Transgrid

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Labour and Indirect Capex Forecasting Methodology

Humelink Stage 2 Contingent Project Application

21 December 2023

Contents

1. Purpose, structure and scope of this document

1.1. Purpose of this document

This document explains and justifies our labour and indirect capital expenditure (capex) for Stage 2 for Humelink (the Project or Humelink).

The project stages and target timing identified in Australian Energy Market Operator's (AEMO's) Draft 2022 Integrated System Plan (Draft 2022 ISP) are:[1]

- Stage 1 – complete the early works by 2024
- Stage 2 – implement the Project by 2026/27, subject to decision rules and a feedback loop.

Our Stage 2 activities comprise of direct as well as indirect and labour capex activities:

- direct capex activities relate to tendered works, the purchase of long-lead equipment, property and easements, and environmental offset costs
- indirect activities, include:
  - internal labour resources for project management as well as corporate support for managing construction contracts, procuring equipment, environmental approvals, and health and safety
  - a wide range of professional and consulting services.

This document supports our Stage 2 Contingent Project Application (Application or CPA) for Humelink. It should be read in conjunction with our Principal Application document and other supporting documents, in particular our Capex Forecasting Methodology.

The scope of this document is to:

- set out the nature and scope of Stage 2 labour and indirect capex for Humelink
- explain and justify the methodologies we used to determine our Stage 2 labour and indirect capex forecast
- establish how we verified and validated our actual and forecast labour and indirect capex.

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

This document has been developed in accordance with:

- the actionable ISP framework under the National Electricity Rules (NER or Rules)
- AER's Guidance Note for Regulation of actionable ISP projects.[2]

[1] AEMO, Draft 2022 ISP, December 2021, p. 64 (This document refers to AEMO's 2022 ISP, as it is the most recently completed ISP in accordance with the NER. It should be noted that the Draft 2024 ISP, published on 15 December 2023, confirms AEMO's 2022 ISP conclusions in relation to VNI West, including its proposed timings).

[2] AER, Guidance Note for Regulation of actionable ISP projects, March 2021.

1.2. Document structure

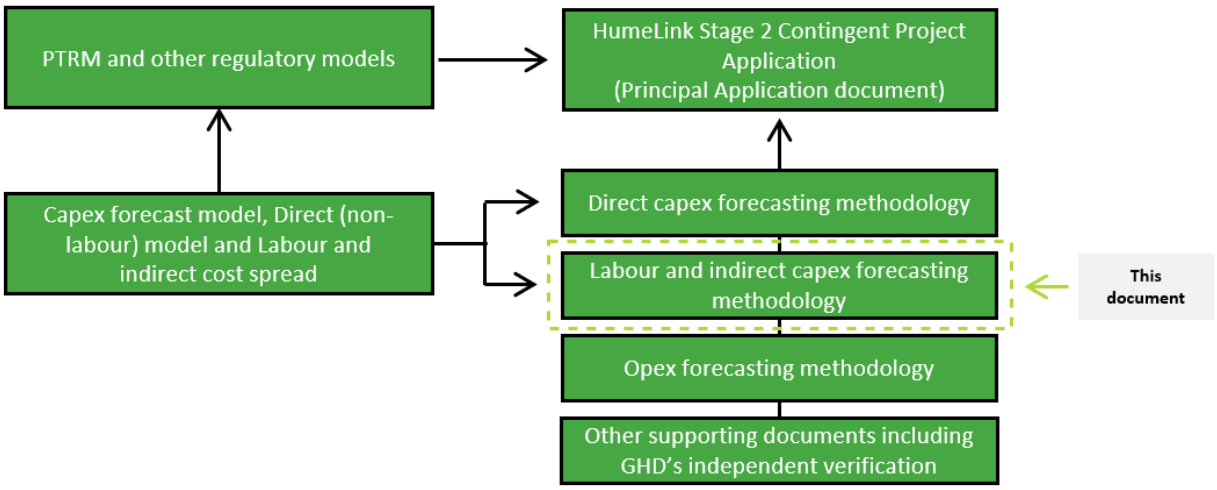
This document is structured as follows:

- Section 2 summarises total Humelink Stage 2 labour and indirect capex
- Section 3 overviews our forecasting method and forecast capex for labour and labour-related capex
- Section 4 overviews our forecast indirect capex and our forecasting methodologies
- Section 5 sets out the key assumptions underpinning our Stage 2 forecast labour and indirect capex.

1.3. Structure of our Stage 2 Application

Our Stage 2 Application is structured (see Figure 1-1) to be as clear and accessible as possible to the AER, customers, and other stakeholders.

Figure 1-1: Stage 2 CPA document structure for Humelink



Attachments and supporting models comprising our Stage 2 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 2, comprising forecast costs from 1 July 2023 to 30 April 2027. None of our Stage 2 labour and indirect capex has yet been incurred.

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

Forecast expenditure has been identified as either capex or opex in a manner consistent with relevant accounting standards, including AASB 116. All labour and 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 externally verified project costs.

2. Overview of Stage 2 activities and labour and indirect capex

Our forecast labour and indirect capex comprises costs that we will incur in Stage 2 of the Project for:

- internal labour resources to support the delivery phase of the Project
- indirect activities for a wide range of professional and consulting services.

