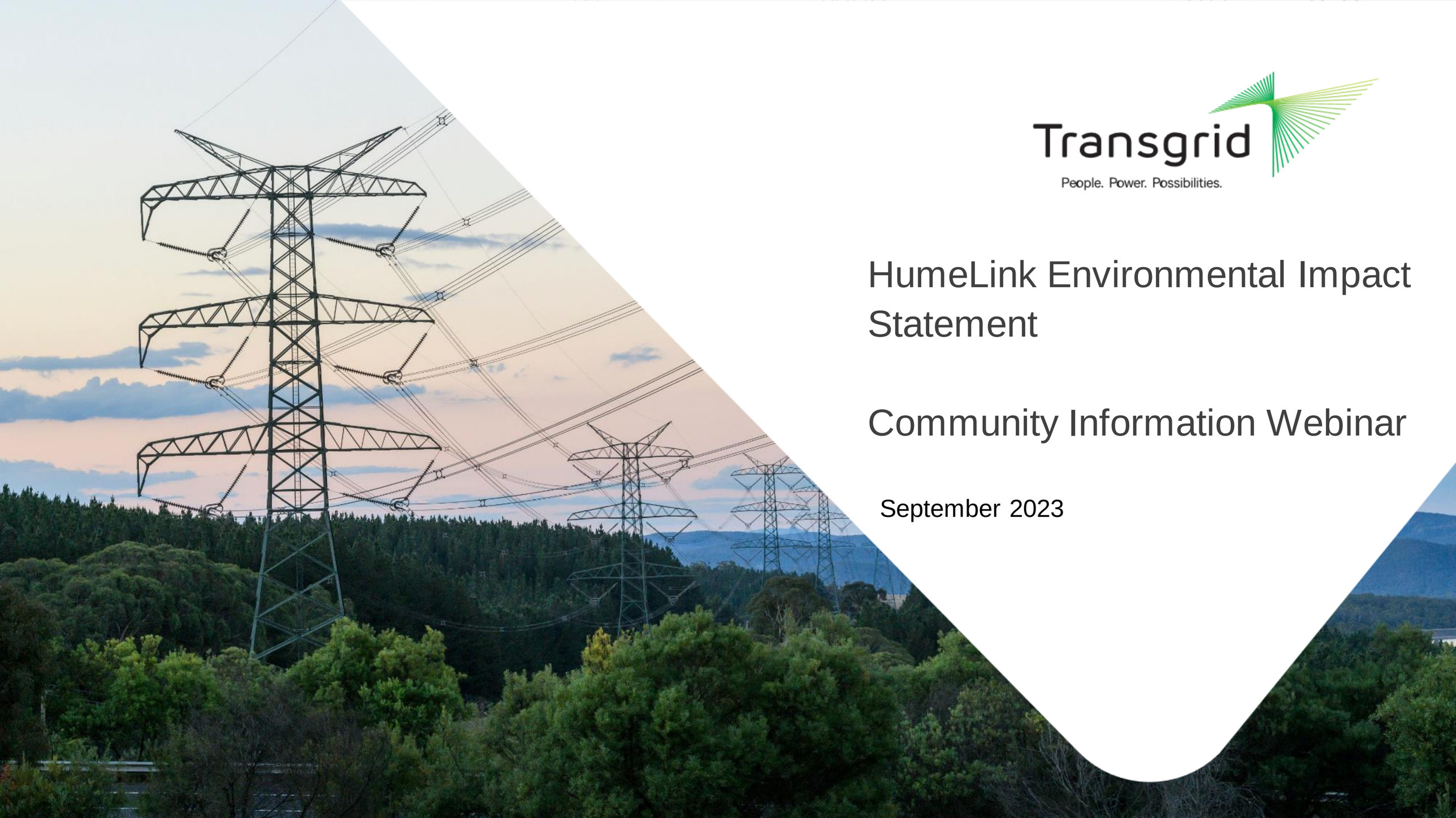

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People. Power. Possibilities.

HumeLink Environmental Impact Statement

Community Information Webinar

September 2023

Acknowledgment of Country

We begin our commitment to reconciliation by acknowledging the Traditional Owners of the land on which we meet today.

We pay respect to Elders past and present.

