Environmental management

CALVALE TO CALLIOPE RIVER TRANSMISSION LINE REINFORCEMENT PROJECT

About the project

Powerlink is planning for a new transmission line between the Calvale Substation (near Callide Power Station) and the Calliope River Substation (near Gladstone). At 87km long, the new transmission line will mostly be constructed in existing spare easements, beside existing transmission lines. The project will strengthen and increase capacity of the transmission network in the region.

Powerlink is a Government Owned Corporation that owns, develops, operates and maintains the transmission network in Queensland.

Plant and animal studies

Desktop assessments were carried out during early planning and updated as the project progressed. Twelve flora (plant) and fauna (animal) field studies occurred between March 2023 and June 2025.

Studies occurred over a wide area of around 14,293 hectares. This included the 87km long, 60m wide transmission line alignment, substations and laydown areas, and a surrounding buffer zone. Only a small part of the study area (around 2.5 percent) may be directly affected by the project.

The outcome of desktop and field studies is an Ecological Assessment Report (EAR). It outlines the environmental values in the project area, looks at potential impacts on these values, and provides strategies to avoid, reduce or mitigate impacts. A copy of the EAR is available on the project webpage, as part of our Ministerial Infrastructure Designation (MID) Proposal Report (Appendix K).

Example of transmission lines spanning vegetation in high terrain, near Biloela

Powerlink acknowledges the Traditional Owners and their custodianship of the lands and waters of Queensland and in particular, the lands on which we operate. We pay our respect to their Ancestors, Elders and knowledge holders and recognise their deep history and ongoing connection to Country.

powerlink.com.au/calvale-calliope

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Cultural heritage

The Calvale to Calliope River Transmission Line Reinforcement Project extends over the traditional lands of the Gaangalu Nation People and Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda People. When we build new transmission lines or substations, we take all reasonable and practicable measures to avoid or minimise harm to cultural heritage.

Aboriginal cultural heritage found near our infrastructure is generally identified through consultation with Traditional Owners. We have been working with Traditional Owner groups about the project since 2023 and have progressively undertaken cultural heritage surveying along the transmission easement and at the substation sites.

Biosecurity

Biosecurity is a key focus for Powerlink. Biosecurity management measures will be developed to reduce the risk of spreading or introducing biosecurity matter during construction activities.

Powerlink takes biosecurity seriously. We have processes in place to avoid spreading weeds, pests, pathogens and diseases between properties or introducing new biosecurity material from outside the local bioregion. Powerlink manages biosecurity by:

- implementing a Biosecurity Management Framework across all projects and infrastructure
- installing washdown facilities, both permanent and temporary for construction
- discussing access requirements with landholders, covering vehicle, plant and equipment cleaning, specific access routes, and weed or pathogen mitigation
- creating project-specific biosecurity management requirements
- preparing a project-specific Environmental Works Plan (EWP), highlighting key environmental features and constraints, including biosecurity risks, and providing to personnel before site access.

Please visit powerlink.com.au/calvale-calliope to find out more about Powerlink's systems and processes for managing biosecurity risk, including avoiding the spread of weeds.

Visual impact

A Landscape and Visual Impact Assessment (LVIA) forms part of our MID Proposal Report (Appendix I). The LVIA follows an industry-standard process and evaluation criteria. There are two parts to the LVIA, a landscape character assessment and a visual assessment. The landscape character assessment identified one, highly localised, 'significant' impact on the 'forested ranges and mountains' category ('significant' being standard terminology used in LVIAs). The visual impact assessment found that no regionally important scenic viewpoints were significantly affected. Most viewpoints assessed rated as "moderate" or "minor to moderate" impact. This is due to the presence of existing infrastructure, co-location of new lines with existing corridors, and local topography and vegetation providing screening in many areas.

Existing transmission infrastructure near Gladstone

How we minimise environmental impacts

Powerlink is using the following approach to minimising impacts on ecological values:

1. **Avoid** activities that could directly or indirectly impact ecological values
2. **Minimise** impacts that can't be avoided
3. **Mitigate** by reducing direct and indirect impacts
4. **Restore** and **rehabilitate** impacted areas to promote long-term recovery

During early planning

Powerlink is committed to finding ways to reduce the need for vegetation clearing. Avoiding impacts is best achieved through early planning and during the site selection and design phases. An example of this is the decision to construct the project using existing spare easements where possible, co-located beside existing transmission infrastructure.

