EnergyCo

Moving to a new study area

New England Renewable Energy Zone

Fact sheet | October 2025

EnergyCo is delivering the New England Renewable Energy Zone (REZ) to provide a clean, affordable and reliable power supply for homes and businesses across NSW. This includes planning a route for a new transmission corridor to connect the REZ to the existing grid.

After careful consideration we are moving part of the corridor between Bayswater Power Station near Muswellbrook and the central south energy hub (substation) near Walcha. This fact sheet explains the new study area and our next steps in refining the corridor.

Overview

EnergyCo has been developing the transmission corridor for the New England REZ since 2022. Route selection is a complex and lengthy process for major transmission projects of this scale and can take years to complete.

Over time, we have carried out increasingly detailed technical assessments, field work and engagement to develop a final corridor that is the best possible fit. We have made adjustments to help improve outcomes for landowners and the environment as new information becomes available.

No route is without its challenges – the previous corridor impacted aerial firefighting and has complex terrain that would affect construction and safety. As a result, we are moving the corridor between Bayswater Power Station near Muswellbrook and the central south hub near Walcha.

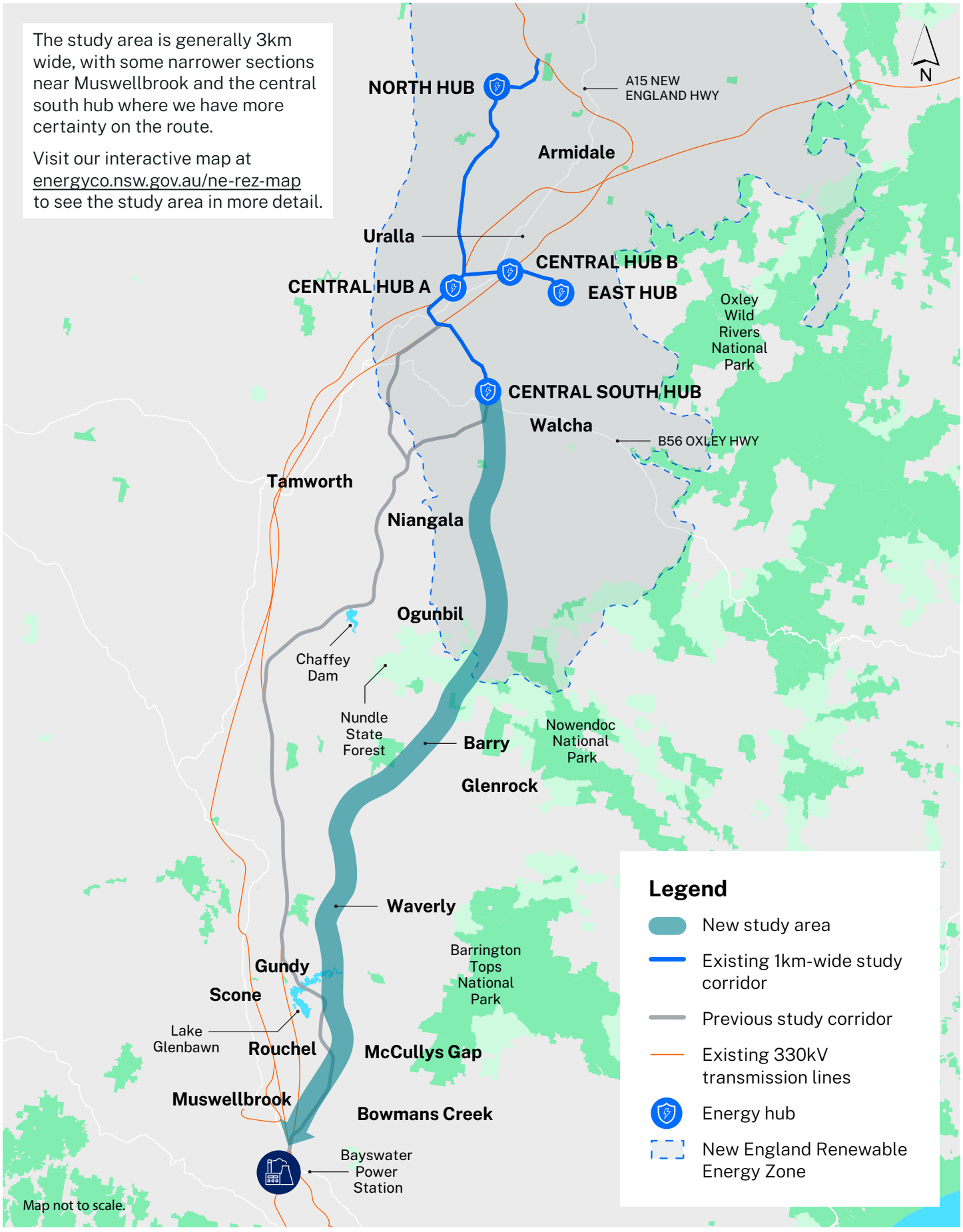
We have identified a new study area through this section which will allow for safer and more efficient construction, better bushfire management and reduced construction, environmental and traffic impacts. We're making this update to improve overall outcomes for the project and NSW energy consumers.

