protected and prohibited areas
 - Biophysical Strategic Agricultural Land (BSAL)
 - Biodiversity
- AEMO declared CWO REZ an actionable project in July 2020

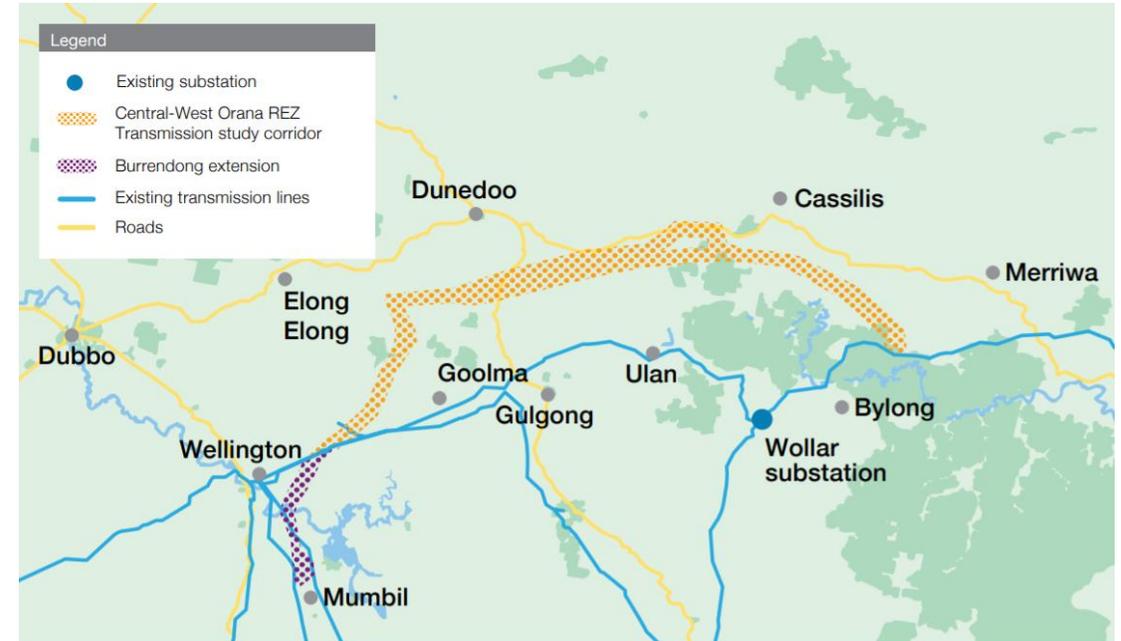


Jun 2020 - CWO REZ Registration of Interest

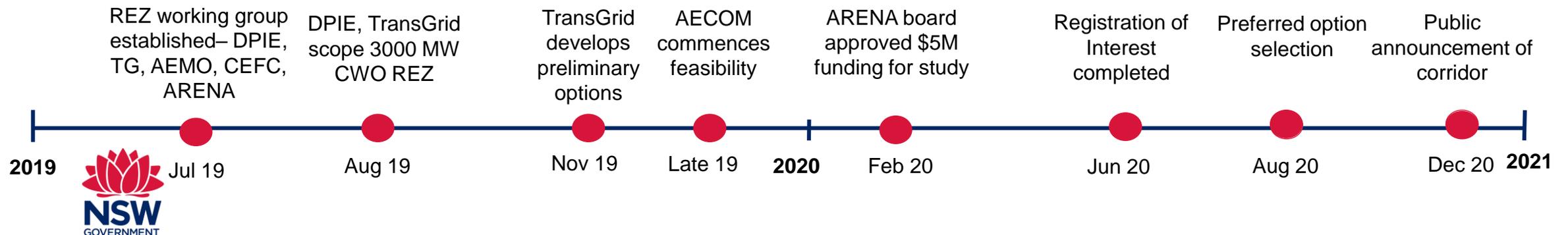
- June 2020 ROI determined the scale, location and types of projects considering joining the CWO REZ
- 27,000 MW of new energy generation and storage projects responded to the ROI, nine times the amount required to deliver the REZ
- Results of the ROI used to inform network design, CWO REZ transmission study corridor and refined geographical area for declaration

