



Mount Piper to Wallerawang Transmission Line Upgrade

Technical Report 12 – Economic and Employment Assessment

Transgrid

August 2025

→ The Power of Commitment



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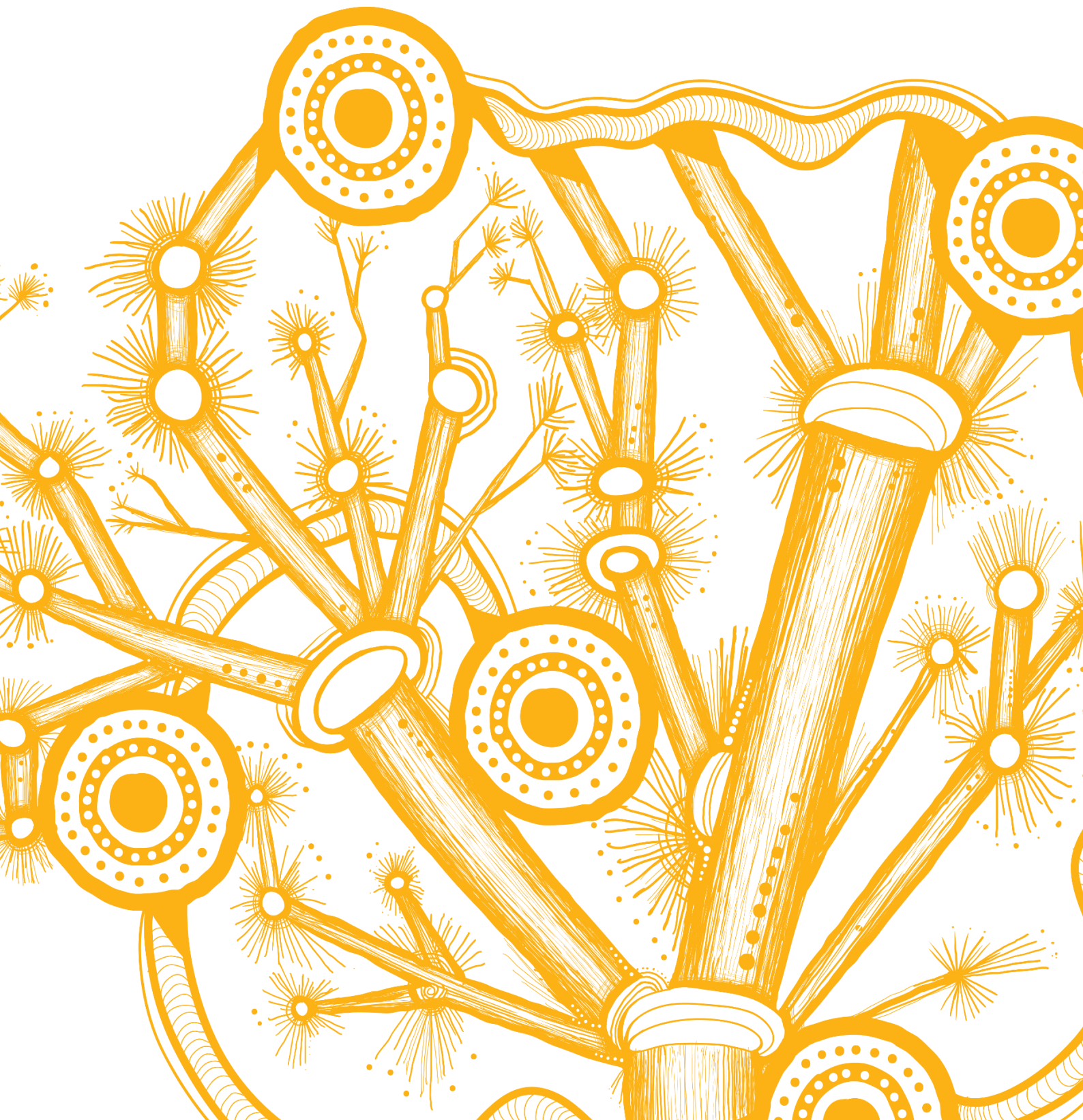
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Acknowledgement of Country

Transgrid and GHD acknowledge Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land, water and sky throughout Australia on which we do business. We recognise their strength, diversity, resilience and deep connections to Country. We pay our respects to Elders of the past, present and future, as they hold the memories, knowledges and spirit of Australia. Transgrid and GHD are committed to learning from Aboriginal and Torres Strait Islander peoples in the work we do.



Executive summary

The project

Transgrid proposes to deliver approximately eight kilometres (km) of new 330 kilovolt (kV) transmission line and double circuit transmission structures located between the Mount Piper and Wallerawang 330 kV substations (the project). The project would incorporate sections of an existing, single-circuit 132 kV transmission line, where the two transmission lines would share a widened easement and transmission structures. The project is located within the Central West region of NSW within the Lithgow Local Government Area (Lithgow LGA).

The project is identified in the NSW Network Infrastructure Strategy (EnergyCo 2023) and also supports the key tenets of the NSW Electricity Infrastructure Roadmap (Roadmap) (DPIE 2020). The Roadmap identifies that the expansion of renewable generation must be accompanied by increased transmission capacity to transfer power from Renewable Energy Zones (REZ) in inland NSW to key demand centres. The Mount Piper to Wallerawang Transmission Line Upgrade Project would provide the additional capacity required to reliably transmit power from the Central West Orana REZ to the Greater Sydney region.

Purpose of this report

This economic and employment impact assessment has been prepared as part of the Environmental Impact Statement (EIS) to assess potential impacts from the construction and operation of the project on the local region of the Lithgow LGA and the remainder of NSW and outlines proposed management measures. The assessment has been undertaken in accordance with the environmental assessment requirements of the Planning Secretary of the Department of Planning, Housing and Infrastructure (the SEARs).

Existing economy

Lithgow LGA is one of NSW largest LGA regions in area (spatially), but medium sized based on economic activity. Its gross regional product, a measure used to indicate the size or net wealth generated by a local economy, was estimated to be \$1.75 billion in 2023, contributing 0.23 per cent of NSW's Gross State Product (id Consulting Pty Ltd, 2025b). In 2021, Lithgow's population was 20,724, of which a total of 9,246 were employed (ABS 2021 census data, id Consulting Pty Ltd 2025b). The population is an aging population with 32 per cent over the age of 60.

The economy is diverse, with significant contributions from health care, public administration, retail trade, mining, construction, electricity, gas, water, waste services, and niche manufacturing. A portion of local residents (about 11 per cent) are employed in the mining sector, while only about 3 per cent are employed in the construction sector. The construction sector in Lithgow is relatively small compared to the rest of NSW.

Assessment methodology

This economic and employment impact assessment presents estimates of economic impacts by applying an extension of the conventional input-output method. The analysis uses the 'REMPAN Economy'¹ software for:

- Lithgow LGA
- the NSW economy, excluding the Lithgow LGA.

Economic impact is measured as the change in economic activity in the region and more broadly across the State.

Employment generation is estimated by applying the input/output modelling to forecast the initial (direct) impact on employment, and the further indirect impact on employment resulting from indirect demand through the broader economy.

The REMPLAN Economy modelling is used to estimate economic impacts from construction and operational expenditure across a time period. The project's capital expenditure applied to the economic analysis covers the pre-construction planning and design phase in years 1 and 2, a construction delivery phase in years 3 and 4, followed by operational and maintenance from year-5 onwards.

¹ 'REMPAN Economy' is an Input/Output software modelling package, generating economic analysis on a regional, LGA or State basis of key sectors in the economy. Underpinned by the latest data from the Australian Bureau of Statistics (ABS), REMPLAN Economy delivers estimates of employment, output, wages & salaries, imports, exports and gross regional product for 114 industries.

Economic and employment impacts

At the time of undertaking this assessment, the project cost was identified as approximately \$124 million. The nature and the size of the project will require labour and materials to be sourced from the local region as well as the rest of New South Wales. This would provide economic benefits as summarised below.

The project will provide positive economic activity and benefits to the local Lithgow LGA economy and the broader NSW economy. REMPLAN Economy modelling indicates the total direct employment benefit is 162 full time equivalents (FTE) jobs, and the total direct and indirect employment is 548 FTE jobs during pre-construction and construction. Employment opportunities during the operation and maintenance phase is minimal, with an average of 2 to 3 FTE jobs per year. Transgrid's current operational and maintenance employment for transmission lines between Mount Piper and Wallerawang substations is expected to be retained to provide the estimated 2 to 3 FTE jobs per year with no additional jobs being created.

The predicted annual average economic benefits of the project on the Lithgow region and NSW economy, during the construction period, are summarised below:

The annual average economic impacts (benefits) of the project construction period on the Lithgow LGA are:

- \$9.6 million in direct and indirect output, representing increased economic activity in the Lithgow region relating to all direct, supply-chain and consumption effects of goods and services required for the project
- \$3.9 million in direct and indirect value-added, representing the net increase in the value that economic activity creates in the Lithgow LGA across all local producers of goods and services
- \$2.0 million in direct and indirect wages & salaries
- an additional 30 direct local jobs and 39 indirect local FTE jobs because of the project.

The annual average economic impacts (benefits) of the project construction period on the Rest of New South Wales are:

- \$60.9 million in direct and indirect output, representing increased economic activity across the Rest of NSW relating to all direct, supply-chain and consumption effects of goods and services required for the project
- \$23.7 million in direct and indirect value-added, representing the net increase in the value that economic activity creates in the Rest of NSW across all local producers of goods and services
- \$12.0 million in direct and indirect wages & salaries
- an additional 132 direct jobs and 347 indirect FTE jobs because of the project.

A key benefit resulting from the increase in economic activity in Lithgow and the broader NSW relates to the increase in employment during the construction period. Considering that these figures are the outcome of the input-output method of economic analysis, it is expected that not all directly employed personnel and contractors will be on site at any one time. The direct employment jobs will represent a significant increase for the economy in Lithgow. The available local workforce in the Lithgow LGA is not expected to fulfill all the labour requirements. A large portion of the workforce is expected to be drawn from other parts of NSW.

Cumulative impacts

Cumulative impacts of the project in a strategic context relates to the project's role in the Central West Orana REZ. It contributes incrementally to help deliver the operational benefits of the wider Central West Orana REZ. In this context, the range of economic benefits the project would provide are (Transgrid, 2025):

- improving the affordability of electricity for consumers by increasing supply and driving down electricity prices
- improved reliability to customers, including businesses, by delivering large amounts of new energy, as well as strengthening and reinforcing the grid.

The project is likely to be constructed at the same time as six other major projects in the region of Lithgow. These projects were identified as the Mount Piper Battery Energy Storage System, Wallerawang Battery Energy Storage System, Great Western Battery Energy Storage System, Pinecrest Battery Energy Storage System, the Lake Lyell Pumped Hydro Energy Storage project and the Ben Bullen Wind Farm project. These six projects together with the Mount Piper to Wallerawang Transmission Line Upgrade project, are estimated to have a combined expenditure of about \$3.2 billion. This is expected to result in significant economic benefits (direct and indirect) to the local economy of Lithgow LGA and the rest of NSW. This project is the smallest contributor of these projects (expenditure of \$124 million) to this economic activity. From available information, the cumulative construction workforce requirements would be about 700 personnel at peak construction period, noting no information is available on workforce requirements for the Lake Lyell Pumped Hydro Energy Storage project. The cumulative economic contribution made by this project is minimal in comparison. The social impacts relating to cumulative economic activity are described in the Social Impact Assessment, Technical Report 13 in the EIS.

Recommended benefit enhancement measures

The project will result in an overall benefit to the local economy within the Lithgow LGA and to the rest of the NSW state economy.

Management measures are recommended to enhance the economic employment benefits and should also be considered for potential significant cumulative employment benefits in Lithgow and the rest of NSW.

Transgrid has been and would continue to consult with landowners, community members, local councils and interest groups to identify methods and opportunities to maximise benefits for the local region, including local workforce employment. A First Nations Participation Plan and Australian Industry Participation Plan would be prepared and implemented to provide opportunities for local, regional and Indigenous businesses to participate in the project's supply chain. These plans would be prepared and implemented in line with First Nations Guidelines (such as the Australian Government Indigenous Procurement Policy (IPP)) and the Renewables Energy Sector Board Plan (Office of Energy and Climate Change, 2022).

