

Landscape character and visual amenity

Central-West Orana REZ transmission project

September 2023

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

Overview

EnergyCo recognises that the Central-West Orana region has unique scenic qualities. The REZ transmission project is being planned in a way that will mitigate and avoid impacts to landscape and character and visual amenity as much as possible.

As part of the Environmental Impact Statement (EIS), EnergyCo carried out a detailed assessment of potential landscape character and visual amenity impacts during construction and operation of the project, as well as identifying mitigation measures to minimise and manage these impacts.

The assessment includes photomontages (artist's impressions) of potential visual impacts from public viewpoints and private dwellings, to help demonstrate the visual impact of the transmission infrastructure once operational.

EnergyCo has prepared an EIS for the Central-West Orana REZ transmission project. You can find information about how the project will be built in **Chapter 9: Landscape character and visual amenity**. For information about the EIS exhibition, including details of upcoming information sessions and how to make a submission, visit energyco.nsw.gov.au/cwo.

Landscape character and visual amenity snapshot



4 landscape character areas are identified within the project area, based on characteristics such as geology, topography, vegetation, built form and land use patterns:

- rural valleys
- forested hills
- mining areas
- undulating rural hills.



26 representative and unique publicly accessible viewpoints assessed.



Detailed view assessments were carried out at **91** private dwellings within the study area.

How the assessment was carried out

Landscape character

The EIS landscape character assessment involved:

- 1 Identifying landscape character types and zones within the project study area, based on characteristics such as geology, topography, vegetation, built form and land use patterns.
- 2 Assessing daytime landscape character by:
 - determining the sensitivity of each identified landscape character type, considering the value of the landscape and how susceptible it is to change
 - identifying the magnitude of change as a result of construction and operation of the project
 - assigning a level of landscape character impact (negligible to very high).
- 3 Assessing night-time landscape character using a similar approach to the daytime assessment, while also considering specific guidelines appropriate to night-time periods, including the Dark Sky Planning Guideline (NSW Department of Planning and Environment, 2016) due to the project being located in the NSW Dark Sky Region.
- 4 Identifying mitigation measures to avoid, minimise and manage potential impacts on landscape character.



Existing 500 kV transmission lines, Mt Nellinda Road.

Visual amenity

The EIS visual amenity assessment involved:

- 1 Identifying areas from which the project would be potentially visible using 3D computer modelling of the terrain and project reference design.
- 2 Assessing potential visual impacts from public viewpoints, including:
 - site inspections to confirm representative viewpoints where people are likely to view the project, such as from lookouts, road corridors or recreational areas
 - viewpoint photography and development of photomontages
 - determining daytime visual sensitivity and magnitude of change for each viewpoint
 - assigning a level of impact for each viewpoint assessed (negligible to very high).
- 3 Assessing visual impacts from private dwellings, including:
 - a preliminary visual impact screening assessment to identify potentially impacted private dwellings in the study area. This involved identifying all private dwellings within two kilometres of the project, completing a desktop screening assessment aimed at eliminating dwellings where a very low level of concern or effects are likely to be experienced and shortlisting private dwellings which required a detailed view assessment
 - completing detailed view assessments for the shortlisted dwellings, which involved detailed site inspections and photography, identifying the visual sensitivity of the view from each dwelling (by combining viewpoint sensitivity and scenic quality of the existing view) and assigning a level of impact by combining the visual sensitivity and magnitude of change to each viewpoint.
- 4 Identifying mitigation measures to avoid, minimise and manage potential impacts on visual amenity.

Visual impacts during operation

The EIS assessment included a preliminary screening for visual impacts at 131 private dwellings within two kilometres of the project. Of these properties, 91 private dwellings were found to have some potential for visual amenity impacts once the project is operational, were subject to further detailed assessment.

The assessment found:

- 20 private dwellings would experience a moderate visual impact, including seven host properties and 13 non-host properties
- 14 private dwellings would experience a high visual impact from transmission infrastructure, including 11 host properties and three non-host properties.

The main visual impacts during operation would be from large-scale structures such as transmission towers and energy hubs.

Some areas may experience visual impacts at night due to low-level lighting at energy hubs and switching stations for security, maintenance and emergency access. The transmission lines would not require any lighting and therefore would have no impact at night during operation.

Photomontages

Photomontages are photorealistic images intended to illustrate the size and scale of the project and aim to accurately represent the project according to the design detail available. They are created using a combination of 3D modelling and photo editing techniques.

The EIS includes photomontages and 3D modelling for representative viewpoints to support the assessment of visual impact from public viewpoints and private dwellings.

The photomontages used in this assessment illustrate the potential impacts of the project during operation. For public domain views, the viewpoints used to create these photomontages were chosen to represent a range of viewing locations, from a distance and orientation where the project would be most visible. The photomontage locations were also chosen to illustrate views from areas with the greatest visual sensitivity and where the greatest number of viewers would be located.

You can view the full suite of photomontages in the EIS by reading **Technical paper 3: Visual and landscape character (Appendix F)**.



Artist impression of the view towards Elong Elong energy hub from Dapper Road.

Visual impacts during construction





The main visual impacts during construction would be from:

- vegetation removal
- earthworks
- plant and equipment
- ancillary facilities, construction compounds and workforce accommodation.

Visual impacts during construction would be temporary and would be transient along the transmission alignment as work progresses. Moderate visual impacts would occur in locations with clear views to the construction areas and where there are views of concentrated construction activity, such as at the energy hub sites.

Mitigation measures

Measures to avoid and mitigate landscape character and visual impacts will include:

	Maintaining the existing landscape character and visual screening by minimising vegetation clearing.
	Limiting obtrusive lighting from construction sites and workforce accommodation facilities.
	Limiting obtrusive lighting from energy hubs and switching stations during operation.
	Investigating vegetation screening for private dwellings with a moderate or high visual impact in consultation with landowners.

About EnergyCo

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


Contact Us

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

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