Labour and indirect costs fall into six streams, which are explored in detail in Section 3:

- **Commercial, Project Management and Project Controls** including costs associated with managing two Design & Contract (D&C) Incentivised Target Contracts, along with the procurement and contract management of long-lead items.
- **Community Stakeholder and Engagement (CSE)** including the labour and labour-related costs to consult with stakeholders and the community about the Project.
- **Land and Property** relating to the labour required to process Compulsory Acquisitions as required, negotiate landowner settlements, settle disputes and ensure Transgrid's ongoing compliance with Option Deed terms.
- **Project Design and Construction** relating to the internal and external labour needed to review the contractor's design, pre-construction and construction activities.
- **Corporate Support** including labour and indirect costs for health, safety, and environment (HSE), regulatory, insurance and legal functions.
- **Major Projects Initiatives** including the labour supporting the program approach (Powering Tomorrow Together) to efficiently deliver Major Projects.

Our labour and indirect costs only include forecast costs. Forecast capex relates to the forecast period to 30 April 2027.

Table 2-1 shows Humelink Stage 2 labour and indirect capex by workstream, which comprises:

- $143.26 million (or approximately 35 per cent) for labour and labour-related costs
- $263.88 million (or approximately 65 per cent) for indirect costs.

This capex is incremental to our business-as-usual capex and relates only to the Humelink Project.

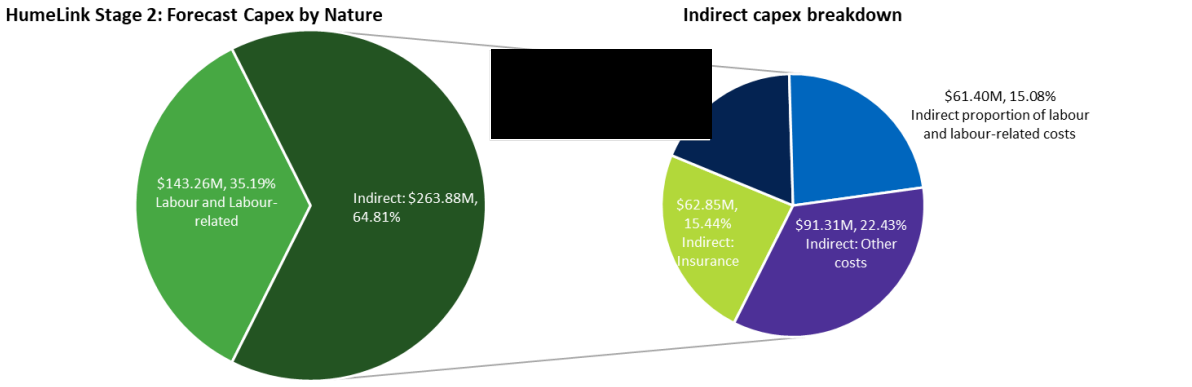
Table 2-1: Summary total labour and indirect capex ($M, Real 2022/23)

Capex category	2023/24	2024/2025	2025/26	2026/27	Total	% of total
Labour and labour-related	**21.80**	**48.62**	**50.14**	**22.70**	**143.26**	**35.19%**
Commercial, Project Management and Project Controls	3.75	11.84	11.36	5.13	32.09	7.88%
Corporate support (legal, regulatory, HSE and insurance)	1.94	5.02	4.39	1.83	13.18	3.24%
Community, Stakeholder and Engagement	2.93	5.43	4.87	2.36	15.59	3.83%
Land and Property	1.26	2.86	1.28	0.24	5.64	1.38%

Capex category	2023/24	2024/2025	2025/26	2026/27	Total	% of total
Project Design and Construction	8.38	19.73	24.01	11.18	63.30	15.55%
Major Project Initiatives	3.54	3.74	4.22	1.96	13.46	3.31%
Indirect	**20.87**	**110.50**	**107.44**	**25.07**	**263.88**	**64.81%**
Proportion of labour and labour-related costs	9.34	20.84	21.49	9.73	61.40	15.08%
Commercial, Project Management and Project Controls	0.37	15.53	15.62	2.72	34.23	8.41%
Corporate support (legal, regulatory, HSE and insurance)	-	57.35	56.71	9.35	123.40	30.31%
Community, Stakeholder and Engagement	-	7.21	7.21	1.20	15.62	3.84%
Project Design and Construction	-	3.38	3.37	0.56	7.30	1.79%
Major Project Initiatives	11.16	6.21	3.05	1.52	21.93	5.39%
TOTAL	**42.67**	**159.13**	**157.58**	**47.77**	**407.14**	**100.00%**

Figure 2-1 provides a breakdown of the forecast labour and indirect capex for Humelink Stage 2.