Dec 2020 - CWO REZ transmission study corridor

- DPIE and REZ working group assessed 11 route options since November 2019
- ‘Option B’ Loop from Merriwa to Elong Elong and Ungun with Burrendong Dam preferred for study corridor consultation when considering cost, optimising the technology mix, construction complexity and land use impacts



Work to identify corridor



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Feb 21 - Final methodology

To refine the location for CWO REZ we built on the 2018 geospatial analysis, updating information and analysing the best trade-offs between key criteria:

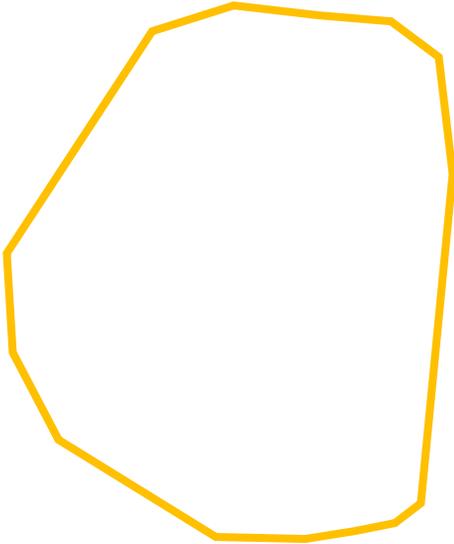
- **Agricultural and environmental land-use:** Consider options to reduce impacts on Biophysical Strategic Agricultural Land and Threatened Ecological Communities.
- **Energy resource and investor interest:** Maintain flexibility of project locations with high quality and diverse wind, solar and pumped hydro resources, including to capture ROI projects demonstrating credible investor interest.
- **Cost-effectiveness:** Adjust boundaries within a reasonable distance of proposed transmission and create a buffer around potential substation sites.
- **Proximity to dwellings:** Minimise contentious issues including proximity to town centres, homesteads and dwellings.
- **Community support:** Consult regional communities and stakeholders to test refined area and identify further considerations for map refinement



Feb 21 – Final methodology: Data layers

2018 Data layers for identifying REZs		2021 Focus layers
Solar PV resource	Soil/erosion area	Biophysical Strategic Ag Land
Wind resource	Geology	Threatened Ecologic. Communities
Site slope	Easement	Homesteads and residential zones
Site aspect	Watercourse corridor	National Parks and conservation
Parcel size	Local Government Area	Old growth and commercial forestry
Land use	NSW Electorates	Over-cleared vegetation
Land cover	Bioenergy	Cropping, grazing and irrigation
Protected areas	Transmission corridors and capacity	Tree cover
Prohibited areas	Mining Tenure	Rivers and riparian vegetation
Site elevation	Heritage	2021 Other considerations
Land use zoning	Other planned energy	ROI project locations
Biophysical Strategic Ag Land	Land tenure (Crown/private)	Transmission study corridor location
Biodiversity		

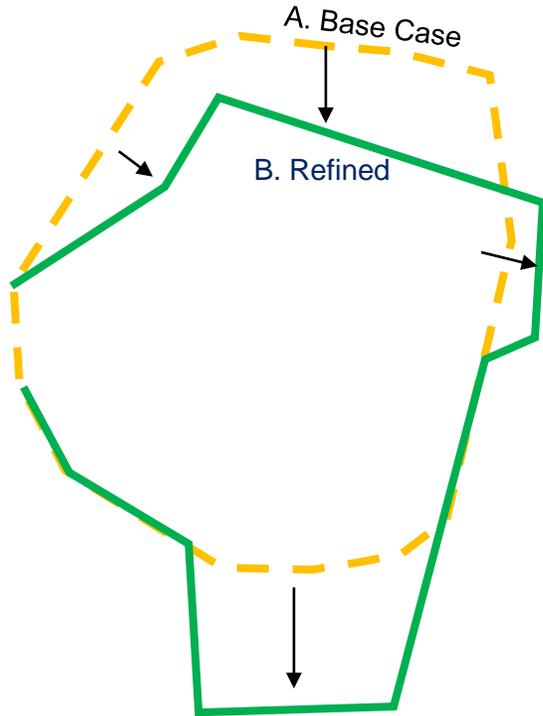
Option A Base case



Option A is no change to current indicative location

- Original perimeter published March 2018
- Minimal disruption to stakeholder expectations
- Investor interest considerations limited to projects in the planning pipeline
- Developed before transmission study corridor published

