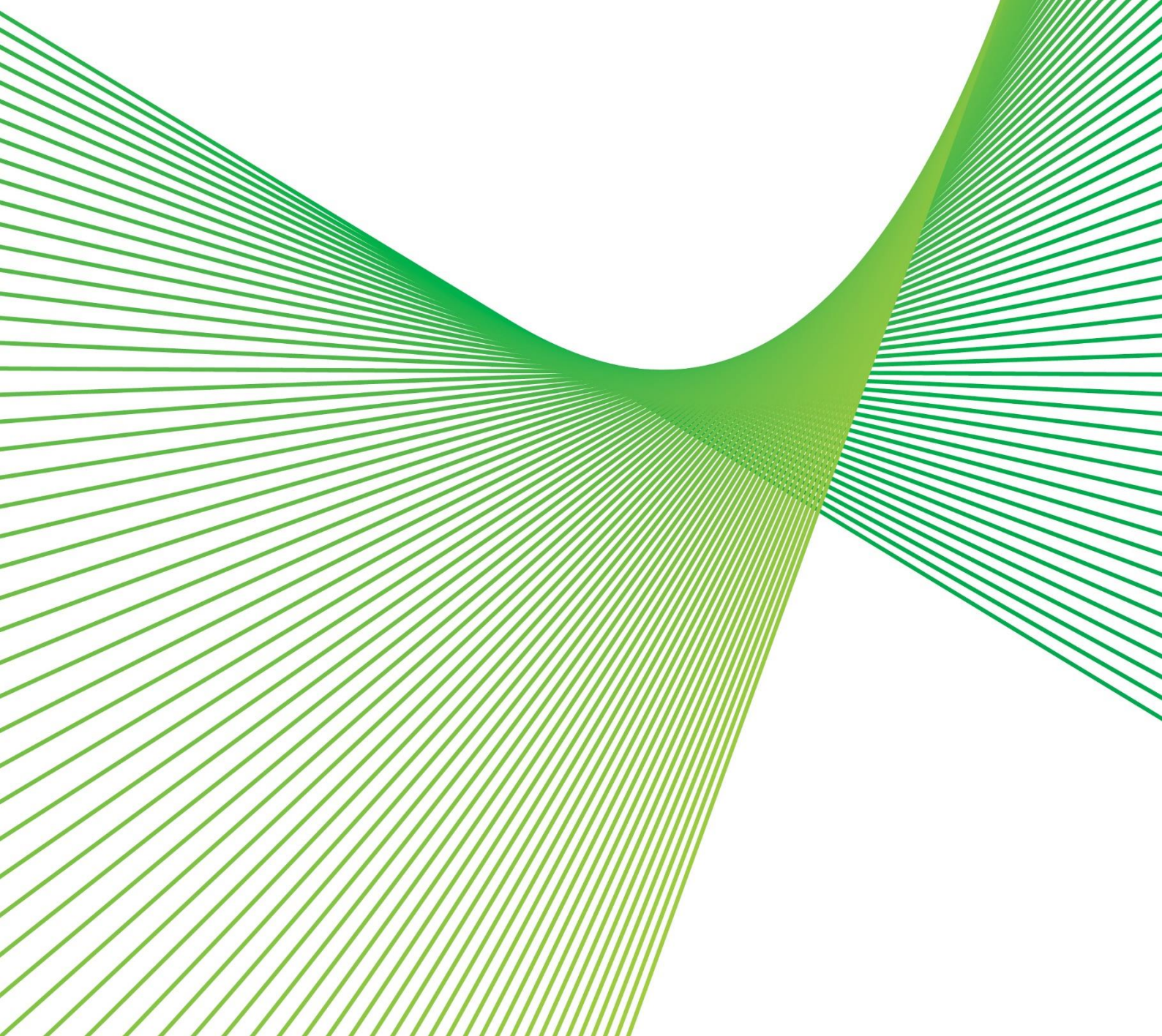


A.4 Labour and Indirect Capex Forecasting Methodology

VNI West – Draft Stage 1 (Early Works) Contingent Project Application

1 September 2023



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1. Purpose, structure and scope of this document

1.1. Purpose of this document

The Australian Energy Market Operator's (AEMO) Final 2022 Integrated System Plan (ISP) (2022 ISP) has defined Victorian to New South Wales (NSW) Interconnector West (VNI West) (VNI West or the Project) as a staged actionable ISP project, with no decision rules:¹

- Stage 1 is to complete the early works by approximately 2026, and
- Stage 2 is implementation of the Project with a target delivery date by July 2031 (or earlier).

VNI West is a joint Transgrid and Australian Energy Market Operator (AEMO) Victoria Planning (AVP) project that will provide a second transmission interconnection between Victoria and NSW.

Subsequent to the 2022 ISP, the State and Federal Governments have provided concessional financing under the Rewiring the Nation plan to accelerate the delivery of VNI West to 2028, to ensure that the Project's benefits are delivered as soon as possible.²

Importantly, achieving the 2028 target delivery date is subject to undertaking early works activities to obtain the necessary planning and environmental approvals, secure land and easements, progress detailed design, establish biodiversity stewardship sites and engage with the community and landholders. These activities are expected to take around two to three years to complete.

Transmission Company Victoria (a wholly owned subsidiary of AEMO) has already commenced early works for the Victorian portion of the Project.³

Our Stage 1 activities comprise direct and indirect and labour capex activities. Our indirect and labour capex activities are explained in our Labour and Indirect Capex Forecasting Methodology.

This document is our Stage 1 Labour and Indirect Capex Forecasting Methodology for VNI West and forms part of our Stage 1 Contingent Project Application (Stage 1 Application or CPA-1) for the Project. It should be read in conjunction with our Principal Application document and other supporting documents, in particular our Direct Capex Forecasting Methodology.

The purpose of this document is to:

- overview the nature and scope of Stage 1 Labour and indirect capex for VNI West
- explain and justify the methodologies we have used to determine our Stage 1 Labour and indirect capex forecast, and
- overview how we verified and validated our actual and forecast labour and indirect forecast capex.

¹ AEMO, [Final 2022 ISP](#) (2022 ISP), June 2022, p. 74

² AEMO, Transgrid, [VNI West Project Assessment Conclusions Report Volume 1: identifying the preferred option for VNI West \(VNI PACR\)](#), May 2023, p.30. The PACR explains that concessional financing of \$750 million from the Clean Energy Finance Corporation (CEFC) will ensure that the completion date for VNI West can be accelerated to 2028 from the 2031 date set out in the [2022 ISP](#) (see table 1, page 13)

³ These early works are enabled in Victoria by the February 2023 *National Electricity (Victoria) Act 2005* (NEVA Order)

⁴ | **A.4 Labour and Indirect Capex Forecasting Methodology** | VNI West – Draft Stage 1 (Early Works) Contingent Project Application ____

Unless otherwise stated, all actual and forecast capex values in this document are presented in real 2022-23 dollars and include real input cost escalation.⁴

This document has been developed in accordance with:

- the actionable ISP framework under the National Electricity Rules (NER or Rules), and
- AER’s Guidance Note for Regulation of actionable ISP projects.⁵

All dollar values in this document are real 2022-23 dollars, unless otherwise stated, consistent with our 2023-28 Revenue Determination.

1.2. Structure of this document

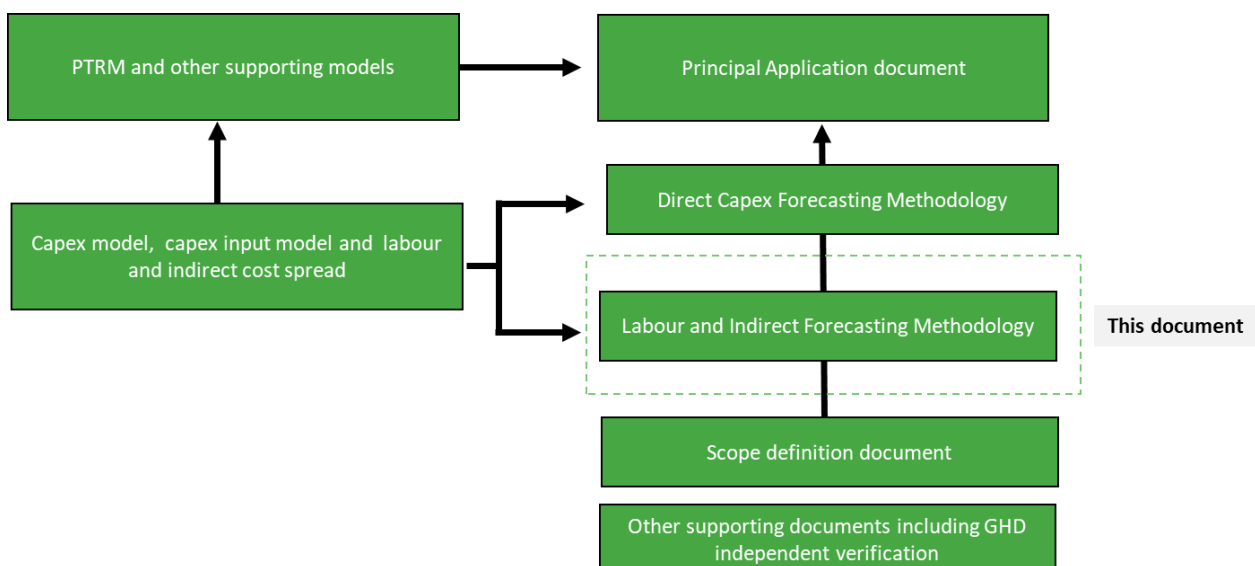
The remainder of this document is structured as follows:

- Section 2 overviews our Stage 1 activities and associated total capex
- Section 4 overviews our Stage 1 actual labour and indirect capex to 31 May 2023
- Section 5 overviews our labour and labour-related for capex and our forecasting methodologies
- Section 6 overviews our indirect forecast capex and our forecasting methodologies, and
- Section 7 sets out the key assumptions underpinning our Stage 1 forecast labour and indirect capex.

1.3. Structure of our Stage 1 Application for VNI West

Our Stage 1 Application comprises the attachments and models illustrated in Figure 1-1. This Labour and Indirect Capex Forecast Methodology document references these attachments, models and other supporting documents and should be read in conjunction with them.

Figure 1-1: Stage 1 CPA document structure for VNI West



⁴ The financial values exclude both inflation and any real input cost escalation (e.g., labour) from 30 June 2023 onwards.

⁵ AER, [Guidance Note for Regulation of actionable ISP projects](#), March 2021.

Attachments and supporting models comprising our Stage 1 Application are also detailed in section 1 of our Principal Application document.

1.4. Scope of this document

The scope of this document is limited to the labour and indirect capex for Stage activities, which comprise:

- actual costs up to 31 May 2023, and
- forecast costs from 1 June 2023 to 30 April 2025, which is when the early works are expected to be complete.

Most of our Stage 1 labour and indirect capex has not yet been incurred.

Real labour escalation is not included as part of this report. Real labour escalation is undertaken in the Capex Forecast Model and is not reflect in the labour costs in this document.

Forecast expenditure has been identified as either capex or opex in a manner consistent with relevant accounting standards including AASB 116. For Stage 1, labour and all indirect costs are treated as capex as they are directly linked to Stage 2 (implementation) which will involve delivering the capital project.

The approach employed in this document is consistent with the approach we have employed with other Project costs which have been externally verified.

2. Overview of stage 1 activities and total forecast capex

This section:

- overviews AEMO's definition and approval of Stage 1 activities
- explains the scope of Stage 1 activities and outcomes for consumers, and
- overviews our Stage 1 capex.

2.1. AEMO's definition and approval of Stage 1 activities

AEMO defines Stage 1 activities as pre-construction activities that can be undertaken now, while keeping open the option to continue, defer or cancel the project as new information becomes available.⁶ AEMO identifies the following activities as likely to fall within Stage 1 for VNI West:⁷

- project initiation – scope, team mobilisation, service procurement
- stakeholder engagement – with local communities, landholders and other stakeholders
- land-use planning – identifying and obtaining all primary planning and environmental approvals, route identification, field surveys, geotechnical investigations, substation site selection and easement acquisition
- detailed engineering design – transmission line, structure and substation design, detailed engineering design and planning
- cost estimation – finalisation, including quotes for primary and secondary plant, and
- strategic network investment – an uplift to the delivered capacity of Project EnergyConnect (Energy Connect or PEC) between Dinawan and Wagga Wagga.⁸

AEMO has issued us with a direction in its 2022 ISP to proceed now with Stage 1 activities to achieve the following benefits:⁹

- insurance value and system reliance – providing greater system resilience to earlier than projected coal closures. AEMO has assessed that the earlier that coal-fired generation retires, the earlier VNI West is needed¹⁰
- option value – allowing delivery of the Project as soon as possible or defer it if circumstances change¹¹
- protection against rising costs – urgently undertaking further work to drive down costs given the risk to supply chains of increasing global demand for the same infrastructure expertise, materials and equipment.¹² It will also secure the fuel cost savings arising from a reduction in gas generation

⁶ AEMO, [Feedback Loop Notice](#), 27 January 2022

⁷ AEMO, [Draft 2022 ISP](#), p. 66

⁸ AEMO, 2022 ISP, p 75. The Commonwealth Government has underwritten funds to build a component of PEC at a larger capacity such that it removes the need to duplicate lines for VNI West when it is constructed.

⁹ AEMO, 2022 ISP, p.74

¹⁰ AEMO, [2022 ISP](#), pp. 67 and 92

¹¹ AEMO, [2022 ISP](#), pp.85 and 86

¹² AEMO, [2022 ISP](#), pp. 96-99

- storage and firming access – it will increase access to Snowy 2.0’s deep storage and other firming capacity from interstate, and¹³
- variable renewable energy (VRE) reduction and support – it will reduce VRE curtailment by sharing geographically diverse VRE. It will also support new VRE needed to replace coal-fired generation (particularly in the Murray River and Western Victoria renewable energy zones (REZs)).

2.2. Scope of our Stage 1 activities

The scope of our Stage 1 activities is in line with AEMO’s definition of early works. Our Stage 1 activities comprise:

- direct and labour and indirect pre-construction activities, and
- two D&C packages.

Our direct Stage 1 capex activities relate to:

- procurement activities including:
- purchasing long lead time equipment (LLE) for transformers, reactors, conductor, steel and power-flow controllers
- a design and construction (D&C) works package to enhance the capacity of a component of PEC (which forms part of the scope of the VNI West Project)¹⁴
- a D&C works package for integration works required to connect the enhanced PEC component of the Project at the Gugaa substation (being constructed as part of HumeLink), and
- undertaking pre-construction development, including for substations and transmission lines, specifications and identifying quantities of plant and materials required.
- land acquisition activities, which relate to biodiversity offset costs, binding options for transmission line easements, and commencing compulsory acquisition.

Our labour and indirect development and approvals (D&A) activities relate to:

- internal labour resources for undertaking project management and corporate support (labour costs) for procurement, land and environmental activities.
- indirect activities for a wide range of professional and consulting services, as well as tender payments and associated facilities costs (e.g., data room).

We have included two D&C packages in our Stage 1 capex. This will ensure that investment synergies between the integration works required for VNI West and the works being undertaken for other ISP projects, in particular PEC and HumeLink, are fully realised. We have adopted this approach based on a careful review of our entire program of work for ISP projects, in order to identify synergies and cost savings during the construction phase to ensure these projects are delivered at the lowest sustainable cost for consumers overall. These D&C packages are:

¹³ AEMO, [2022 ISP](#), p. 74

¹⁴ Media Release, Minister Taylor, [Government supporting delivery of critical transmission infrastructure in Southwest NSW](#), 28 September 2021. This is per the pre-agreed variation under sub-clause 13.13(a) of the EPC Contract for PEC, dated 24 September 2021

- PEC enhancement to increase the capacity of the transmission line from the Dinawan Substation to Wagga Wagga from 330 kV to 500 kV,¹⁵ and
- Gugaa integration works required to integrate the 500kV PEC enhancement with the Gugaa 500/330kV Substation which is being built as part of HumeLink.