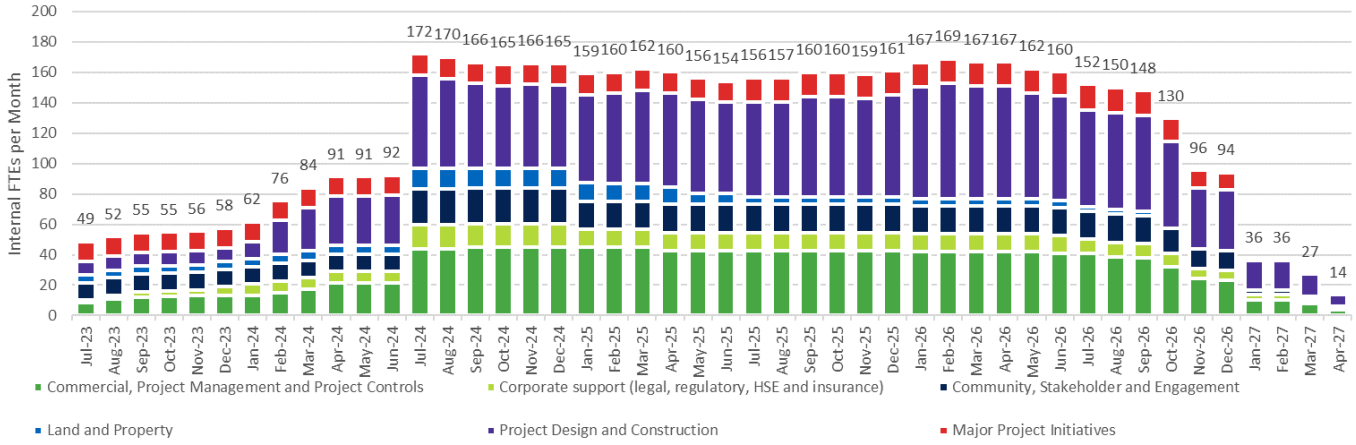
Figure 2-1: Humelink - Forecast labour and indirect capex by nature, from 1 July 2023 to 30 April 2027 ($M, Real 2023)



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

Figure 2-2 shows the forecast monthly full-time equivalents (FTEs) for Humelink Stage 2 activities for the period covering e 1 July 2023 to 30 April 2027. As can be seen, the number of monthly FTEs for Humelink increases in July 2024, then remains relatively stable until September 2026, after the Humelink East and West portions are commissioned. The average number of monthly FTEs (excluding outsourced labour) is 121.80 across the 1 July 2023 to 30 April 2027 period.

Figure 2-2: Humelink - Forecast monthly FTEs (1 July 2023 to 30 April 2027)



3. Labour and labour-related costs

3.1. Approach to forecasting labour and labour-related costs

Our Stage 2 forecast labour capex is based on a bottom-up build of costs from 1 July 2023 to 30 April 2027. Our forecasting method is consistent with the methodology applied in our previous applications for Humelink Stage 1 and our WSB (non-contestable) Revenue Proposal. As noted, our forecast capex has been treated in accordance with our capitalisation policy.

Our labour resource requirements for Stage 2 are:

- **Internal labour** comprising 574 roles or 121.80 FTEs
- **Outsourced contractors** comprising 33 roles or 7.83 FTEs.

Labour is organised into a number of sub-teams and only includes direct labour costs. The forecast of resource requirements reflect:

- month-by-month FTE requirements for each role type to meet the project schedule
- hourly labour rates for each role type, including on-costs and support costs (see assumptions in section 5.1).

Our labour-related costs include travel expenses, training, recruitment, and IT hardware costs. Assumptions underpinning each of these and the cost build-up for each labour cost category are outlined in section 5.2.

Table 3-1 sets out our FTEs, roles, labour related and outsourced labour for Humelink.

Table 3-1: Humelink - summary of roles, FTE and outsourced labour by sub-category

	Internal Labour			Outsourced Labour			Direct Labour Related	Total Labour and Labour-related Capex ($m)
Sub-category	No. of Roles	Average FTE	Capex ($m)	No. of Roles	Average FTE	Capex ($m)	Capex ($m)	
Commercial, Project Management and Project Controls	89.00	31.50	31.16	-	-	-	0.93	32.09
Corporate support (legal, regulatory, HSE and insurance)	21.00	9.35	12.25	-	-	-	0.94	13.18
Community, Stakeholder and Engagement	50.00	15.59	15.47	-	-	-	0.12	15.59
Land and Property	34.00	5.92	5.46	-	-	-	0.18	5.64
Project Design and Construction	187.00	46.35	47.01	33.00	7.83	8.97	7.32	63.30

	Internal Labour			Outsourced Labour			Direct Labour Related	Total Labour and Labour-related Capex ($m)
Sub-category	No. of Roles	Average FTE	Capex ($m)	No. of Roles	Average FTE	Capex ($m)	Capex ($m)	
Major Project Initiatives	193.00	13.08	13.39	-	-	-	0.07	13.46
Total	**574.00**	**121.80**	**124.74**	**33.00**	**7.83**	**8.97**	**9.56**	**143.26**

The following sections set out our labour and labour related cost for each sub-category of capex.

3.2. Commercial, Project Management and Project Controls

Our Stage 2 labour and labour related forecast capex for Commercial, Project Management and Project Controls is $32.09 million, comprising:

- $13.56 million for Commercial
- $2.57 million for Project Management
- $15.96 million for Project Controls.

3.2.1. Commercial

Commercial relates to the commercial oversight and contract management of the Humelink construction delivery partners, supply chain Original Equipment Manufacturing and other professional support services. The resources comprise contract managers, contract administrators, commercial managers, procurement resources and quantity assessors.

These labour resources are in line with the Resource Management Plan developed to effectively manage and administer the D&C ITC contracts during delivery. They are essential to deliver the Project as efficiently as possible with sufficient oversight to proactively prevent disputes and ensure all claims are valid and prudent.