Option B Refined



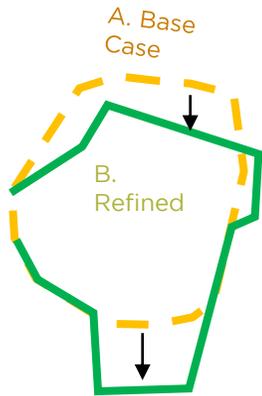
Option B considered a balance between:

- where boundaries could be adjusted to avoid strategic agriculture land conflicts
- promising wind and energy resources with identified investor interest through ROI
- proximity to transmission corridor
- protecting land around potential substations

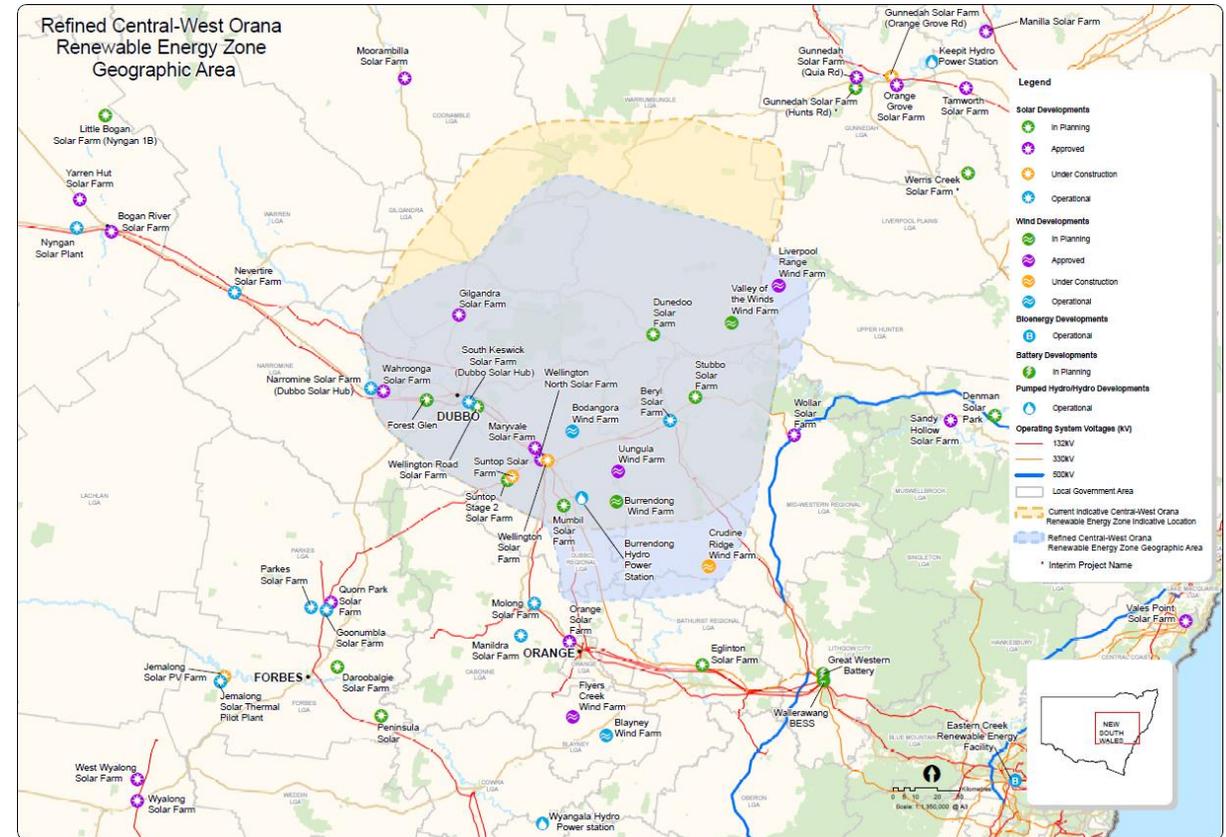
Option B approach would:

- maintain buffer of at least 10km setback around potential substation locations
- reduce agricultural land captured within REZ
- remove some strong solar and wind resources from far North-West and North East of the current map
- capture wind resources to South and North-East where agricultural conflicts are lower within reasonable proximity to transmission corridor

Option Comparison – Key trade-offs



A. Current indicative location	B: Refined geographic area
Original perimeter published March 2018 before transmission study corridor identified	Considered where boundaries could be adjusted to avoid agricultural and other land use conflicts
Investor interest considerations limited to planning pipeline	Considered promising wind and energy resources identified through ROI
Minimal disruption to stakeholder expectations	Aims to protect the corridor around potential substations
Area	23,642 km ² / 21,644 km ²
Dwellings	~29,500 / ~27,500
BSAL area	2,727 km ² / 2,240 km ²
ROI Projects	~58 / ~61
TEC area	1,729 km ² / 1,642 km ²



Strategic Ag. Land (BSAL)

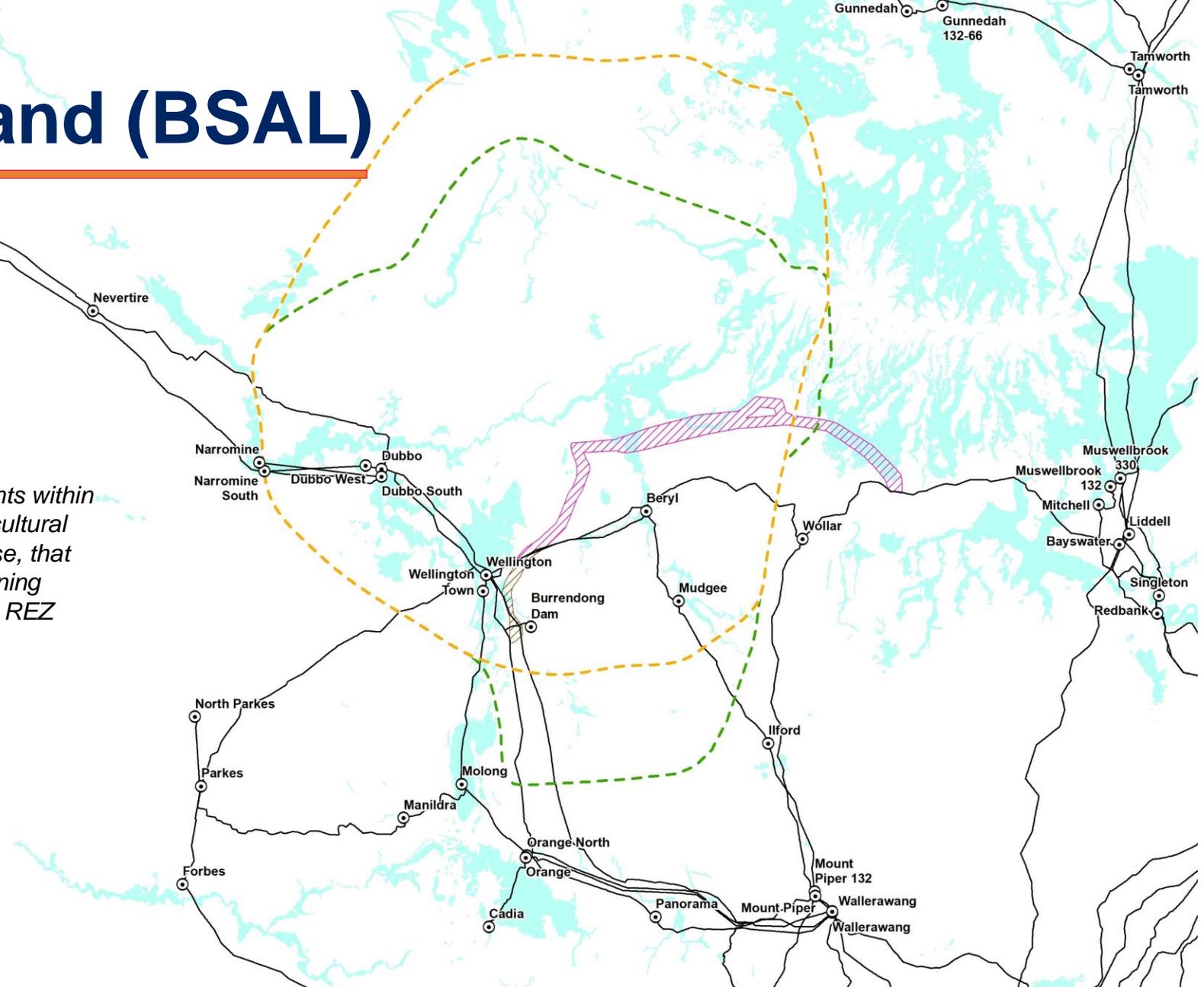
Note there will remain constraints within the REZ, including towns, agricultural land and environmental land use, that will be addressed through planning processes and the overarching REZ planning strategy.