The new study area covers a broad area around 3km wide. The new study area is intentionally wide so we can find the best possible route for the transmission lines while balancing landowner and community feedback. Following further design work and engagement with landowners and communities over the coming months, we expect to refine the study area to a 1km-wide corridor in early 2026. The final permanent easement would be narrowed to 140m wide for the dual 500 kilovolt (kV) lines (generally 70m for each line).

New study area

The study area is generally 3km wide, with some narrower sections near Muswellbrook and the central south hub where we have more certainty on the route.

Visit our interactive map at energyco.nsw.gov.au/ne-rez-map to see the study area in more detail.




Chaffey Dam

Benefits of the new study area

The new study area will allow for safer and more efficient construction and reduced environmental and road impacts.

It also avoids key aerial firefighting zones around Chaffey Dam and Lake Glenbawn, consistent with our commitment to not impact aerial firefighting operations.

The new study area is better for bushfire management

Through our engagement, we've heard bushfire management is a key concern for local communities. The new study area will ensure the transmission lines do not affect aerial firefighting operations around Chaffey Dam and Lake Glenbawn.

This is a result of consultation between EnergyCo, NSW Rural Fire Service and aviation stakeholders to develop aerial exclusion zones around the dams.

The new study area is also more accessible and crosses fewer areas of high bushfire prone land.

The project will be safer and easier to build

While the new study area still contains challenging sections of terrain, it is generally flatter and more accessible than the previous corridor making it safer and easier and therefore quicker to build the transmission lines.

The new study area requires less earthworks and excavation to construct the transmission tower foundations and access tracks. Less earthworks means fewer trucks on local roads and less environmental impacts.

Less private land will be impacted by construction of access tracks as the new study area is more accessible from the existing local road network.

There will also be less work carried out using heavy-lift helicopters, reducing noise impacts on surrounding communities and farm animals.

Have your say to help shape the corridor

In addition to our direct engagement with landowners, we are inviting feedback from the wider community through a 'have your say' period until Friday 28 November 2025. We are interested to hear your views on potential opportunities and constraints within the new study area. All comments received will be considered as we refine to a 1km-wide corridor.

For more information about the feedback period including information session details, contact our team or view our website at energyco.nsw.gov.au/ne.

Selecting a new study area

We are continuing to follow a structured and comprehensive route selection process to develop the transmission corridor for the New England REZ.

Our design development process follows a standard, staged approach for major projects – progressing from early planning and strategic design, through reference design, and ultimately to a final corridor which narrows from a broad study area to a final easement (generally, 140m wide for dual 500kV lines).

2022 – 2023

Early planning including desktop analysis and evaluation to:

- identify broad possible options for where a corridor could go based on key planning criteria and any major constraints
- identify multiple possible corridor options, assess their feasibility and select a preferred preliminary study corridor

2023 – 2024

Strategic design development including technical investigations, early landowner and community engagement and field work to:

- review, assess and validate the corridor design
- understand individual land use and incorporate community feedback
- prepare the project's scoping report published in July 2024

2024 – 2026

Reference design development including in-depth technical assessments, modelling and detailed engagement with landowners to:

- refine the corridor design including identifying potential tower locations
- inform construction work including tower pad civil designs and access track designs
- prepare the project's environmental impact statement (EIS)
- inform the procurement of a network operator
- reduce the 3km study area between central south hub and Muswellbrook down to a 1km-wide corridor

2026

EIS exhibition including displaying a reference design with a 250m-wide preferred corridor.