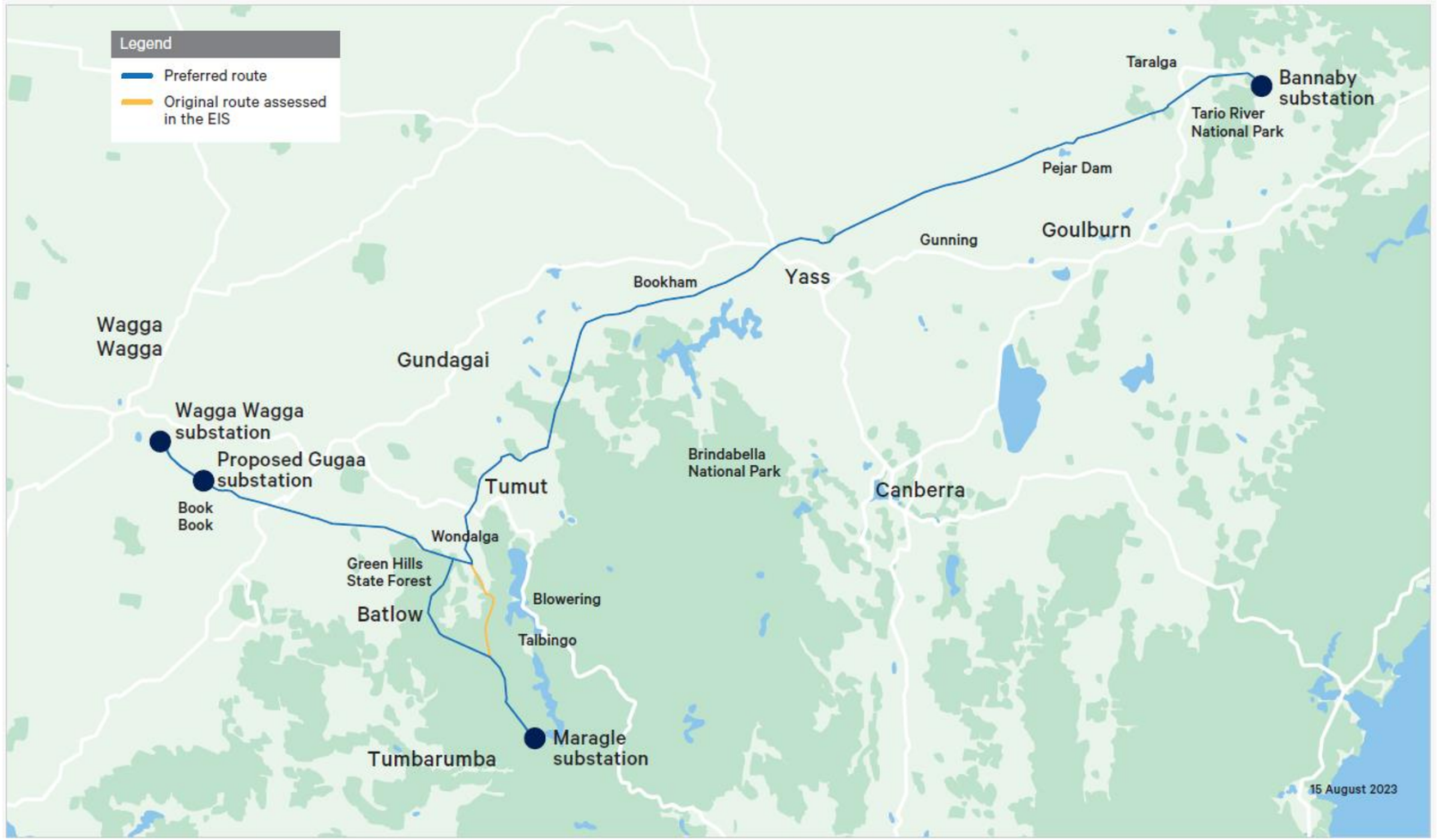
Transgrid

Agenda

Acknowledgment of Country
Introductions
Project overview
HumeLink EIS
Public exhibition
Questions/discussion
Next steps and close

HumeLink project overview: what is HumeLink?

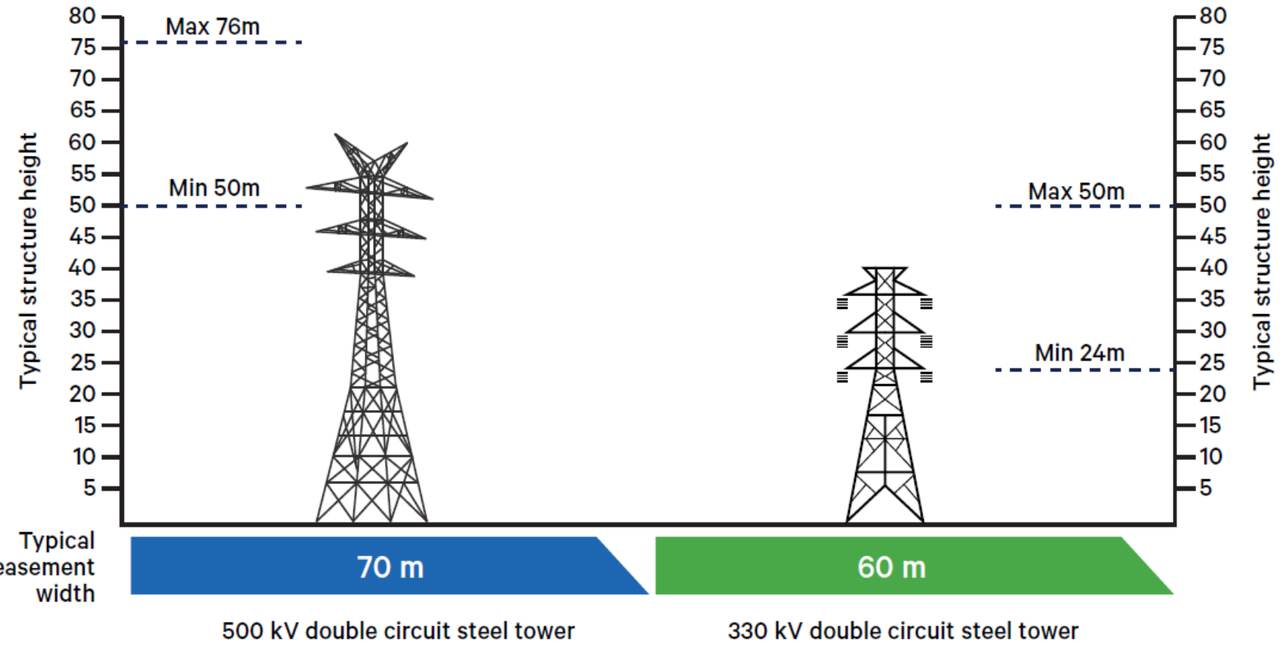
- HumeLink is a new 500kV transmission line which will connect Wagga Wagga, Bannaby and Maragle
- It is one of the state's largest energy infrastructure projects, with about 360 km of proposed new transmission lines, and new or upgraded substation infrastructure at four locations.



Concept design: transmission lines and structures

The project includes the construction of 500 kV transmission line sections between:

- Wagga 330 kV substation and the proposed Gugaa 500 kV substation
- Proposed Gugaa 500 kV substation and Wondalga
- Wondalga and the future Maragle 500 kV substation
- Wondalga and Bannaby 500 kV substation.



Concept design: substations

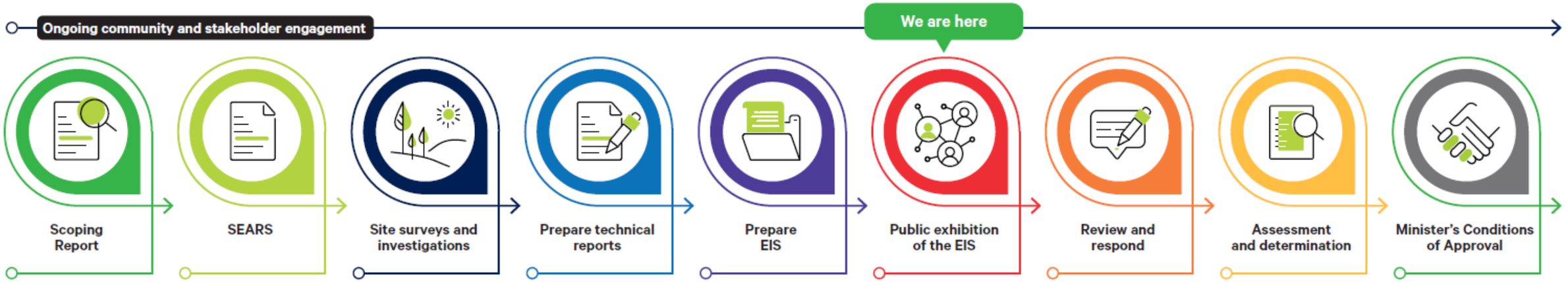
- Wagga Wagga 330 kV substation
- Bannaby 500 kV substation
- Proposed Gugaa 500 kV substation.