This can have several benefits compared to building and operating separate corridors, including restricting vegetation clearing to one corridor, avoiding further vegetation fragmentation. A co-located corridor also occupies less land than separate corridors. It also helps reduce the need for new access tracks and minimises the project's overall environmental impact.

During design

There are several ways to minimise impacts during engineering design. For example, positioning tower footings so lines span over sensitive areas or obstacles. This can reduce the need for vegetation clearing and avoid impacts on culturally or environmentally sensitive areas.

Unlike a road or rail project, transmission lines do not require earthworks and clearing along the entire alignment. In areas with sparse, low-height trees, clearing of vegetation can be avoided through spanning. Vegetation clearing will be limited to what's necessary for construction and bushfire risk management. Waterway crossings with riparian vegetation (plants that grow along banks of rivers and waterways) can be avoided in some circumstances through careful tower placement. We aim to minimise any clearing within riparian areas.

We need to ensure there is a safe distance between the transmission lines and vegetation. This helps manage bushfire risk and protect the secure and reliable operation of our transmission network. Large tree species usually cannot be retained if they are inside the safety clearance area.

Low height vegetation growing beneath transmission lines

Using survey technology to reduce impacts

Powerlink's design team has carefully considered the placement of infrastructure to reduce vegetation clearing and impacts on wildlife and habitat. This involved examining each tower pad and span individually.

We created an initial line design using software modelling. An aerial LiDAR survey was then conducted to model the actual vegetation along the alignment. LiDAR works by using laser light pulses to create a precise, three-dimensional map of an area. We layered the survey data with the line design, allowing us to identify where clearing would be needed to maintain safety clearances.

Where significant vegetation impacts were identified, consideration was given to where the line design could be adjusted to reduce or avoid impacts. Potential adjustments could include increasing tower height, moving tower locations, reducing span length, adding towers, and changing the tower type from suspension to tension design.

Before construction

Before construction begins, Powerlink will develop a range of management plans to guide how works will be undertaken and manage potential environmental impacts during construction. These include:

- an Environmental Management Plan (EMP), which outlines actions to reduce any possible impacts on ecological values and biodiversity throughout the project
- a Biosecurity Management Plan
- an Erosion and Sediment Control Management Plan
- an Acid Sulphate Soils Management Plan
- a Water Quality Monitoring Plan for waterways around Calliope River Substation
- a Matters of National Environmental Significance (MNES) Management Plan.

During construction

As with any major project, environmental impacts are highest during clearing and access works to prepare the site for construction. Construction activities involve installing transmission towers, lines and access tracks, which require vegetation clearing, excavation and ground reinstatement. Construction will happen in stages, starting with clearing and access.

The MNES Management Plan will include instructions for clearing works, such as areas to avoid, approved widths, methods and preparation steps.

Before construction starts, the work area and a surrounding buffer will be surveyed to identify any threatened plant species. If found, their locations and numbers will be recorded. If located outside the area of direct impact, they will be marked and protected as much as possible during construction.

Qualified wildlife spotters will carry out pre-clearance surveys and always be present on-site during clearing, to protect and relocate wildlife. They will also inspect habitat features (like hollow trees and rocks) before felling.

After construction

Reinstatement works will occur progressively as construction progresses. Final reinstatement will take several months to complete after construction completion. Areas that are needed for ongoing operational use are not usually reinstated. The type of reinstatement works will depend on the surrounding landscape, which varies along the alignment. The short-term goal of reinstatement is to stabilise soils to provide a suitable environment for vegetation growth and to prevent erosion.

Existing transmission infrastructure near Gladstone. It shows the area under the lines that must be kept free of large-growing trees to manage bushfire risk.

Further information

If you have any questions about the Calvale to Calliope River Transmission Line Reinforcement Project please contact us by:

- completing the contact form on the project webpage by scanning the QR code
- visiting powerlink.com.au/calvale-calliope
- emailing cqprojects@powerlink.com.au
- phoning 1800 635 369 (Monday to Friday, 7.30am – 5.00pm).

Landholders along the corridor are also welcome to contact their Landholder Relations Advisor.