As Table 3-2 shows, our forecast Commercial labour and labour-related capex for Humelink Stage 2 is $12.99 million and $0.57 million respectively:

- Internal labour costs (on average 13.39 FTEs) comprise approximately 95.8 per cent of forecast Project Management capex.
- Labour-related costs for travel, training, recruitment and IT hardware expenses.

Table 3-2: Summary of labour and labour-related costs for Commercial ($M, Real June 2023)

Category	Total capex	% capex
Labour	**12.99**	**95.8%**
Internal	12.99	95.8%
Labour-related	**0.57**	**4.2%**

Category	Total capex	% capex
Travel expenses	0.45	3.3%
Training	0.06	0.5%
Recruitment	0.04	0.3%
IT hardware expenses	0.01	0.1%
Total	**13.56**	**100.0%**

3.2.2. Project Management

Project Management relates to managing and coordinating the Project's activities to efficiently deliver to the agreed scope, program, and budget. The Project Management function will ensure workstreams are properly integrated and managed. These resources include:

- **The Project Director** with overall accountability for the successful delivery of the Project
- **Executive management**
- **Auditors** providing an independent review
- **Corporate support** for talent acquisition, risk and compliance

As Table 3-3 shows, our forecast Project Management for Humelink Stage 2 is $2.56 million for labour and $0.01 million for labour-related costs:

- Internal labour costs (on average 1.62 FTEs) comprise approximately 99.7 per cent of forecast Project Management capex
- Labour-related costs for training expenses.

Table 3-3: Summary of labour and labour-related costs for Project Management ($M, Real 30 June 2023)

Category	Total capex	% capex
Labour	**2.56**	**99.7%**
Internal	2.56	99.7%
Labour-related	**0.01**	**0.3%**
Training	0.01	0.3%
Total	**2.57**	**100.0%**

3.2.3. Project Controls

Our Stage 2 Project Controls relate to incremental labour for gathering, managing, and analysing project data to keep the project on track in terms of time, cost, and quality. The roles and activities include:

- **Project Schedulers** who will maintain a master schedule and ensure alignment with contractor programs. Tasks include reviewing, monitoring, and assessing the two delivery partner programs.
- **Cost Controllers** who will monitor, manage and optimise all financial aspects of the Humelink project. Tasks include budgeting, cost estimation and monitoring, variance analysis, forecasting and reporting.
- **Risk Management** consisting of a Risk Manager, Assurance Managers and Governance & Assurance Analysts who will identify, assess and manage risks.

- **The Quality Manager** who will ensure Project deliverables meet quality standards and expectations.
- **Document Controllers** who will maintain accurate records, ensure proper document version control, respond to requests for information, draw up transmittals, complete contract correspondence and support compliance with corporate procedures.
- **Reporting team** consisting of Business Partners and a reporting Analyst will provide transparency, accountability and insight into the project's progress and performance.
- **Project Coordination and Administration** with Project Controllers, Coordinators and Administrators coordinating team and project logistics, organising team meetings, preparing minutes, raising orders with suppliers, performing invoice reconciliations, tracking tasks and performing follow-ups, drafting documents and supporting document control.
- **Corporate support** will provide additional resources for project governance and assurance processes outside of the Project team.

As Table 3-4 shows, our forecast Project Controls for Humelink Stage 2 is $15.61 million for labour and $0.35 million for labour-related costs:

- Internal labour costs (on average 16.49 FTEs) comprise approximately 97.8 per cent of forecast Project Management capex
- Labour-related costs comprise of travel, training, recruitment and IT hardware expenses.

Table 3-4: Summary of labour and labour-related costs for Controls ($M, Real June 2023)

Category	Total capex	% Capex
Labour	**15.61**	**97.8%**
Internal	15.61	97.8%
Labour-related	**0.35**	**2.2%**
Travel expenses	0.21	1.3%
Training	0.08	0.5%
Recruitment	0.04	0.3%
IT hardware expenses	0.01	0.1%
Total	**15.96**	**100.0%**

3.3. Community & Stakeholder Engagement

Our Stage 2 forecast capex for CSE relates to engagement required to undertake activities to obtain and where possible maintain stakeholder acceptance for the Project in a sustainable way given that it will impact many land holders and communities.

Resources to execute our Humelink Engagement Strategy and Humelink Community and Stakeholder Engagement Plan will focus on:

- **Indigenous engagement**

NSW and Federal Government policies currently target a minimum 3% project spend on Indigenous employment and businesses, and for achieving social legacy outcomes/objectives. The Humelink project aims to achieve the same or higher spend on Indigenous employment and business than EnergyConnect or VNI West during the development and delivery phases of the Project. Our construction contracts require

the development of participation opportunities and will establish minimum standards and targets for Indigenous employment.