Future Maragle 500 kV substation*

HumeLink project overview: key dates

Environmental Impact Statement

HumeLink EIS – Planning approval pathway



What's involved
Scoping Report with a preliminary assessment of the potential impacts from the project submitted to the NSW Department of Planning and Environment (DPE)

What's involved
DPE issue the Secretary's Environmental Assessment Requirement (SEARs)

What's involved
Undertake site surveys and investigations to inform the draft EIS technical reports

What's involved
Prepare technical reports to inform the draft EIS

What's involved
Finalise technical reports and prepare draft EIS.

Registered Environment Assessment Practitioner scheme implemented in July 2022

What's involved
Public Exhibition period for community and stakeholders to provide feedback on HumeLink and make a submission to DPE

What's involved
EIS reviewed and submissions considered. Submit Submissions Report to DPE

What's involved
Final assessment of the EIS.

EIS required to be approved by the NSW and Commonwealth Governments under Assessment Bilateral Agreement

What's involved
HumeLink receives Ministers' Conditions of Approval which outline the requirements for next project stages. A Construction Environmental Management Plan (CEMP) will be developed and submitted to DPE for approval before construction

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What is an Environmental Impact Statement?

HumeLink is a Critical State Significant Infrastructure (CSSI) project and an Environmental Impact Statement (EIS) has been prepared for approval by the NSW and Commonwealth Governments.

The EIS outlines:

- potential economic, environmental and social impacts of the project
- environmental mitigation measures to address identified impacts

The EIS was lodged with the NSW Department of Planning and Environment (DPE) on Friday 25 August 2023

The EIS was placed on public exhibition by DPE from Wednesday 30 August 2023 and can be accessed via the NSW Major Projects Planning portal

During the public exhibition period, the community has an opportunity to have their say on the project via a formal submission to the DPE.

What have we assessed?

Aboriginal heritage

Agricultural land

Air quality

Aviation safety

Biodiversity

Bushfire risk

Greenhouse gas and climate change risk

Soils, geology and contamination

Economic

Electric and magnetic fields

Hydrology and flooding

Historic heritage

Landscape character and visual amenity

Land use and property

Noise and vibration

Social

Surface water and groundwater

Traffic and transport

Sustainability

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EIS Overview – Landscape Character and Visual Amenity

Assessment outcomes

Impacts	Mitigation measures
• 180 dwellings are either located within the project footprint or within 500m of it, of which: – 17 dwellings would have high visual impact – 27 dwellings would have a high-moderate visual impact – 36 dwellings would have a moderate visual impact • Moderate visual impacts from Snowy Mountains Highway, Gocup Road and Brungle Road.	• Opportunities for retention and protection of existing vegetation will be identified during detailed design • Near Neighbours – engagement with adjacent landowners who might be impacted from a visual amenity perspective • Consultation with landowners identified to have a moderate to high visual impact to evaluate property-specific mitigation measures.

EIS Overview – Landscape and visual – public viewpoints

View south from Snowy Mountains Highway

View south-east from Brungle Road

EIS Overview – Landscape and visual – public viewpoints

View west from Bannaby Road

View south from Cooks Hills Road

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EIS Overview – Land Use and Property

Impacts	Mitigation measures

• Changes in land tenure from property acquisition and establishment of easements (including loss of agricultural land)
• Minor temporary impacts on property access during construction
• Fragmentation of land parcels during construction and operation
• Potential removal or adjustment of structures
• Restrictions within the transmission line easement for some agricultural, forestry and other activities
• Potential biosecurity impacts
• Temporary restrictions to livestock and vehicle movements during construction
• Potential disruptions to on-ground, aerial and irrigation operations
• Potential radio communication and global positioning system (GPS) interference.
	• Development and implementation of property management plans (PMPs) for directly impacted landowners to manage construction impacts
	  ○ Establishment and use of temporary and permanent access tracks
	  ○ Property access requirements
	  ○ Management of livestock movements
	  ○ Property operational requirements
	  ○ Biosecurity controls
	PMPs to be developed in consultation with landowners.
	• Disturbed areas would be stabilised and appropriately rehabilitated following the completion of construction at each location.
	• Any requirements related to the ongoing operation and maintenance of the easement would be agreed in consultation with affected landowners and will follow Transgrid's standard operating procedures and protocols.

EIS Overview – Bushfire Risk

Potential impacts	Mitigations
During construction: • Construction activities involving hot works • Construction equipment such as bulldozers and excavators • Motor vehicle exhaust systems especially diesel-powered trucks and light vehicles • Electrical faults in equipment • Inappropriate storage and handling of dangerous materials.	• Control for risks through engineering design in line with construction requirements • Control for risks through land management, with reference to Asset Protection Zone (APZ) and in consideration of land features such as slope, vegetation and climate, and transmission line clearances. These include: ○ Outlining the APZ around substations, construction compounds and worker accommodation facilities ○ Managing vegetation within the proposed transmission line easement in accordance with • Transgrid's existing vegetation management plans. • Emergency preparedness and response procedures, including a project specific Bushfire Emergency Management and Evacuation Plan (BFEMEP).
During operation: • As above • Substation and transmission line operation if mechanical failure or direct or indirect contact (if within safety clearance space) with vegetation occurs • Accidental ignitions caused by plant, equipment, motor vehicles or hot works during maintenance activities.	

EIS overview – Biodiversity

Assessment outcomes

Assessment carried out adopts a precautionary (i.e., conservative) approach, especially where there are unknowns. May lead to scale of impacts looking worse. There are opportunities for impact reduction during design refinement.

Impacts	Mitigation measures

• Loss of vegetation from clearing
• Loss of habitat for threatened ecological communities or fauna species
• Disturbance to wildlife from construction activities
• Spread of weeds, pests and pathogens
• Sedimentation impacts on water quality affecting aquatic species
• Habitat fragmentation from the creation of an easement
• Potential fauna collisions or electrocution due to the transmission lines.
	• **Design** – refinement of the disturbance footprint during detailed design and construction
	• **Construction** – a Biodiversity Management Plan will be developed as part of the CEMP. Will be supplemented by a:
	  ○ Connectivity Strategy
	  ○ Hollow and Nest Strategy
	• Other measures in the CEMP to address erosion and sedimentation, air quality, noise, and traffic impacts.
	• **Operations** – Transgrid guidelines and procedures for maintenance including vegetation management
	• Residual biodiversity impacts will be offset in accordance with BAM through the HumeLink Biodiversity Offsets Delivery Strategy.