Social impacts and mitigation measures related to the local and regional economic benefits of the project are outlined in the Social Impact Assessment, Technical Report 13 in the EIS.

Conclusion

The Mount Piper to Wallerawang Transmission Line Upgrade Project is required to increase the capacity of the transmission network from the Central West Orana REZ to the Greater Sydney region. The project has an integral role in the Central West Orana REZ and the State's energy transition, which more broadly has economic benefits of providing greater access to reliable and affordable electricity.

The project will provide positive economic activity to the economy of the Lithgow region as well as the rest of New South Wales. Employment for the project will be drawn from both local and regional areas. The key economic benefit of the project includes total direct employment of 173 (FTE) new jobs created. The economic benefits are expected to flow on to the community. Proposed management measures would maximise the opportunity for local benefits within the Lithgow region. Community benefits and impacts from the project's economic activity are described in the Social Impact Assessment, Technical Report 13 in the EIS.

Contents

Key terms, acronyms and abbreviations	vi
1. Introduction	1
1.1 Background	1
1.2 Location	1
1.3 The project	3
1.4 Environmental assessment requirements	7
1.5 Purpose and structure of this report	7
2. Methodology	8
2.1 Approach	8
2.2 Impact assessment method	11
3. Existing economic environment	14
3.1 Population	14
3.2 Economic activity and profile	15
3.3 Summary	17
4. Economic impact assessment	18
4.1 Economic impact indicators	19
4.2 Benefit enhancement measures	26
5. Conclusion	28
6. References	30

Table index

Table 1.1	The project	3
Table 1.2	Relevant SEARs	7
Table 2.1	Project expenditure program	13
Table 3.1	Population data for Lithgow LGA and rest of NSW	14
Table 3.2	Forecast population for Lithgow LGA and rest of NSW	14
Table 3.3	Forecast population growth for Lithgow LGA and Rest of NSW	15
Table 3.4	Lithgow LGA gross value and employment by key industry sectors	15
Table 3.5	NSW gross value and employment by key industry sectors.	16
Table 4.1	Project combined impact summary – pre-construction and construction	18
Table 4.2	Project combined impact summary – operation and maintenance	18
Table 4.3	Potential cumulative impacts of selected projects	23
Table 4.4	Economic management measures	27

Figure index

Figure 1.1	Project location and regional context	2
Figure 1.2	Key features of the project	6
Figure 2.1	Economic Impact Assessment framework	8
Figure 2.2	Economic impact assessment local study area – Lithgow LGA	9
Figure 3.1	Local Lithgow and NSW regional employment in industry sectors	16
Figure 4.1	Projects considered in the cumulative assessment	22

Appendices

Appendix A	Assessment assumptions
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Key terms, acronyms and abbreviations

Term	Description
ABS	Australian Bureau of Statistics
capital expenditure	The cost of the project estimated at the time of assessment representing the expenditure over pre-construction and design planning over a two year period, plus the cost of construction activities over a further 2 year period.
CWO REZ	Central-West Orana Renewable Energy Zone
DPIE	Department of Planning, Industry and Environment
economic output	Total value of goods and services produced.
EIS	Environmental Impact Statement
FTE	Full Time Equivalent. A measure of a worker's involvement in a project or industry activity. An FTE of 1.0 means that the person is equivalent to a person working on a full-time basis for a year, whereas an FTE of 0.5 signals that the worker is only half-time. An additional 1.0 FTE means 1 new job (position). The new positions are assessed as direct on-site positions or indirect positions in the supply chain and/or consumption support.
GRP	Gross Regional Product. A measure used for the total value of goods and services produced in a region, i.e. the gross value added. GRP is often used to illustrate the size of a regional economy.
gross value added	A measure of the value of goods and services produced in an area for a particular industry or sector of the economy.
jobs	Used to refer to the number of personnel and contractors employed in an industry or on a project at any point in time. It typically refers to either the maximum number of personnel and contractors required at any point over the analytical period or the duration of the project; or the average number of personnel and contractors required over the analytical period/duration of the project. This can be calculated on a daily, weekly, monthly or annual basis.
km	kilometre
kV	kilovolt
LGA	Local Government Area
Lithgow LGA	Lithgow Local Government Area
m	metre
MW	Megawatt
NSW	New South Wales
project cost	The total cost of the project estimated at the time of assessment representing the expenditure over pre-construction and design planning over a 2-year period, plus the cost of construction activities over a further 2-year period, and maintenance and operation costs over the assessment period.
REZs	Renewable Energy Zones
SCA	State Conservation Area
SEARs	Secretary's Environmental Assessment Requirements
the project	Mount Piper to Wallerawang Transmission Line Upgrade Project
value added	Net increase in the regional production (including the value of goods and services) that occurs after taking into account the cost of the input into the production process.
\$m	million dollars

1. Introduction

1.1 Background

The Commonwealth and NSW governments have both established targets to achieve net-zero emissions by 2050. Achieving these targets requires low emissions technologies to be deployed at scale across all sectors of the economy, including the electricity generation sector, currently Australia's largest source of greenhouse gas emissions.

The NSW Transmission Infrastructure Strategy (DPE 2018) aims to engage the private sector to invest in priority energy infrastructure projects, which can deliver low-cost, clean and reliable energy to consumers

As part of the Transmission Infrastructure Strategy, the NSW Government has developed a plan to establish five Renewable Energy Zones (REZs) to increase renewable energy generation, reduce carbon emissions, and help deliver lower wholesale electricity costs to consumers. The Central-West Orana REZ (CWO REZ), being the first REZ established, is planned to generate at least 4.5 gigawatt by the late-2020s.

The NSW Government's Electricity Infrastructure Roadmap (DPIE 2020) identifies that the expansion of renewable generation must be accompanied by increased transmission capacity to transfer power from REZs in inland NSW to key demand centres. Interest in new energy generation projects in the CWO REZ is forecasted to exceed the existing transmission network capacity in several locations. The existing infrastructure located between the Mount Piper 550/330 kilovolt (kV) substation (Mount Piper 330 kV substation) and the Wallerawang 330/132 kV substation (Wallerawang 330 kV substation) has been identified in the NSW Network Infrastructure Strategy (EnergyCo 2023) as requiring upgrades. The Mount Piper to Wallerawang Transmission Line Upgrade Project (the project) would provide the additional capacity required to reliably transmit power from the CWO REZ to the Greater Sydney region.

1.2 Location

The project is located within the Central West region of NSW within the Lithgow City Local Government Area (LGA). It is located approximately 14 kilometres (km) north-west of Lithgow situated on the western fringes of the Blue Mountains (Figure 1.1).

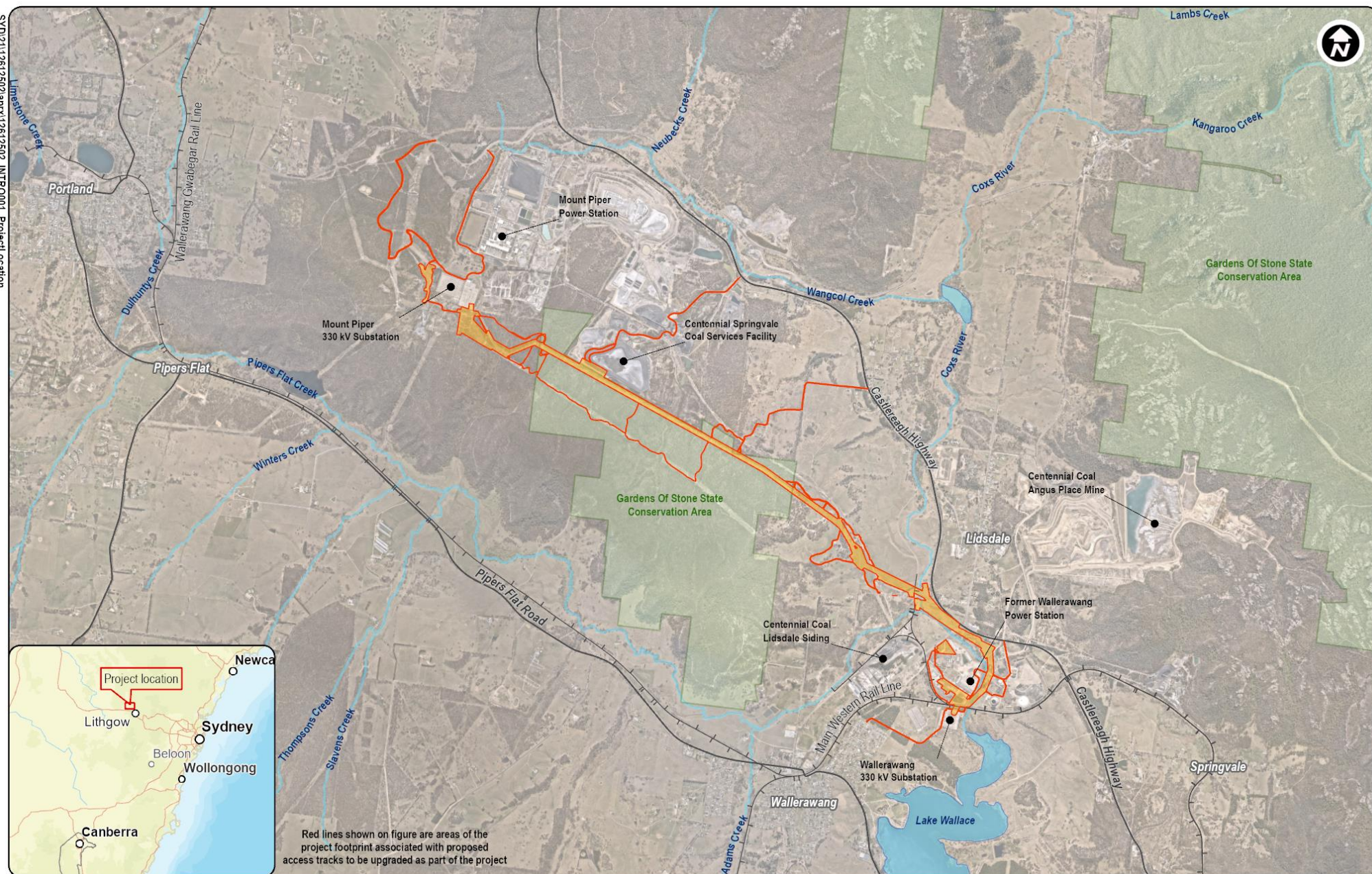
The area that is to be directly affected by the construction and operation of the project, is referred to as the project footprint and is shown in Figure 1.1. The project footprint is approximately 86.5 hectares in size and is generally bounded by the following:

- Castlereagh Highway to the north
- Former Wallerawang Power Station site to the east
- Gardens of Stone State Conservation Area (SCA) to the south
- Mount Piper Power Station to the north-west.

Land uses within and adjacent to the project footprint include:

- Electricity generation at Mount Piper Power Station
- Electricity transmission, including the Mount Piper and Wallerawang 330 kV substations, and associated transmission lines
- Mining activities, with several Centennial Coal operations including the former Ivanhoe Coal Mine and Springvale Coal Services overlapping the project footprint
- Agriculture, primarily livestock grazing
- Conservation, notably the Gardens of Stone SCA
- State and local road reserves including the Castlereagh Highway, Boulder Road and Brays Lane
- Rail corridors including the Main Western Rail Line and a disused railway line near Brays Lane.

A mixture land uses are proposed at the former Wallerawang Power Station site. This may include commercial and industrial land use. Development of a Battery Energy Storage System is also proposed by others at the site.



- | | | |
|---|--|---|
| Project components | Existing environment | Railway |
| — Project footprint | — Gardens of Stone SCA | — Watercourse |
| — Roads | | |

Figure 1.1 Project location and regional context

1.3 The project

The project would involve construction and operation of approximately 8 km of new 330 kV transmission line between the Mount Piper and Wallerawang 330 kV substations as shown in Figure 1.2. The project would also include the replacement of transmission structures, partial adjustment of existing transmission lines, permanent and temporary access tracks, construction compounds and laydown areas.