- **Community Investment and Benefits (Social Legacy)**

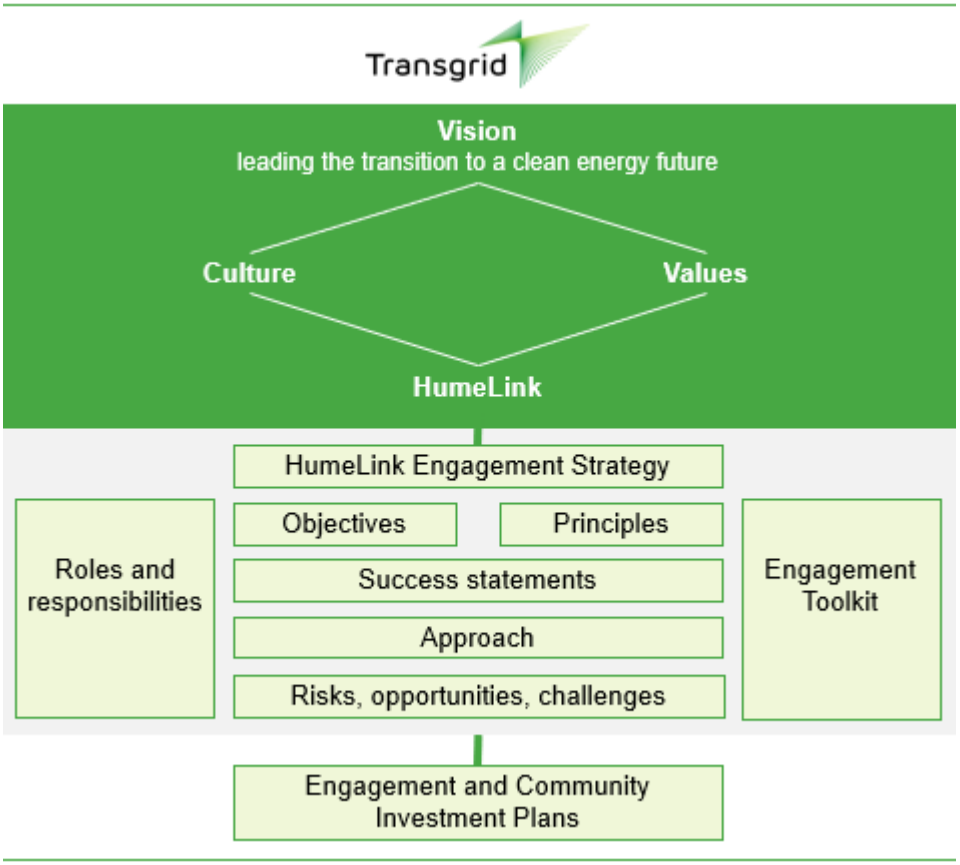
Humelink's Community Investment and Benefits Plan aims to provide long-term community benefits. Community initiatives developed as part of this Plan will involve many partners and stakeholders, including local government, the Department of Regional NSW, Training Services NSW, Local Aboriginal Land Councils, and several local community groups, universities and long-term regional employers. These programs will have a longer life beyond the construction of Humelink, such as creating:

- electricity industry opportunities though education and youth pathways
- opportunities for local contractor services
- employment and education opportunities for Indigenous communities
- future leaders in the energy and renewable energy sector through tertiary education programs
- cultural community partnerships.

- **Humelink Engagement Strategy (HES)**

Our engagement strategy is based on the following framework which will be resourced by our internal project team and supported by experienced contractors as shown in Figure 3-1.

Figure 3-1 Engagement Strategy Framework



When setting community and stakeholder objectives and outcomes for the Project (Table 3-5), the HES has considered Transgrid's requirements, Landowner Advocate recommendations and feedback from community and stakeholders along the corridor. Specific success measures and how they will be achieved will be detailed in each of the key engagement plans and community investment plan.

Table 3-5: Engagement objectives and success statements

Engagement objectives	Success statements
Work in partnership with local communities and businesses.	• A trusted and respected partner with key government agencies, local organisations, groups and local Indigenous organisations and groups • Local and regional social, economic and environmental legacies realised • Transgrid and Humelink are seen to be leading the transition to clean, renewable energy
Listen to feedback, understand community views, and consider how these can deliver a better project.	• A trusted and respectful relationship with communities, landowners, and local groups is developed • Local and regional social, economic and environmental legacies are realised • Feedback is used to implement change in the planning, delivery and/or operation of Humelink • Humelink delivers accessible engagement that is inclusive and considers the diversity of communities and stakeholders • Humelink overcomes engagement access barriers
Be accessible and provide engagement that works for communities and considers audiences.	• Humelink delivers accessible engagement that is inclusive and considers the diversity of communities and stakeholders • Visuals (animations, footages, photographs, illustrations and graphics) help people understand Humelink • Humelink staff and key decision makers are accessible • Humelink overcomes engagement access barriers
Deliver long-term social, economic, and environmental legacies for communities and regions.	• Humelink is a trusted and respected partner with key government agencies, local organisations, groups and local Indigenous organisations. • Local and regional social, economic and environmental legacies are realised • Humelink delivers accessible engagement that is inclusive and considers the diversity of communities and stakeholders • Works collaboratively with communities as part ongoing Transgrid operations
Build awareness of Humelink's role in providing reliable, clean and affordable electricity to consumers.	• Humelink is a trusted and respected partner with key government agencies, local organisations, groups and local Indigenous organisations. • Local and regional social, economic and environmental legacies realised

Engagement objectives	Success statements
	• Humelink delivers accessible engagement that is inclusive considers the diversity of communities and stakeholders • Works collaboratively with communities as part ongoing Transgrid operations • Transgrid and Humelink are seen as leading the transition to clean, renewable energy
Build on Transgrid's positive reputation and social licence to operate.	• A trusted and respected partner with key government agencies, key local organisations and groups and local Indigenous organisations and groups • Local and regional social, economic and environmental legacies are realised • Humelink delivers accessible engagement that is inclusive and considers the diversity of communities and stakeholders • Works collaboratively with communities as part ongoing Transgrid operations • Transgrid and Humelink are seen as leading the transition to clean, renewable energy

As Table 3-6 shows, our forecast community & stakeholder engagement for Humelink Stage 2 is $15.47 million for labour and $0.12 million for labour-related costs:

- Internal labour costs (on average 15.59 FTEs) comprise approximately 99.2 per cent of forecast Project Management capex
- Labour-related costs include travel expenses only.