Example of Alpine wetland/ fen habitat

EIS Overview – Traffic and Transport

Assessment outcomes

	Impacts	Mitigation measures

Construction	• Temporary increase in traffic movements on roads connecting work sites for the duration of construction activities – variable activity due to multiple work fronts
	  ○ Transport of construction materials and equipment, waste and spoil
	  ○ Transport of construction materials and equipment from multiple locations using national, state and local road networks, as well as access tracks (including light and heavy vehicles, and in some instances over-size and over-mass vehicles)
	• Construction work to occur in a progressive manner along the project footprint
	• Road network performance
	  ○ Assessment done based on level of service
	  ○ Study area is expected to maintain the same level of performance
	• Temporary land and road crossing during transmission line stringing.
		• Regular communication on construction traffic with the relevant road and rail authorities, community and motorists, landowners and project stakeholders
		• Development of a Traffic and Transport Management Plan (TTMP) (part of the CEMP)
		• Dilapidation surveys prior to construction work to evaluate current condition of the road surface (on local roads only)
		• Subsequent road condition assessment at the completion of project construction and rectification of any damage caused by the project.

Operation	• Infrequent movements across the project footprint and the surrounding transport network – for maintenance, easement inspection.	

EIS overview – Aboriginal heritage

Assessment outcomes

Impacts	Mitigation measures

• Precautionary approach adopted
• Summary of ACHAR findings for the project footprint:
  ○ 90 Aboriginal heritage sites (incl. 79 stone artefact sites)
  ○ Eight potential archaeological deposits
  ○ Three modified trees
  ○ Does not impact known Aboriginal reserves or early historical properties where documented significant historical interactions with Aboriginal people occurred
  ○ One significant Women's site identified at Derringullen Creek will be avoided.
	• Impacts would be reduced through implementation of the avoid, minimise and mitigate principles.
	• Heritage Management Plan will be developed with RAPs and implemented as part of the CEMP:
	  ○ Where impacts cannot be avoided, surface artefacts and subsurface deposits may be salvaged, in consultation with RAPs, as a measure to mitigate harm
	  ○ Unexpected finds procedure
	  ○ Heritage monitoring.

Example of a scarred tree

EIS overview – Noise and vibration

Assessment outcomes

	Impacts	Mitigation measures

Construction	• Noise from site establishment work including vegetation clearing, civil works for new access tracks or compounds, and laydown areas
	• Noise arising from:
	  ○ construction of transmission lines – use of plant and equipment, concrete batching, erection of steel components
	  ○ construction of new substation and modification of existing substations – civil works, erection of new buildings and steel structures
	• Vibration impacts from construction equipment
	• Construction traffic noise.
		• Construction noise to be managed at the source to reduce the potential noise and vibration impacts from the project.
		• Equipment selection
		  ○ Work hours
		  ○ Noise screens
		• Noise and Vibration Management Plan (NVMP).

Operation	• Audible noise from the operation of high voltage transmission lines (corona noise) - noticeable under certain weather conditions
	• Noise arising from the operation of the new substation (from transformers or shunt reactors)
	• Trigger levels (determined in accordance with NPfI definitions)
	  ○ 'Intrusive' noise impacts
	  ○ Land use amenity.
		• Operational substation noise to be managed by incorporating design measures including selection and positioning of equipment.
		• Operational transmission line noise impacts to be considered during detailed design and confirmed with noise monitoring once the transmission lines are operational.

EIS overview – Air quality

Assessment outcomes

Impacts	Mitigation measures
• Earthwork and vegetation removal • Establishment and use of construction compounds and worker accommodation facilities • Construction and use of access tracks • Movement of vehicles to and from construction areas including exhaust fumes • Main construction work for project infrastructure.	• Water spraying for dust suppression • Locating dust generating activities away from receivers • Protection and strategic location of stockpiled materials • Covering loads when transporting dust generating materials • Minimising the extent of ground disturbance and stabilising disturbed areas as soon as practicable • Planning and scheduling vegetation clearance.

A water cart used to control dust on construction sites

Official

EIS overview – Social

Assessment outcomes

	Impacts	Mitigation measures
Construction	• Reduced availability of accommodation from increased demand from construction workers • Temporary construction impacts including traffic and amenity (from dust, noise, vibration) • Localised and temporary visual amenity impacts from construction activities • Temporary increase in the demand for goods and services • Positive benefits from employment and upskilling opportunities.	• Investigation of additional temporary worker accommodation facilities • Consultation with local service providers • Ongoing engagement with affected landowners, the community, and interested organisations • Individual Property Management Plans (PMPs).
Operation	• Opportunities for investment through Transgrid's support initiatives • Potential visual amenity impacts from permanent infrastructure • Potential impacts to farming operations and businesses from acquisitions, easements and temporary leasing arrangements.	• Opportunities for retention and protection of existing vegetation will be identified during detailed design • Tailored plans to manage impacts, promote opportunities and achieve a positive legacy.

EIS overview – Economic

Assessment outcomes

	Impacts	Mitigation measures
Construction	• Employment opportunities during construction • Increase in expenditure for local businesses and retailers • Investment return through increased demand for temporary accommodation • Tourism (local expenditure and availability) • Housing availability • Temporary impacts on agricultural productivity including impacts on forestry land.	• Temporary worker accommodation to ease demand on short-term rental accommodation • Tailored management plans to manage and reduce economic impacts (including a Worker Accommodation Strategy).
Operation	• Contribution to net market benefits • Increased competition in wholesale energy • Help lower and stabilise electricity prices, reduce volatility in the longer term • Impacts on land productivity.	• Economic impacts associated with direct loss of productive land would be minimised through easement compensation.

EIS overview – Soil and Contamination

Assessment outcomes

	Impacts	Mitigation measures
Construction	• Soil erosion and sediment transport from excavation, vegetation removal and vehicle movements • Salinity impacts from exposure of saline soils during earthwork • Mobilisation of asbestos fibres (potentially impacting human health).	• Mitigation measures in the Construction Environmental Management Plan and associated Soil and Water Management Plan • Risk of unexpected contamination managed via unexpected contamination finds protocol.
Operation	• Little risk of soil erosion and transport of sediment due to minimal exposed topsoil • Long-term minor salinity impact due to changes to soil profile • Localised contamination from vehicle accidents, leaks and spills.	• Transgrid's existing environmental policies and framework.