We estimate that the cost saving to consumers is \$787 million from undertaking these D&C works as part of our Stage 1 activities, rather than waiting until our Stage 2 delivery activities. This cost saving comprises:

- for the PEC enhancement, approximately \$697 million, and
- for the Gugaa integration works, approximately \$90 million.

We acknowledge that to date D&C activities and costs have not been included in Stage 1 Applications. However, the construction timeframes for PEC and HumeLink, to which the PEC enhancement and Gugaa integration works relate, require us to undertake the D&C activities in VNI West Stage 1 in order to realise the synergies and costs savings from concurrent investment. As a consequence, we have reflected the cost of these activities in this Stage 1 Application. Further, undertaking the D&C works for the PEC enhancement is in line with AEMO’s expectation that Stage 1 activities for VNI West would include ‘strategic network investment’.¹⁶

The AER’s approval of our forecast capex is required in order for us to proceed with these investments. In the absence of the AER’s approval, we would not be funded to undertake this work and therefore could not reasonably be required to undertake it. This would disadvantage consumers, who would then face higher costs associated with undertaking these activities separately at a later time.

In the case of the PEC enhancement work it would not be practical (or cost efficient) to retroactively upgrade our current investment in PEC to 500kV. This is reflected in the current Federal Government underwriting which has been provided to ensure consumers realise the benefits of the enhancement as part of our VNI West Stage 1 activities.

In relation to the Gugaa integration work, we recognise that the regulatory process relating to our Contingent Project – Stage 2 delivery Application for HumeLink has yet to conclude, and so our Final Investment Decision (FID) has yet to be confirmed. Notwithstanding this, in order to meet the required timing for HumeLink we are proceeding on the basis that the regulatory process will result in the revenues required to enable us to make a positive FID, and therefore that the incremental integration works to connect VNI West into the new Gugaa substation will be required. The expected timing of our investment in HumeLink means that these integration works are expected to occur as part of Stage 1 of VNI West. We consider it appropriate to include these integration works as part of this Stage 1 Application, rather than lodging a further Application following our FID for HumeLink.

Table 2.1 shows how our Stage 1 activities map to AEMO’s Stage 1 categories.

Table 2.1: Forecast capex categories alignment with AEMO draft 2022 ISP

AEMO 2022 ISP ¹⁷	Stage 1 CPA– Capex categories
Direct costs	
Detailed engineering design	Procurement

¹⁵ The costs and benefits associated with this enhancement have been assessed as part of the VNI West RIT-T.

¹⁶ AEMO, 2022 ISP, p.66.

¹⁷ AEMO ISP 2022

AEMO 2022 ISP ¹⁷	Stage 1 CPA– Capex categories
Land-use planning	Land acquisitions
Strategic network investment	Procurement
Labour and indirect costs (D&A activities)	
Project initiation	Project management and project development
Cost estimation	Procurement Regulatory approvals and other support
Stakeholder engagement	Community & stakeholder engagement
Land-use planning	Land and environment

Our Stage 1 capex will deliver the following outcomes:

- identify, explore and manage the project risks. This will allow us to mitigate and/or diversify the Project's risks so that the residual risk costs included in our Stage 2 Application are as low as possible
- secure the cost savings for consumers from our programmatic approach to delivering the ISP projects, which we are responsible for delivering. This approach is known as the Powering Tomorrow Together (PTT) program and involves the integrated delivery of VNI West, HumeLink and Project EnergyConnect (PEC or EnergyConnect) and has been established to accelerate the delivery of transmission infrastructure and drive costs down through economies of scale and scope. The combined cost saving for consumers from the PTT program in respect of LLE in this Stage 1 Application is estimated to be \$60 million
- achieve the target delivery date of 2028 by progressing activities on the critical path to ensure that construction can commence as soon as possible following the approval of our Stage 2 Application.¹⁸ Activities on the critical path include securing LLE, undertaking continued stakeholder engagement, acquiring access to land and establishing biodiversity stewardship sites using Biodiversity Stewardship Agreements (BSAs), and
- realise investment synergies arising from undertaking design and construction (D&C) works associated with the integration of VNI West with other ISP projects which we are responsible for delivering, in particular, HumeLink and PEC. This will ensure that overall, this suite of ISP projects is delivered at the lowest sustainable cost for consumers.

Our Principal Application and Scope definition documents discuss the activities that comprise our Stage 1 activities and how our capex will deliver these outcomes.

2.3. Overview of our Stage 1 Capex

Table 2-2 shows that our total Stage 1 capex is \$1,096.33 million, excluding equity raising costs. We will incur most of this capex in the 2023-28 regulatory period. Our direct forecast capex is additional to the capex approved by the AER in its 2023-28 Revenue Determination.

¹⁸ AEMO, 2022 ISP, June 2022, p.13. (See Table 1).

Table 2-2: Stage 1 capex (\$M, Real 2023-23)

	2018-21	2021-22	2022-23	2023-24	2024-25	2025-26	Total
Actual	0.15	8.18	10.71	-	-	-	19.04
Forecast	-	-	58.10	499.68	450.11	69.41	1,077.29
Total capex	0.15	8.18	68.81	499.68	450.11	69.41	1,096.33

Notes: Including overheads, excluding equity raising costs

Table 2-3 details our Stage 1 total capex by sub-category of capex.

Table 2-3: Stage 1 capex by category (\$M, Real 2022-23, including overheads)

Direct costs		Millions	Per cent of total capex
Direct capex		890.72	81.25
Procurement		792.87	72.32
LLE	Transformers, Reactors, Conductor	[REDACTED]	[REDACTED]
	Steel		
	Power flow controllers		
PEC enhancement	500kV Transmission line enhancement		
HumeLink (Gugaa) integration	Connection of the enhanced PEC component of the Project at the Gugaa substation		
Pre-construction development	Transmission lines and substations		
Land acquisition			
Land acquisition	Valuation and acquisition costs		
Biodiversity offsets	Biodiversity offset liability requirements		
Labour and indirect costs		205.61	18.75
Labour	Internal resource requirements	65.16	5.94
Indirect	Professional and consulting services	140.45	12.81
Total		1,096.33	100.00

Our Stage 1 activities and the associated capex relating to:

- labour and indirect capex (D&A) are explained in this document, and
- direct capex activities are explained in our Direct Capex Forecasting Methodology.

3. Overview of Stage 1 labour and indirect stage 1 activities

Our forecast labour and indirect capex comprises costs that we will incur in Stage 1 of the VNI project on:

- internal labour resources for undertaking project management and corporate support (labour costs) for procurement, land and environmental activities, and
- indirect activities for a wide range of professional and consulting services, as well as tender payments and associated facilities costs (e.g., data room).

There are six categories of labour and indirect costs. Each category contains both a labour and indirect cost component:

- **project management** – this capex relates to labour for managing development activities and preparing for the delivery of the Project. This includes project management to co-ordinate the Project's activities to efficiently deliver to the agreed scope, program and budget. It also includes indirect costs for risk workshops and software, safety software and corporate site visits.
- **project development** - this capex relates to labour needed to plan and develop the project, including engineering studies and support. It also includes indirect costs for legal assistance, geotechnical and survey work, project management and concept design engineering, scheduling consultants, owners engineer, and specialist studies.
- **land and environment** – this capex relates to labour needed to support environmental approval and land acquisition. It also includes indirect costs required for environmental impact studies, surveys, developing the Environmental Impact Statement (EIS) and undertaking related activities including specialist land agent support. These are scheduled to be undertaken between July 2023, which is when we anticipated lodging our EIS, and February 2025.
- **procurement** – this capex relates to labour needed to undertake the procurement of the main Design and Construction (D&C) packages to deliver the project. The indirect costs relate to contractor bidder payments, transaction management expenses, data room fees, probity training and support and the independent cost estimator.
- **community and stakeholder engagement** – this capex relates to labour and labour related costs associated consulting with stakeholders and the community about the Project. This will be guided by our VNI West Engagement Strategy, including indigenous engagement and social impact engagements and initiatives. Early community engagement is needed to ensure the Project has an appropriate social licence, with managing media and communications and lead the community strategy and activities. The indirect costs relate to consulting costs for social legacy outcomes, community engagement, community partnership programs and media and events.
- **regulatory approvals and other support** – this capex relates to seeking necessary regulatory approvals from the AER and AEMO for Project implementation. It also covers risk compliance, legal, and HR labour. Indirect costs include those costs associated with the resolution of the Regulatory Investment Test for Transmission (RIT-T) PACR dispute, working with AEMO for confirmation that the Project remains on the Optimal Development Path, and the preparation of the Stage 1 and Stage 2 CPA submissions and validation of the respective scope and costs.

This document also includes labour and Indirect costs associated with the PEC Enhancement work, which involves increasing the capacity of the transmission line between Dinawan to Wagga Wagga. This enhancement is being undertaken as part of VNI West stage 1 and will remove the need to duplicate lines for VNI West when it is constructed. This will in turn lower the overall costs of delivering the VNI West Project

and minimise disruption to landholders and the environment in the area. These activities are subject to underwriting support from the Commonwealth Government.

Our labour and indirect costs include actual and forecast costs:

- actual capex (otherwise referred to as historical capex) relates to costs that we have already incurred to progress the Project such as preparing the RIT-T and this Stage 1 Application.
- forecast capex relates to the forecast period to 30 April 2025, which is when the early works are expected to be completed, and

Table 3-1 shows our total (i.e., actual and forecast) Stage 1 labour and indirect capex (excluding contingency and labour escalation) is \$201.16 million over the period 1 July 2017 to 30 April 2025. This comprises:

- actual capex to May 2023 of \$17.44 million (or 8.67%), and
- forecast capex from 1 June 2023 to 30 April 2025 of \$183.73 million (or 91.33%).

This capex is incremental to our business-as-usual capex and relates only to the VNI West Project and the PEC Enhancement activities. Adding contingency and labour escalation increases the total to \$205.61 million.

Table 3-1: Summary total labour and indirect capex – historical and forecast (\$M, Real June 2023)

Capex	2017-21	2021-22	2022-23	2023-24	2024-25	Total
Historical – VNI West	0.15	6.38	10.71	-	-	17.24
Historical – PEC Enhancement	-	0.20	-	-	-	0.20
Historical – HumeLink Interface	-	-	-	-	-	-
Actual capex						17.44
Forecast – VNI West	-	-	4.78	67.19	96.23	168.19
Forecast – PEC Enhancement	-	-	0.37	5.27	3.60	9.24
Forecast – HumeLink Interface	-	-	0.13	3.36	2.80	6.29
Forecast capex						183.73
Total actual & forecast capex	0.15	6.58	15.99	75.82	102.63	201.16
Contingency	-	-	0.12	2.15	1.63	3.89
Labour escalation	-	-	-	0.12	0.43	0.55
Total including contingency and escalation	0.15	6.58	16.11	78.08	104.69	205.61

Table 3-2 shows our total Stage 1 labour and indirect capex, which comprises:

- \$62.36 million (or 31.00%) for labour and labour-related costs, and
- \$138.80 million (or 69.00%) for indirect costs.

Table 3-2 Summary of labour and indirect capex for VNI West Stage 1 activities by sub-category (\$M, Real 2022-23)

Labour and indirect capex		Actual capex	Forecast capex	Total capex
Labour and labour related costs		6.67	55.69	62.36
Project team resources	Project Management	4.01	23.88	27.90
	Project Development	0.38	9.12	9.50
	Land and environment	0.01	8.13	8.13
	Procurement - transaction support	1.17	0.64	1.81
	Community & stakeholder engagement	0.51	11.59	12.10
	Regulatory and other corporate support roles	0.60	2.32	2.92
Indirect Costs		10.76	128.04	138.80
Project management	Activities to manage the project	0.97	5.94	6.91
Project development	Development, engineering, legal and economic support	3.50	33.90	37.41
Land and environment	EIS development, EIS lodgement fees and land agents	0.19	17.19	17.38
Procurement	Bidder payments, data room and procurement support	0.76	22.69	23.45
Community & stakeholder engagement	Community engagement, social legacy outcomes, community partnerships and media and events	0.40	5.86	6.27
Regulatory approvals and other support costs	RIT-T analysis and documentation and Stage 1 and 2 CPA documentation, modelling and reports	4.93	42.46	47.38
Sub-total		17.44	183.73	201.16
Contingency		-	3.89	3.89
Labour escalation		-	0.55	0.55
Total		17.44	188.17	205.61

The labour and labour related costs in the above table and throughout this document exclude any forecast real labour cost escalation.

Appendix A provides further detail including capex by year over the period June 2023 to 30 April 2025.

Figure 3-1, Figure 3-2, and Figure 3-3 shows our VNI West Stage 1, PEC Enhancement, and HumeLink Integration forecast labour and indirect capex in terms of indirect costs and labour (and labour related) costs. These charts exclude contingency and labour escalation.

Figure 3-1: VNI West - Forecast labour and indirect capex by nature, from 1 June 2023 to 30 April 2025 (\$M, Real 2023)

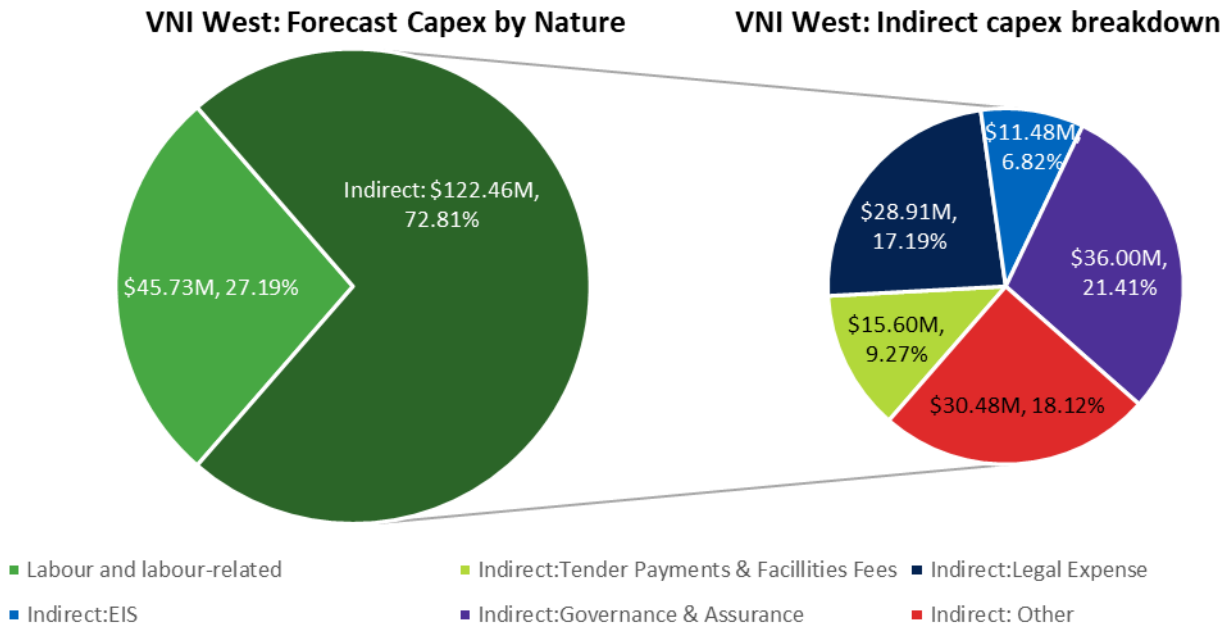
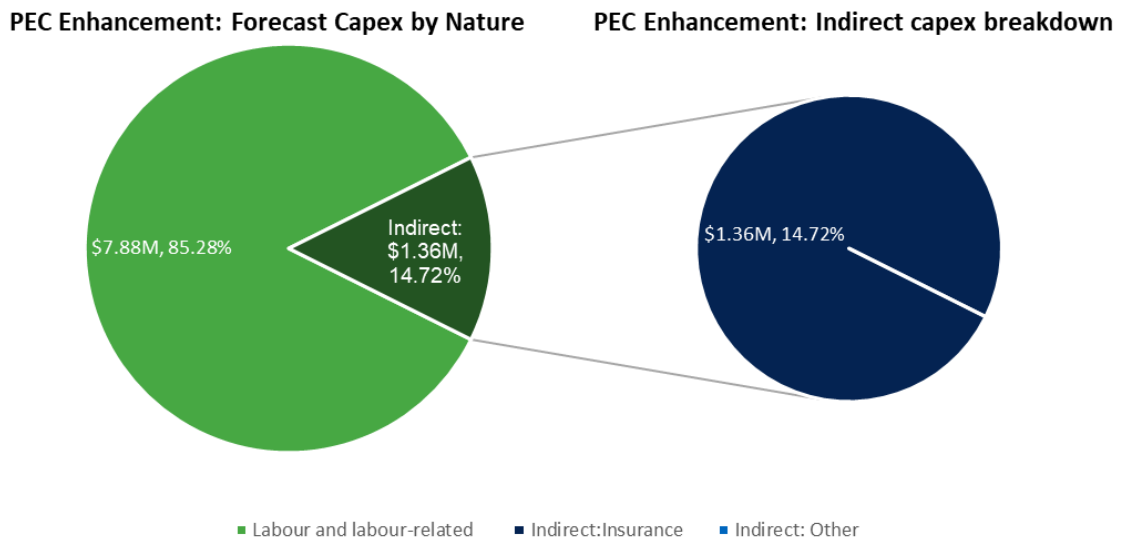


Figure 3-2: PEC Enhancement - Forecast labour and indirect capex by nature, from 1 July 2023 to 30 April 2025 (\$M, Real 2023)



Note: Labour includes both internal and outsourced labour working as part of the project team.