2027 – 2028

Final design including detailed technical assessments and site investigations to:

- finalise property and planning outcomes
- inform project planning approvals and construction.

At each stage, assessments become more detailed, and the corridor design is updated and refined based on new information from technical and environmental studies, and landowner and community engagement.

You can read more about these assessments and how we engage with the community in the fact sheets on our website at energyco.nsw.gov.au/ne.

Pioneer lookout, between Gloucester and Nowendoc

Developing the corridor and identifying challenges

In line with a typical route selection process, we have carried out more in-depth assessments and engaged with landowners over time, which has helped inform potential tower locations and access track arrangements to reach project sites. As the design progressed from strategic planning into detailed, tower-by-tower design, several constraints were identified.

Aerial firefighting impacts

Operations at Chaffey Dam and Lake Glenbawn would be affected, requiring relocation of parts of the corridor to maintain aerial firefighting operations.

Challenging terrain

Sections of the corridor include very steep and rugged terrain, which has proven more challenging for access and tower construction as we've completed more detailed technical assessments.

Earthworks and clearing

Substantial increases in earthworks and vegetation clearing would be required to enable safe access and construct towers.

Local road impacts from spoil removal

Up to 2.5 million cubic metres of spoil from tower pad construction would need off-site disposal, resulting in over 320,000 heavy vehicle movements along local and regional roads unsuitable for this level of construction traffic.

Construction methods

Significant reliance on non-conventional construction methods and equipment, including heavy lift helicopters, would be required in steep or remote areas for tower construction.

Safety and program risks

Rugged terrain, limited road access, and co-location with existing transmission lines increases risks for workers and equipment, including a longer project delivery timeline and increased costs.

Limited public road access

Over 500km of narrow, winding, and substandard local roads were identified as potentially unsafe or inefficient for construction vehicles.

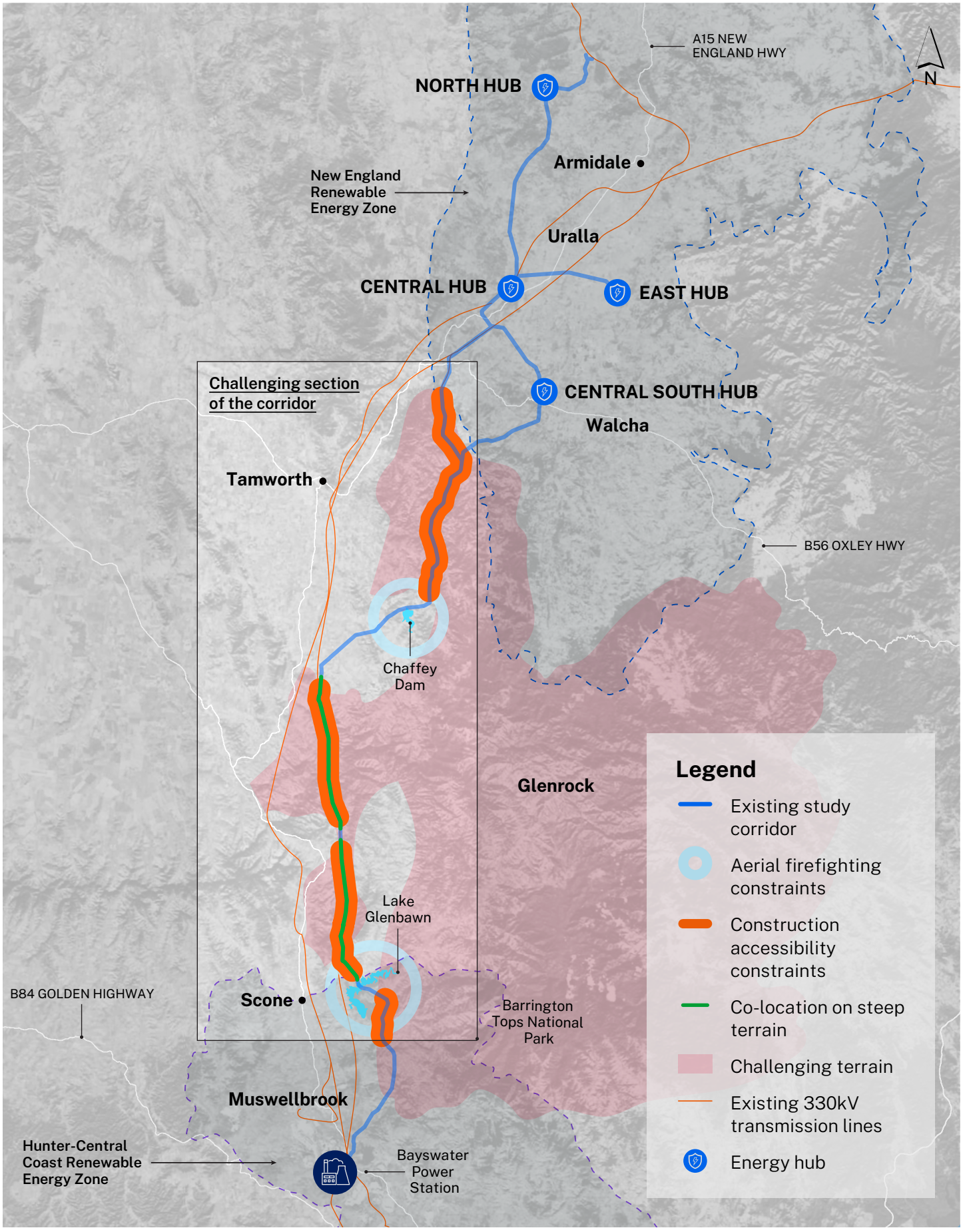
Co-location with existing transmission lines