Official

EIS overview – Waste

Assessment outcomes

	Impacts	Mitigation measures
Construction	• Waste generated from clearing/removing vegetation, earthwork activities, workers, and excess construction material • Types, quantities and classifications of waste generated would vary and be confirmed during construction.	• Management of construction waste would be specified in the Waste Management Plan prepared as part of the CEMP.
Operation	• Minimal waste expected during operation including electrical components from maintenance, oil and green waste from vegetation maintenance, and wastewater from substation operation.	• Minimal waste to be managed in accordance with Transgrid's existing Environmental Management System and processes • All waste for offsite disposal would be collected by an authorised contractor and taken to an appropriately licensed waste facility.

Official

EIS overview – Surface Water and Groundwater

Assessment outcomes

	Construction Impacts	Operational Impacts
Water supply and management	• Non-potable water for dust suppression • Potable water for worker accommodation • Wastewater generated to be collected and disposed at local wastewater treatment plants.	• Non-potable water required for maintenance activities and substation operation.
Water quality, erosion and sedimentation	• Surface water (impacts from vegetation clearing, excavation and earthworks, stockpiling of soil and construction materials).	• Impacts would vary depending on the location and proximity to sensitive receiving environments.
Geomorphology	• Short-term and limited impacts from dirt and runoff next to and into waterways • Installation of waterway crossings.	• Impacts limited to the Bannaby 500 kV substation and permanent waterway crossings.

Mitigation measures

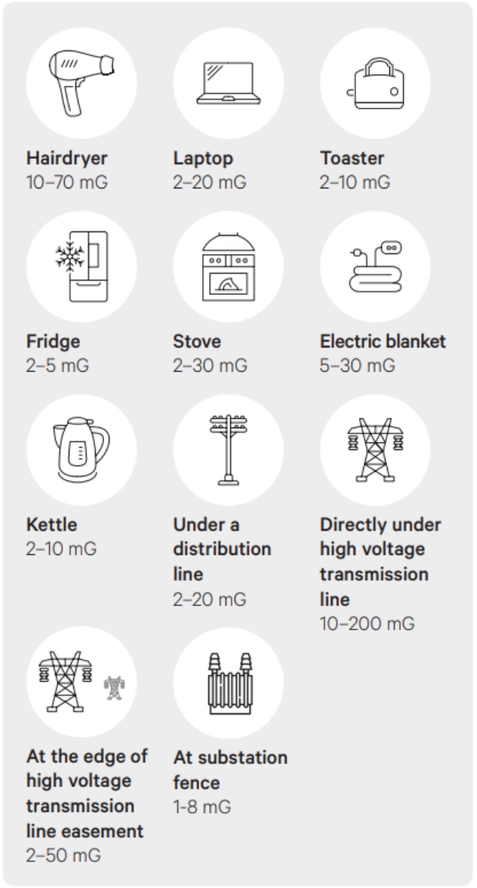
- Erosion and Sediment Control Plan (ESCP) during construction
- Scour (washout) protection in the design of infrastructure sitting within waterways
- Water quality monitoring during construction
- Water supply and management agreements between delivery partners and water users/suppliers
- Construction methodology focused on minimising impacts.

Official

EIS overview – Electric and Magnetic Fields

What does this study assess?
The assessment included modelling of different sections of the transmission lines as well as where the transmission lines would intersect or parallel other existing transmission lines. A separate assessment of EMF at the substations was also completed.

	Assessment outcomes
Transmission lines	• The contribution of the proposed 500 kV lines to the magnetic field environment is expected to be well below the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guideline Reference Level • The electric fields directly below the transmission lines would comply with the Basic Restrictions under the ICNIRP guidelines
Substations	• Gugaa 500 kV substation designed to ensure that the EMF complies with the relevant ICNIRP guidelines ○ Enclosed by a security fence and access to the substation would be controlled to authorised persons only • Modifications to the existing Wagga 330 kV and Bannaby 500 kV substations would be designed to ensure EMF levels are also below the adopted criteria

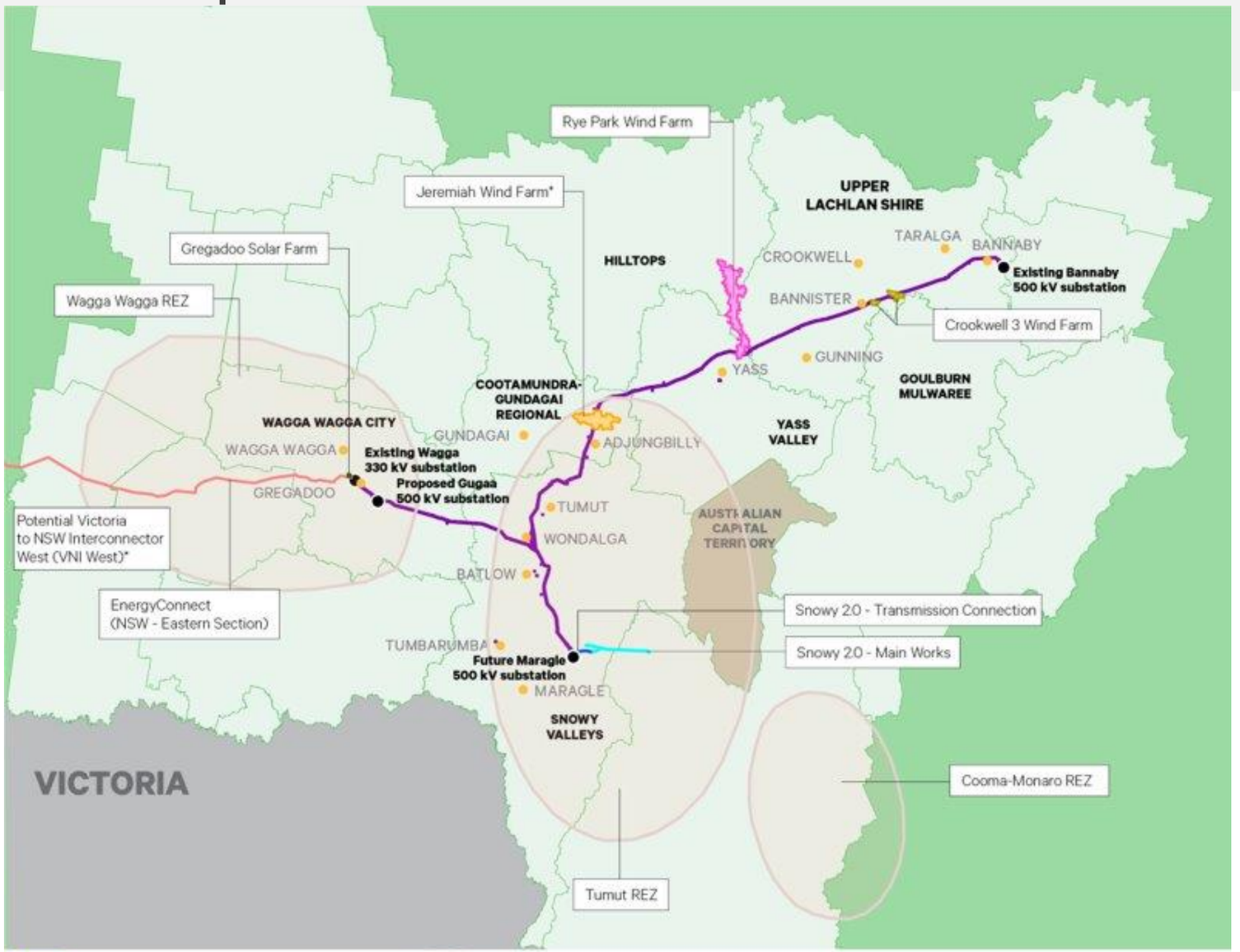


Typical values of magnetic fields measured near various appliances and powerlines