Figure 3-3: HumeLink Interface - Forecast labour and indirect capex by nature, from 1 July 2023 to 30 April 2025 (\$M, Real 2023)

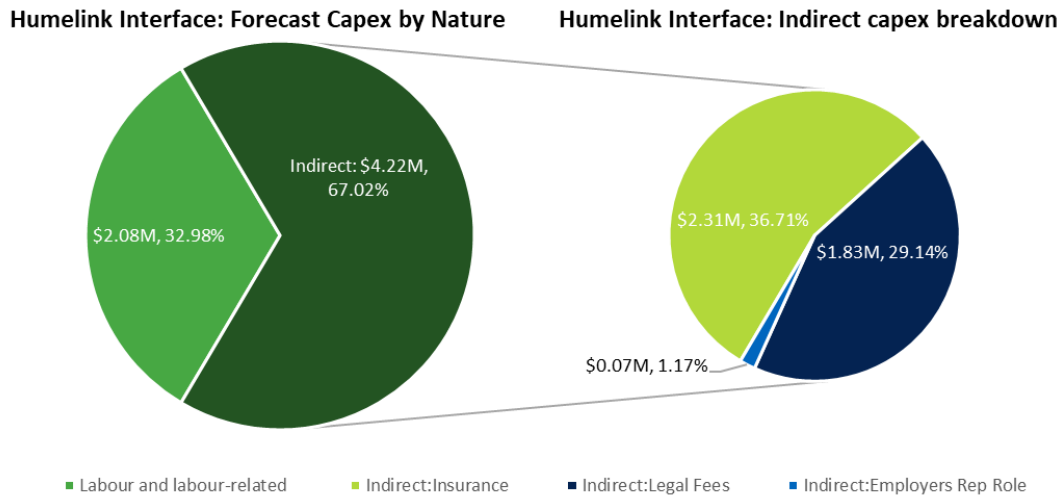
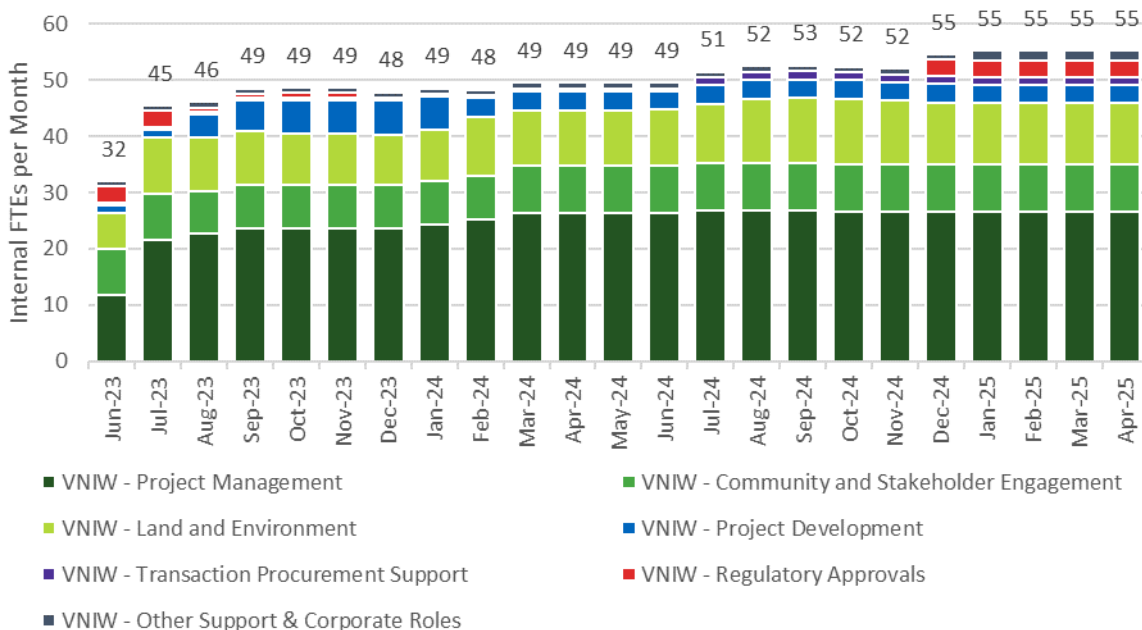


Figure 3-4, Figure 3-5, and Figure 3-6 show the forecast monthly internal full-time equivalents (FTEs) for the VNI West Project stage 1 activities, the PEC enhancement stage 1 activities, and the HumeLink interface stage 1 activities. The average number of FTEs (excluding outsourced labour) is:

- 49.92 for VNI West
- 9.53 for the PEC enhancement, and
- 2.30 for HumeLink interface.

The FTE profiles reflect the level activity over the development of the project. The number of FTEs for VNI West increase in September 2023 then remain relatively stable for the remainder of the period.

Figure 3-4: VNI West - Forecast monthly FTEs (1 June 2023 to 30 April 2025)



The number of FTEs for the PEC enhancement remains relatively stable throughout the period.

Figure 3-5: PEC Enhancement - Forecast monthly FTEs (1 June 2023 to 30 April 2025)

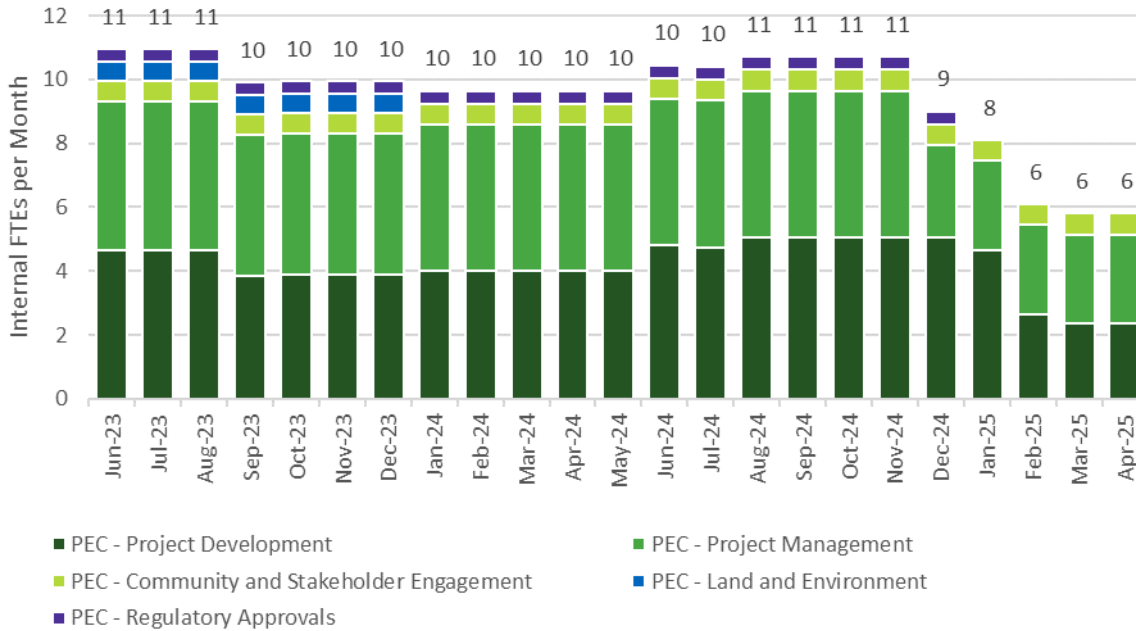
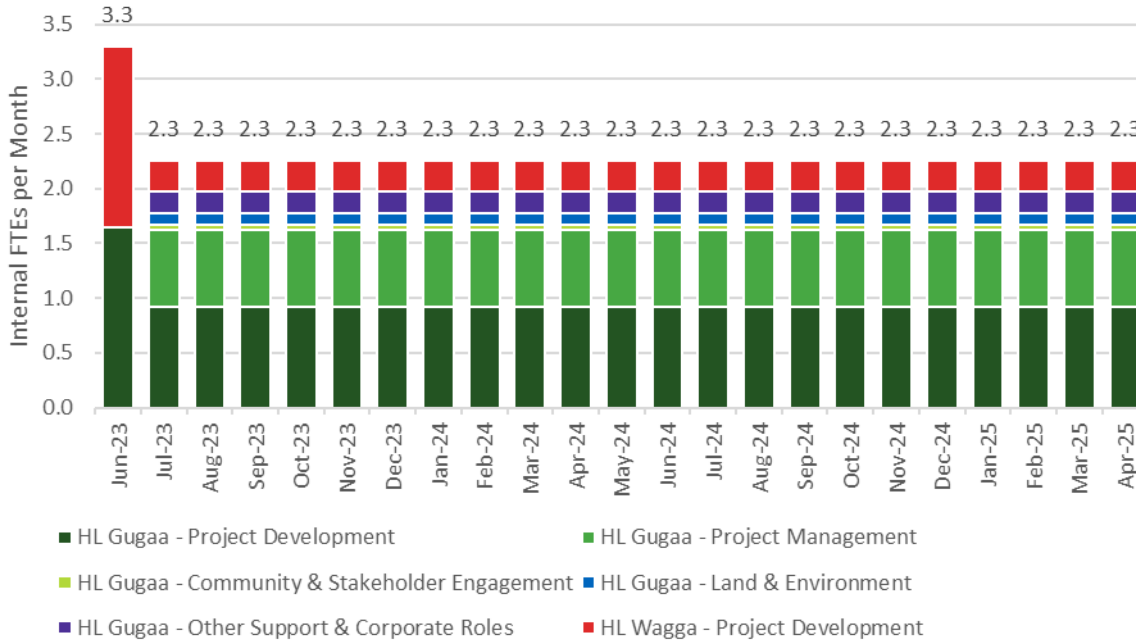


Figure 3-6: HumeLink Interface - Forecast monthly FTEs (1 June 2023 to 30 April 2025)



Apart from the first month, the number of FTEs for the HumeLink enhancement also remains relatively stable throughout the period.

4. Our actual Stage 1 labour and indirect capex

Our actual capex reflects transactions recorded in Ellipse, our enterprise resource planning (ERP) system. We have allocated and attributed our actual costs to VNI West in accordance with our cost allocation methodology (CAM). We have also treated actual capex in accordance with our capitalisation policy.

We have allocated our actual labour and indirect capex that we incurred on the VNI West Project from 1 July 2017 to 31 May 2023 to the indirect capex categories outlined above, which include:

- labour and labour-related capex including travel, expenses (including accommodation, meal allowances and other expenses) and support costs, and
- non-labour capex including consulting and legal fees, and outsourced labour and work related to the categories outlined in Table 4-1.

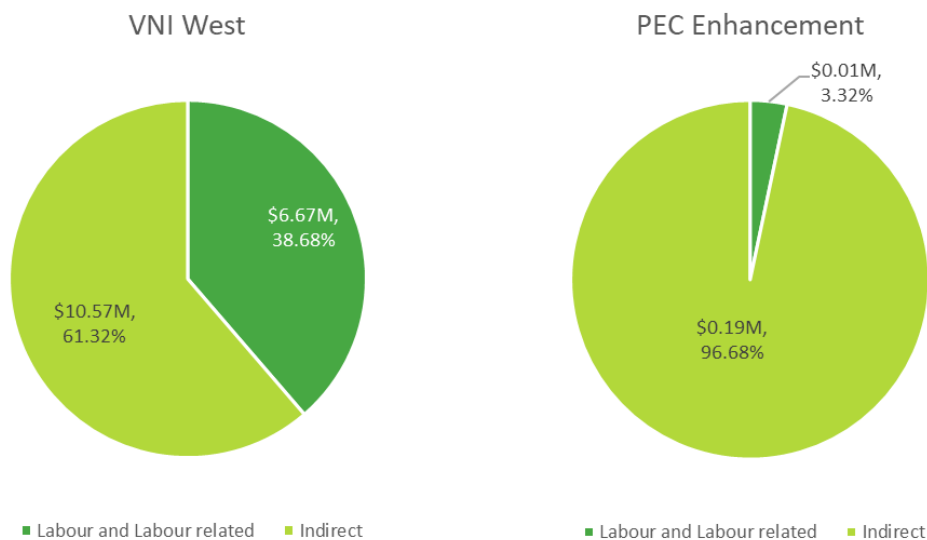
Our actual Stage 1 labour and indirect capex is \$17.44 million. Table 4-1 shows our actual labour and indirect capex by category and by year. Figure 4-1 shows our indirect costs and labour (and labour related) costs. There is no actual labour or indirect capex for the HumeLink integration.

Table 4-1: Historical labour and indirect capex by category, from 1 July 2017 to 31 May 2023 (\$M, Real 2022-23)

Capex category	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Actual total capex
VNI West							
Labour and labour-related							
Project Management	-	-	-	-	1.27	2.74	4.01
Project Development	0.00	-	0.15	0.00	0.31	(0.08)	0.38
Land and Environment	-	-	-	-	0.04	0.47	0.51
Transaction Procurement Support	-	-	-	-	-	-	-
Community & Stakeholder Engagement	-	-	-	-	0.17	1.00	1.17
Regulatory Approvals	-	-	-	-	-	0.03	0.03
Other Support and Corporate Roles	-	-	0.00	-	0.19	0.38	0.57
Subtotal	0.00	-	0.15	0.00	1.98	4.54	6.67
Indirect (Non -labour)							
Project Management	-	-	-	-	0.64	0.33	0.97
Project Development	-	-	-	-	1.88	1.62	3.50
Land and Environment	-	-	-	-	-	0.40	0.40
Transaction Procurement Support	-	-	-	-	-	-	-

Capex category	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Actual total capex
Community & Stakeholder Engagement	-	-	-	-	0.23	0.53	0.76
Regulatory Approvals	-	-	-	-	-	-	-
Other Support and Corporate Costs	-	-	-	-	1.63	3.29	4.93
Subtotal	-	-	-	-	4.39	6.18	10.57
Total – VNI West	0.00	-	0.15	0.00	6.38	10.71	17.24
PEC Enhancement							
Labour and labour-related							
Land and Environment	-	-	-	-	0.01	-	0.01
Indirect							
Land and Environment	-	-	-	-	0.19	-	0.19
Total – PEC Enhancement	-	-	-	-	0.20	-	0.20
Total VNI West and PEC enhancement	0.00	-	0.15	0.00	6.58	10.71	17.44

Figure 4-1: Historical labour and indirect capex by nature, from 1 July 2017 to 31 May 2023 (\$M, Real June 2023)



Our actual costs are based on transactions recorded in Ellipse, our ERP system. This contains Labour costs, support costs and expenses for Stage 1 work orders.