We identified key constraints and risks in areas of steep terrain, including moving heavy equipment under or near live lines, as well as undertaking large amounts of earthworks and use of heavy-lift helicopters near live lines.

These challenges were particularly concentrated between south of Lake Glenbawn and the central south hub near Walcha.

While some challenges were known during strategic planning, the extent of constraints became clear during development of the project's reference design.

Challenges with the existing corridor



Investigating solutions

To resolve the corridor challenges we needed to make multiple refinements to the existing corridor or identify an alternative corridor solution.

We investigated both these options against our planning pillars to choose a solution which would deliver the best overall outcome for the project, including reducing impacts on the community and environment and meeting NSW energy targets.

1 Option 1: Refinements to the existing corridor

We explored a range of localised refinements to manage access, construction, and environmental impacts. These included adjustments to potential tower locations, span arrangements and foundation types, as well as modifications to construction equipment and methods.

These refinements would help address challenges in certain areas. However, the benefits would be limited due to the cumulative impact of multiple constraints spread across long stretches of the corridor.

As a key example, localised realignments around Lake Glenbawn and Chaffey Dam would avoid impacting aerial firefighting operations but increase construction challenges due to complex terrain and difficult access. These localised refinements would not address the challenges elsewhere in the existing corridor.

We found that options to refine the existing corridor would partly address key challenges but still result in longer and more difficult construction. This, in turn, would increase environmental and community impacts and risks to deliver the project on time.

These findings led us to focus our investigations on an alternative route.

2 Option 2: Moving to a new study area

To start investigating other options, we revisited the shortlisted corridors from our early planning process. This included the Mid-Western corridor to the east which was the second preferred corridor option outlined in the scoping report (July 2024). While partially addressing some constraints, the Mid-Western corridor still presented steep terrain, limited access, complex tower pad requirements, and extensive earthworks, and was not considered a viable alternative.

We also reviewed the findings of our Aberbaldie-Niangala Travelling Stock Reserve (TSR) assessment (August 2024) which is located nearby to the Mid-Western corridor. Using the TSR route itself for the transmission lines is still largely unsuitable due to high conservation value biodiversity, proximity to homes and other land use constraints. However, the TSR assessment did note more favourable terrain and access in the area in and around the TSR route.

Options to the west of the existing corridor were excluded as they would materially increase the transmission line length and significantly increase impacts to regional hubs like Tamworth and Scone.