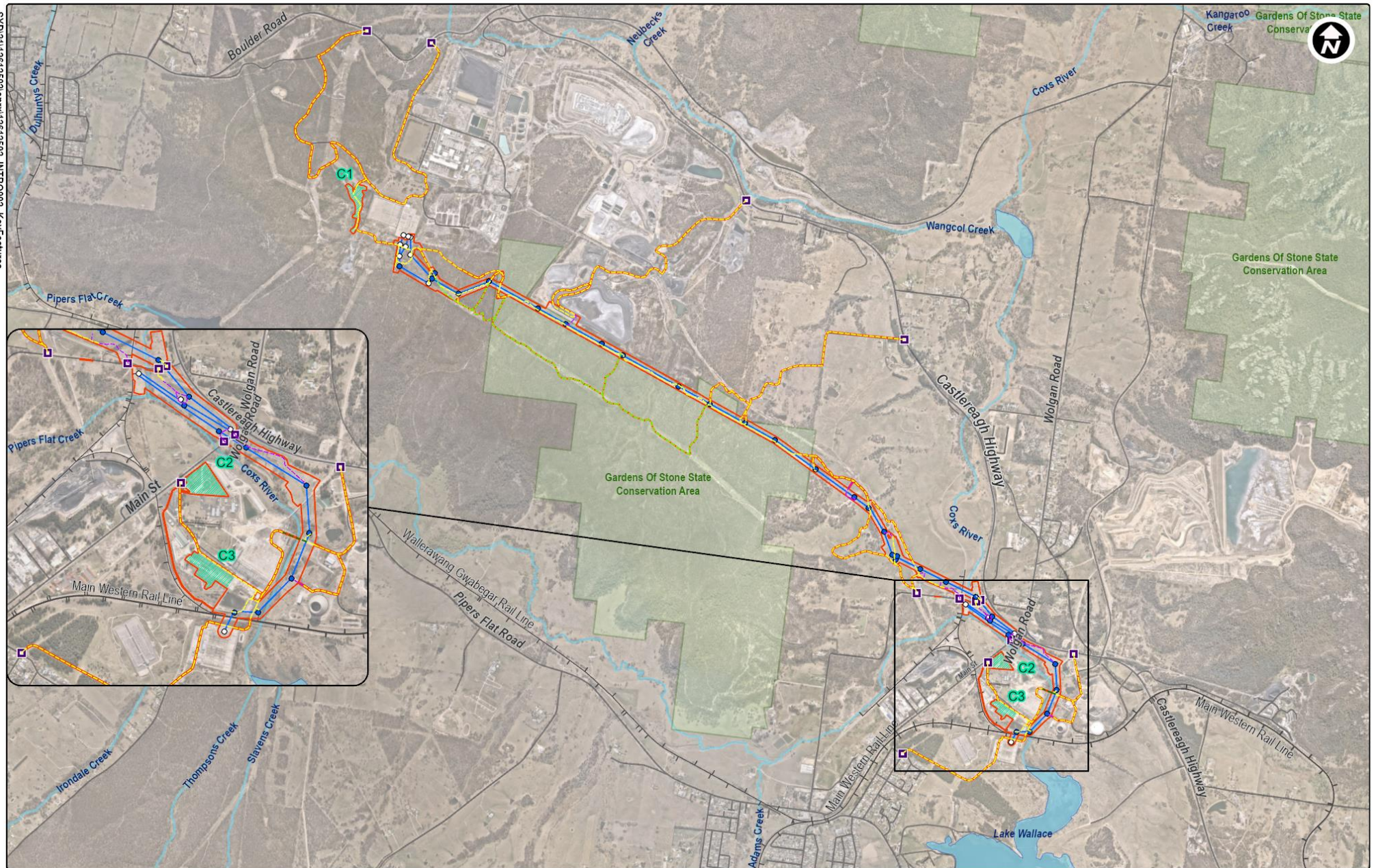
Table 1.1 outlines the key features of the project. The description of the project in Table 1.1 is based on the current concept design. Further detail is provided in Chapter 3 of the Environmental Impact Statement (EIS). The project will continue to be refined as part of detailed design.

Table 1.1 *The project*

Feature	Description
Design	
Transmission line and easement	Approximately 8 km of new 330 kV transmission line between the existing Mount Piper 330 kV and Wallerawang 330 kV substations that would include (from west to east): – widening of approximately 0.5 km of existing easements in the vicinity of the Mount Piper 330 kV substation by up to 40 m to accommodate the new 330 kV transmission line and adjustments to existing 132 kV and 330 kV transmission lines – widening of the existing 132 kV easement from 45 m to 60 m for 4.8 km to accommodate double circuit transmission structures for the existing 132 kV transmission line and the new 330 kV transmission line – installation of two 132 kV pole structures where the existing 132 kV transmission line is restrung onto the new double circuit transmission structures – construction of 1.2 km of new 330 kV transmission line from the existing 132 kV transmission line south-east to the intersection of Main Street and the Castlereagh Highway on a 60 m easement – construction of 1.5 km of new 330 kV transmission line on a 40 m easement running parallel to existing 330 kV transmission lines for approximately 1.1 km and then diverging and widening to 60 m for the remaining 0.4 km to the Wallerawang 330 kV substation. The standard easement widths for 132 kV and 330 kV transmission lines are 45 m and 60 m respectively. However, easements may vary in width where multiple transmission lines converge/ diverge or where they overlap with an existing easement.
Transmission structures	Transmission structures for the project include approximately 28 new steel lattice towers and four steel and/or concrete pole structures. Transmission structures would range in height from approximately 14 m up to 60 m, however these heights would be subject to detailed design. The image below presents an indicative illustration of the types of structures proposed for the project and their maximum heights. The diagram illustrates four types of transmission structures with their typical heights and easement widths. The y-axis represents 'Typical structure height (m)' from 0 to 70. The x-axis represents 'Typical easement width'. 330 kV double circuit steel tower: 60m easement width. Height range: Min 30 m, Max assessed 60 m. 330 kV single circuit steel pole: 60m easement width. Height: Max 45 m. 132 kV single circuit concrete pole: 45m easement width. Height: Max 30 m. 132 kV single circuit concrete three pole structure: 45m easement width. Height: Max 20 m. Figure not to scale. The steel transmission structures would generally be spaced between 100 m to 550 m apart and the pole structures about 30 m to 50 m apart. New conductors, earth wires and optical ground wire (OPGW) would be installed on the new transmission structures for the new 330 kV and existing 132 kV lines.

Feature	Description																																																																																																																														
	Local adjustment of existing transmission structures would be required in the vicinity of the Mount Piper 330 kV substation to minimise crossover of transmission lines. Redundant transmission structures, including the gantry immediately north of the Main Western Rail Line, would be removed and recycled, where possible.																																																																																																																														
Construction																																																																																																																															
Program	Construction of the project would commence once all necessary approvals are obtained. It is anticipated that construction would commence in late 2026. Construction would be undertaken in stages over a period of approximately 20 months. The key activities and their indicative durations shown in the below table. <table><tr><th>Activity</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr><tr><td>Site establishment</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Civil works</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Assembly of structures</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Testing and commissioning</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>De-mobilisation</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Site establishment																					Civil works																					Assembly of structures																					Testing and commissioning																					De-mobilisation																				
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Construction methodology	Construction of the project would include: – site establishment including vegetation removal, construction compound establishment, access track construction and upgrade – removal of existing transmission structures where required – civil works involving earthworks and establishment of construction benches for each transmission structure, and establishment of brake and winch sites – construction of footings and foundation work for the new transmission structures – assembly and erection of new transmission structures – stringing of conductors.																																																																																																																														
Construction hours	The proposed construction working hours for the project are 7 am to 7 pm Monday to Sunday. Out-of-hours construction work will likely be required between 7 pm to 7 am Monday to Sunday and public holidays, to align with scheduled outages. Justification for the out-of-hours works includes: – proximity to live transmission lines requiring the work to be completed under a scheduled outage for network and personnel and contractor safety – the need to complete works within a limited time window to meet a timeframe to re-energise the transmission line to avoid disruption to customers – minimising disruptions to the use of the Main Western Rail Line during stringing.																																																																																																																														
Construction workforce	Expected to peak at about 150 personnel and contractor, with an average workforce of about 60 personnel and contractor.																																																																																																																														
Construction compounds and laydown areas	A total of three construction compounds would support the construction of the project. One would be located at the western end of the project near the Mount Piper 330 kV substation and two located at the eastern end of the project within the former Wallerawang Power Station site. The locations of these compounds are shown in Figure 1.2. Laydown of materials (e.g. poles, cable drums, other large equipment, etc.) would also occur at specified locations along the easement within the project footprint, particularly at transmission structure locations.																																																																																																																														
Access	To facilitate efficient construction access, the following is required: – upgrading and widening of approximately 25 km of existing access tracks to at least 6 m, with some sections widened up to 10 m due to local topography – construction of approximately 2 km of new 6 m wide access tracks. In addition to those tracks, approximately 4 km of existing track would be used only by light vehicles. The light vehicle tracks may require minor repairs (for example, filling potholes), but would not be graded or widened. The project footprint would be accessed from public roads at 13 access points, with the majority of these being existing property access points.																																																																																																																														

Feature	Description
	Existing access tracks would be used in preference to new tracks wherever possible. Access track upgrades and widening would include required drainage. Access points and access tracks established for the construction of the project that are not required for future operation and maintenance activities would be returned to pre-project conditions, subject to agreement with landowners.
Utility adjustments and infrastructure crossings	The new transmission line would need to cross the following utilities and infrastructure: – water pipeline operated by WaterNSW – distribution lines operated by Endeavour Energy – rail signal power supply – council drainage and other assets – public roads at Brays Lane and Main Street – rail lines at the Main Western Rail Line and the disused rail line travelling north of Brays Lane. It is not currently anticipated that the project would require the adjustment of any nearby utilities. Further investigations and consultation with asset owners would be undertaken during detailed design.
Vegetation clearing	The project would require the clearance of vegetation for a number of activities including but not limited to building new access tracks and widening existing ones, establishment of construction compounds, laydown areas, and brake and winch sites, construction of the transmission structures, and establishing and maintaining the vegetation clearance requirement for the transmission lines. Vegetation clearing would be undertaken either with the use of machinery or manually, where it is unsafe to operate machinery, or when access is limited. Root balls would be retained where possible. Clearing methods would be determined with consideration to vegetation type or structure, slope and terrain, and environmental and ecological constraints. Removed vegetation, which is weed free, would be mulched for beneficial reuse, where appropriate. Areas cleared for construction, that are not needed for operation of the project, would be rehabilitated to a stable and weed free condition.
Testing and commissioning	Testing and structure checks would form part of the final construction and installation work. These activities would ensure the project has been installed in accordance with the design and statutory standards and is safe to proceed to commissioning which would include, but not be limited to: – transmission line cut-in and connection to the electrical network – protection, control and metering checks – high voltage equipment operation and energisation – post commissioning testing and verification.
Demobilisation and rehabilitation	Upon completion of the construction works, all construction equipment, temporary fencing and waste would be removed. All disturbed areas would be rehabilitated to a stable, weed-free condition, unless designated as a permanent access track. This would include spreading topsoil, cleared and stockpiled at the beginning of construction, across the disturbed area to stabilise it to a state where natural regrowth can occur.
Operation	
Design life	About 50 years.
Maintenance	All project infrastructure would require regular maintenance to maintain serviceability and maximise its operational life. Maintenance activities would include: – transmission structure monitoring – annual aerial inspection – routine vegetation management on the easement and in the hazard tree zone – access tracks would be maintained in a trafficable condition. Should any irregularities be identified following routine inspections, a work crew would be dispatched from existing Transgrid maintenance depots to rectify any defects found. Periodic inspection and maintenance work would be managed by Transgrid as part of existing operations, with no additional personnel requirements.



- | | |
|--|--|
| Project components | Construction compounds |
| Project footprint | Access tracks - new |
| New and adjusted transmission line | Access tracks - minor upgrades as required (light vehicles only) |
| Proposed transmission structure | Access tracks - upgrade and widen |
| Existing transmission structure to be reused | Access tracks - existing (no change) |
| | Access point |

- Existing environment**
- Gardens of Stone SCA
 - Roads
 - Railway
 - Watercourse

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Date: 7/07/2025
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Metres
Grid: GDA2020 MGA Zone 56

Figure 1.2 Key features of the project

1.4 Environmental assessment requirements

This economic and employment assessment has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) which were issued on 22 May 2025. Table 1.2 outlines the requirements relevant to this assessment.