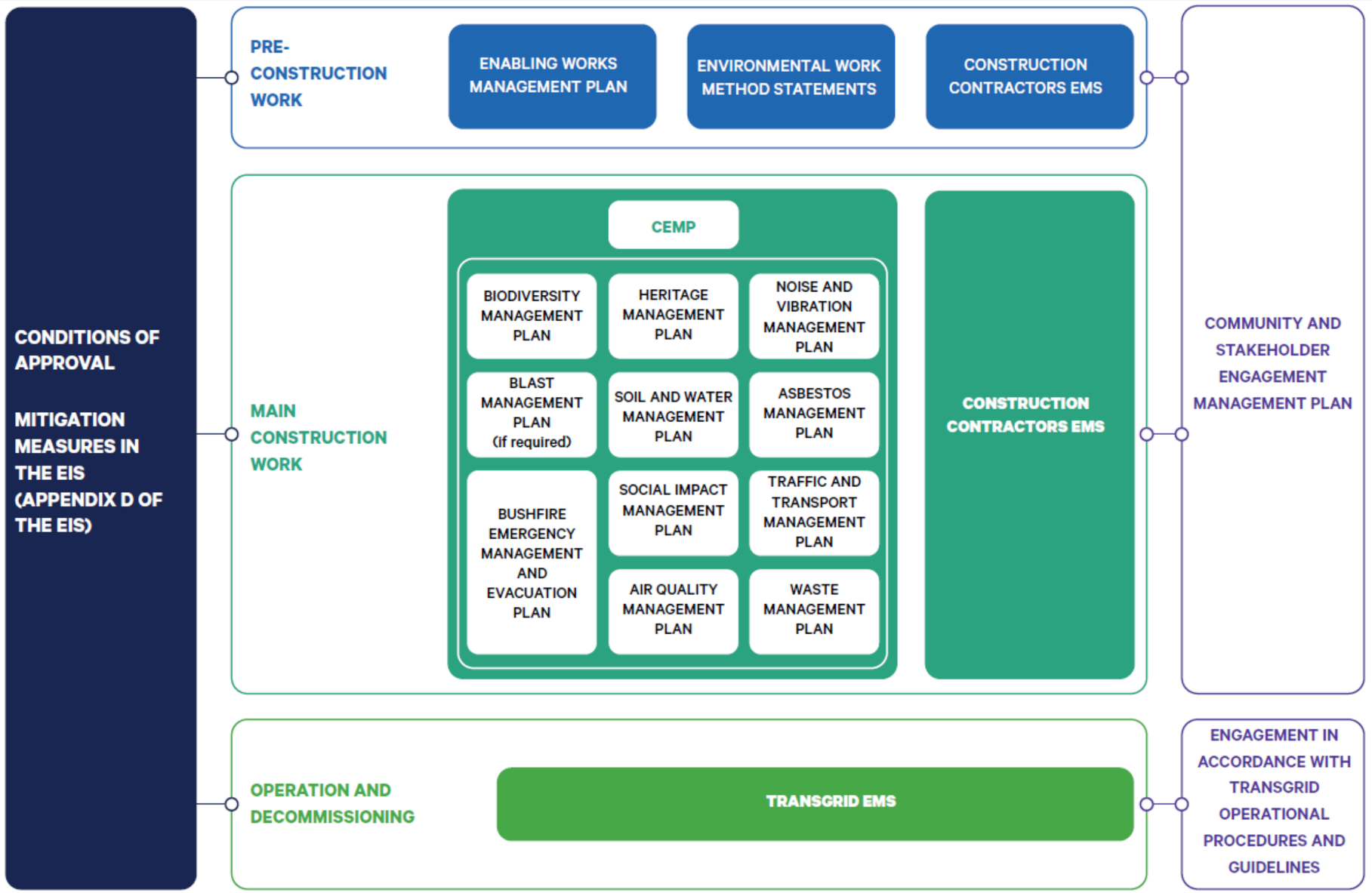
Management Measures

- Reduce intensity of EMF by locating lines away from residences to minimise ongoing public exposure
- Studies have found no detectable effect from EMF emissions from transmission lines on crops, farm animals or natural ecosystems