We compared options to refine the existing corridor with options to move the corridor east and found moving the corridor would potentially reduce construction impacts while also avoiding impacts to aerial firefighting.

Guided by the findings, we identified a new study area around 20-40km east of the existing study corridor. The new study area adopts part of the Mid-Western corridor but follows a more direct route along more accessible and constructable terrain, requiring less construction and earthworks for tower pads and access tracks.

In comparison to the existing corridor, the new study area:

- **Follows easier and flatter terrain as much as possible**
- **Requires less access tracks built on private property**
- **Is more accessible to key local roads**
- **Avoids major regional hubs and impacts to aerial firefighting operations**
- **Maximises the use of public land and avoids National Parks**
- **Reduces overall community and environmental impacts.**

Comparison and assessment

We carried out an in-depth comparative assessment of the previous study corridor (with localised refinements) and the new study area using a multi-criteria analysis. This analysis is based on the NSW Transmission Guideline (2024) and EnergyCo's planning pillars, which we have used throughout the route selection process to compare and assess corridor options and refinements. The assessment found that the new study area would deliver a better overall outcome for the project, local communities and energy consumers.

Comparison of the previous study corridor and the new study area between Muswellbrook and central south hub

Foundational principle	Planning pillar	Previous study corridor	New study area
Efficiency and deliverability	Technical	Worse constructability outcomes and access challenges due to steep terrain. Significant number of access tracks required to be constructed to reach tower locations. Increased construction and safety risk.	Improved constructability outcomes due to flatter terrain. Requires less complex early work including more standard tower pads, shorter and less steep access tracks and more conventional construction methods making it safer, quicker and easier to build.
	Economic	Requires significant use of unconventional construction methods like the use of heavy-lift helicopters which increases construction time and safety risks.	Simpler and easier to build. Reduced need for unconventional construction methods resulting in lower risk and more efficient construction.
	Strategic	Higher risks to meet NSW energy targets.	Lower overall risk and better meets NSW energy targets.
Environment and land use	Environmental	Greater environmental impact, including more extensive vegetation clearing due to increased earthworks needed for enabling work like access tracks and tower pads. Reduced bushfire resilience, with a larger area of high category bushfire prone land.	Fewer impacts to the environment due to less earthwork required for enabling work. Reduced clearing of native vegetation. Avoids biodiversity offset site at Chaffey Dam. Avoids aerial firefighting zones identified in aviation assessments around Chaffey Dam and Lake Glenbawn, and smaller area of high category bushfire prone land.
People and communities	People	Closer to town centres with a greater number of dwellings located closer to the corridor. Greater impact on local communities due to greater heavy vehicle movements on local roads. Unconventional construction methods (eg. helicopters) would increase noise for nearby landowners and towns.	Located further away from town centres and impacts fewer dwellings. Less heavy vehicle movements required.

North community reference group meeting in Armidale

Multi-criteria analysis

Our multi-criteria analysis is based on the core principles of the NSW Transmission Guideline, in addition to EnergyCo's planning pillars — people, technical, environmental, economic and strategic.

This framework aims to balance key planning criteria to design the project in the best interests of communities and consumers.

You can view the NSW Transmission Guideline online at planning.nsw.gov.au.

Next steps to develop the corridor

Over the coming months we will be in the region carrying out technical and environmental assessments and engagement with landowners and the community to refine the new study area to 1km wide. The corridor will continue to be assessed and refined to around 250m wide for the environmental impact statement (EIS) which we expect to lodge in the second half of 2026.

The corridor will continue to be refined in response to submissions raised in the EIS and ongoing engagement with landowners. The final route will generally be narrowed to a 250m construction easement and then a 140m-wide permanent easement for the dual 500kV lines (70m easement for each line).

Following planning approval, the network operator will finalise the detailed design of the corridor for construction.

EnergyCo will continue to engage with communities and stakeholders and carry out detailed assessments to inform the final corridor for environment and planning approvals.

We will keep the community informed as the project progresses and welcome ongoing feedback to inform our planning.

EnergyCo pop up stall at the Aberdeen Highland Games

Frequently asked questions

How was community feedback considered in the decision to move part of the corridor?

The decision to move part of the corridor was made following detailed work to develop the design for environmental planning approvals. Landowner and community engagement has played an important role in this process as we've sought to better understand local conditions.