Table 1.2 Relevant SEARs

Requirements	Where addressed in this report
Capital investment and employment	
Provide an estimate of the retained and new jobs that would be created during the construction and operational phases of the development, including details of the methodology to determine the figures involved.	Section 4.1.2
Economic	
An assessment of the economic impacts and benefits of the project on the locality and the State as a whole and provide details of proposed benefit sharing.	Section 4.1.4 Proposed benefit sharing is described in the Social Impact Assessment, Technical Report 13 of the Environmental Impact Statement.

1.5 Purpose and structure of this report

This report has been prepared by GHD Pty Ltd (GHD) as part of the Environmental Impact Statement (EIS) for the project.

The purpose of this report is to assess the potential economic impacts and/or benefits from the construction and operation of the project on the region and the State economies, as well as the impacts on local/regional employment.

This report is structured as follows:

- section 1 – provides an introduction to the project and the assessment
- section 2 – methodology
- section 3 – existing economic environment
- section 4 – economic impact assessment
- section 5 – conclusion
- section 6 – references.

2. Methodology

2.1 Approach

This economic impact assessment presents estimates of local and regional economic impacts based on economic multipliers calculated from ABS census and survey data. The assessment applies the NSW Treasury Evaluation Policy & Guidelines (2023) to evaluate the added regional and State economic activity that arises from the estimated project cost of over \$124 million.

To assess economic impacts, Input-Output modelling is applied to measure the change in economic activity locally (LGA) and more broadly across the State (Rest of NSW) (see section 2.1.1). Modelling applies the most recent data and the estimates of foreseen capital and operational costs. Input-Output modelling uses a breakdown of spending of a particular sector to all other sectors that purchase from it to calculate economic multipliers. It also examines the nature of the project expenditure and the location of its supply point and assigns construction labour to the region it is sourced from. The modelling measures the direct and indirect (flow-on) effects on a local area economy, and is comprised of four key steps, as depicted in Figure 2.1. The type of model used for the economic impact assessment is described in section 2.1.2.



Figure 2.1 Economic Impact Assessment framework

Direct effects would typically be the initial impact from the investment across the local and regional areas. Indirect effects would be secondary flow-on impacts from the demand for goods and services from other industry sectors, generating a multiplier effect across the economy during both the construction and operational phases of the project. As an overview, the generation of employment is estimated by forecasting the:

- **Direct impact** on employment as a measure of the estimated project cost. The forecast also considers two additional factors:
 - **Imports** – any capital expenditure that is import-based is excluded from the analysis, as the flow-on impacts would not occur in the local LGA or broader State economy. Minimal adjustments were allowed for the importation of specialised equipment, as outlined in Table 2.1.
 - **Ongoing operational costs** – this represents maintenance and operational staff required for ongoing maintenance including annual inspections and/or scheduled and emergency maintenance activities.
- **Indirect impact** on employment from demand through supply chain and consumption effects in the broader economy as described below:
 - **Supply Chain (Indirect) Effect** – is a measure of the stimulus to indirect demand from the initial expenditure (or employment) impact. The construction process is supported in many ways by further investment or increases in labour that are not engaged on-site but are required to supply goods and services that enables on-site construction to continue.
 - **Consumption (Induced) Effect** – is a measure of the growth in the ‘support’ economy to enable the Direct and Indirect growth to be facilitated. The consumption impact considers the growth in health, education and further investment in infrastructure required to support the expanding labour force and population.

The method for estimating economic impacts is described in section 2.1.3.

2.1.1 Study area

The project is wholly located within the Lithgow LGA and its footprint does not impact on other LGAs. Therefore, the economic impact assessment has been carried out for the following local and regional study areas:

- Lithgow Local Government Area (Lithgow LGA) as shown in Figure 2.2
- the NSW economy, excluding the Lithgow LGA.

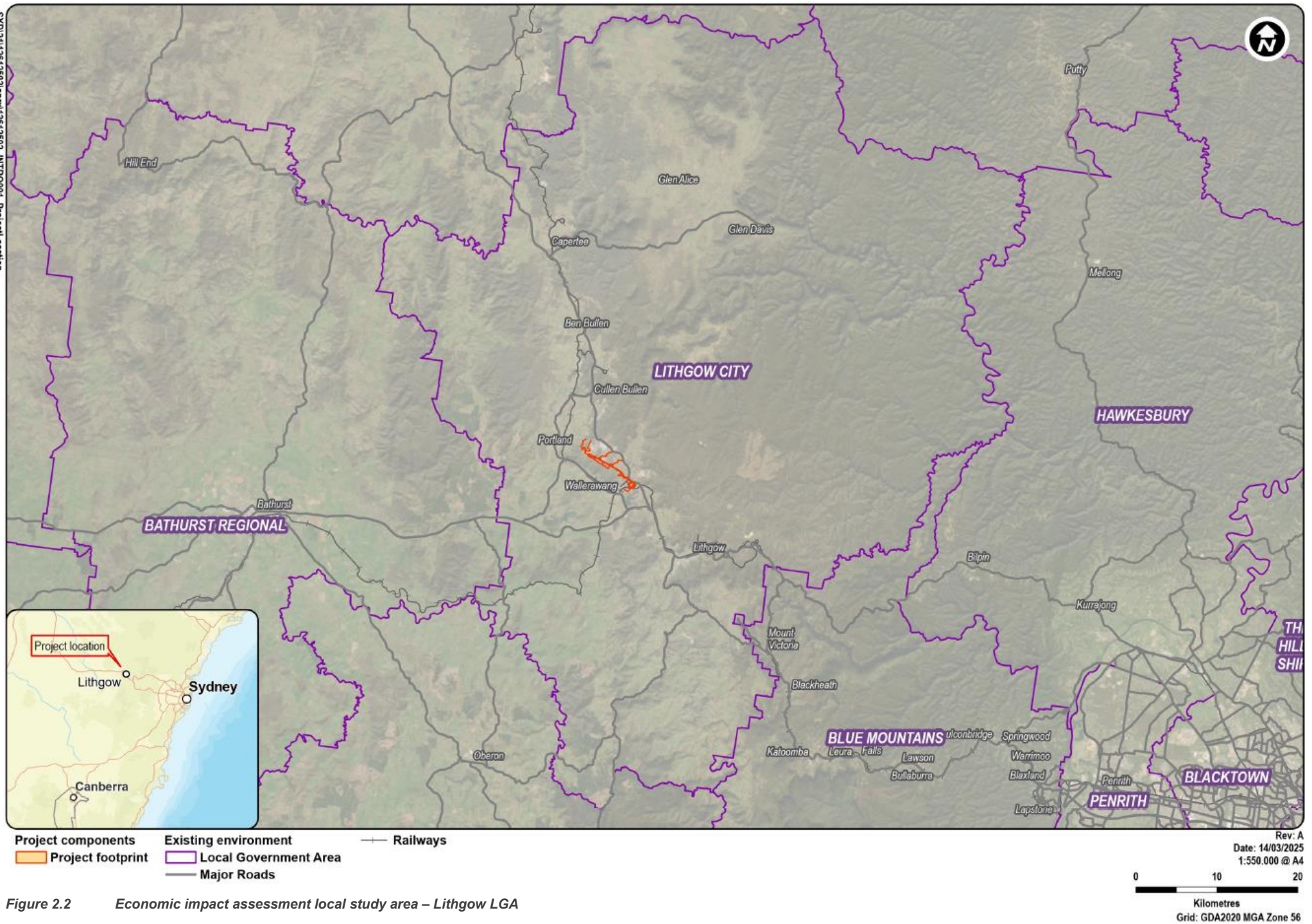


Figure 2.2 Economic impact assessment local study area – Lithgow LGA

2.1.2 Economic impact models

Input-Output models are widely used to assess the economic impact of existing or changing levels of economic activity, such as regional infrastructure construction, in this case driven by the project cost expenditure or labour activities.

The economic impacts identified in this assessment were measured using the REMPLAN Economy input/output models that represent the structure of the local Lithgow LGA economy and the NSW State economy. REMPLAN Economy is a widely accepted modelling tool for identifying and assessing economic impacts and is used by Commonwealth and State Governments. REMPLAN models are based on project specific information combined with the most recent census and economic data of 2021, sourced from the Australian Bureau of Statistics (ABS, 2023). The REMPLAN Economy datasets are also based on a 145-industry sector segmentation of the regional and State economies. This allows the model to determine the degree to which a particular industry or activity is integrated into the economy and impacted by the project.

The REMPLAN Economy Input-Output analysis involves the following key steps:

- construction of an appropriate Input-Output table (regional transaction table) that can be used to identify the economic structure of the region, multipliers for each existing sector of the economy and economic flows across the economy (within the Lithgow LGA and Rest of NSW) due to the expenditure.
- application of the input/output modelling to forecast the initial (direct) impact on employment and the further impact on employment resulting from indirect demand through the broader economy.
- identification of the impact or stimulus of the project (construction/operation of the project and a minor reduction in potential agricultural activity).
- assessment of the construction capital expenditure and the maintenance cost expenditure spread over the project program to generate a workflow requiring resourcing (labour, material and services). The forecast is based on the project costs and program, reasonably known at the time of this assessment.

The software and analysis are applied to estimate the additional employment (FTEs) (new jobs created) within the local Lithgow LGA and the Rest of NSW. For this assessment, jobs created are to be interpreted as additional jobs in the economy.

The Input-Output method is based on assumptions that are outlined in Appendix A.

2.1.3 Estimation of economic effects

Economic and employment analysis is based on the application of the project cost to the trends and activity relationships that exist within the NSW economy in general and specifically to the regional economies at the LGA level. ABS data used for the impact analysis is collected and published based on LGAs. This sets the framework for the analysis to be based on LGAs. As the project is wholly located within the Lithgow LGA, this forms the key focus of the economic and employment analysis. This section describes the principles and key aspects that are considered in an economic impact assessment.

Economic activity

Economic impact assessment primarily focuses on the generation of economic activity resulting from the project. The key economic activity indicators considered in the analysis are employment and the contribution to State and regional output, wages and salaries and value added.

Changes in economic activity are referred to as “economic impacts”. Generally, changes in economic activity indicators result from some stimulus or external shock imposed. In this analysis, the concept of economic impact includes the increase in economic contribution from the pre-construction, construction and operation of the project.

Indicators of economic activity

As indicated above, economic activity can be measured on several levels, with the increase in employment and regional product being the primary indicators. Employment numbers are usually reported in either full time equivalent (FTE) units or total job units defined as follows:

- **FTE:** a measure of a worker's involvement in a project or industry activity. An FTE of 1.0 means that the person is equivalent to a person working on a full-time basis for a year, whereas an FTE of 0.5 signals that the worker is only half-time. Typically, different scales are used to calibrate this number, depending on the type of industry and scope of the analysis, but the basic calculation is the total hours worked divided by average annual hours worked in full-time jobs.
- **Jobs:** used to refer to the number of personnel and contractors employed in an industry or on a project at any point in time. It typically refers to either:
 - the *maximum* number of personnel and contractors required at any point over the analytical period or the duration of the project; or
 - the *average* number of personnel and contractors required over the analytical period/duration of the project. This can be calculated on a daily, weekly, monthly or annual basis.

The economic modelling applied for this project calculates FTE units on an annual basis.

Categories of economic activity

A useful way to think about economic activity and economic impact is using the concepts of direct input, supply chain and consumption, as measured by aspects such as employment and contribution to Gross Regional Product (GRP). These are outlined below in respective order:

1. **Direct employment and contribution to GRP** – is employment in those firms, businesses and organisations that are directly engaged in project construction and their contribution to GRP. Typically, this will include:
 - a. construction companies
 - b. construction sub-contractors
 - c. planning and engineering services
 - d. material supply firms.
2. **Industrial-support (supply chain) employment and contribution to GRP** – is the term applied to 'second and subsequent round' effects as successive waves of output increases occur in the economy to provide industrial support, as a response to the original infrastructure expenditure. This category excludes any employment associated with increased household consumption.
3. **Consumption-induced employment and contribution to GRP** – is the term applied to those effects induced by increased household income associated with the original infrastructure expenditure. The expenditure of household income associated with all three categories of employment (direct, first round and industrial support) will generate economic activity, which in turn, will generate employment opportunities.