Table 3-6: Summary of Labour and Labour-related costs for CSE ($M, Real June 2023)

Category	Total capex ($m)	% capex
Labour	**15.47**	**99.2%**
Internal	15.47	99.2%
Labour-related	**0.12**	**0.8%**
Travel expenses	0.12	0.8%
Total	**15.59**	**100.0%**

3.4. Land and Property

Our Stage 2 labour and labour-related forecast capex for Land and Property relates to the continued negotiation of property rights to secure access to the 330 parcels of land required to enable construction to be undertaken. Roles required to undertake these activities include Land Economists, Land & Property Managers, Land Access Officers, Liaison Managers and PAN Administrators.

Transgrid has been negotiating with landowners affected by the project, in accordance with the provisions of the Land Acquisition (Just Terms Compensation) Act 1991. Post CPA1 funding, ongoing work will be required relating to:

- Compulsory property acquisition
- Negotiating settlements with landowners
- Mediation and preparation for Land and Environment Court hearings should landowners object to the compensation determined by the Valuer General
- Ongoing liaison with landowners once construction has started to ensure contractors adhere to Option agreement terms and conditions and dispute resolution where terms and conditions are not adhered to.

Table 3-7 shows that for our forecast Land and Property for Humelink Stage 2 is $5.46 million for labour and $0.18 million for labour-related costs:

- Internal labour costs (on average 5.92 FTEs) comprise approximately 96.9 per cent of forecast Project Management capex
- Labour-related costs comprise of travel, training, recruitment and IT hardware expenses.

Table 3-7: Summary of Labour and labour-related costs for Land ($M, Real June 2023)

Category	Total capex	% capex
Labour	**5.46**	**96.9%**
Internal	5.46	96.9%
Labour-related	**0.18**	**3.1%**
Travel expenses	0.13	2.3%
Training	0.03	0.5%
Recruitment	0.01	0.2%
IT hardware expenses	0.00	0.1%
Total	**5.64**	**100.0%**

3.5. Project Design and Construction

Our Stage 2 labour and labour related forecast capex for Project Design and Construction is $63.30 million, comprising:

- $16.57 million for Project Design
- $46.73 million for Construction

3.5.1. Project Design

Our Stage 2 labour and labour-related forecast capex for Design relates to internal and external labour. External labour will include consultants from BECA, which has been appointed as our Owner's Engineer to review and provide quality assurance over contractor designs. Our internal labour will manage our Owner's Engineer as well as review contractor designs. Contractor designs will be submitted as packages during each design phase: concept design, safety in design, preliminary detailed and final design, issued for

construction and works as executed. Design reviews will be undertaken at each of these phases and will involve coordination with various internal and external stakeholders.

As Table 3-8 shows, our forecast Design for Humelink Stage 2 is $16.24 million for labour and $0.33 million for labour-related costs:

- Internal labour costs (on average 13.45 FTEs) comprise approximately 86.8 per cent of forecast Project Management capex
- Outsourced labour costs (on average 1.47 FTEs) comprise approximately 11.2 per cent of forecast Project Management capex
- Labour-related costs comprise of travel, training, recruitment and IT hardware expenses.

Table 3-8: Summary of labour and labour-related costs for Design ($M, Real 30 June 2023)

Category	Total capex	% capex
Labour	**16.24**	**98.0%**
Internal	14.39	86.8%
Outsourced	1.85	11.2%
Labour-related	**0.33**	**2.0%**
Travel expenses	0.18	1.1%
Training	0.06	0.4%
Recruitment	0.07	0.4%
IT hardware expenses	0.02	0.1%
Total	**16.57**	**100.0%**

3.5.2. Construction

Due to the size of Humelink's delivery partner contracts and the large geographical area of the project a significant volume of resources will be required for construction activities, including site supervision, onsite investigation, monitoring & measuring construction works for input into claim approvals and constructability reviews. The tasks performed by internal and outsourced labour include:

- early on-site investigation activities, such as geotechnical assessments where tower locations have been finalised
- access track investigations for finalising the designs and access tracks to the tower locations
- constructability reviews during the design phase and safety in design inputs
- finalising construction related management plans with the Contractors before starting construction (e.g., Construction and Site Management Plan, Health and Safety Management Plan, Outage Plans and Waste Management Plan)
- coordinating contractor safety inductions, training and onsite construction preparations
- monitoring and measuring construction works, which is essential to the commercial management of the construction contracts, required to progress claim approvals and prevent disputes
- supervision activities for safety, environmental compliance, adherence to construction designs, measuring progress, measuring changes to baseline assumptions, maintaining site records, providing

inputs to commercial disputes, facilitating access, site audits and continuous reporting of overall project status.