5. Forecast labour and labour-related costs

5.1. Approach to forecasting labour and labour related costs

We have determined our Stage 1 forecast labour capex based on a bottom-up build of costs over the period from 1 June 2023 to 30 April 2025. Our forecasting method is consistent with the methodology applied in our previous Applications for HumeLink Stage 1 and our Waratah Super Battery (WSB) (non-contestable) Revenue Proposal. As noted, our forecast capex has been treated in accordance with our capitalisation policy.

Our labour costs are based on our internal resource requirements for Stage 1. This comprises 136 roles or 49.92 FTEs for VNI West, 46 roles or 9.53 FTEs for the PEC enhancement, and 61 roles or 2.30 FTEs for HumeLink integration.

This excludes outsourced labour relating to the Project Integration Manager and other scheduling, quality assurance, engineering, spatial, audit and tendering resources. Labour is organised into a number of sub-teams¹⁹ and only include direct labour costs (further detail is provided in section 7).²⁰ The forecast of resource requirements reflects:

- the month-by-month FTE requirements for each role type (to meet the project schedule; and
- hourly labour rates for each role type including on-costs and support costs (see assumptions in section 517).

Our labour-related costs include travel expenses, training, recruitment and IT hardware costs. Assumptions underpinning each of these are outlined in section 7. The cost build-up (as is applicable for each of the labour cost categories) is summarised in section 5.

Table 5-1 sets out our FTEs, roles and outsourced labour for VNI West and PEC enhancement by sub-category of capex. Expenditure excludes contingency and labour escalation.

Table 5-1: VNI West - summary of roles, FTE and outsourced labour by sub-category

Sub-category	Roles	Internal labour (FTE)	\$ Million Outsourced labour	Forecast capex
VNI West				
Project Management	38.00	24.86	0.96	20.17
Project Development	9.00	3.79	0.77	4.43
Procurement Support	4.00	0.88		7.83
Community and Stakeholder Engagement	47.00	8.14	4.17	0.64
Land and Environment	17.00	10.12		10.84
Regulatory and other support roles	21.00	2.12	0.07	1.81
Sub-total	136.00	49.92	5.96	45.73

¹⁹ The Major Projects division in Transgrid dissolved in June 2021, meaning that all associated costs are reflected in historical labour costs and are not relevant to forecasting labour costs.

²⁰ The Major Projects division in Transgrid dissolved in June 2021, meaning that all associated costs are reflected in historical labour costs and are not relevant to forecasting labour costs.

Sub-category	Roles	Internal labour (FTE)	\$ Million Outsourced labour	Forecast capex
PEC Enhancement				
Project Management	13.00	4.18		3.15
Project Development	19.00	4.19		3.51
Community and Stakeholder Engagement	4.00	0.65		0.23
Land and Environment	6.00	0.18		0.68
Regulatory and other support roles	4.00	0.33		0.32
Sub-total total	46.00	9.53	0.00	7.88
HumeLink Integration				
Project Management	14.00	0.67		0.56
Project Development	40.00	1.29		1.19
Community and Stakeholder Engagement	1.00	0.05		0.07
Land and Environment	2.00	0.10		0.07
Regulatory and other support roles	4.00	0.19		0.19
Sub-total total	61.00	2.30	0.00	2.08
Total VNI West, PEC Enhancement, and HumeLink Integration	243.00	61.75	5.96	55.69

The following sections 5.2 to 5.7 set out our labour and labour related cost for each sub-category of capex, excluding contingency and labour escalation.

5.2. Project Management

Our Stage 1 forecast capex for Project Management relates to incremental labour for managing and co-ordinating the Project's activities to efficiently deliver to the agreed scope, program and budget. This includes project scheduling, expenditure forecasting and reporting, and analysis of risk to mitigate risks.

We have established a dedicated VNI West project team to oversee the delivery of the Project. The Project is led by a Project Director who is accountable for the Project's overall success. The scope of work and resources for project management and governance during the D&A phase includes:

- Project Director who is responsible for the project and is supported by the Project Delivery Director and direct reports responsible for respective work programs
- support functions including HSE, risk management, project controls/scheduling, cost estimating, interface management, quality control, document control and administration support, and
- corporate support will provide additional resources for project management and the governance processes.

We have also forecast incremental project management resources to manage the PEC Enhancement works. This includes incremental resources for commercial and contracts management, schedule and cost management, HS&E management and quality assurance. These incremental resources are required to manage the new set of safe work, environmental and quality procedures which arise from the 500kV works as a result of the:

- larger 500kV towers which will require additional construction resources, such as more steel and concrete, a larger clearing and earthing footprint and additional construction plant such as cranes and trucks
- the 500kV line has a bundle of four conductors per phase, rather than the two conductors per phase used on 330kV and double the number of insulator strings, and
- additional construction activity and resources increases our site supervision presence and community and stakeholder management.

Table 5-2 shows that for our forecast Project Management labour and labour-related capex for VNI West, PEC Enhancement, and HumeLink Integration is \$20.17 million, \$3.15 million, and \$0.56 million respectively and comprises:

- Internal labour costs comprise approximately 98.25% of forecast Project Management capex for VNI West, 69.85% for the PEC Enhancement, and 11.71% for HumeLink Integration. These costs reflect on average around 24.86 FTEs for VNI West, 4.18 FTEs for the PEC Enhancement, and 0.67 FTEs for HumeLink Integration.
- Outsourced labour costs – these reflect a project director and project risk manager who will work with the internal project team across the forecast period.
- Labour-related costs – these comprise training, recruitment and IT hardware expenses.

Table 5-2: Summary of labour and labour-related costs for Project Management (\$M, Real June 2023)

Category	Forecast direct capex	Forecast indirect capex	Forecast capex	% Forecast capex
VNI West				
Labour (Internal)	13.15	5.63	18.78	93.09%
Labour (Outsourced)	0.67	0.29	0.96	4.74%
Labour-related costs	0.31	0.13	0.44	2.17%
Sub-total	14.12	6.05	20.17	100.00%
PEC Enhancement				
Labour (Internal)	2.09	0.89	2.98	94.60%
Labour-related costs	0.12	0.05	0.17	5.40%
Sub-total	2.21	0.95	3.15	100.00%
HumeLink Integration				
Labour (Internal)	0.39	0.17	0.56	100.00%
Labour-related costs	-	-	-	-
Sub-total	0.39	0.17	0.56	100.00%
Total	16.72	7.16	23.88	n.a.

5.3. Project Development

Our Stage 1 forecast capex of \$9.12 million for forecast Project Development labour and labour-related relates to project team resources needed for project engineering, network planning and commissioning, and comprises \$4.43 million for VNI West, \$3.51 million for the PEC Enhancement, and \$1.19 million for HumeLink Integration.

The resources required for these deliverables have been determined based on a bottom-up assessment of the scope of work. The VNI West project development work program comprises:

- an integration manager - responsible for overseeing the development of the transmission line and substation designs respectively and managing teams of project managers
- a design manager - responsible for ensuring the design services partners are meeting the requirements of the Project, and
- engineering resources – this includes the work being undertaken to produce concept designs and specifications. This will be provided to the contractors.

Key drivers for the level of resources required for the project development scope are:

- route design and siting for around 488 transmission tower structures
- profiling and design of dual circuit 500kV towers (civil, structural and electrical) to support conductors over a route of around 203 kilometres of 500kV line
- review of concept designs prepared for different tower types
- configuration, layout and concept designs (civil, structural and electrical) required for establishing a 500kV switchyard at Dinawan
- specifications and design review for large specialist equipment such as transformers and reactors and general substation equipment
- protection and control systems requirements and specifications required at each substation, and
- requirements and specification for access tracks and laydown areas.

Table 5-3 overviews the objectives and deliverables for the project development work program.

Table 5-3: Project development work program - key objectives and deliverables

Project development	Objective and Deliverables
Develop a robust and efficient scope and specification	<ul style="list-style-type: none"> ▪ Develop design briefs for design consultants and construction tenders. ▪ Develop concept designs and specifications for transmission lines and substations for tenders. ▪ Manage and support design contractors within the procurement process to develop optimum engineering solutions and designs. ▪ Engage an independent owners engineer to review engineering solutions and design quality. ▪ Maintain and control document accuracy and design revisions.
Minimise design risk	<ul style="list-style-type: none"> ▪ Balance the risk allocation with the Contractors.

Project development	Objective and Deliverables
	<ul style="list-style-type: none"> Prepare concept designs with assistance from our design consultant at the time of tender. Detailed design will be the responsibility of the contractor(s). Interface with Contractors on separate design scopes to ensure consistency of design across all contracts. Design will be completed during the early works phase prior to construction.
Ensure prudent and efficient costs	<ul style="list-style-type: none"> Competitive market prices from the procurement process will support the prudence and efficiency of Stage 2 costs.

We have also forecast incremental project development resources to manage the PEC Enhancement works. This includes incremental resources for network planning, engineering and commissioning as a result of the 500kV transmission line, which requires:

- the design, testing and development of new 500kV towers requiring review and oversight by Transgrid, and
- additional testing and commissioning due to the higher electrical stresses at 500kV, including electric field and corona noise testing and mitigation. We will be required to oversee, review and liaise with stakeholders during these additional testing and commissioning activities.

Table 5-4 details our Project Development labour and labour-related costs. These costs primarily comprise internal labour costs based on an average of 7.98 FTEs (i.e., 3.79 FTEs for VNI West, 4.19 for PEC Enhancement, and 1.29 for HumeLink Integration) over the forecast period to 30 April 2025. These FTEs will plan and develop the project.

Table 5-4: Summary of labour and labour-related costs for Project Development (\$M, Real June 2023)

Category	Forecast direct capex	Forecast indirect capex	Forecast capex	% Forecast capex
VNI West				
Labour (Internal)	2.41	1.03	3.45	77.84%
Labour (Outsourced)	0.54	0.23	0.77	17.27%
Labour-related costs	0.15	0.06	0.22	4.89%
Sub-total	3.10	1.33	4.43	100.00%
PEC Enhancement				
Labour (Internal)	2.22	0.95	3.18	90.60%
Labour-related costs	0.23	0.10	0.33	9.40%
Sub-total	2.45	1.05	3.51	100.00%
HumeLink Integration				
Labour (Internal)	0.83	0.36	1.19	100.00%
Labour-related costs	-	-	-	-
Sub-total	0.83	0.36	1.19	100.00%

Category	Forecast direct capex	Forecast indirect capex	Forecast capex	% Forecast capex
Total	6.39	2.74	9.12	n.a.

5.4. Land and Environment

VNI West is a 500 kilovolt (kV) double-circuit overhead transmission line between Victoria and New South Wales, connecting Western Renewables Link (WRL) (at Bulgana) with PEC (at Dinawan) via a new terminal station near Kerang, and crossing the Murray River north of Kerang. Due to the size of this project and the geographical expanse it will cover, significant resources will be required to manage the property and environmental implications of the project.

Table 5-5 overviews objectives and deliverables for this scope of work.

Table 5-5: Work program key objectives and deliverables

Land and Environment	Objectives and Deliverables
<p>The impacts from changes during the planning approval process, or obligations within the conditions of consent, can significantly impact construction contract time and cost if they are not incorporated in the competitive tender phase.</p> <p>We will need to follow the established framework to avoid, minimise and offset impacts through the NSW Biodiversity Offsets Scheme.</p>	<p>We must undertake a robust environmental impact assessment and develop a comprehensive EIS that ensures:</p> <ul style="list-style-type: none"> • potential environmental and social impacts are avoided or minimised • our biodiversity offsets credit obligation is accepted • net positive biodiversity outcomes are achieved, and • the delivery of planning and environmental approvals is met according to the project schedule.
<p>The Project requires the acquisition of easements over a substantial amount of land, which impacts many landholders, to provide construction site access. Property access is required following the approval of our Stage 2 CPA to allow construction to proceed.</p> <p>To ensure site access as soon as possible, we need to establish early option agreements to secure a future acquisition, and to commence any compulsory acquisition process prior to FID.</p> <p>We have progressed engagement with landholders based upon the indicative route and broader study corridor. There are approximately 150 landholders that we need to negotiate with for an easement.</p>	<p>Our objectives are:</p> <ul style="list-style-type: none"> • ensure landholders have been satisfactorily engaged and are agreeable with the outcomes of negotiations • establish early option agreements for transmission line easements, and • commence necessary compulsory acquisitions prior to commencing Stage 2 activities. • Achieving the above is critical to: <ul style="list-style-type: none"> • ensuring immediate site access after approval of the Stage 2 CPA to meet the target 2028 delivery date • avoiding any delays to the commencement of the construction works, and • reducing the quantum of risk costs in our Stage 2 Application.

The EIS development costs are driven by the need to perform field surveys and other technical studies which will inform the EIS and biodiversity assessment to obtain the environmental approvals.

The land acquisition management costs are driven by the 150 impacted landholders who will require individual consultation and negotiations to determine land valuation i.e., the level of compensation to be paid.

Table 5-6 details our forecast Land and Environment labour and labour-related cost of \$8.13 million, comprising \$7.83 million for VNI West, \$0.23 million for PEC Enhancement, and \$0.07 million for HumeLink Integration. These costs primarily reflect internal labour and labour related costs for an average of 10.30 FTEs (i.e., 10.12 FTEs for VNI West, 0.18 for the PEC Enhancement, and 0.10 for HumeLink Integration) required to support environmental approval and land acquisition over the forecast period to 30 April 2025. There are no outsourced labour costs.

Table 5-6: Summary of Labour and Labour-related costs for Land and Environment (\$M, Real June 2023)

Category	Forecast direct capex	Forecast indirect capex	Forecast capex	% Forecast capex
VNI West				
Labour (Internal)	5.36	2.30	7.66	97.80%
Labour-related costs	0.12	0.05	0.17	2.20%
Sub-total	5.48	2.35	7.83	100.00%
PEC Enhancement				
Labour (Internal)	0.08	0.03	0.11	49.14%
Labour-related costs	0.08	0.04	0.12	50.86%
Sub-total	0.16	0.07	0.23	100.00%
HumeLink Integration				
Labour (Internal)	0.05	0.02	0.07	100.00%
Labour-related costs	-	-	-	-
Sub-total	0.05	0.02	0.07	100.00%
Total	5.69	2.44	8.13	n.a.

5.5. Transaction Procurement Support

Our Stage 1 forecast capex relates to the procurement of the main D&C packages to deliver the scope of the project. Our procurement team, with the specialist support, will manage the transactions and the tendering process.

We will engage the construction market early through an early contractor involvement (ECI) procurement process to promote competition and innovation. We intend to award two packages for the design, construction and procurement of plant, consisting of a separate transmission line package and substation package. This will be subject to the capacity and capability of the shortlisted contractors bidding for the work packages.