Direct input (capital or labour) into the economy can generate flow-on demands in the supply chain (industrial support employment). The combination of direct and supply chain activities can then create a further flow-on effect to consumption.

2.2 Impact assessment method

Generally, economic impact assessment is based on measuring the change in the level of economic activity in the location where the expenditure occurs. For this project, the growth in economic activity has been measured across the two study areas, which have included the Lithgow LGA and Rest of NSW (excluding Lithgow LGA) (refer to section 2.1).

There will also be expenditure and employment opportunities in the broader NSW economy for additional and specialised labour. Much of the equipment, supplies and services for the project are expected to come from the broader NSW economy.

The primary economic impact that is of particular focus to this assessment, is the measure of increased employment, wages and salaries. Through the interaction in the supply of material and services across industry sectors, the initial 'shock' to the local economy will stimulate further economic activity across Lithgow LGA. The following sections provide further details on the methodology for this assessment.

2.2.1 REMPLAN economic sectors

The REMPLAN input-output analysis is based on the relationships that exist within the economy, how each sector trades with other sectors, to the extent that flow-on impacts can be assessed for each sector in relation to the other sectors. In this regard, the economic impact analysis identifies these as multiplier impacts, which represent the forecasted flow-on impacts to several industry sectors. The industry sectors and the sub-categories are defined by the Australian and New Zealand Standard Industry Classification. For this assessment, the following industry sectors are relevant²:

- Construction
- Electricity, Gas, Water and Waste Services
- Manufacturing
- Mining
- Professional/Technical Services.

A small allocation of the total expenditure has been allocated to 'professional/technical services' to allow for procurement, and other technical services that will be engaged during the pre-construction planning and design phase of the project.

Impact analysis for this project has been based on 115 sectors, to provide a better alignment between the expenditure and industry sector. This allows expenditure to be allocated to sub-categories more relevant to the nature of this project. For example, the expenditure can be allocated to the construction sector. The Australian and New Zealand Standard Industry Classification identifies industry sub-categories for the construction sector as follows:

- Residential building construction
- Non-residential building construction
- Heavy and civil engineering construction
- Construction services.

Due to the nature of this project, capital expenditure is allocated to 'heavy and civil engineering construction' and 'construction services' only for the purposes of this assessment. The other two sub-categories are not relevant.

2.2.2 Expenditure program

To estimate the potential economic impacts of the project, Input-Output modelling is undertaken in line with NSW Treasury Evaluation Policy & Guidelines (2023) and is based on the following construction and operational periods:

- Construction
 - project expenditure across pre-planning and design – years 1 and 2
 - project expenditure across construction delivery – years 3 and 4
- Operation
 - project expenditure for ongoing operational and maintenance – year 5 onwards.

The time scale of proposed expenditure known at the time of assessment is presented in Table 2.1. The majority of the expenditure would be incurred during the construction phase. A minor portion, about three per cent, would be incurred for ongoing operation and maintenance and spread across the operational life of the project.

Further information on the REMPLAN software and assumptions applied to the assessment is described in section 2.1.2 and Appendix A, respectively.

² The ABS provides industry data in a variety of industry specifications and aggregation levels. Australian National Accounts: Input- Output Tables use an industry classification specifying 115 industry sectors based on an industry of origin product classification. ABS census data provides employment data at four levels of aggregation based on Australian and New Zealand Standard Industry Classification. One-digit ANZSIC aggregation is the highest level of aggregation, specifying 19 industry sectors.

The assessment of economic impacts from this project will be driven by three factors:

- value of the expenditure by 'expenditure category', noting that most of the expenditure falls under the general category of construction
- timing of the expenditure over the pre-construction and construction period
- location of the expenditure within the Lithgow LGA or the Rest of NSW.

The location of the project can differ from the location of the economic impacts as the economic impact is dependent on the nature and location of the expenditure.

The time scale of proposed expenditure known at the time of assessment is presented in Table 2.1.

Table 2.1 *Project expenditure program*

Item	Expenditure – including contingency & escalation	Program	
		Start	Finish
Design cost	\$1,720,000	1/06/2026	1/07/2027
Construction planning cost	\$19,700,000	16/12/2024	8/01/2026
Project actuals/ planning	\$10,400,000	1/06/2022	1/07/2024
Staff costs	\$18,500,000	25/06/2026	4/08/2027
Transmission structures and foundations	\$5,400,000	1/06/2026	30/07/2027
Fittings and ancillary equipment	\$1,600,000	1/06/2026	30/07/2027
Vegetation clearance	\$300,000	30/06/2026	30/07/2027
Soil disposal	\$1,400,000	30/06/2026	30/07/2027
Dismantle/ disposal of structures	\$300,000	30/06/2026	30/07/2027
Road upgrades /tracks	\$3,300,000	30/06/2026	30/07/2027
Tower installations	\$20,300,000	30/06/2026	30/07/2027
Site establishment	\$27,000,000	30/06/2026	30/07/2027
Testing and commissioning	\$200,000	30/06/2026	30/07/2027
Insurance	\$950,000	30/06/2026	30/07/2027
Land acquisition	\$2,310,000	N/A	N/A
Ongoing maintenance	\$4,000,000	N/A	N/A
Assessment	\$400,000	N/A	N/A
Contingencies P50	\$6,700,000	25/06/2026	4/08/2027
Combined project expenditure	\$124,480,000	N/A	N/A
Pre- construction cash flow/land purchase	\$6,710,000	N/A	N/A
Total project expenditure	\$117,770,000	1/07/2024	4/08/2027

Source: Transgrid (November 2024)

In estimating the average annual regional impacts, it is important to separate the flow-on effects that are associated with firms buying goods and services from each other (production-induced effects), and the flow-on effects that are associated with employing people who subsequently buy goods and services as households (consumption-induced effects). This is because these two effects operate in different ways and have different spatial impacts.

Production-induced effects occur in a near-proportional way within a region, whereas the consumption- induced flow-on effects only occur in a proportional way if personnel and contractors, and their families are in the region or migrate into the region. Where personnel and contractors commute from outside the region, some of the consumption-induced flow-on effects leak from the region.

3. Existing economic environment

Economic Impact Assessment relies on the identification as to where the project cost is expended in the LGA and to what extent a region can support the project, especially through the supply of labour. It focuses on the generation of economic activity resulting from the project and considers the 'resourcing capability' of the LGA and the region as follows:

- Population growth: the higher the relative population growth of a region, the greater the likelihood that it has the labour capacity to support projects.
- Size of the regional economy: a larger economy will have a higher transition rate from unemployment to employment and like industry to like industry.
- Nature of the industry within the region and how it aligns to the project: the closer the alignment to project demand, the higher the likelihood that the region can support the project internally.

The following sections provide an outline of the current key economic and population characteristics of the Lithgow LGA and the remainder of NSW (rest of NSW) to inform an understanding of resourcing capability for the impact assessment carried out in section 4.

3.1 Population

Characteristics of the population of the Lithgow LGA and the Rest of NSW is shown in Table 3.1, based on the ABS Census of Population and Housing data collected in 2021 and published in 2023. In 2021, the region had a population of 20,724, of which a total of 9,246 were employed (id Consulting Pty Ltd 2025b).

The Lithgow LGA economy is moderate, both in terms of population and population growth, with limited short-term opportunities for increased employment uptake. Population data for the Lithgow LGA (Table 3.1) shows the population is falling. Over the four-year period between 2018 and 2022, the population fell by an average 0.73 per cent, compared to the population increasing for the Rest of NSW by 0.76 per cent for the same period. The population forecast (Table 3.3) indicates an expected growth rate of 0.38 per cent by 2041 reaching a population of 24,199 (Table 3.2). This is considerably lower than that expected for the Rest of NSW, which is forecast to grow by 0.98 per cent (Table 3.3).

More detailed review of the ABS population data also indicates Lithgow has one of the fastest ageing populations in the State. In 2021, about 32 per cent of the population was over the age of 60, compared to 29 per cent for the rest of NSW.

Table 3.1 Population data for Lithgow LGA and rest of NSW

Area	Population			Average annual growth rate		
	2018	2020	2022	2018-2020	2020-2022	2018-2022
Lithgow LGA	21,344	21,063	20,724	-0.66%	-0.81%	-0.73%
Rest of NSW	8,003,564	8,094,300	8,248,259	0.57%	0.95%	0.76%

Source: ABS 31010do001-202403, state and territory population, Mar 2024

Table 3.2 Forecast population for Lithgow LGA and rest of NSW

Area	Population				
	2022	2026	2031	2036	2041
Lithgow LGA	20,724	21,590	22,731	23,747	24,199
Rest of NSW	8,248,259	8,462,770	8,933,640	9,404,886	9,872,934

Source: Population and household forecasts, 2012-2046 by id January 2023

Table 3.3 Forecast population growth for Lithgow LGA and Rest of NSW

Study area	2022-26	2026-31	2031-36	2036-41
Lithgow LGA	1.03%	1.04%	0.88%	0.38%
Rest of NSW	0.64%	1.09%	1.03%	0.98%

Source: Population and household forecasts, 2012-2046 by id January 2023

3.2 Economic activity and profile

Regional and state economies are measured at three levels, including employment, gross regional product (GRP) and value added. GRP is used to indicate a size or net wealth generated by a local economy. It represents the 'total' gross value added of all producers of goods and services in a region. Changes in GRP can indicate changes in employment productivity and or the type of industries in the area that may vary from time to time. Gross value added is a measure of the value of goods and services produced in an area for a particular industry or sector of the economy.

The GRP for Lithgow LGA was estimated to be \$1.75 billion in 2023³, contributing 0.23 per cent of NSW's Gross State Product (id Consulting Pty Ltd, 2025b). This is considered a moderate sized economy.

Table 3.4, Table 3.5 and Figure 3.1 provides an overview of the Gross Value Added and employment distribution across industry sectors within the Lithgow LGA and the Rest of NSW. Figure 5 shows all industry sectors and Table 3.4 and Table 3.5 presents information on the identified key industries only for Lithgow LGA. The key industries are those that are the largest and most important to the Lithgow LGA and the Rest of NSW.

Table 3.4 shows 51.69 per cent of Lithgow's economy is based on the mining sector with 11.19 per cent of the population employed in this sector. In comparison, only 3.42 per cent of the economy is supported by the Construction industry and 7.37 per cent of the population are employed in Construction. Figure 3.1 shows the dominant industry sectors by employment. The largest industry sectors by employment are as follows in descending order: Health Care and Social Assistance, Public Administration and Safety, Retail, Accommodation and Food Services, Mining, Construction, and Education and Training.

Table 3.4 Lithgow LGA gross value and employment by key industry sectors

Industry	Gross value added (\$m)	% of Lithgow LGA's economy	% of Lithgow LGA's employment
Mining	1,442,183	51.69%	11.19%
Rental, hiring and real estate services	217,162	7.78%	1.20%
Construction	95,511	3.42%	7.37%
Public administration	163,023	5.84%	11.38%
Education and training	76,328	2.74%	8.17%
Other	795,883	28.53%	60.69%
Total	2,790,090	100.00%	100.00%

Source: REMPLAN Economy 2023. Lithgow LGA

Table 3.5 illustrates the employment distribution across the Rest of NSW, where the construction sector employs 7.61 per cent of the workforce. This disparity highlights a significant difference in the scale of the construction industry between the Lithgow LGA and the broader state.