Bushfire management is a key example. Over the past several months we've been carrying out assessments and seeking expert advice to understand how bushfires are managed in the region, including the importance of Chaffey Dam and Lake Glenbawn as water sources for aerial firefighting.

Moving the study area means we avoid aerial exclusion zones around Chaffey Dam and Lake Glenbawn. We developed these zones in consultation with NSW Rural Fire Service and local aviation stakeholders to ensure the lines would not disrupt aerial firefighting activities.

The new study area covers a broad area around 3km wide and is intentionally wide so we can receive community and landowner feedback to refine the corridor.

Will the number of impacted landowners increase?

The new study area means 98 private landowners in the existing 1km-wide corridor will no longer be impacted. The new study area initially includes around 105 new private landowners; however, this number will reduce as we refine from a 3km-wide study area to a 1km-wide corridor. It's too early to say how many landowners will be within the 1km-wide corridor, however we expect the overall number of impacted landowners will reduce further.

Will this impact the project's development timeline?

There are unavoidable impacts by updating the corridor, including a revised development program for the project. This is necessary to make sure we can complete a robust assessment of the project for environmental planning approvals and allow more time for community engagement.

Timing changes are part of delivering complex projects. While the development timeline may take longer, the updated corridor will make the project easier and faster to build.

We are now expecting to lodge the EIS in the second half of 2026 with indicative planning approvals in 2027.

Is there a change to the energisation timeframe?

We previously advised that the New England REZ would deliver 6 gigawatts (GW) of network transfer capacity by 2034 through the first two stages. This will allow up to 12GW of new renewable energy generation to connect to the grid by the mid-2030s.

It is still too early to know the exact delivery date for the REZ, however we are working to understand this as we engage with industry in the network operator procurement process.

We will keep the community informed about further updates to the planned energisation dates as more information becomes available.

The original route follows existing transmission lines. Why was that considered appropriate for construction in the past, but not now?

EnergyCo's previous 1km-wide study corridor partially followed the existing 330kV transmission line corridor between Muswellbrook and Tamworth.

While co-location with existing transmission lines can help consolidate impacts to a local area, further detailed technical assessments found that co-location in these areas is problematic due to steep terrain, increasing constructability risks, environmental impacts and safety risks.

The existing 330kV transmission line was first built in the 1960s and uses the best available locations in the area. That means our two proposed 500kV lines would be located in more challenging areas, typically on land that is steeper and harder to build on, requiring more earthworks.

Some locations next to the existing lines presented extremely challenging terrain where access had significant high grades for long lengths. In these locations, non-conventional construction techniques such as heavy-lift helicopters would be needed to build the lines due to the access constraints. However, helicopter usage is further constrained due to safety risks of construction next to a live high voltage line.

While this may be technically feasible, the new study area we've identified would provide better overall outcomes with reduced impacts for construction, local roads and the environment.

Why can't existing transmission lines be upgraded as an alternative?

The existing 330kV transmission lines that currently transfer power between Bayswater, Tamworth and Armidale, and between Armidale, Kempsey and Newcastle, are operated by Transgrid. They are not suitable for the large amounts of energy to be transmitted for the New England REZ and are running near full capacity.

We considered if the existing lines could be upgraded to meet the capacity requirements for the REZ, however this option was excluded early in the evaluation process due to a number of constraints:

- high construction impacts as the existing lines would need to be taken down, easements widened, and new infrastructure built
- lengthy power outages during construction which would have a major impact on energy users and the operation of the National Electricity Market (NEM)
- increased impact to regional centres along the existing route which have experienced major growth since the lines were first built.

For these reasons, upgrading the existing lines was not a preferred option for the REZ and is not being considered further.

Will the transmission corridor now follow the travelling stock reserve (TSR)?

In August 2024, EnergyCo reviewed the Aberbaldie-Niangala travelling stock reserve (TSR) as an alternative corridor option for the New England REZ transmission lines following requests from the local community. The key driver of this request was to maximise the use of public land by using the TSR itself.

The TSR was assessed through EnergyCo's typical route selection and change management process including a multi-criteria analysis based on our planning pillars and principles. EnergyCo's assessment found an alignment following the TSR provided less favourable outcomes against multiple criteria, most notably impacts to private landowners. The TSR was not progressed on this basis.