We will engage the construction market early through the ECI process to:

- ensure greater cost certainty to support the Stage 2 CPA

- improve project definition and site information, capture innovations and identify risks opportunities, and
- provide assistance to progress the EIS.

We need to appoint contactors early to undertake detailed design work. This is required so that construction can commence as soon as possible following the approval of our Stage 2 CPA to meet the target 2028 delivery date, firm up costs and reduce project risks.

Bidder payments will be made to unsuccessful tenderers to encourage the competitive participation of multiple bidders and support the considerable investment required of the bidders. These payments are in line with common industry practice and NSW government policy.

The resources required to support the procurement process have been determined based on a bottom-up assessment of the contracting strategy. The resources include:

- procurement team, including a transaction manager and procurement manager – who will manage the market engagement process
- probity advisor who will be engaged throughout the Contract Program and will provide Probity Mindset Training as part of the probity framework
- additional FTEs, including two FTE to facilitate the ECI delivery phase, request for tender (RFT) preparation and interactive workshops
- cost estimation for preparing comparative cost estimates through the procurement phase, and
- other resources including additional resources to support procurement strategy development, commercial advice, transactions with any international contractors and market research.

Table 5-7 shows our Stage 1 forecast transaction procurement support capex is \$0.45 million and it relates to VNI West activities only. This is based on an internal labour of approximately 0.88 FTEs across the forecast period to 30 April 2025. These FTE will support the tender process, data room and ongoing contract administrative management. We are not using any outsourced labour to support these activities and there are no labour related costs.

Table 5-7: Summary of Labour and labour-related costs for Transaction Procurement Support (\$M, Real June 2023)

Category	Forecast direct capex	Forecast indirect capex	Forecast capex	% Forecast capex
VNI West				
Internal labour	0.45	0.19	0.64	100.00%
Total	0.45	0.19	0.64	100.00%

5.6. Community and Stakeholder Engagement

Our Stage 1 forecast capex for Community and Stakeholder Engagement (CSE) relates to engagement required to undertake activities to help obtain stakeholder acceptance for the delivery of the Project in a sustainable way given that it will impact many land holders and communities.

Table 5-8 overviews the objectives and deliverables for our community and stakeholder engagement work program.

Table 5-8: Community and stakeholder work program - key objectives and deliverables

Community and stakeholder engagement	Objectives and Deliverables
<p>Community and stakeholder engagement is a critical process to establish support for the Project from all stakeholders.</p> <p>Industry market participants, the Federal and NSW Governments, landholders, the community and indigenous groups are major stakeholders in the Project.</p>	<p>The objective is to establish support for the Project from all stakeholders. This will require the development and implementation of an effective stakeholder engagement plan and action plans for key engagement areas and stakeholders.</p> <p>The plan will aim to support efficient and timely delivery of consultation and engagement across a range of stakeholders for the Project.</p>

[DN: Engagement strategy and detail below needs to be confirmed by project team]

We have developed a VNI West Engagement Strategy to outline our communication and engagement approach with communities, landowners and other key stakeholders in Stage 1.

Indigenous engagement

A critical aspect of our engagement is the need to plan and develop actions based on input from the Aboriginal and Torres Strait Islander community around their skills and needs, and to then consider what the Project has to offer and learn. Feedback is being used to help plan the route, minimise project impacts and maximise benefits for the Aboriginal and Torres Strait Islander community and the Project.

In line with our Aboriginal Participation in Construction Policy, we will include requirements in construction contracts for the development of participation opportunities and will set a minimum standards and targets of 2.5% to 5% based on the nature, location and objectives of the Project and community, and encourage the achievement of higher targets.

Social legacy

Another key aspect of the Project is social impact and legacy management. Our Corporate Strategic Plan, Energy Vision and Environmental and Social and Governance (ESG) principles as well our commitment as a signatory to the Energy Charter give an insight into our Social Legacy aspirations which embraces wider aims towards building a better community for all.

NSW and Federal Government policies currently target a minimum 3% project spend on indigenous employment and businesses, and for achieving social legacy outcomes/objectives. For PEC we are targeting 5% and for VNI West we will aim to achieve a similar or higher investment over the course of the development and delivery phases of the Project.

VNI West's Social Legacy Strategy aims to enable a lasting positive legacy in south western NSW and provide long-term community benefit and resilience through infrastructure. Initiatives developed as part of this strategy will involve many key partners and stakeholders including local government, the Department of Regional NSW, TAFE's, Department of Education, DPIE, Training Services NSW, Local Aboriginal Land Councils, and several local community groups, universities and long-term regional employers.

The programs relate to areas that have a longer life beyond the construction of VNI West such as electricity industry opportunities through education and youth pathways, creating opportunities for local contractor services, employment and education opportunities for indigenous communities, creating future leaders in the energy and renewable energy sector through tertiary education programs, and cultural community partnerships.

Our engagement strategy

Our engagement strategy involves three stages which will be resources by our internal project team supporting by experienced contractors.

- **Stage 1 – Corridor Options landholder and community engagement**

Community and stakeholder engagement commenced in 2022 during the RIT-T process. Our next stage of engagement following the conclusion of the RIT-T process is the release of a Corridor Options and Evaluation Report in July 2023.

This initial stage of engagement aims to select a preferred corridor for the transmission line.

- **Stage 2 – Route Options landholder and community engagement**

Stage 2 of our engagement is planned to be conducted over July to October 2023 and involved further discussions with landholders and communities to examine ways to reduce the overall impact on them in assessing route options within the preferred corridor.

- **Stage 3 – Engagement initiatives, EIS consultations and exhibitions**

Stage 3 involves implementing engagement initiatives for land acquisitions, the environmental approval process and social legacy outcomes. A key aspect is the development and publication of the final EIS will be followed by a public exhibition and stakeholder feedback sessions scheduled for early 2025.

Landholders, the public and other stakeholders will have the opportunity to comment through the EIS phase.

The key activities in stage 3 are:

- landowner engagement: preferred route
- community engagement: event and engagement action plan
- indigenous engagement action plan
- EIS planning and exhibition plan
- Social legacy action plan
- media action plan, and
- Secretary's environmental assessment requirements (SEARs) action plan.

Key parameters and drivers for the level of resources required for community and stakeholder engagement are:

- the nature of the land impacted by the transmission line route is sensitive and densely populated (and is comparable to the eastern section of PEC and HumeLink). The land is predominately in natural landscape containing a diversity of habitats with high biodiversity value, the route travelling through forested areas, farmland and crossing the Murray River
- our commitment to preserve recreational and heritage sites and indigenous culture
- the number of directly impacted landholders over the transmission line routes (150 landholders)
- population density in the local regions
- our commitment to establish a long-term social legacy with impacted communities, and
- establishing CCGs.

Table 5-9 details our forecast Community and Stakeholder Engagement labour and labour-related costs of \$11.59 million, comprising \$10.84 million for VNI West, \$0.68 million for PEC Enhancement, and \$0.07 million for HumeLink Integration. These costs primarily reflect internal labour costs based on an average of 8.79 FTEs (i.e., 8.14 FTEs for VNI West, 0.65 for PEC Enhancement, and 0.05 for HumeLink Interface) over the forecast period to period to 30 April 2025. These FTE form part of the internal community and stakeholder engagement and will manage media and communications and lead the community strategy and activities.

Table 5-9: Summary of labour and labour-related costs for Community and Stakeholder Engagement (\$M, Real June 2023)

Category	Forecast direct capex	Forecast indirect capex	Forecast capex	% Forecast capex
VNI West				
Labour (Internal)	4.37	1.87	6.25	57.60%
Labour (Outsourced)	2.92	1.25	4.17	38.49%
Labour-related costs	0.30	0.13	0.42	3.91%
Sub-total	7.59	3.25	10.84	100.00%
PEC Enhancement				
Labour (Internal)	0.35	0.15	0.50	73.51%
Labour-related costs	0.13	0.05	0.18	26.49%
Sub-total	0.48	0.20	0.68	100.00%
HumeLink Integration				
Labour (Internal)	0.05	0.02	0.07	100.00%
Labour-related costs	-	-	-	-
Sub-total	0.05	0.02	0.07	100.00%
Total	8.11	3.48	11.59	n.a.

5.7. Regulatory and other Support and Corporate Roles

Internal Labour resources provide support across the D&A phase of work on the VNI West Project. Support is required from our regulatory, risk and compliance, legal and HR teams for legal, risk and audit, and regulatory approval activities (including preparing the Stage 1 and Stage 2 CPAs). It also involves continued engagement with the AER and AEMO.

Table 5-10 shows our forecast labour costs of \$2.32 million, comprising \$1.81 million for VNI West, \$0.32 million for the PEC Enhancement, and \$0.19 million for HumeLink Interface. The costs primarily reflect an average of 12.63 FTEs (11.94 FTEs for VNI West, 0.65 for PEC Enhancement, and 0.05 for HumeLink Interface) over the forecast period to period to 30 April 2025. There are no labour relate costs associated with these roles.

Table 5-10: Summary of labour and labour-related costs for Regulatory and Other Support and Corporate Roles (\$M, Real 30 June 2023)

Category	Forecast direct capex	Forecast indirect capex	Forecast capex	% Forecast capex
VNI West				

Category	Forecast direct capex	Forecast indirect capex	Forecast capex	% Forecast capex
Labour (Internal)	1.22	0.52	1.74	96.14%
Labour (Outsourced)	0.05	0.02	0.07	3.86%
Sub-total	1.27	0.54	1.81	100.00%
PEC Enhancement				
Labour (Internal)	0.22	0.09	0.32	100.00%
Sub-total	0.22	0.09	0.32	100.00%
HumeLink Interface				
Labour (Internal)	0.13	0.06	0.19	100.00%
Sub-total	0.13	0.06	0.19	100.00%
Total	1.62	0.70	2.32	n.a.

5.8. Indirect labour and labour related costs

Our approach to forecasting labour and labour related costs is described above, using the assumptions noted in sections 7.1 and 7.2. Consistent with prior contingent project applications, we have assumed that 30% of our labour and labour-related costs are indirect. That assumption is described further in section 7.4.

Table 5-11 shows our Stage 1 indirect labour and labour-related capex is \$16.71 million. This includes comprises \$13.72 million for VNI West, \$2.36 million for PEC Enhancement, and \$0.62 million for HumeLink Integration.

Table 5-11: Summary of indirect labour and labour-related capex (\$M, Real, 2022-23)

Category	Indirect labour and labour-related capex (\$M)			
	VNI West	PEC Enhancement	HumeLink Interface	Total
Project management	6.05	0.95	0.17	7.16
Project development	1.33	1.05	0.36	2.74
Land and environment	2.35	0.07	0.02	2.44
Procurement	0.19	-	-	0.19
Community & stakeholder engagement	3.25	0.20	0.02	3.48
Regulatory approvals and other support costs	0.54	0.09	0.06	0.70
Total	13.72	2.36	0.62	16.71

6. Forecast Indirect capex

6.1. Approach to forecasting indirect costs

We have determined our Stage 1 forecast for indirect capex based on a bottom-up build of costs over the period from 1 June 2023 to 30 April 2025. Our forecasting method is consistent with the methodology applied in our previous Applications for HumeLink Stage 1. Our indirect costs comprise a wide range of professional and consulting services, as well as tender payments and associated facilities costs (e.g., data room). The requirements for each of these have been separately itemised/defined and phased according to the project schedule.

For some of items, supplier arrangements are already in place or quotes have been obtained, and these form the basis of the forecast costs. However, for many other items it is too early to take these procurement steps and the project team has drawn on recent experience, market conditions and reasonable assumptions to prepare the forecast costs.

Section 5.8 above sets out our forecast *labour and labour related* indirect costs. Sections 6.2 to 6.7 below set out how we have determined our *non-labour* indirect cost forecasts for each of the six capex subcategories, excluding contingency.

6.2. Project Management

We have based our estimated cost for project management and early/concept design engineering on our actual costs for these activities for HumeLink. Our actual costs for these activities are in line with our fee proposals from the preferred suppliers, as summarised in Table 6-1.

Table 6-1 shows our Stage 1 indirect forecast Project Management capex is \$5.94 million. This includes consulting costs for risk workshops, the Pegasus Safety and Training Platform and team development.

Table 6-1: Summary of indirect capex for Project Management (\$M, Real, 2022-23)

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²¹
VNI West			
Risk workshop	██████████	PM2	<p>Our estimated capex for risk workshops is ██████████ based on a quote from ██████████ dated 28 April 2023.</p> <p>The purpose of the workshops and report for the Transgrid section of the VNI West project is to establish the context, identify, analyse, evaluate and treat key risks that may impact the achievement of the project objectives.</p>

²¹ Input costs referred to have been converted to \$Real June 2018 and may not add up to total costs due to rounding.

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²¹
VNI West			
Pegasus Safety & Training Platform		PM3	<p>Our estimated capex for Pegasus Safety & Training Platform configuration is [REDACTED] based on a quote from [REDACTED] s dated 1 June 2023.</p> <p>Our forecast is based on Pegasus hourly rate of [REDACTED]</p> <p>The Pegasus software manages the projects Work, Safety & Authorisation Program</p>
Team Development - Accelerated Alignment Program			<p>Our estimated capex for team development is [REDACTED] based on a quote from [REDACTED] dated 15 Jun 2023.</p> <p>Our forecast is based on EPS monthly rate of [REDACTED].</p> <p>The Accelerated alignment program is a HR initiative to enhance the project team's effectiveness.</p>
Bow Tie Licence (Risk Assessment Software)		PM 8	<p>Our estimated capex for Bow Tie licence is [REDACTED] based on a quote from [REDACTED] dated 25 May 2023.</p> <p>Bow Tie software is a risk assessment software.</p>
Corporate Site Visit		PM 7	<p>Our forecast for a helicopter hire for a Corporate Site Visit to the VNI West project sites is [REDACTED] based on a quote from [REDACTED]</p>
PEC Enhancement			
Insurance		PM 9	<p>Incremental insurance premium estimate from [REDACTED]</p>
HumeLink Integration			
Insurance	2.31	TBC	TBC
Legal Fees	1.83	TBC	TBC
Employers Rep Role	0.07	TBC	TBC
Total	5.94		

6.3. Project Development

Table 6-2 shows our Stage 1 indirect forecast capex for Project Development of \$33.90 million. This includes consulting fees for legal assistance, project management, geotechnical and survey work, owners engineer, and specialist studies. The VNI Project is still currently at approval stage, meaning that:

- the project route has not yet been selected

- the procurement process for our delivery partner has not commenced, and therefore
- we have not selected a delivery partner.

We have therefore relied on our actual costs for HumeLink for the activities shown in Table 6-2. These costs from HumeLink represent the most recent available and up to date cost information.

Table 6-2: Summary of HumeLink fee proposal and actual cost comparison (\$M, Real June 2023)

Activity	HumeLink fee proposal (\$M)	Actual cost (\$M)	Difference (\$M)
Substation geotechnical investigation			(0.05)
Conductor and structure selection			-
Route selection support			(0.10)
Risk report			-
Concept design for tenderers			(0.01)
Flood study			0.07
Aviation impact study			0.00
Transport studies			0.01
Dial before you dig (DBYD)			0.00
Total	1.56	1.50	(0.05)

Table 6-3 shows our Stage 1 indirect forecast capex for Project Development of \$33.90 million. This includes consulting fees for legal assistance, project management, geotechnical and survey work, owners engineer, and specialist studies.

Table 6-3: Summary of indirect capex for Project Development (\$M, Real June 2023)

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²²
External legal expenses			
External legal expenses		LEG 1, LEG 2, LEG 3	Our estimated capex for external legal expenses is [REDACTED]. This is based on a quote from [REDACTED] (for Tranche 1 works) to provide legal advice in relation to land and land access matters, environmental and heritage issues and legal advice for major contracts and program letters.
Geotechnical & survey costs			
Substation investigations		PD 10 PD 0	Our estimated capex for substation Geotech Investigations is [REDACTED] comprising:

²² Input costs referred to have been converted to \$Real June 2018 where possible and may not add up to total costs due to rounding.