Legend

-  Option A Base Case
-  Option B Refined
-  Strategic Agricultural Land
-  Transmission Substations
-  Transmission Lines
- REZ Study Corridor**
-  Burrendong Option
-  CWO REZ

Source: Aurecon, OEH

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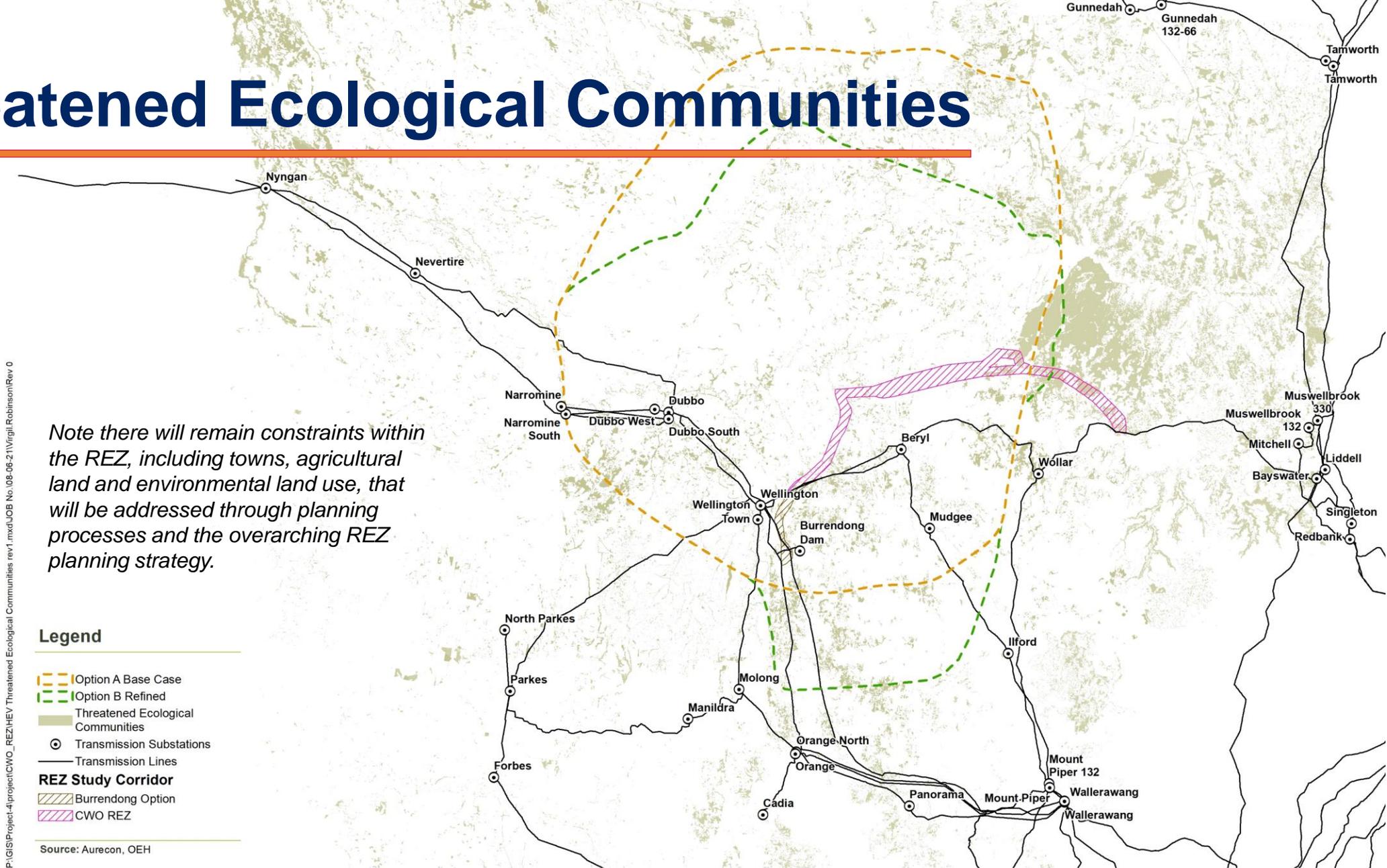
Projection: GDA 1994 MGA Zone 55