The construction team will comprise internal resources supported by subject matter experts engaged as consultants or to support short term peaks. The types of roles include site managers, construction managers, project engineers, construction engineers, commissioning technicians, protection technicians, control technicians, communications technicians, geotechnical site engineers, safety inspectors, environmental representatives, substations managers and transmission line managers.

Final commissioning checks, network outage coordination and staged energisation will be carried out by our technical resources, including protection, communications and control technicians.

As Table 3-9 shows, our forecast Construction for Humelink Stage 2 is $39.74 million for labour and $6.99 million for labour-related costs:

- Internal labour costs (on average 32.90 FTEs) comprise approximately 69.8 per cent of forecast Project Management capex
- Outsourced labour costs (on average 6.36 FTEs) comprise approximately 15.2 per cent of forecast Project Management capex
- Labour-related costs comprise of travel, training, recruitment and IT hardware expenses.

Table 3-9: Summary of labour and labour-related costs for Construction ($M, Real 30 June 2023)

Category	Total capex	% capex
Labour	**39.74**	**85.0%**
Internal	32.62	69.8%
Outsourced	7.11	15.2%
Labour-related	**6.99**	**15.0%**
Travel expenses	6.55	14.0%
Training	0.15	0.3%
Recruitment	0.22	0.5%
IT hardware expenses	0.07	0.1%
Total	**46.73**	**100.0%**

3.6. Corporate Support

Our Stage 2 labour and labour related forecast capex for Project Design and Construction is $13.18 million, comprising:

- $7.54 million for Health, Safety and Environmental management
- $2.24 million for Environmental Offsets
- $0.66 million for Environmental approvals
- $1.26 million for Regulatory Support
- $1.49 million for Legal Support.

3.6.1. Health, Safety and Environmental management

Our Stage 2 labour and labour-related forecast capex for Health, Safety and Environmental (HSE) management relates to:

- internal environmental site staff undertaking mandatory environmental control compliance inspections
- health and safety site personnel providing assurance that contractor work is in line with work health & safety legislation.
- specialist consultants to perform contaminated site and independent incident investigations, project modification consistency checks and Infrastructure Sustainability rating reviews
- procuring protective clothing and equipment to ensure all HSE projects requirements are met
- implementing HSE Initiatives and training to improve project performance and maintain compliance.

As Table 3-10 shows, our forecast HSE for Humelink Stage 2 is $6.68 million for labour and $0.86 million for labour-related costs:

- Internal labour costs (on average 5.37 FTEs) comprise approximately 88.6 per cent of forecast Project Management capex
- Labour-related costs for travel, training, recruitment and IT hardware expenses.

Table 3-10: Summary of labour and labour-related costs for HSE ($M, Real 30 June 2023)

Category	Total capex	% capex
Labour	**6.68**	**88.6%**
Internal	6.68	88.6%
Labour-related	**0.86**	**11.4%**
Travel expenses	0.79	10.5%
Training	0.03	0.3%
Recruitment	0.04	0.5%
IT hardware expenses	0.01	0.1%
Total	**7.54**	**100.0%**

3.6.2. Environmental Offsets

Our Stage 2 labour and labour-related forecast capex for Environmental Offsets relates to the internal labour required to support and facilitate the implementation of the Biodiversity Offset Delivery Strategy. This Strategy outlines the options to offset impacts on biodiversity values associated with construction of the project. Labour and labour-related forecast capex is required to facilitate and support:

- identifying, assessing and procuring Biodiversity Stewardship Sites
- purchasing and retiring existing biodiversity credits
- making a payment into the Biodiversity Conservation Fund for residual credits.

As Table 3-11 shows, our forecast Environmental Offsets for Humelink Stage 2 is $2.21 million for labour and $0.03 million for labour-related costs:

- Internal labour costs (on average 1.58 FTEs) comprise approximately 98.7 per cent of forecast Project Management capex

- Labour-related costs for travel, training, recruitment and IT hardware expenses.

Table 3-11: Summary of labour and labour-related costs for Environmental Offsets ($M, Real June 2023)

Category	Total capex	% capex
Labour	**2.21**	**98.7%**
Internal	2.21	98.7%
Labour-related	**0.03**	**1.3%**
Training	0.01	0.3%
Recruitment	0.02	0.8%
IT hardware expenses	0.00	0.2%
Total	**2.24**	**100.0%**

3.6.3. Environmental Approvals

Our Stage 2 labour and labour-related forecast capex for Environmental Approvals relates to project planning approvals. This includes managing the Amendment Report and any work associated with supporting the assessment by the Department of Planning and Environment and/or the Commonwealth Department of Climate Change, Energy, the Environment and Water. Following planning approval (July 2024), the labour will be associated with administration, implementation and compliance tracking of the Project's environmental management measures and conditions of approval.

As Table 3-12 shows, our forecast Environmental Approvals for Humelink Stage 2 is $0.62 million for labour and $0.04 million for labour-related costs:

- Internal labour costs (on average 0.52 FTEs) comprise approximately 93.9 per cent of forecast Project Management capex
- Labour-related costs for travel, training, recruitment and IT hardware expenses.