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²²
			<ul style="list-style-type: none"> - █████ based on actual costs for HumeLink Geotech investigations █████ and soil resistivity tests █████ at Gugaa, and - █████ for Geotech investigations and soil resistivity tests at Dinawan. This is based on actual Geotech investigation costs for HumeLink at Gugaa, which are recent and reflect the most up to date cost information.
Transmission line investigations	█████	PD 12 SMEC Pg 18 table 7-1: Cost Breakdown – Quotation (total cost & # boreholes highlighted)	<p>Our estimated capex for Transmission line Geotech investigations (bore holes) is █████ (Real 2018-19) based on the rate for boreholes from the PEC geotechnical fee proposal.</p> <p>We have used PEC rate because:</p> <ul style="list-style-type: none"> - the VNI West transmission line is in the same region as PEC (i.e. it runs parallel with PEC). - our actual PEC Geotech investigation costs provide the best available and most up-to-date cost information. <p>The PEC project cost for 40 boreholes was █████. The VNI West project envisage 200 boreholes at an estimated total cost of █████ (Real 2018-19).</p> <p>Our estimated capex is calculated as: █████ ÷ 40) x 200 = █████ (Real 2018-19)</p>
LiDAR	█████	PD 2.0 Lidar quotes comparison Real \$2022/23	<p>Our estimated capex for LiDAR is █████. This is based on the middle bound of responses from (three) suppliers as part of our competitive tender process that is currently underway.</p> <p>The competitive tender process initially involved 4 suppliers, however only three suppliers responded. We are targeting to award the contract to the preferred supplier in August 2023.</p>
Access clearing and repairs	█████	PD 18.1 & PD 18.2	<p>Our forecast capex for access clearing (minor access clearing and repair for Geotech investigations) is █████.</p> <p>This is based on our actual cost for this activity for HumeLink as set out in our contractor's payment claim (labelled Road Repairs, December Delays (ex TC, Maragle Clearing & Tree relocation).</p>

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²²
Project management and early/concept design engineering			
Conductor and structure selection	[REDACTED]	PD 0 \$Nominal	Our estimated capex for conductor and structure selection is [REDACTED] based on the actual costs from [REDACTED] incurred for HumeLink
Route selection support	[REDACTED]	PD 0 \$Nominal	Our estimated capex for route selection support is \$0.06M. This is based on the actual costs from Aurecon incurred for HumeLink.
Risk report	[REDACTED]	PD 0 \$Nominal	Our estimated capex to prepare a risk report is [REDACTED]. this is based on the actual costs from [REDACTED] incurred for HumeLink.
Concept design for tenderers	[REDACTED]	PD 0 \$Nominal	Our estimated capex to prepare a concept design for tenderers is [REDACTED]. This based on the actual costs from [REDACTED] incurred for HumeLink.
Owners engineer			
Owners engineer (OE)	[REDACTED]	PD 7.2	Our estimated capex for an owners engineer is [REDACTED] (\$Nominal) This is based on our actual OE cost for HumeLink up to ECI award stage (i.e., ECI not included): - [REDACTED] Real \$2021/22 - [REDACTED] Real \$2022/23
Project scheduling management consultant			
External scheduling contractor	[REDACTED]	PD 16 PD 15 Real \$2022/23	Our estimated capex for 2 external scheduling contractors is [REDACTED]. This cost is calculated based on quotes from [REDACTED] dated: - 15 June 2023 for [REDACTED] for 12 months between May 24 to Apr 25. - 2 May 23 for [REDACTED] for 3 months between Jun – Aug 23 External scheduling contractor for 16 months to assist with the review of tenderers' schedules. This includes: - Meeting with contractors - Review of contractor schedules and activities
Quantitative schedule risk	[REDACTED]	PD 15	Our estimated capex to undertake health checks, which are quantitative schedule risk

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²²
assessments (QSRA)			<p>assessments (QSRA) is [REDACTED]. This is based on a fee proposal from [REDACTED] which provides the cost per QSRA assessment.</p> <p>QSRA's are required to assess, quantify and manage the Project's risks. We will undertake 4 QSRA assessments.</p> <p>Our capex is calculated as [REDACTED].</p>
Specialist studies			
Geotechnical desktop study	[REDACTED]	PD 13 SMEC	<p>Our estimated capex to undertake a geotechnical desktop study is [REDACTED] based on a quotation from [REDACTED].</p> <p>The geotechnical desktop study will review and assess all publicly available geotechnical, geological and environmental information relating to the site. The investigation will cover the preferred corridor option for the project.</p>
Flood study	[REDACTED]	PD 13.1 and 13.2 PD 0.0	<p>Our estimated capex to undertake a flood study is [REDACTED]. This is based on the HumeLink quotation from Lyall & Associated, dated 2 March 2022.</p> <p>We note that:</p> <ul style="list-style-type: none"> - The quotation for HumeLink for [REDACTED] related to the Gugaa substation, which is a small area compared to a the VNI West transmission line that will traverse over 200km. The actual cost for HumeLink flood studies increased by [REDACTED] from the fee estimate of [REDACTED] to [REDACTED]. - Based on engineering judgement and that the VNI West flood study area is significantly larger than HumeLink (approx. 1000km² vs. 26km²), we have applied a factor of 5 to the Gugaa substation cost to estimate the flood study cost for VNI West line.
Aviation impact study	[REDACTED]	PD 0	<p>Our estimated capex to undertake an aviation impact study is [REDACTED]. This is based on actual costs from [REDACTED] to undertake this activity for HumeLink.</p> <p>This study is required to determine any limitations on the line i.e., proximity of aerodromes to the transmission lines and the impact of aviation traffic flight path.</p>

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²²
Transport studies		PD 0	<p>Our estimated capex to undertake transport studies [REDACTED]. This is based on actual costs for [REDACTED] for this activity for HumeLink.</p> <p>This study is required to assesses the most suitable route for transporting large equipment from port of arrival to the substation site having regard for critical intersections such as bridges.</p>
Dial before you dig (DBYD)		PD 0	<p>Our estimated capex for DBYD interface is [REDACTED]. This is based on actual costs from [REDACTED] to undertake this activity for HumeLink.</p> <p>This involves DBYD response collation and utility data collection (including the coordinates of assets) for each of the various asset including road, electrical, oil, water, telecommunications.</p>
Design Software - PLS-CADD		PD 1	<p>Our estimated capex for Design software PLS-CADD is [REDACTED] based on a quote from [REDACTED] dated 12 January 2023.</p> <p>PLS-CADD software for the design of transmission lines, optimum spotting, sags & tensions and analysis of loads on structures.</p>
PSCAD Modelling		PD 19	<p>Our estimated capex for PSCAD modelling is [REDACTED] based on a fee estimate from [REDACTED] dated 31 Mar 2022. The fee proposal (refer to Schedule 4) refers to a consulting rate of [REDACTED] per day based on a 7-hour day which is the equivalent of [REDACTED] hour. This fee proposal was provided for PSCAD studies on the Wallgrove battery. For the VNI West project we have assumed consultant rate for 40 hours per week for 34 weeks. This will complete 12 studies.</p> <p>Calculated as: [REDACTED] per day / 7 hours per day * 40 hours per week * 34 weeks = [REDACTED] PSCAD modelling simulates power systems.</p>
Total capex	33.90		

6.4. Land and Environment

Table 6-5 shows our Stage 1 (Early works) forecast indirect Land and Environment capex is \$17.19 million. This includes consulting fees associated with Environmental Impact Statement (EIS) preparation and land agent costs. Our EIS application is required to obtain planning approval and must address the NSW

Department of Planning and Environment (DPE) and the Commonwealth Department of Climate Change, Energy the Environment and Water (DCCEE) requirements. These are set out in the:

- Environmental Planning and Assessment Act 1979 (EP&A Act), and
- the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

In relation to our EIS cost estimates, this reflects the average cost of the tender responses and our actual EIS costs HumeLink²³ because this reflects the best available and most up-to-date cost information.

We have recently completed competitive tender to prepare EIS application. In May 2023, we invited the firms on our environmental panel to respond to our EIS development request for proposal (RFP). On 23 June 2023, we received three compliant tender responses, and we are currently evaluating these. Our estimated capex for EIS development and documentation is \$9.38 reflects the average of the tender responses received through this process and our actual cost for HumeLink.

Table 6-4: Outcomes from EIS and actual cost for HumeLink EIS development (Real 2022-23)

Component	Value
Tenderer 1	[REDACTED]
Tenderer 2	
Tenderer 3	
HumeLink actual EIS development costs	
Average	9,381,240

Tenderers provided itemised cost estimates (indicative pricing) for each of the following activities:

- biodiversity (including BDAR) impact assessment.
- historical and indigenous heritage impact assessment
- agricultural land impact assessment
- visual and landscape character impact assessment
- social impact assessment (against DPEs Social Impact Assessment Guidelines)
- economic impact assessment
- agricultural Land impact assessment
- hydrology, flooding and water quality impact assessment
- air quality impact assessment
- noise and vibration impact assessment
- traffic and transport impact assessment

²³ Transgrid, [A.3 Capex Forecasting Methodology, HumeLink - Stage 1 \(early works\) Contingent Project Application](#), 5 April 2023

- bushfire impact assessment
- contamination assessment, and
- groundwater impact assessment.

Importantly, tenderers have provided fee estimates only (not fixed prices) which may be revised through the process. This is because we have not yet defined either the corridor or route for VNI West. We are currently consulting with external stakeholders including government agencies, Councils, Local Aboriginal Land Councils (LALCs) and agricultural organisations within the current Study area. The outcomes of the consultation may influence the Study Corridor and the timing of submission of the Scoping Reports and EPBC referrals. This in turn may impact the information on the indigenous sites that tenderers reflect in their responses. The preferred contractor will adjust its prices to address additional requirements that may arise from the final route once route is known.

Our EIS milestones and indicative timeframes are:

- April 2024 – SSI Application and Scoping Report and Issue of SEARS
- April 2024 - EPBC Referral and decision
- January 2025 – EIS Submission to DPE
- February 2025 – EIS Exhibition (4-6 weeks)
- May 2025 - Submissions Report to DPE
- September 2025 - NSW Planning Approval
- November 2025 - Commonwealth Approval (if required)
- May 2026 - Development Consent for EIS secondary approvals i.e., CEMPs.

Table 6-5: Summary of indirect capex for Land and Environment (\$M, Real 2022-23)

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁴
EIS			
EIS Application Fee	████	Env 1.0	Our estimated capex for Government EIS fees is █████ million comprising: <ul style="list-style-type: none"> - Government Fees EIS - NSW Gov (On Lodgement) █████, calculated based on the formula set out in the Environmental Planning and Assessment Regulation 2021 (NSW) (s. 256F) - Government Fees EIS – the Commonwealth government (On Approval). Our estimated capex is █████ and is calculated using the formula specified in the Environment Protection and Biodiversity Conservation Regulations 2000 (Commonwealth) (Part 5, Division 5.6)

²⁴ Input costs referred to have been converted to \$Real June 2018, unless otherwise specified, and may not add up to total costs due to rounding.

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁴
EIS development	[REDACTED]	ENV 1.0 ENV 1.1 Env 4.0 Env 4.1 Env 5.0 Env 5.1 Env 6.0 Env 6.1	Our estimated capex for EIS development and documentation is [REDACTED]. This reflects the average of the tender responses and our actual cost for Humelink.
2023 Ecology Spring surveys	[REDACTED]	Env 2.0	Our estimated capex for the first set of ecology surveys in Spring 2023 is [REDACTED], based on a fee proposal from WSP. The 2023 spring survey is required to meet the EIS timeframes and has been awarded ahead of the EIS development contract. The remaining field studies will occur as part of the EIS development contract.
Land agents			
Land agents	[REDACTED]	PR 1.0	Our estimated capex is [REDACTED] and reflects the outcomes of a competitive tender process, which was completed in May 2023. JLL is the preferred tenderer and identified the following costs: <ul style="list-style-type: none"> - [REDACTED] for agent's fees including: Land Access and Acquisition Manager, three Land Agents and Acquisition Agents, two Property Valuers, a Personal Manager, and a Property Administrator. This is based on a contract awarded in May after a competitive tender process. <ul style="list-style-type: none"> - [REDACTED] for additional sundry expenses including training, inductions consumables and equipment, accommodation & travel
Bentley software	[REDACTED]	PR 2.0	Our estimated capex for Bentley software is \$81,760 based on fee proposal from Bentley software dated 19 Jun 2023. There are 2 components of the Bentley cost: <ul style="list-style-type: none"> - [REDACTED] Annual licence fee

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁴
			<ul style="list-style-type: none"> - [REDACTED] Initial configuration (Blue point credits) – one off <p>The service is expected to run from Sep 2023 to April 2025 and the total cost will be shared 5 ways:</p> <ul style="list-style-type: none"> - Network – operational business unit - Delivery – operational business unit - PEC - HumeLink - VNI West <p>Calculated as:</p> <p>Licence fee [REDACTED] total cost / 12 months * 20 months) + [REDACTED] Configuration] / 5 = [REDACTED]</p> <p>Betley software provides 3D digital creation of the planned infrastructure.</p>
Total capex	17.19		

6.5. Procurement

We are currently working with external consultants to develop our packaging and delivery strategy for the procurement of delivery partners for the Project. We are planning to finalise our Delivery Strategy by August 2023. This will allow us to:

- commence market engagement in the second half of 2023
- identify a suitable process and program for the procurement of delivery contract(s) in an increasingly heated energy infrastructure market, and
- meet the project delivery date of 2028.

Our Delivery Strategy will set our preferred packaging strategy, contract model and procurement process for the Project. We will undertake the following key activities in developing our Delivery Strategy:

- Review synergies with other Projects: As part of the packaging selection, identify potential synergies with other ISP and NSW Electricity Infrastructure Investment Act 2020 (EII Act) projects that we are delivering. This will include consideration of:
 - work type, including the nature of the assets (i.e., 500kVA)
 - geography, being the location and spatial context including the social, economic, and cultural factors that shape the area.
 - timing of procurement and delivery (i.e., Hunter Transmission Project may be in procurement/delivery in parallel to VNI West) and
 - other relevant factors including stakeholder interests and social license.

- Identify optionality pending final interface point with AVP: The exact interface point between Transgrid and AVP is yet to be defined, and
- Detailed Program: prepare a detailed program of the procurement activities including the market engagement phase.

Table 6-6 shows our Stage 1 forecast indirect non-labour capex for procurement is \$22.69 million.

Table 6-6: Summary of indirect capex for Procurement (\$M, Real June 2023)

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁵
Contractor payments	██████████	TPS2	<p>Our estimated capex for contractor payments is ██████████ based on advice from ██████████ consultants, received on 5 June.</p> <p>Notes:</p> <ul style="list-style-type: none"> • Bid costs are expenses borne by proponents during the procurement phase of the project (prior to appointment of preferred bidder) that relate to the preparation of their tender. • Current practice is to pay proponents for participating in ECI processes to ensure competitive tension in the process so that bids are robust, well developed and reflect value for money for consumers. Examples of this include: <ul style="list-style-type: none"> - The NSW Government has established a consistent policy on bid cost contributions with the introduction of the 'Ten Point Commitment to the Construction Sector', as well as the development of a collaborative arrangement across industry. - NSW Treasury's recent directive is that 50% of 1% of the project's capital cost would be reimbursed in bid costs. • Our procurement approach for VNI West is based on: <ul style="list-style-type: none"> - Two packages of work (comprising HV TL and Substation) with 3 bidders tendering for the work for each package. - six bids in total with the losing 4 receiving payments. Note: One entity could win one package and lose their bid on the other package.
Transaction management expenses	██████████	TPS4	<p>Our estimated capex for transaction management expenses is ██████████. This is based on a quotation from ██████████ received on 5 June 2023 to undertake the following key activities:</p> <ul style="list-style-type: none"> - Transaction management of ██████████ comprising:

²⁵ Input costs referred to have been converted to \$Real June 2023, and may not add up to total costs due to rounding.