Cumulative impacts



Environmental management approach

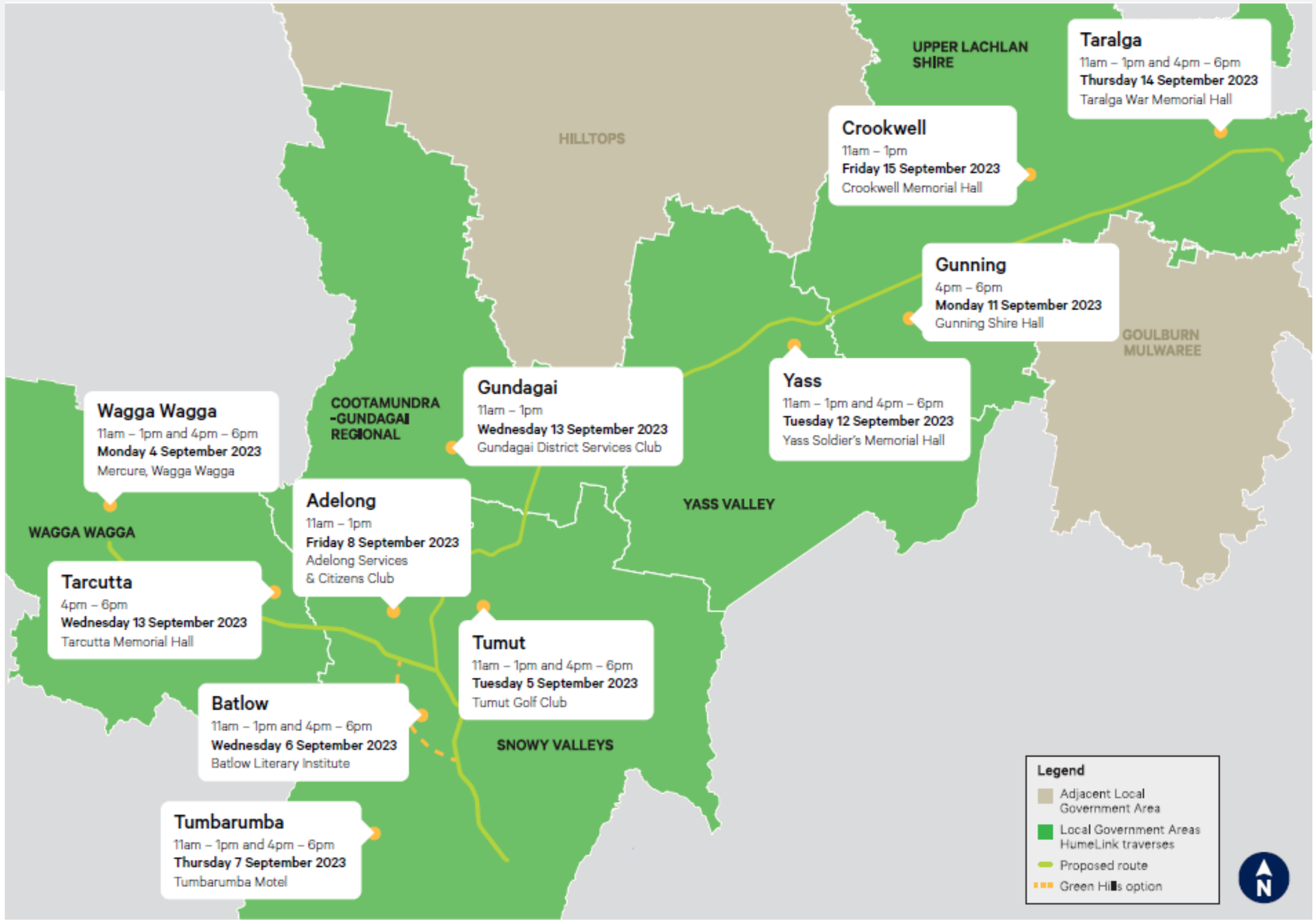


Public exhibition

EIS Public exhibition – Information available on HumeLink EIS

Transgrid

Community information sessions



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EIS Public exhibition – How to make a submission

How to make a submission to the NSW Department of Planning and Environment (DPE)

Online

1. Visit the NSW DPE Major Projects Planning Portal: www.planningportal.nsw.gov.au/major-projects
2. Create a Major Projects account by clicking the 'Sign in' button
3. Search for the HumeLink project
4. Click the 'Make a submission' button

Post

Post your hard-copy with both the mailing envelope and submission addressed to:

Director – Energy Assessments
Planning and Assessment
Department of Planning and Environment
Application number: **SSI-36656827**
Locked Bag 5022
Parramatta NSW 2124

The EIS public exhibition process for the HumeLink project is run by the NSW Department of Planning and Environment (DPE). All submissions must be addressed to the Department and must be made within the public exhibition period.

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EIS Public exhibition – How to make a submission

Writing tips

- A submission can be written in bullet points or full sentences
- A submission can be written in plain-English and does not require technical expertise

Submission criteria

- A submission on the HumeLink project must include the Application number SSI-36656827
- A submission must include your full name and address. You can request to have your name withheld
- A submission must be signed
- A submission must include a statement on whether you support, object, or are providing comments on the issues raised in the EIS
- Submissions can be made by an individual or a group
- A group submission signed by one person is considered a single submission
- Where relevant, provide reasons and/or supporting information for any conclusions made in the submission
- If there is new information that should be considered, provide supporting documents
- An effective submission considers the purpose of environmental impact assessment and refers to a relevant issue or key matter in the EIS

Lodging a submission

- Submissions must be sent directly to the NSW Department of Planning and Environment (DPE). Transgrid cannot receive or send submissions to the DPE on behalf of submitters
- Submissions must be received before midnight on the last day of the exhibition period
- An online submission requires an account to be created on the NSW Major Projects Planning Portal
- Online submissions must be made via the NSW Major Projects Planning Portal. Follow the step by step instructions on their website: www.planning.nsw.gov.au/have-your-say

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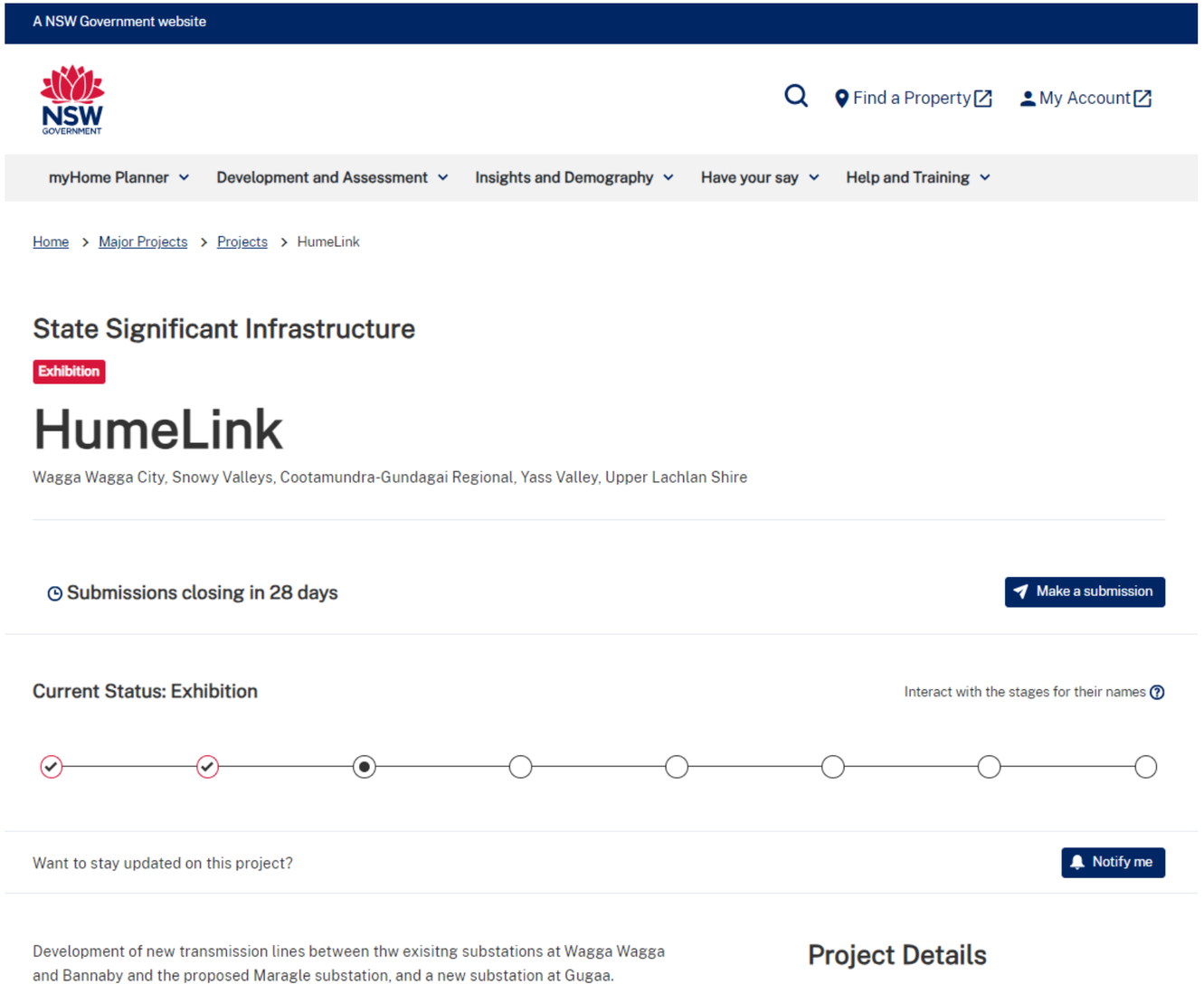
NSW DPE Major Projects Planning Portal