This assessment found that placing the alignment exclusively within the TSR would have significant impacts including proximity to homes, high conservation value biodiversity within the TSR and the surrounding area, impacts to Biophysical Strategic Agricultural Land (BSAL) and the requirement for increased vegetation clearance.

While the new study area is located in the vicinity of the TSR, it is not positioned entirely within it. This approach helps to avoid the constraints and impacts that are outlined in the TSR assessment report.

The TSR assessment report identified that the area surrounding the TSR offers more favourable terrain, improved accessibility, and better bushfire management. The new study area takes advantages of these favourable conditions in the nearby area.

To view the TSR assessment report and FAQs, visit our website at energyco.nsw.gov.au/ne.

View the study area using our interactive online map

View the new study area in detail on our interactive map at energyco.nsw.gov.au/ne-rez-map.

The interactive map also includes key features of the New England REZ such as proposed energy hub locations, the location of generator projects in the REZ, the existing high voltage network and land boundaries.

Scan the QR code to view the interactive map.

Why can't the transmission lines go underground?

The New England REZ has an expected network capacity of 8GW. This is a significant amount of energy to be transported from the REZ south to Bayswater, requiring twin 500kV double circuit transmission lines along the bulk corridor in an overhead configuration. Some of the challenges of underground cables at this capacity include:

- **Construction:** Underground cables suitable for the high voltages required for long distance transmission would be much larger than the conductor or wire used in overhead lines, and much more complex to install. They are larger and heavier than equivalent capacity overhead lines and are typically installed in large, deep trenches which have a very high construction impact.
- **Cooling and thermal management challenges:** Underground transmission lines accumulate heat in the surrounding soil due to poor natural dissipation. The underground cables could not operate at full planned capacity without costly active cooling systems such as forced ventilation or fluid cooling. The scale and cost of implementing such cooling systems over long lengths of corridor would be immense and would introduce ongoing operational risks.
- **Time and cost:** Construction would be long and costly due to the extent of trenching and specialist procedures required to lay heavy cable without causing cable damage. This means that meeting energisation targets using underground cable technology would be extremely challenging, even if cost were not an issue.
- **Repairs and maintenance:** Underground cables need ongoing maintenance to function effectively. When cable failures occur, average repair times are significantly longer than those for overhead lines. Specialised skills, plant and equipment would be required, and large areas of excavation may be required to identify the fault, resulting in longer repair times and interruptions to energy supply.
- **Environment and land use impacts:** Underground transmission lines are unsuitable in complex or sensitive areas such as rivers, cliffs and Aboriginal heritage sites, while overhead transmission can more readily avoid or minimise impacts to these areas.

The limitations of undergrounding have been addressed in a Standing Committee on State Development Inquiry on the feasibility of undergrounding the transmission infrastructure for renewable energy projects (Parliament NSW, 2023), as well as the Select Committee on State Development Inquiry on the same topic. You can read more by searching 'undergrounding' at parliament.nsw.gov.au.

What about underground high voltage direct current (HVDC) technology?

High voltage alternating current (HVAC) and high voltage direct current (HVDC) are different systems used for transmitting electricity. Globally, overhead lines are standard practice for 400-500kV HVAC transmission lines like those proposed for the New England REZ.

Typically, HVDC is suitable only for transferring bulk electricity point-to-point over very long distances. It is not suitable for networks that require new generation to be readily connected, like the New England REZ.

HVDC would require large and costly converter stations to convert power for connection into the existing NSW grid as it uses HVAC technology.

Using underground HVDC transmission for the New England REZ would pose significant challenges due to the long distances and would require more infrastructure to be built, which would greatly increase construction impacts, duration and costs.

This would include using large trenches, about 20m wide, over the full length of corridor which would need to be wider and deeper in areas with undulating terrain due to the need for cabling to have a minimum depth and limited bending. This means it is not a feasible solution for the project.

Contact us

For information on the New England REZ, please visit our website or contact the project team.


nerez@energyco.nsw.gov.au


1800 061 114
toll free

energyco.nsw.gov.au/ne


Scan the QR code for more information.

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**.