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁵
			<ul style="list-style-type: none"> ○ Market sounding and expressions of interest (Eol) - [REDACTED] ○ ECI (Stages 1 and 2) Transmission line packages- [REDACTED] ○ Pre-tender and tender substation package [REDACTED] <p>- Commercial support of [REDACTED] for advisory services.</p> <p>Notes:</p> <ul style="list-style-type: none"> • Contractors will be engaged to support the Transaction Management and commercial services processes throughout the course of the Contract Program.
Data room	[REDACTED]	TPS 5.1 and TPS 5.2	Our estimated capex for data room services is [REDACTED] based on a quote provided by [REDACTED] (250GB for 36 months).
Probity training and support	[REDACTED]	TPS6	<p>Our estimated capex for probity support and training is [REDACTED] based on a quotation from [REDACTED], dated 5 June 2023. This covers the following activities include:</p> <ul style="list-style-type: none"> - Project Establishment - Market Sounding - Registration of interest (Rol) and Eol phases - ECI tender - Notes: A Probity Advisor will be appointed throughout the procurement phase of the project to provide advice and oversight of the procurement process to ensure it is compliant with the probity principles. Probity Mindset Training will also be conducted as part of the probity framework required.
Independent Cost Estimator	[REDACTED]	TPS3	<p>Our estimated capex for owner’s estimator services is [REDACTED] based on a fee proposal from Fission, dated 5 June 2023, to undertake the following key activities:</p> <ul style="list-style-type: none"> - Contract mobilisation - develop a comparative independent cost estimate, by developing a cost breakdown structure and undertaking risk modelling and analysis to quantify the project risk costs, and - independent estimator. This includes preparing a cost plan and report and participating in the Target Cost Estimate development with the preferred tenderer.

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁵
Procurement Strategy	[REDACTED]	TPS1	Our estimated capex for the development of a Packaging and Delivery Strategy is [REDACTED] based on a quote from [REDACTED] dated 15 May 2023. This work will deliver a strategy for the procurement of delivery partners for the VNI West.
Commercial Advisory Services for procurement phase		TPS 7	Our estimated capex for the commercial advisory services over the procurement phase of the project is [REDACTED] based on a quote from [REDACTED] dated 7 Jun 2023.
Room hire, catering and other	0.08	TPS 8 \$Real 2022/23	Expenses related to room hire and catering for Contract related gatherings. Estimated calculations are as follows: function room hire estimated at \$176 per event, \$1,056 for catering and \$546 for audit visual (2 events per month for 23 months). Calculated as: - \$176 Venue Hire + \$1,056 catering + \$546 Audio Visual x 2 events per month x 23 months = \$81,788
Total capex	22.69		

6.6. Community and Stakeholder Engagement

Table 6-7 shows our Stage 1 indirect forecast Community and Stakeholder Engagement capex is \$5.86 million. This includes consulting costs for community engagement, community giving and media and events.

Table 6-7: Summary of indirect capex for Community and Stakeholder Engagement (\$M, Real 2022-23)

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁶
Social Legacy Outcomes			
Regional Telecommunications	[REDACTED]	CSE 7	Our estimated capex for regional telecommunications is [REDACTED] and reflects: - The VNI West project Study Area has extensive mobile black spots across the region and has no short to medium term enhancement proposed as part of the National Mobile Blackspot Program

²⁶ Input costs referred to have been converted to \$Real June 2018 and may not add up to total costs due to rounding.

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁶
			<ul style="list-style-type: none"> - Four temporary mobile towers are proposed to provide proof of concept to temporarily address mobile blackspot areas.²⁷ - Our explanatory note and cost estimate dated 28th April 2023 sets out the total cost for 8 tower sites is [REDACTED]. The VNI West project intends to deploy 4 sites halving the cost to [REDACTED].
Scholarships	[REDACTED]	CSE 17	<p>Our estimated capex for Charles Sturt Uni scholarships is [REDACTED]</p> <p>This program represents an extension of an existing scholarships program from other major projects (HumeLink and PEC). Under this existing program, which is run from 2022 to 2030, this provides 100 fully paid scholarships to engineering courses offered at Charles Sturt University (CSU) in Wagga Wagga, valued at [REDACTED] for the duration of the whole program.</p> <p>It is expected that a similar arrangement would be entered into as part of VNI west. The cost is based on the first two years of the existing scholarship program set out in the Distribution Schedule under the Scholarship Fund Agreement dated [REDACTED] the second year.</p> <p>Calculated as: \$125,000 (1st year) + \$250,000 (2nd year) = \$375,000 (\$Nominal).</p>
Regional development support	[REDACTED]	CSE 18	<p>Our estimated capex for regional development Aus Murray – skills & development package is [REDACTED]</p> <p>This represents an expansion of an existing 3-year funding agreement package worth [REDACTED] from other major projects. The estimated cost reflects the first two years in this application, with an estimated cost of \$500,000 each year (refer Item 5 Schedule 1).</p> <p>Calculated as:</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>This package would support programs focussed on enhancing regional liveability, skills and training, and youth pathways to employment.</p>
Community engagement			

²⁷ Permanent solutions would be included as part of CPA-2, which would involve cellular broadcast infrastructure collocated on transmission towers in locations identified through the proof-of-concept phase.

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁶
Senior Community & Stakeholder Engagement Advisor	█	CSE 02	<p>Our estimated capex for a senior Community & Stakeholder Engagement Advisor is █. The Community & Stakeholder Engagement Advisor will manage the Regional Reference Group and Community Consultation Group workstreams, providing ongoing secretariate support and outcomes reporting.</p> <p>The Community & Stakeholder Engagement Advisor also works as an embedded resource in the team supporting the design, coordination and delivery of engagement activities that underpin the route selection process.</p> <p>Our estimated capex is based on █ letter proposal dated 29 March 2023, with an allowance made for extending the engagement for an additional year where it is assumed that support would be provided 4.5 days per week at a rate of █ per hour, as set out in the letter. The letter provides a cost of █ for 12 months. This is extended by 12 months to arrive at a total cost estimate of \$609,840.</p> <p>Total cost estimate: █ x 2 = █</p>
Consultation and Relationship Management System Administration	█	CSE 12	<p>Our estimated capex for consultation and relationship management system administration is █. This is based on RfR Consulting proposal dated 6 April 2023.</p> <p>Provide assistance to the project team including submission review, general stakeholder and community engagement support and general consultation manager support (data entry and auditing).</p>
Community Partnerships Program			
Community Partnerships	█	CSE 10, CSE 11	<p>Our estimated capex for community partnerships program grants is █ million.</p> <p>Transgrid's Community Partnerships Program offers grants of up to \$5,000 for not-for-profit organisations that are local to our planning, operations and major project areas. Based on the last round of funding in March 2023, as per the internal memo, █ applicants were awarded with funding.</p> <p>It is assumed that an additional 5 rounds of funding with similar outcomes would be applicable for this project up to April 2025.</p> <p>Calculated as: █ = \$250,000.</p>
Media and events			
Events & Marketing	█	CSE 22, 25, 26, 27, 28, 29	<p>Our estimated capex for events & marketing is █</p> <p>This covers costs associated with advertising and venue hire for community information sessions, regional reference group (RRG) meetings and CRG meetings. Costs are based</p>

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁶
			<p>on historical costs that have been incurred in early 2023 for advertising and venue.</p> <p>Costs include:</p> <ul style="list-style-type: none"> - an allowance of [REDACTED] for advertising and venue hire for Community Information Sessions - an allowance of [REDACTED] for venue hire for RRG meetings. - an allowance [REDACTED] for venue hire for 8 quarterly meetings for CRG meetings.
Digital Engagement Services	[REDACTED]	CSE 5	<p>Our estimated capex for Digital Engagement Services is [REDACTED] based on [REDACTED] Quote dated 23 February 2023. The quote is for [REDACTED] (refer to Price Schedule on page 19).</p> <p>We have allowed for an additional [REDACTED] for an extension of the following services:</p> <ul style="list-style-type: none"> - two visualisation costs in June 2024 and April 2025 of [REDACTED] each - extension of annual hosting & maintenance cost for one year of [REDACTED] - Calculated as: [REDACTED] (based on quotation) + 2 visualisations x [REDACTED] + [REDACTED] annual hosting fee = [REDACTED].
Graphic Design	[REDACTED]	CSE 3	<p>Our estimated capex for Graphic design is [REDACTED] based on [REDACTED] Quote dated 8 March 2023.</p>
Videography	[REDACTED]	CSE 6	<p>Our estimated capex for Videography [REDACTED] based on [REDACTED] dated 24 September 2020.</p> <p>It is estimated that this service is required for 6 months throughout the period, based on the monthly rate as per the engagement letter of [REDACTED] per month.</p> <p>Calculated as: 6 months of video production x [REDACTED] per month = [REDACTED] (\$Nominal).</p>
Printing	[REDACTED]	CSE 19,20,21	<p>Our estimated capex for Printing is [REDACTED], based on historical printing costs incurred. In May 2023, we incurred [REDACTED] worth of printing costs related to folders, cards, brochures and posters for VNI West. However, we note that this cost is likely to fluctuate during the project period, and thus have taken a conservative approach in estimating the monthly cost for printing of [REDACTED], which would be applied to a period of 23 months.</p> <p>Calculated as: [REDACTED] per month x 23 months = [REDACTED]</p>

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁶
Photography	████████	CSE 23.1, 23.2	<p>Our estimated capex for Photography ██████████ based on applying an estimated total of 161 images required for factsheets, newsletters, reports and advertising to ██████████ cost per image based on email correspondence from ██████████ dated 5 June 2023.</p> <p>Calculated as: $161 \times \text{████████} = \text{████████}$</p> <p>The total number of 161 images is broken down to:</p> <ul style="list-style-type: none"> - 48 images for Factsheets - 48 images for Newsletters - 60 images for Reports - 5 images for Advertising.
Salesforce licences	████████	CSE 15	<p>Our estimated capex for ██████████ licences ██████████. This cost is based on Salesforce quote dated Jun 2023 of ██████████ for 12 months, and assuming an extension for the licence for a further 9 months.</p> <p>Calculated as: ██████████ (quotation) x 21 / 12 months = ██████████</p>
Total capex	5.86		

6.7. Regulatory Approvals and Other Supports Costs

Table 6-8 shows our Stage 1 (early work) forecast capex for Regulatory Approvals and Other Support Costs is \$42.46 million.

This capex includes costs for preparing our Stage 1 and Stage 2 Applications, including explaining and justifying our forecast costs, document preparation, regulatory modelling, commissioning expert reports, and independent assessment and verification of our costs. It also involves continued engagement with the AER and AEMO. It also includes costs for updated RIT-T assessments, and support and indirect costs defined and allocated by Transgrid's finance team.

Table 6-8: Summary of indirect capex for Regulatory Approvals and Other Support Costs (\$M, Real June 2023)

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁸
Stage 2 submission	4.17	Reg 7	<p>These Stage 2 CPA costs are based on actual PEC CPA costs:</p> <ul style="list-style-type: none"> • project scope definition document

²⁸ Input costs referred to have been converted to \$Real June 2018 and may not add up to total costs due to rounding.

Category	Non-labour indirect capex	Artifact Ref	Description / estimation methodology ²⁸
			<ul style="list-style-type: none"> • Capex Forecast Methodology for direct and labour and indirect costs • assistance with economic modelling and peer review • independent verification of the Project scope and costs • expert reports including insurance broker reports, and • early works management expenses.
Major Projects Program Initiatives	36.00	MPPI 1	Project allocation of broader review and rollout for project governance and assurance implementation including consultants and systems rollout for cost control, scheduling, contract management, document control and reporting [REDACTED] and governance.
Stage 2 CPA market modelling	[REDACTED]	Reg 8	Based on quote provided by [REDACTED]. A further 20% contingency has been applied to this quote to allow for any changes to input scenarios which has been determined to be high probability.
Meetings and corporate activity expenses	0.33		Forecast based on actuals to date.
Stage 1 CPA documentation	0.56	Reg 1, Reg 2, Reg 3, Reg 4, Reg 5, Reg 6	<p>The Stage 1 CPA costs are based on fee proposals to:</p> <ul style="list-style-type: none"> • review and assist to draft the application [REDACTED] • assist with economic modelling • undertake the Independent Verification Engineering • Prepare a technical memo on LLE
Market modelling for PACR	[REDACTED]	AP 14	The majority of market modelling for PACR is captured in actual costs to May 2023. There is an outstanding [REDACTED] invoice for [REDACTED] for this work.
Board approval meeting expenses	0.02		Based on internal estimate.
Total	42.46		

7. Key Assumptions

This section explains and justifies the key assumptions and calculation underpinning our direct labour and indirect capex.

7.1. Labour

The number of incremental FTEs required for VNI West is based on current practices, the complexity and timeframes of the project, plus relevant legislative requirements. The commencement of FTEs is phased over the duration of the project as per the project schedule²⁹.

Labour cost estimates have been calculated based on the following:

- Standard Labour rates apply
- Labour on-costs will be incurred for all staff and contractors
- Resources seconded (fully or partially) from existing business as usual roles to VNI West will be backfilled with internal Labour or via greater reliance on outsourced arrangements
- External contractor rates will be sourced from those contracts where appropriate
- No real Labour cost escalation is included in the rates (as this is applied subsequently in the VNI West Capex Model)

These are explained further below.

7.1.1. Standard Labour Rates

Labour rates and role classifications were aligned to our 2023 Standard Labour rates.³⁰

Labour including our internal staff, contractors and external Labour hire have been classified into a series of salary bands and the corresponding Labour rate has been used to estimate costs.

Consistent with our approved CAM:³¹

- all project staff will timesheet and charge to a Work Order, and
- actual times (logged to work orders) will be used to determine Labour costs.
- the time spent by all VNI West team members is considered an incremental cost on the basis that there is no spare resource in Transgrid, so time spent by existing staff members on VNI West will lead to higher costs for Transgrid through backfill with internal Labour or via greater reliance on outsourced arrangements.

Real labour escalation is not included as part of this report. Real labour escalation is undertaken in the Capex Forecast Model, as explained in the Capex Forecasting Methodology.

²⁹ All scheduling and resource forecasting for VNI West has been undertaken utilising Transgrid's established systems and tools through PPM. The PPM tool is utilised for all of Transgrid's prescribed capital projects and regulatory submissions.

³⁰ Labour and Support Cost Rates Effective 1 December 2022 to 30 June 2023.

³¹ Transgrid, Cost Allocation Methodology, May 2023.

7.1.2. Labour On-Costs

A Labour on-cost rate has been applied to the base Labour costs in line with standard practice and our policies.

Table 7-1: Labour on-cost rates

Labour On-Cost Rate		
Type	Rate (%)	Breakdown
Employees under Award – Enterprise Agreement	35.8%	Annual Leave – 8%
		Long Service Leave – 5.8%
		Payroll Tax – 5.5%
		Superannuation – 15.5%
		Worker’s Compensation – 1%
Employees on individual employment contracts – Contract Officers	30.8%	Annual Leave – 8%
		Long Service Leave – 5.8%
		Payroll Tax – 5.5%
		Superannuation – 10.5%
		Worker’s Compensation – 1%

7.1.3. Labour Support Costs

A Labour support cost rate has been applied to the base Labour costs in line with standard practice and our policies. This captures a variety of corporate overheads including business and administration services, people support, IT support, legal services, recruitment (excluding external recruitment fees which are captured by Labour-related costs) and non-mandatory training and development.