Comparing the nature of the industries within the region and the current workforce sizes provides an indication of Lithgow LGA's capacity to support the project internally. The project is most aligned to the Mining and Construction industry sectors. Lithgow labour workforce in these sectors is of moderate size compared to other sectors but is relatively small compared to the rest of NSW. It is highly unlikely that the local employment base alone could support the full development requirements of this project. As such, it will be necessary to source additional labour from outside the Lithgow LGA, particularly from the rest of NSW where the construction sector is better positioned to meet the demands of this infrastructure project. Mining is an industry which would have a labour force well

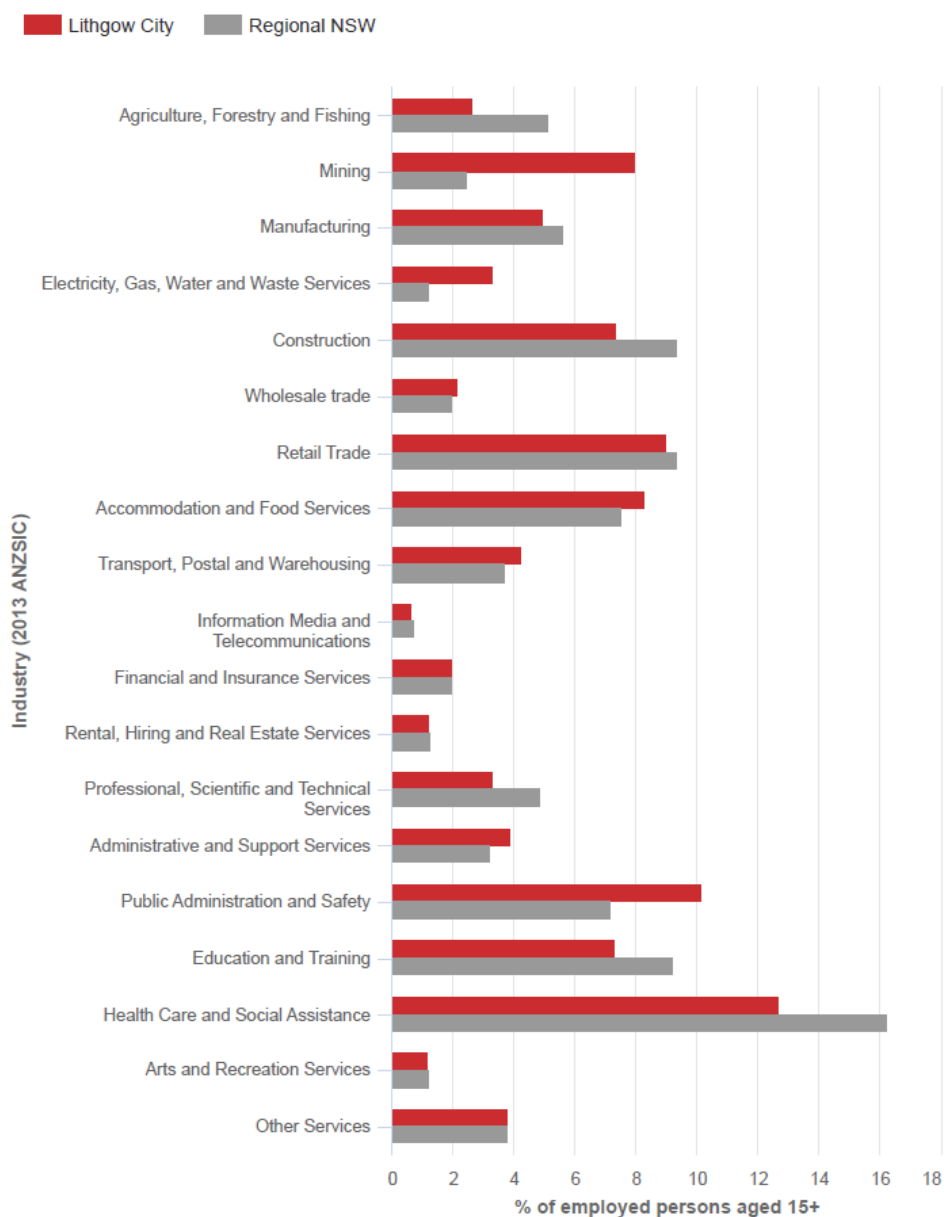
³ [Economic profile | Lithgow | economy.id](#)

aligned to the project and is a key employer (11.19 per cent) and major contributor to the local economy (51.69 per cent).

Table 3.5 *NSW gross value and employment by key industry sectors.*

Industry	Gross value added (\$m)	% of NSW regional economy	% of NSW regional employment
Mining	47,019,180	6.47%	0.99%
Rental, hiring and real estate	99,320,510	13.66%	1.78%
Agriculture/ forestry	17,489,883	2.41%	2.15%
Health care/ assistance	66,617,570	9.16%	15.08%
Construction	55,307,275	7.61%	8.97%
Other	441,184,995	60.69%	71.03%
Total	726,939,413	100.00%	100.00%

Source: REMPLAN Economy 2023. NSW Regional data represents the 'Rest of NSW', excluding Lithgow LGA.



Source: ABS census 2021, compiled by id Consulting Pty Ltd, 2025a. Regional NSW data represents the 'Rest of NSW'.

Figure 3.1 *Local Lithgow and NSW regional employment in industry sectors*

3.3 Summary

This project will require support from the Rest of NSW especially for goods and labour during the construction period, due to the following key aspects:

- Population growth within the Lithgow LGA is slower than the Rest of NSW.
- Lithgow's labour workforce in Construction and Mining sectors, where similar skills would be suited to this project, is relatively small compared to the Rest of NSW.
- The short-term nature of the construction period, meaning potential personnel and contractors are less likely to permanently relocate to the LGA.
- Speciality skills required for some elements of the project, which may not be available within the LGA.

While certain industries in the region may have a workforce with skills that could be leveraged for the project, their small size and specialised nature make it unlikely that the Lithgow LGA can independently meet the labour demands of the project. Consequently, external labour resources from the Rest of NSW will be necessary to supplement the local workforce and ensure the projects successful outcome.

4. Economic impact assessment

The key economic activity indicators considered in this section are employment and the contribution to State and regional output, wages and salaries and value added. The key benefits of the project on the NSW and Lithgow LGA economies, based on the Input-Output modelling and analysis, are outlined in Table 4.1 for the pre-construction and construction phase and Table 4.2 for the operation and maintenance phase.

The results identify the changes in economic activity as defined by:

- Type 1 (Economic) Multiplier – measures the change in economic activity, based on the initial direct impact, Type 1 only considers the direct and indirect effects of the initial spend.
- Type 2 (Economic) Multiplier – measures the change in the economic activity, taking into account the direct, indirect and induced (consumption) impacts.

The results of the Input-Output modelling are discussed in section 4.1.

Table 4.1 Project combined impact summary – pre-construction and construction

Output	Direct effect	Supply chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output (\$m)						
Rest of NSW	\$93.93	\$92.76	\$56.86	\$243.548	1.988	2.593
Lithgow LGA	\$23.83	\$9.73	\$4.85	\$38.405	1.408	1.612
Total NSW	\$117.76	\$102.49	\$61.71	\$281.953	1.870	2.394
Employment (FTE's)						
Rest of NSW	132	203	144	479	2.538	3.629
Lithgow LGA	30	24	15	69	1.800	2.300
Total NSW	162	227	159	548	2.401	3.383
Wages & salaries (\$m)						
Rest of NSW	\$16.84	\$19.45	\$11.91	\$48.199	2.155	2.861
Lithgow LGA	\$4.88	\$2.13	\$1.01	\$8.019	1.437	1.645
Total NSW	\$21.72	\$21.58	\$12.92	\$56.218	1.994	2.588
Value added (\$m)						
Rest of NSW	\$31.3	\$34.5	\$29.1	\$94.932	2.103	3.032
Lithgow LGA	\$9.1	\$3.6	\$2.9	\$15.577	1.394	1.707
Total NSW	\$40.4	\$38.1	\$31.9	\$110.509	1.943	2.733

Table 4.2 Project combined impact summary – operation and maintenance

Output	Direct effect	Supply chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output (\$m)						
Rest of NSW ⁽¹⁾	Not applicable. Operation and maintenance expected to be sourced and undertaken locally.					
Lithgow LGA	\$3.11	\$1.43	\$0.60	\$5.143	1.460	1.654
Total NSW	\$3.11	\$1.43	\$0.60	\$5.143	1.460	1.654
Employment (FTE's)						
Rest of NSW ¹	0	0	0	0	0.000	0.000
Lithgow LGA	11	2	0	13	1.182	1.182
Total NSW	11	2	0	13	1.182	1.182

Output	Direct effect	Supply chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Wages & salaries \$m						
Rest of NSW ⁽¹⁾	0.00	0.00	0.00	0.000	0.000	0.000
Lithgow LGA	\$0.56	\$0.30	\$0.13	\$0.994	1.537	1.762
Total NSW	\$0.56	\$0.30	\$0.13	\$0.994	1.537	1.762
Value added (\$m)						
Rest of NSW ⁽¹⁾	0.0	0.0	0.0	0.000	0.000	0.000
Lithgow LGA	1.0	0.5	0.4	1.912	1.498	1.836
Total NSW	\$1.0	\$0.5	\$0.4	\$1.912	1.498	1.836

Note: 1. It has been assumed that ongoing maintenance labour will be sourced locally (Lithgow LGA), and as such no economic impact from this activity will flow to the Rest of NSW.

4.1 Economic impact indicators

4.1.1 Output

Output (Gross Regional Product) is a measure of the increased activity in the economy, initially as a measure of the direct impact of the project's expenditure program. The \$124 million project expenditure occurs across the two study areas of this assessment, which includes Lithgow LGA and the Rest of NSW.

The pre-construction and construction phase will increase output by \$243 million across Rest of NSW and by \$38 million in Lithgow LGA (refer to Output – Total Effect in Table 4.1). The Total Effect includes all direct, supply-chain and consumption effects. By comparing this data, it indicates that 14 per cent of the total is expected to occur in the Lithgow LGA.

The operation and maintenance phase will increase output for the Lithgow LGA by about \$5 million (refer to Output – Total Effect in Table 4.2). Output for the Rest of NSW is considered unlikely as labour and materials for operation and maintenance is expected to be sourced and undertaken locally.

The Output from the total project, \$286 million, is minimal compared to the total size of the economy in NSW, which is about \$650 billion. However, the total additional Output of \$43 million (made up of \$38 million and \$5 million across each respective project phase) into the Lithgow economy would be particularly noticeable, especially during the construction period.

4.1.2 Employment

Economic modelling has applied the project's total construction and operational expenditure (section 2.2.2) to predict direct and indirect employment for the project. It is noted that the modelled estimates are based on the Input-Output method and the assumptions outlined in Appendix A.

Based on the modelling, the project's total expenditure is predicted to generate 561 FTE jobs. This would include 548 FTE jobs during construction (Table 4.1) and 13 FTE jobs during operation (Table 4.2). Of these, the project is estimated to provide:

- 173 FTE jobs as direct employment (162 during construction and 11 during operation)
- 388 FTE jobs as indirect employment (386 during construction and 2 during operation).

The estimate provided by the contractor suggests that a lower number of jobs would be created. Based on their estimate, the project is expected to require a peak workforce of about 150 workers, with an average workforce of about 60 workers depending on the stage of construction. The contractor's estimate is used throughout the EIS and technical reports.

The model predicts that 69 FTE jobs would be sourced from the Lithgow LGA. As with the modelled outputs for total employment, modelled outputs for local employment are considered to be overestimated. Given the scope and scale of the project, the population characteristics (section 3.1) and the economic profile of the Lithgow LGA (section 3.2), it is likely that most of the project's workforce would come from outside the Lithgow LGA.

Employment during the operation and maintenance phase is expected to be similar to existing employment for current maintenance on existing 330 kV and 132kV transmission lines between the Mount Piper and Wallerawang substations. Transgrid's current operational and maintenance employment for transmission lines between the Mount Piper and Wallerawang substations would be maintained, with no additional jobs being created specifically for the project.

Opportunities around employment would be managed by Transgrid through a First Nations Participation Plan and an Australian Industry Participation Plan as described in section 4.2.

4.1.3 Wages and salaries

Wages and salaries are a direct result from the increase in Total Output (\$286 million) and are also a function of the employment position, type and location. This is what drives consumption induced impacts in the region. Over the course of the project, the total wage and salaries is projected to increase to \$57 million, with \$56 million of this total occurring during the pre-construction and construction period. The direct wages and salaries are about \$22 million (see Direct Effect – Table 4.1). From this direct effect, flow on supply chain effects from local purchases of goods and services would occur. These indirect supply chain effects are predicted to add \$22 million in wages and salaries (see Supply Chain Effect – Table 4.1). A portion of these direct and indirect wages and salaries would typically be spent on consumption, which is then captured in the local economy. These consumption effects would be expected to result in an increase of overall wages and salaries (consumption effects) of about \$12 million (see Consumption Effect – Table 4.1).