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CWO REZ

FIGURE: Strategic Agricultural Land 46

Threatened Ecological Communities

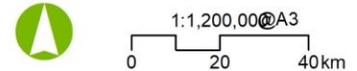


Note there will remain constraints within the REZ, including towns, agricultural land and environmental land use, that will be addressed through planning processes and the overarching REZ planning strategy.

- Legend**
- - - Option A Base Case
 - - - Option B Refined
 - Threatened Ecological Communities
 - Transmission Substations
 - Transmission Lines
- REZ Study Corridor**
- Burrendong Option
 - CWO REZ

Source: Aurecon, OEH

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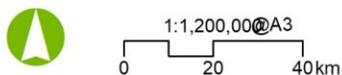
Distance to proposed transmission

Note there will remain constraints within the REZ, including towns, agricultural land and environmental land use, that will be addressed through planning processes and the overarching REZ planning strategy.

Legend

- Option A Base Case
- Option B Refined
- Distance to proposed transmission line
- Transmission Substations
- Transmission Lines
- Burrendong Option
- CWO REZ

Source: Aurecon, OEH



Projection: GDA 1994 MGA Zone 55

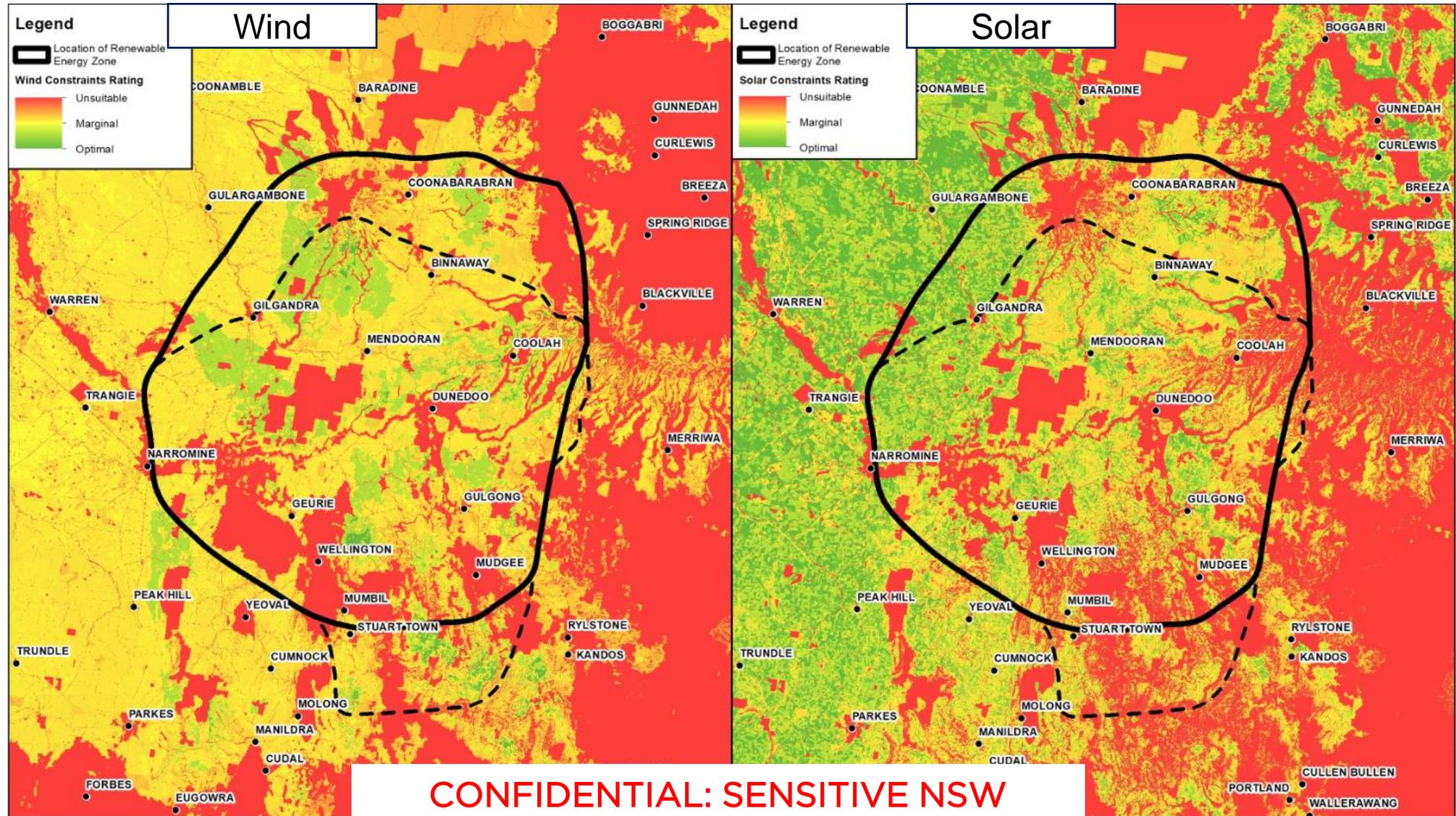
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FIGURE: Distance to proposed transmission line