7.1.4. Resource Backfill and Evidence

As described above, the following assumptions have been applied in this document:

- time spent by all VNI West team members is considered an incremental cost on the basis that there is no spare resource in Transgrid; and
- time spent by existing staff members on VNI West will lead to higher costs for Transgrid through backfill with internal Labour or via greater reliance on outsourced arrangements.

7.1.5. External Contractor Rates

Labour costs are stated in Real \$June 2023. Real labour cost escalation is applied in the VNI West Capex Model.

7.1.6. Escalation Factors

As stated in section 1.4, labour costs are stated in Real \$June 2023. Real labour cost escalation is applied in the VNI West Capex Model and is not included in this document.

Labour costs make up a large component of our forecast capital expenditure for the Stage 1 CPA – and those costs have increases over the 2023-28 regulatory period by more than inflation. To recognise that, we have included the forecast impact of these costs, which are commonly referred to as real input cost escalation.

Forecast real input cost escalation is calculated by multiplying the labour cost components of the tendered expenditure, property costs, and indirect expenditure by the forecast real labour cost escalators allowed by the AER in its 2023–28 Revenue Determination.³² Consistent with that determination, no real input cost escalation was included for non-labour components of the expenditure.

The real labour input cost escalators for 2022-23 to 2027-28 are set out in Table 7-2. These are converted into a cumulative index from the 2022-23 year.

Table 7-2: Real labour input cost escalator and cumulative index

	2023	2024	2025	2026	2027	2028
Real labour input cost escalator	n.a.	0.39%	1.31%	1.15%	0.43%	0.30%
Cumulative index	1.0000	1.0039	1.0170	1.0288	1.0332	1.0363

Note: Values are rounded for presentational purposes. Unrounded figures were used in the calculations.

The approach is applied in our Stage 1 CPA Capex Model, which is included as an attachment to this Application.

Applying this approach gives forecast real input cost escalation of \$0.55 million over the 2023–28 regulatory period, as set out in Table 7-3.

Table 7-3: Forecast real input cost escalation (\$M, 2022-23)

	2024	2025	2026	2027	2028	Total
Real input cost escalation	0.12	0.43	-	-	-	0.55

7.2. Labour-related costs

7.2.1. Training

Training costs for staff within the Project Management, Project Development and Land and Environment teams are based on our standard allowance of \$1,750.00 per person per annum (Real \$ June 2023). This allowance is for all FTEs that are Contract Officers or under an Enterprise Agreement (Award) and has been applied on a per FTE basis. This approach aligns with our training allowance for PEC.

The nature of training provided includes mandatory field training, soft skills and development training, professional development, and industry specific training for each role.

³² See, Australian Energy Regulator, April 2023, *AER - Final decision TransGrid transmission determination - Capex model - April 2023*. The labour escalators adopted by the AER are at cells O25:S25 of the 'General' sheet.

7.2.2. Travel and expenses

All costs in relation to travel and expenses (including accommodation, meal allowances and other expenses) have been determined in accordance with Australian Tax Office (ATO) Guidelines TD 2022/10³³. The application of these standard rates and calculation methodologies are summarised in the table below:

Table 7-4: Travel and expense assumptions

Labour Type	Calculation Methodology, Assumptions and Application																				
Project Management, Project Development, Community and Stakeholder Engagement; and Land and Environment	<p>Allowance for travel costs has been determined in accordance with the following assumptions in relation to travel frequency, duration, and location.</p> <p>The Project Management, Project Development and Land and Environment team are assumed to travel for one night each trip. The cost per trip per staff for a one-night trip is assumed to be \$1,357.55 (real \$2022-23). This cost consists of:</p> <ul style="list-style-type: none"> • Cost per return flight to site per staff: \$410.00 <ul style="list-style-type: none"> - Based upon Qantas pricing for return flights per person, between Sydney and Wagga Wagga. • ATO rates for accommodation and meals: \$327.55 <ul style="list-style-type: none"> - Based on the ATO Allowances,³⁴ and selecting Wagga Wagga as the default travel location.³⁵ • Car hire per day at site: \$95.00³⁶ • Travel allowance: \$525.00 <ul style="list-style-type: none"> - Based on the assumption that three hours of additional travel time for staff is required. <p>The Community and Stakeholder Engagement team are assumed to travel for two night each trip. The cost per trip per staff for a one-night trip is assumed to be \$2,305.10 (real \$2022-23), based on the ATO accommodation and meals, car hire and travel allowance rates above, multiplied by two, plus the rate for a return flight.</p> <p>Number of trips taken in each year of the modelling period:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #4CAF50; color: white;"> <th>Broader cost category</th> <th>FY2023 (From 1 June 2023)</th> <th>FY2024</th> <th>FY2025</th> <th>FY2026</th> </tr> </thead> <tbody> <tr> <td>VNIW - Project Management</td> <td style="text-align: center;">2</td> <td style="text-align: center;">24</td> <td style="text-align: center;">20</td> <td style="text-align: center;">-</td> </tr> <tr> <td>VNIW - Project Development</td> <td style="text-align: center;">2</td> <td style="text-align: center;">36</td> <td style="text-align: center;">20</td> <td style="text-align: center;">-</td> </tr> <tr> <td>VNIW - Community and</td> <td style="text-align: center;">8</td> <td style="text-align: center;">96</td> <td style="text-align: center;">80</td> <td style="text-align: center;">-</td> </tr> </tbody> </table>	Broader cost category	FY2023 (From 1 June 2023)	FY2024	FY2025	FY2026	VNIW - Project Management	2	24	20	-	VNIW - Project Development	2	36	20	-	VNIW - Community and	8	96	80	-
Broader cost category	FY2023 (From 1 June 2023)	FY2024	FY2025	FY2026																	
VNIW - Project Management	2	24	20	-																	
VNIW - Project Development	2	36	20	-																	
VNIW - Community and	8	96	80	-																	

³³ ATO, TD 2022/10, available at [td2022-010.pdf \(ato.gov.au\)](https://www.ato.gov.au/ato/content/td2022-010.pdf).

³⁴ ATO, TD 2022/10, available at [td2022-010.pdf \(ato.gov.au\)](https://www.ato.gov.au/ato/content/td2022-010.pdf)

³⁵ This is based on a salary grade of \$133,451 - \$237,520 for all FTEs (including Executive staff) and all expense amounts have been calculated using the High-cost country centres classification provided by the ATO.

³⁶ This quote is based on an online quote for overnight rental of a Full-Size vehicle.

Labour Type	Calculation Methodology, Assumptions and Application				
	Stakeholder Engagement				
	VNIW - Land and Environment	4	48	40	-
	PEC - Project Management	2	46	34	-
	PEC - Project Development	4	128	88	-
	PEC - Community and Stakeholder Engagement	2	44	32	-
	PEC - Land and Environment	2	44	32	-

7.2.3. Recruitment (External)

In order to account for the recruitment of the additional resources required for VNI West, an allocated external recruitment cost has been included in the forecasted additional labour costs in Project Management, Project Development and Land and Environment, consistent with the approach adopted in our previous Contingent Project Applications (CPAs).

In addition, we expect to incur an agency fee of 15.00% of the value of the first year's annualised salary where a recruitment service provider is used.

Based on historical experience, it is anticipated that 50.00% of the new roles (including backfilled roles) will be employed directly and the remaining 50.00% will require recruiter assistance. Note that the recruitment fee is prorated according to the average number of FTEs over the modelling period for each role.

The recruitment costs are applied on the following basis:

$$\text{Recruitment fees} = \text{sum of annualised salary of incremental employees} \times 50\% \times 15\%$$

The table below shows the percentage increase in 'new' FTEs year-on-year assumed in our calculations:

Table 7-5: Percentage increase in number of 'new' FTEs compared to previous year

Cost category	FY2023 (From 1 April 2023)	FY2024	FY2025	FY2026
VNIW - Project Management	-	60.30%	4.26%	-
VNIW - Project Development	-	136.78%	-	-
VNIW - Land and Environment	-	12.62%	-	-

Cost category	FY2023 (From 1 April 2023)	FY2024	FY2025	FY2026
PEC - Project Management	-	22.00%	-	-
PEC - Project Development	-	73.00%	29.00%	-
PEC - Land and Environment	-	-	-	-

7.2.4. IT expenses

Additional IT hardware and connectivity is required for the new FTEs within the Project Management, Project Development and Land and Environment categories. We have based these costs on our existing supplier rates.

The estimated total costs per new FTE are \$3,337.00 (real \$2022-23), as shown in Table 7-6. The estimates are based on the current supply rate from our vendors.

Table 7-6: IT expenses

Item	Cost
Lightweight laptop	\$2,103.00
27" Monitor	\$310.00
Headset	\$90.00
Backpack	\$35.00
Standard iPhone	\$799.00
Total	\$3,337.00

Total IT expenses were calculated based on 20 new starters in the Project Management category and 4 new starters in Land and Environment each requiring \$3,337.00 worth of IT hardware.

7.3. External Advice – Consulting Fees and Other Services

Where possible, costs in relation to consulting fees and legal advice were sourced directly from external party documents that detail fees, rates and charges. All rates are assumed to have been provided at current rates which are assumed to be in dollars as at 2022-23 unless otherwise specified. No escalation for inflation based on the consumer price index (CPI) has been applied.

Details regarding the nature of anticipated costs and activities have been detailed in the relevant sections of this report. Where documentation has not been provided within the required time frame for the delivery of this report, we have used our experience from previous projects to estimate the costs of external advice.

7.4. Direct Labour Costs Assumption

In practice, some labour and labour-related costs are reported as direct costs for regulatory purposes. The Queensland New South Wales Interconnector (QNI) contingent project application did not split the forecast labour and labour-related costs between direct and overhead components. Recognising the AER's concerns with the level of forecast indirect costs for QNI,³⁷ forecast Transgrid labour and labour-related costs for VNI West have been split between direct and overhead costs.

For the 2021-22 financial year, 74% of Transgrid capitalised labour and labour related costs were reported as direct costs within the category analysis RIN response.³⁸ Based on this, we have assumed that 70.00% of forecast Transgrid labour and labour-related costs for VNI West are direct in nature i.e., 30.00% of labour and labour-related costs are assumed to be indirect capex.

³⁷ See: AER, *Final Decision – TransGrid Contingent Project, QNI Minor Upgrade*, April 2020, pp. 17–21.

³⁸ That is, \$93.8 million of the reported \$520.6 million in capex for prescribed services was labour and labour related costs. Of those labour and labour related costs, \$24.4 million fell in the network overheads and corporate overheads categories (derived by applying the capitalised share of the respective overheads categories to the direct labour overheads). \$69.4 million fell within the direct capex categories (e.g., replacements, connections, augmentation, non-network), or 74.0%.

8. Abbreviations

The following abbreviations are used in this Stage 1 Application.

Abbreviation	Definition
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ATO	Australian Taxation Office
AVP	AEMO Victoria Planning
CAM	Cost Allocation Methodology
CPA	Contingent Project Application
CSE	Community and Stakeholder Engagement
CPI	Consumer Price Index
D&A	Development and approvals
D&C	Design and construction
DPE	Department of Planning and Environment (NSW)
DBYD	Dial before you dig
ECI	Early contractor engagement
EIS	Environmental Impact Statement
EOI	Expression of Interest
FID	Final Investment Decision
FTE	Full Time Equivalents
ISP	Integrated System Plan
kV	kilovolt
LLE	Long Lead Equipment
NEVA Order	National Electricity (Victoria) Act 2005
NSW	New South Wales
OE	Owners engineer
PACR	Project Assessment Conclusions Report
PEC or EnergyConnect	Project EnergyConnect
QNI	Queensland New South Wales Interconnector
QSRA	Quantitative schedule risk assessments
RFM	Roll forward model
RIT-T	Regulatory Investment Test for Transmission
RRG	Regional Reference Group
SEARs	Secretary's environmental assessment requirements
Stage 1 Application or CPA-1	Contingent Project Application for early works

Stage 2 Application or CPA-2	Stage 2 Contingent Project Application for delivery
VNI PACR	VNI West Project Assessment Conclusions Report
VNI West or the Project	Victorian to New South Wales (NSW) Interconnector West
VRE	Variable renewable energy
WACC	Weighted Average Cost of Capital
WRL	Western Renewables Link
WSB	Waratah Super Battery

Appendix A

Table A.1: Forecast Stage 1 labour and indirect capex by category, from 1 June 2023 to 30 April 2025 (\$M, Real June 2023, excluding contingency and labour escalation)

Capex category	2022-23	2023-24	2024-25	Total	% of total
VNI West					
Labour and labour-related					
Project Management	0.34	7.35	6.43	14.12	8.40%
Project Development	0.07	2.07	0.96	3.10	1.84%
Transaction Procurement Support	0.15	2.73	2.60	5.48	3.26%
Community and Stakeholder Engagement	0.01	0.11	0.33	0.45	0.27%
Land and Environment	0.25	3.98	3.36	7.59	4.51%
Regulatory Approvals	0.08	0.15	0.39	0.62	0.37%
Other Support & Corporate Roles	0.02	0.30	0.32	0.65	0.39%
Subtotal	0.92	16.71	14.39	32.01	19.03%
Indirect					
Proportion of labour and labour-related costs	0.39	7.16	6.17	13.72	8.16%
Project Management	0.06	0.17	0.13	0.36	0.21%
Project Development	0.06	9.01	24.83	33.90	20.16%
Transaction Procurement Support	0.12	7.99	9.08	17.19	10.22%
Community and Stakeholder Engagement	0.04	1.95	20.71	22.69	13.49%
Land and Environment	0.13	4.63	1.10	5.86	3.49%
Regulatory Approvals	0.21	0.40	5.85	6.45	3.84%
Other Support & Corporate Roles	2.85	19.16	13.99	36.00	21.41%
Subtotal	3.86	50.48	81.84	136.18	80.97%
TOTAL – VNI West	4.78	67.19	96.23	168.19	100.00%
PEC Enhancement					
Labour and labour-related					
Project Management	0.10	1.26	0.84	2.21	23.87%
Project Development	0.11	1.30	1.04	2.45	26.56%

Capex category	2022-23	2023-24	2024-25	Total	% of total
Community and Stakeholder Engagement	0.01	0.12	0.03	0.16	1.74%
Land and Environment	0.02	0.25	0.20	0.48	5.14%
Regulatory Approvals	0.01	0.14	0.07	0.22	2.39%
Subtotal	0.26	3.07	2.18	5.52	59.70%
Indirect					
Proportion of labour and labour-related costs	0.11	1.32	0.94	2.36	25.58%
Project Management	-	0.88	0.48	1.36	14.72%
Subtotal	0.11	2.20	1.42	3.72	40.30%
Total – PEC Enhancement	0.37	5.27	3.60	9.24	100.00%
HumeLink Integration					
Labour and labour-related					
Project Management	-	0.21	0.18	0.39	6.22%
Project Development	0.09	0.40	0.34	0.83	13.23%
Community and Stakeholder Engagement	-	0.03	0.02	0.05	0.75%
Land and Environment	-	0.03	0.02	0.05	0.75%
Other Support & Corporate Roles	-	0.07	0.06	0.13	2.13%
Subtotal	0.09	0.74	0.62	1.45	23.09%
Indirect					
Proportion of labour and labour-related costs	0.04	0.32	0.27	0.62	9.89%
Project Management	-	2.30	1.92	4.22	67.02%
Subtotal	0.04	2.62	2.18	4.84	76.91%
Total – HumeLink Integration	0.13	3.36	2.80	6.29	100.00%
Total	5.28	75.82	102.63	183.73	n.a.