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Digital EIS

Transgrid HumeLink Digital EIS

Home | Digital EIS | EIS PDF download | Make a submission

- Introduction
- Strategic context and project need
- Project description
- Engagement
- Summary of assessment
- Environmental management
- Abbreviations and glossary

INTRO

Introduction

Chapter 1 (Introduction) of the EIS provides an overview of HumeLink and *Chapter 7 (Approach to assessment of impacts)* of the EIS provides further detail on how the project was assessed.

Click here for map instructions. The zoom has been restricted in some maps. The sources for data visualised in this chapter can be found here.

Who is Transgrid?

Transgrid operates and manages the high voltage electricity transmission network in NSW and the ACT, connecting generators, distributors, and major end users through 13,000 kilometres of existing high voltage transmission lines and 121 substations.

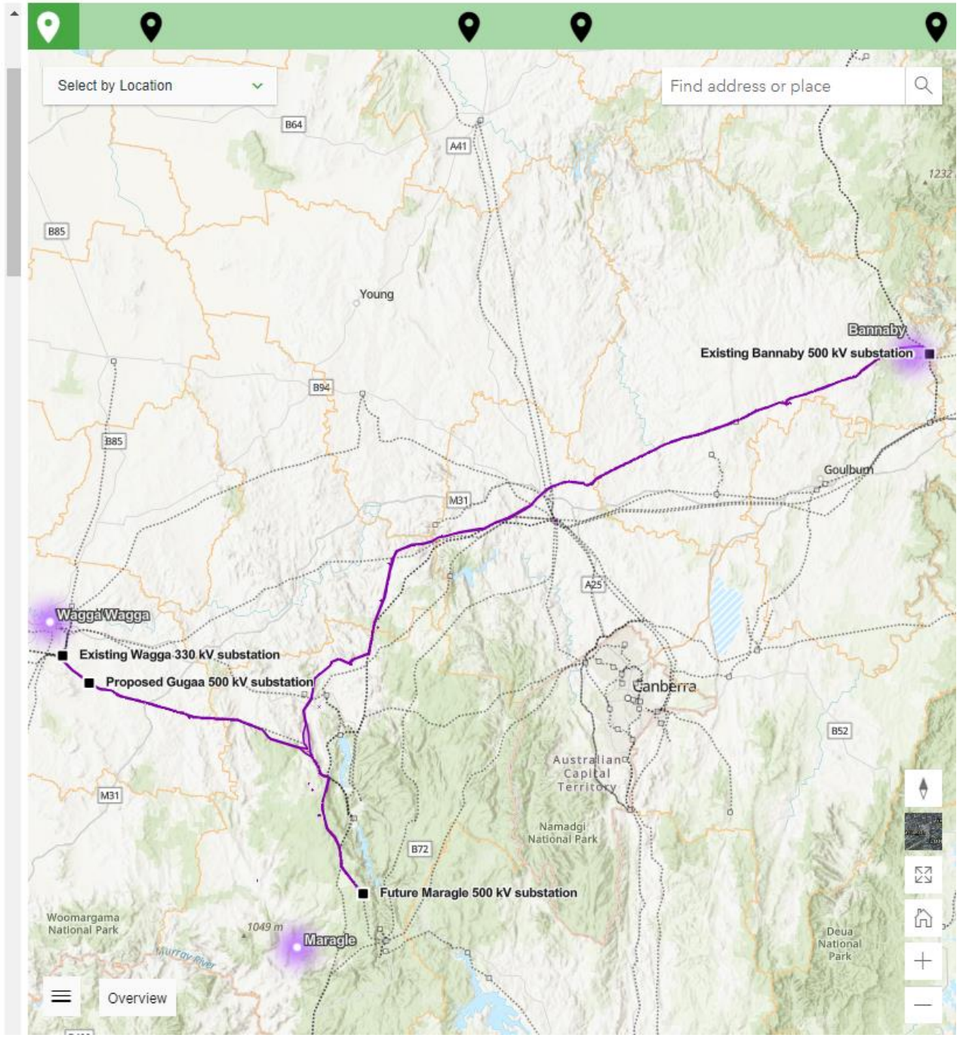
Transgrid's network forms the backbone of the National Electricity Market, enabling energy trading between Australia's three largest states along the east coast and supporting the competitive wholesale electricity market, while leading the transition to a clean energy future.

What is HumeLink?

Transgrid is proposing to increase the energy network capacity in southern NSW through the development of about 360 kilometres of new 500 kilovolt (kV) high-voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle. The project is known as HumeLink. The project would be located across five Local Government Areas (LGAs).

When completed, HumeLink would achieve the objectives to:

- increase the transfer capacity between southern NSW and major load centres within NSW (Sydney, Newcastle and Wollongong)
- reinforce stability and reliability in the network
- facilitate transition of the network to connect new renewable generation.



Questions

Thank you

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Transgrid