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Wind and solar resources



Next steps

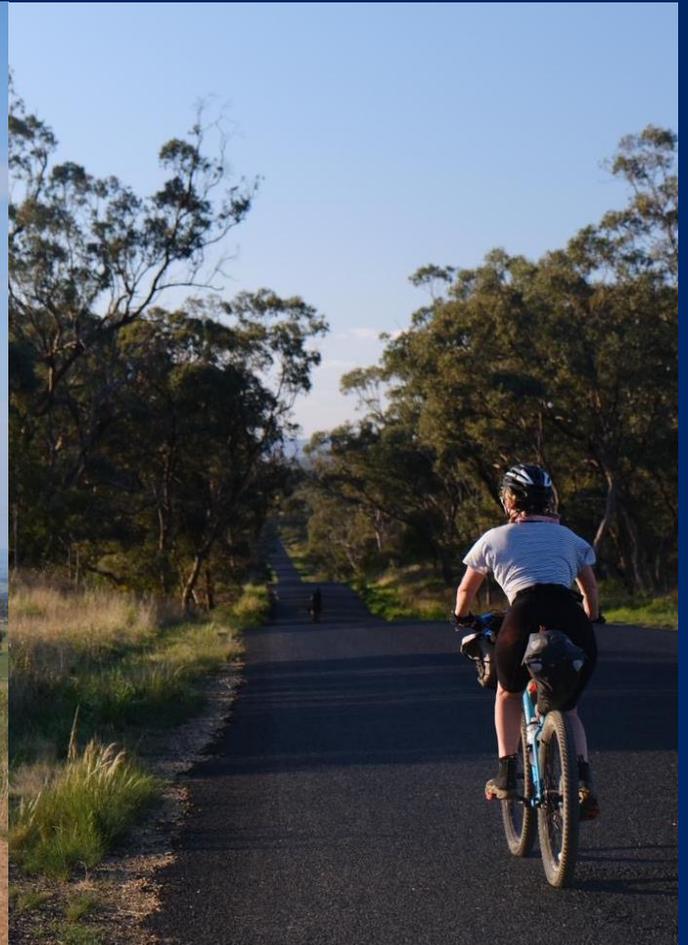
June 2021

- Consult targeted stakeholders to test findings and identify additional considerations
- Amend draft geographical area to reflect consultation outcomes as appropriate

July – August 2021

- Dept. makes recommendation on revised CWO REZ geographical area to Minister
- Minister formally declares CWO REZ under the Act, including to publish geographical area on the Department's website
- CWO REZ Declaration takes effect

Thank you



energy.nsw.gov.au/renewable-energy-zones