The average annual wage for the construction sector (Lithgow LGA and the Rest of NSW is estimated to be \$118,000 per year (based in 2024 dollars). This figure accounts for the varied roles and responsibilities that would be typically available in a construction project, including both skilled labour and managerial positions. This is comparable to ABS 2021 census data for individual incomes in the Construction industry sector showing the largest portion (18.5 per cent) of local personnel and contractors in Lithgow LGA earning about \$52,000 to \$65,000 per year, compared to 15.4 per cent for New South Wales (id Consulting Pty Ltd, 2025a).

The substantial economic benefit (\$56 million) of wages and salaries during the construction period is expected to substantially contribute to economic activity and local income levels. The community and social benefits related to predicted wages and salaries is assessed in the Social Impact Assessment, Technical Report 13 in the EIS.

4.1.4 Value added

Value added refers to the increase in the regional production that occurs after taking into account the value (cost) of the input into the production process. Given that the Lithgow economy has a total value (Gross Regional Product) of about \$1.75 billion (id Consulting Pty Ltd, 2025b), the project alone is expected to add 0.9 per cent to the overall Lithgow LGA economy. This small contribution is primarily a result of the nature of the project, which involves sourcing most equipment/material from outside the Lithgow LGA.

There is little flexibility within the Lithgow LGA to source the additional labour demand of this project. The local labour market may not have sufficient flexibility or available workforce to accommodate the project's labour requirements, further limiting the value added to the local economy. Therefore, while the transmission project will contribute to economic activity, its direct impact on the Lithgow LGA's economic growth is relatively modest, given the reliance on external suppliers and labour sources.

During the operation and ongoing maintenance phase, the project's overall value to the Lithgow LGA will be small. It is estimated to be \$1.9 million with employment only at 2 to 3 FTEs per year.

4.1.5 Indirect impacts

REMPPLAN Economy modelling includes the estimation of indirect economic impacts through supply chain effects and consumption effects. Other indirect economic effects that are not integrated into REMPLAN Economy modelling relates to change in land use from project activities, such as agricultural land uses.

A Land Use and Agriculture Assessment has been undertaken and is Technical Report 4 of the EIS. The assessment indicates that the project footprint (including the transmission line easement) would occur on about 38.2 hectares of agricultural land during construction and operation. Mitigation measures are proposed and if implemented the potential impacts on the use of agricultural land are considered low. Detailed descriptions of the potential impacts and proposed management measure is provided in the Land Use and Agriculture Assessment, Technical Report 4 of the EIS.

Overall, the project is not expected to impact agricultural uses on land that it occupies, as existing grazing activities and agricultural use would continue. Based on this, the potential for direct and indirect economic impacts to agriculture sector is not expected.

Economic impacts identified in this assessment have the potential to facilitate other impacts relating to the community and social aspects. For example, the labour resourcing of the project from outside the local region may have implications for access (availability of transport options), accommodation and workforce (shift rotation and duration). These potential impacts are discussed in the Social Impact Assessment, Technical Report 13 in the EIS.

4.1.6 Cumulative impacts

Section 21.2 of the EIS outlines the methodology for the assessment of cumulative impacts including the methods for identifying what projects have been considered as part of the issue-specific cumulative impact assessments for the project. The assessment has been undertaken in accordance with the Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE 2022).

The following 10 projects within 20 km of the project footprint were identified for consideration as part of the cumulative impact assessment and are shown in Figure 4.1:

- Wallerawang Battery Energy Storage System
- Mount Piper Battery Energy Storage System
- Great Western Battery Energy Storage System
- Pinecrest Battery Energy Storage System
- Lake Lyell Pumped Hydro Energy Storage
- Ben Bullen Wind Farm
- Sunny Corner Wind Farm
- Wallerawang Power Station Ash Dam
- Wallerawang residential subdivision (DA226/22)
- Wallerawang Station upgrades.

Table 4.3 outlines the potential economic cumulative impacts relevant to each project.

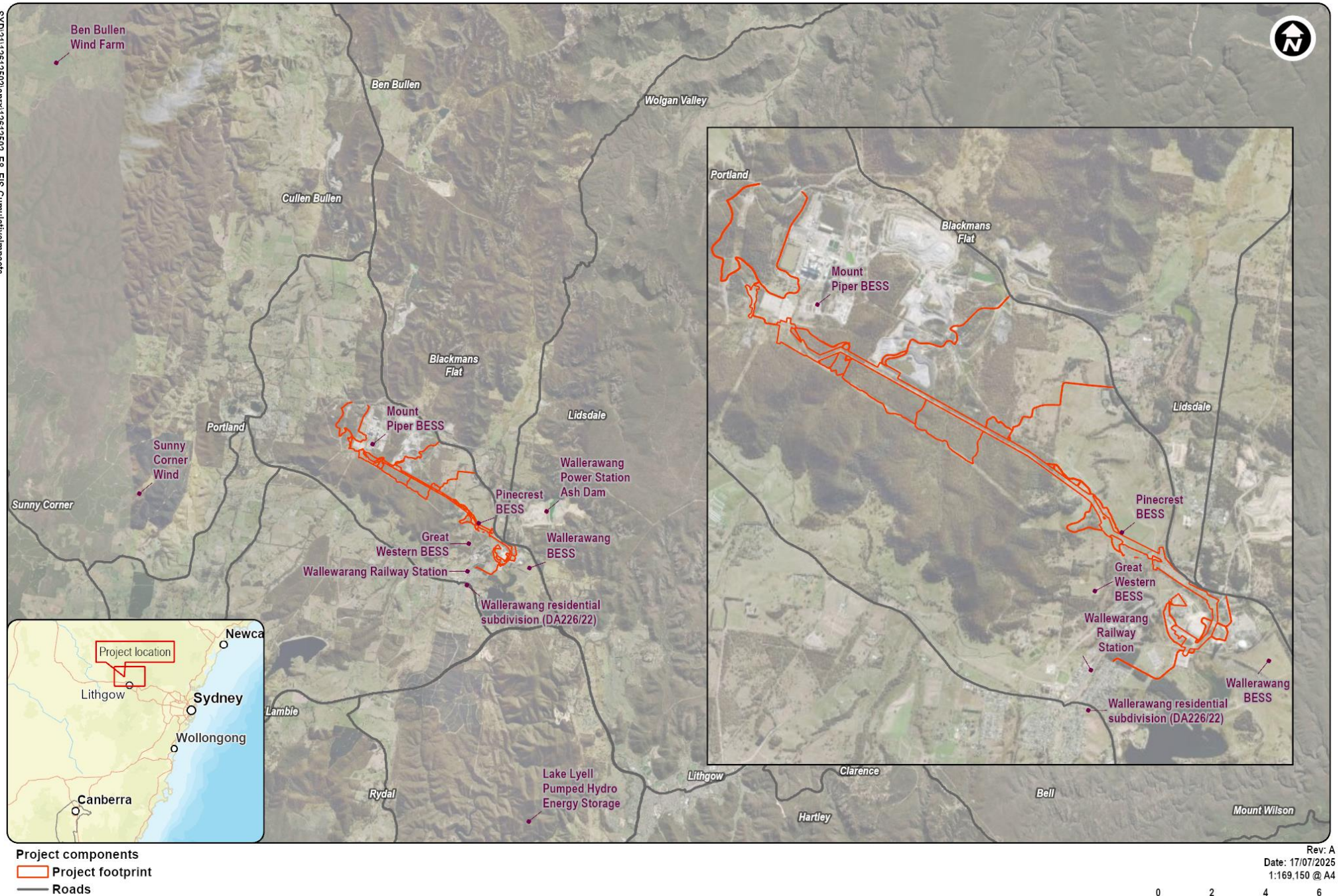


Figure 4.1 Projects considered in the cumulative assessment

Table 4.3 *Potential cumulative impacts of selected projects*

Relevant future project	Scope	Approximate location	Status/timeframe/ operational period	Potential for cumulative impact
Wallerawang BESS	Design changes to optimise the layout of the approved Wallerawang BESS (500 MW and 1,000 MWh of battery storage capacity)	500 m east of the project footprint	Approved 4/8/2022 Current modification at response to submissions stages Construction period of 1 to 2 years, expected to commence from 2025, construction does not appear to have commenced Operational period unchanged	Timing of the construction phase has the potential to overlap, resulting in cumulative impacts. Project capital investment value about \$404 million and requires peak construction workforce of 100 personnel and operational workforce of about 5 personnel. No economic impact analysis is provided in the EIS to identify effects to the Lithgow LGA and Rest of NSW. The project would be expected to impact local and regional economies, mainly during the construction phase. No information is available on the nature and extent of economic impacts to evaluate cumulative impacts.
Mount Piper BESS	Development of a grid-scale BESS with a capacity of up to 500 MW	Immediately north of the project footprint	Approved 15/11/2024 Construction period of 18-24 months expected to commence from mid-2026 at the earliest Potentially operational by 2027/2028 and would operate for about 20 years	Timing of the construction phase has the potential to overlap, resulting in cumulative impacts. Project capital investment value of up to \$1.3 billion and requires peak construction workforce of 177 personnel and periodic operational/ maintenance workforce of up to 2 personnel. The project would be expected to impact local and regional economies, mainly during the construction phase. No information is available on the nature and extent of economic impacts to evaluate cumulative impacts.
Great Western BESS	Development of a 500 MW / 1,000 MWh BESS and associated infrastructure	300 m west of the project footprint	Approved 2/11/2023 Project has not yet commenced construction and construction start date is not known however is expected to occur over 12-14 months The BESS is intended to have an operational life of up to 20 years	Timing of construction start is not known. The potential to overlap resulting in cumulative impacts is not known but is possible. Project capital investment value about \$400 million and requires peak construction workforce of 250 personnel and periodic operational/ maintenance workforce of about 5–6 personnel. The project would be expected to impact local and regional economies, mainly during the construction phase. No information is available on the nature and extent of economic impacts to identify cumulative impacts.

Relevant future project	Scope	Approximate location	Status/timeframe/ operational period	Potential for cumulative impact
Pinecrest BESS	Development of 500 MW battery storage capacity and 1,000 MWh of storage with (2-hour duration) connecting to the grid via underground cabling	Layout shown in scoping report is located within project footprint, with Transgrid undertaking ongoing consultation with Banpu Energy regarding positioning of the site.	Scoping report prepared with SEARs not yet issued EIS is expected to be submitted in early 2026 Construction period of 18 months commencing in late 2026 if approved. Operations proposed to start in 2028	Timing of the construction phase has the potential to overlap, resulting in cumulative impacts. Project capital investment value is not known; however the project newsletter states peak construction workforce of up to 250 personnel and operational/ maintenance workforce of 5 personnel (direct FTE jobs). The project would be expected to impact local and regional economies, mainly during the construction phase. No information is available on the nature and extent of economic impacts to evaluate cumulative impacts.
Lake Lyell Pumped Hydro Energy Storage	Development of the Lake Lyell Pumped Hydro Energy Storage Scheme (that will provide between 300 to 350 MW of electricity generating capacity for up to 8 hours during peak demand	10 km south of the project footprint	EIS in preparation Technical design expected to conclude in 2025. Construction expected commence in late 2026 and to take four years with operation commencing in 2029	Timing of construction start is uncertain. The potential to overlap resulting in cumulative impacts is not known but may be possible. Project capital investment value about \$1 billion. Workforce requirements are not known. No information is available on the nature and extent of economic impacts as the EIS has not been published.
Ben Bullen Wind Farm	Construction of approximately 64 wind turbine generators, a BESS and ancillary infrastructure	20 km north-west of the project footprint	EIS in preparation Construction in 2028 for 18-24 months Operational life of 35 years+	Construction phase unlikely to overlap. Cumulative impacts are unlikely. Project capital investment value is not known. Over \$30 million as it is a State Significant Project. Requires peak construction workforce of 200 personnel and periodic operational/ maintenance workforce of about 15 personnel.
Sunny Corner Wind Farm	Construction of approximately 80 wind turbine generators, a BESS and ancillary infrastructure	6 km west of the project footprint	EIS in preparation Construction in 2030 for 36 months Operational life of 30 years	Construction phase unlikely to overlap. Cumulative impacts are unlikely. Project capital investment value is not known. Over \$30 million as it is a State Significant Project. Requires peak construction workforce of 475 personnel and periodic operational/ maintenance workforce of up to 35 personnel.
Wallerawang Power Station Ash Dam	Use of part of the lands lying north of the Castlereagh Highway that were once used by the former Wallerawang Power Station as coal ash dam repositories	Immediately north of the project footprint	Approved 13/10/2023 The modification proposes an additional ten years for the importation of capping material	No information is presented in the Modification Report to identify timing, capital investment values, workforce requirements or economic impacts. The potential for cumulative impacts cannot be identified for this project.

Relevant future project	Scope	Approximate location	Status/timeframe/ operational period	Potential for cumulative impact
Wallerawang residential subdivision (DA226/22)	Torrens Subdivision – 1 Lot into 54 Residential Allotments, 4 New Roads, 2 lots for drainage and public reserve Allotment	19 Barton Avenue Wallerawang 2 km south-west of the project footprint	Currently being re-exhibited till 13 June 2025	No information is presented in publicly available information to identify the potential impacts of this project. The potential for cumulative impacts cannot be identified for this project.
Wallerawang Railway Station upgrade	Works to upgrade the existing station, closed in 1989, so that passenger services can be restated	850 m southwest of project footprint	Project has been announced on Transport for NSW website Early enabling works will be carried out from March to August 2025 Once the design is finalised, construction will commence later in 2025, with re-opening of the station planned for late 2026	Timing of the construction phase has the potential to overlap if the construction program extends into late 2026. This may result in cumulative impacts. The project's media announcement identifies a \$7 million investment value. The project is of minor scale and would be expected to have minor impacts on the local economy. No information is available on the nature and extent of economic impacts to evaluate cumulative impacts.

Information from published Scoping Reports and EISs on each project has been accessed through the NSW Major Projects Portal. The information has been reviewed to identify economic impacts of Output, Employment (FTE jobs), Wages and Salaries and Value Added. Of the 10 projects, six projects in the Lithgow LGA were identified as potentially having a cumulative impact, with most projects not having sufficient information on construction commencement or their economic impacts to enable an indicative economic cumulative impact assessment. The six projects are (Figure 4.1):

- Mount Piper BESS with a capital investment value of about \$1.3 billion
- Wallerawang BESS with a capital investment value of about \$404 million
- Great Western BESS with a capital investment value of about \$400 million
- Pinecrest BESS with no information on capital investment value and is expected to be over the state significant project capital investment value of \$30 million
- Lake Lyell Pumped Hydro Energy Storage project with a capital investment value of about \$1 billion
- Ben Bullen Wind Farm project with no information on capital investment value and is expected to be over the state significant project capital investment value of \$30 million.

These projects have the potential to commence construction over the same time as the construction of the Mount Piper to Wallerawang Transmission Line project. All six projects are in the Lithgow LGA and with the Mount Piper to Wallerawang Transmission Line project would contribute to a total of about \$3.2 billion of expenditure, noting that no information is available for the Pinecrest BESS or the Ben Bullen Wind Farm projects at the time of this assessment. The Mount Piper to Wallerawang Transmission Line project is a significantly smaller contributor to capital expenditure (at least five orders of magnitude less than the total) and would be largely overshadowed by these other projects.

The expenditure profile of BESS projects to a transmission line project would be very different and variable. Based on key findings of the Lithgow LGA economic profile, it is expected that all six projects and the Mount Piper to Wallerawang Transmission Line project would seek most labour, services and materials from outside Lithgow. The combined workforce needs for these projects plus the Mount Piper to Wallerawang Transmission Line project would be about 700 personnel at peak construction period. No information is available on workforce requirements for the Lake Lyell Pumped Hydro Energy Storage project.

Furthermore, no economic modelling information is available for these projects to determine the total combined employment (new FTE jobs created). The cumulative economic impact of these projects is expected to generate significant positive impacts (benefits) from the combined capital expenditure. These projects are likely to result in substantial positive employment within Lithgow and Rest of NSW.

The BESS and wind farm projects are expected to have a high level of 'imported' goods (for example, batteries and wind turbines generators) and require local or regional support for construction activities. All three projects are in the energy sector and would require similar skills and experience. No details are published of the key economic impacts of Output, Employment (FTE jobs), Wages and Salaries and Value Added for most of these projects. As such, no further detail can be provided on the cumulative economic impact of the Mount Piper to Wallerawang Transmission Line project in combination with these other projects.

Cumulative social impacts from economic activity relating to employment, accommodation and transport is provided in the Social Impact Assessment, Technical Report 13 in the EIS.

4.2 Benefit enhancement measures

The project will result in an overall benefit to the local economy within the Lithgow LGA and to the state economy for the rest of NSW. Mitigation measures are not required as negative impacts to the economy are not expected. Table 4.4 lists proposed management measures to enhance project benefits (identified in section 4) to the economy of Lithgow LGA and the Rest of NSW. Further description of the project's proposed benefit sharing is provided in section 6.5 of the Technical Report 13 - Social Impact Assessment.

This assessment identifies potential indirect impacts, which relate to social aspects of the local region. Mitigation measures for potential social impacts including access, accommodation and workforce are provided in section 6 of the Technical Report 13 - Social Impact Assessment.

Table 4.4 *Economic management measures*

ID	Benefit	Environmental safeguard	Timing
E1	Labour demand and employment	A First Nations Participation Plan and an Australian Industry Participation Plan will be prepared and implemented for the project in line with First Nations Guidelines (such as the Australian Government Indigenous Procurement Policy (IPP)) and the Renewables Energy Sector Board Plan (Office of Energy and Climate Change, 2022). The key objective of the Plans will be to ensure full, fair and reasonable opportunities for local, regional and Indigenous businesses to participate in the project's supply chain. The Plans will: – identify and provide initiatives to maximize opportunities for local businesses to supply goods and services – identify how local participation will be promoted – identify and describe opportunities for stakeholder collaboration and partnerships with Council, the local chamber of commerce and Local Aboriginal Land Councils – identify initiatives for industry workforces to transition between industry sectors – consider potential cumulative economic effects in consultation with industry and other nearby project proponents.	Detailed design, pre-construction and construction

5. Conclusion

The project involves the construction and operation of a new 8 km 330 kilovolt (kV) transmission line and double circuit transmission structures located in the Lithgow LGA. The total project cost (\$124 million) will be largely expended over the pre-construction planning and construction delivery program (\$118 million) with construction planned to commence in late 2026.

Employment for the project would be drawn from the Lithgow LGA, where possible. The current economic profile of the Lithgow LGA indicates that the available local workforce is not expected to fulfill all the labour requirements for the project. The remainder of the workforce is expected to be drawn from other parts of NSW due to the following:

- population growth within the Lithgow LGA is slower than the Rest of NSW
- relatively small workforce available in the LGA. Lithgow's labour workforce in Construction and Mining sectors, where similar skills would be suited to this project, is relatively small compared to the Rest of NSW
- short term nature of the construction period meaning potential personnel and contractors are less likely to permanently relocate to the LGA
- speciality skills required for some elements of the project, which may not be available within the LGA.

The project is estimated to provide positive economic activity and benefits to the local Lithgow LGA economy and the broader state economy of Rest of NSW. REMPLAN Economy modelling indicates the total direct employment benefit is 162 FTE jobs created, and the total direct and indirect employment is 548 FTE jobs during pre-construction and construction. Employment opportunities during the operation and maintenance phase is minimal, with an average of 2 to 3 FTE jobs per year, which are expected to be provided by existing (and retained) maintenance jobs. Therefore, the creation of new direct and indirect employment in the economy by the project would be mostly related to the project's pre-construction and construction periods.

The predicted annual average economic benefits of the project on the Lithgow LGA and the Rest of NSW economies during the REMPLAN Economy modelling period are summarised below relating to:

- 'output', which is the increased economic activity relating to all direct, supply-chain and consumption effects of goods and services required for the project
- 'value-added', which is the net increase in the value that economic activity creates across all local producers of goods and services.

The annual average economic impacts (benefits) of the project construction period on the Lithgow LGA are:

- \$9.6 million in direct and indirect output
- \$3.9 million in direct and indirect value-added
- \$2.0 million in direct and indirect wages & salaries
- an additional 30 direct local jobs and 39 indirect local (Lithgow) FTE jobs because of the project.

The annual average economic impacts (benefits) of the project construction period on the Rest of NSW are:

- \$60.9 million in direct and indirect output
- \$23.7 million in direct and indirect value-added
- \$12.0 million in direct and indirect wages & salaries
- an additional 132 direct local jobs and 347 indirect FTE jobs because of the project.

The Mount Piper to Wallerawang Transmission Line project has the potential to overlap with other nearby major energy projects, including three Battery Energy Storage System projects and a pumped hydro energy storage project. These projects together with the Mount Piper to Wallerawang Transmission Line project:

- are located in the Lithgow LGA
- would contribute to a total of about \$3.2 billion of expenditure (noting that no capital cost information is available for the Pinecrest BESS or the Ben Bullen Wind Farm projects)
- have a potential combined workforce need of about 700 personnel at peak construction period.

The Mount Piper to Wallerawang Transmission Line project is a significantly smaller contributor to expenditure in the region (at least five orders of magnitude less of the total) and is expected to be largely overshadowed by these other projects.

Overall, the project will result in a benefit to the local economy within the Lithgow LGA and to the state economy for the Rest of NSW. Mitigation measures are not required as negative impacts to the economy are not expected. Measures are recommended to enhance the economic benefits around employment. Measures should also consider potential significant cumulative employment benefits in Lithgow and the Rest of NSW.

These measures include the preparation and implementation of a First Nations Participation Plan and an Australian Industry Participation Plan. These Plans should be prepared in consultation with industry and nearby project proponents. Transgrid would also continue to consult more broadly with landowners, community, local council and interest groups to identify methods and opportunities to maximise local benefits.

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Appendix A

Assessment assumptions

The economic impact analysis has been undertaken to assess economy-wide economic impacts from the project at the local and regional scales. The assessment is carried out with limitations of input/output analysis and assumptions. These are:

- Lack of supply-side constraints: The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply-side constraints. For example the regional economy has access to sufficient labour and capital resources (from both inside and outside the region) so that an individual project does not result in any regional price changes. It is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity. For example, wages in other industries or house rentals, which would lead to contractions (“crowding out”) of economic activity in other sectors in the same region. Any “crowding out” is assumed to occur outside the region where the project is concentrated, and the regional impact analysis is focused.
- Fixed prices: Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured. In summary, Input-Output modelling assumes that prices remain fixed and do not change as a result of the increased demand for a good or service.
- Fixed ratios for intermediate inputs and production: Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in local production for that product. However, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount.
- For this assessment, it is assumed that equipment can be sourced from NSW and no imported equipment is required for this project. Therefore, imported equipment has been excluded from the economic analysis.
- No allowance for purchasers’ marginal responses to change: Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases, such as the share of eating out and discretionary retail expenditure. This equally applies to industrial consumption of intermediate inputs and factors of production.
- Absence of budget constraints: Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.
- Employment data presented by REMPLAN is destination of work data (no inference is made as to where people in a defined region reside).
- Following the NSW Treasury Evaluation Policy & Guidelines (2023) a 30-year cashflow model over the construction and operational period is applied to estimate economic impacts. The economic impact predictions for years 1 – 15 are based on REMPLAN modelling outputs. For impact predictions relating to ongoing operational years 16 and onwards, a key assumption is that REMPLAN ‘year 15’ cashflow results and Type 1 and Type 2 multipliers are representative of future maintenance years. This approach is required as REMPLAN’s Input-Output tables are limited to 15 years. This approach is suitable as the annual expenditure in future years would not likely change, and the expenditure is negligible (less than 0.1 per cent) compared to the total project expenditure and would not affect the results.

Whilst the Input-Output modelling has been used in various applications to identify key economic impacts in accordance with accepted practice and various guidelines, such as NSW Treasury Evaluation Policy & Guidelines (2023), this method has limitations and may not adequately predict all the economic impacts of a project. This is especially the case when comparing to computable general equilibrium models that attempt to consider impacts from the perspective of the wider economy. The computable general equilibrium models’ behavioural rules are derived from economic theory rather than from time series data, allowing them to overcome the practical difficulties associated with the limiting assumptions inherent in Input-Output multiplier analysis that, in turn, can result in multipliers being biased estimators of the benefits or costs of a project.

The modelling has included input data based on the capital expenditure and ABS census data available and known at the time of assessment:

- The capital expenditure for the project was supplied by Transgrid in November 2024 and was valued at \$124 million.
- ABS data is based on 2021 census data published in 2023.



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