Table 3-12: Summary of Labour and Labour-related costs for Environmental Approvals ($M, Real June 2023)

Category	Total capex	% capex
Labour	**0.62**	**93.9%**
Internal	0.62	93.9%
Labour-related	**0.04**	**6.1%**
Travel expenses	0.04	5.5%
Training	0.00	0.4%
Recruitment	0.00	0.2%
IT hardware expenses	0.00	0.1%
Total	**0.66**	**100.0%**

3.6.4. Regulatory

Our Stage 2 labour and labour-related forecast capex for Regulatory relates to ongoing regulatory support of the project throughout the construction phase.

As Table 3-13 shows, our forecast Regulatory for Humelink Stage 2 is $1.26 million for internal labour (on average 0.66 FTEs).

Table 3-13: Summary of labour and labour-related costs for Regulatory ($M, Real 30 June 2023)

Category	Total capex	% capex
Labour	**1.26**	**100.0%**
Internal	1.26	100.0%
Total	**1.26**	**100.0%**

3.6.5. Legal

Our Stage 2 labour and labour-related forecast capex for Legal relates to ongoing regulatory support of the project throughout the construction phase.

As Table 3-14 shows, our forecast Regulatory for Humelink Stage 2 is $1.49 million for internal labour (on average 1.23 FTEs).

Table 3-14: Summary of labour and labour-related costs for Legal ($M, Real 30 June 2023)

Category	Total capex	% capex
Labour	**1.49**	**99.6%**
Internal	1.49	99.6%
Labour-related	**0.01**	**0.4%**
Training	0.01	0.4%
Total	**1.49**	**100.0%**

3.7. Major Projects Program Initiatives

Our Stage 2 labour and labour-related forecast capex for Program relates to the program approach (Powering Tomorrow Together) to efficiently deliver Major Projects using early procurement, economies of scale and standard designs.

As Table 3-15 shows, our forecast Program for Humelink Stage 2 is $13.39 million for labour and $0.07 million for labour-related costs:

- Internal labour costs (on average 13.08 FTEs) comprise approximately 99.5 per cent of forecast Project Management capex
- Labour-related costs for travel expenses only.

Table 3-15: Summary of labour and labour-related costs for Program ($M, Real 30 June 2023)

Category	Total capex	% capex
Labour	**13.39**	**99.5%**
Internal	13.39	99.5%
Labour-related	**0.07**	**0.5%**
Travel expenses	0.07	0.5%
Total	**13.46**	**100.0%**

4. Indirect capex

4.1. Approach to forecasting indirect costs

We have determined our Stage 1 forecast for indirect capex based on a bottom-up build of costs from 1 July 2023 to 30 April 2027. Our forecasting method is consistent with the methodology applied in our previous Applications for Humelink Stage 1 and our WSB (non-contestable) Revenue Proposal. Our indirect costs comprise a wide range of professional and consulting services, licence fees, project site office costs, legal fees and insurance premiums. The requirements for each of these have been separately itemised/defined and phased according to the Project schedule.

For some 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. Instead, the project team has drawn on recent experience, market conditions and reasonable assumptions to prepare the forecast costs.

The sections below set out how we have determined our forecast for each of the capex subcategories.

4.2. Commercial, Project Management and Project Controls

Our Stage 2 forecast capex indirect capex for Commercial, Project Management and Project Controls is $34.23 million, comprising:

- $15.62 million for Commercial
- $18.61 million for Project Management and Controls.

4.2.1. Commercial

As Table 4-1 shows, our indirect capex for Commercial is $15.62 million, including the external services required to support the delivery of Humelink construction contracts through to Project completion. These include:

- functions required to be performed under the D&C ITC contracts including:
  - financial audits of reimbursable costs claimed
  - periodic credit ratings assessments
  - Dispute Avoidance Board (DAAB) costs
  - an independent professional to fulfill the obligations of the Employer's Representative under the contract where required
- commercial management, claims and disputes advisory services
- contract management software appropriate to manage construction contracts greater than $1 billion.

Table 4-1: Summary of indirect capex for Commercial ($M, Real June 2023)

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Contract Management			
Employer's representative	[redacted]	CME 6	Our estimated capex for Employers Representative is $[redacted] This is based on a proposal from [redacted] dated 31 May 2023 providing the annual cost for 1 employer representative of $[redacted] and 1 support team of $[redacted] Our capex forecast assumes 2 employer's representatives (x1 for each the East and West portions of the Humelink project) and 2 support teams are required for 3.5 years. Calculated as: [(2 x $[redacted] employer's representative annual rate) + (2 x $[redacted] support team annual rate)] x 3.5 years = $[redacted] Provision of independent professional to perform the Employer's Representative determinations and functions under contract independent of Transgrid thereby preserving collaborative relationship between Transgrid and Delivery Partner key delivery personnel during delivery. Dollar Basis: Real 2022/23 dollars
Procurement & other tools			
Software or system – Aconnex Enterprise Cloud Service	[redacted]	CME 4	Our estimated capex for Aconnex project enterprise cloud solution for construction contract management to administer the delivery partner contracts is $[redacted]. This is based on a fee quotation from [redacted] dated 8 Jun 2023. Calculated as: $[redacted] (cloud services) + $[redacted] (implementation service fees) = $[redacted] Dollar Basis: Real 2022/23 dollars
Other Fees			
Commercial Advisory	[redacted]	CME 9	Our estimated capex for Commercial Advisory support services during the delivery phase of the project is [redacted] This is based on a fee quotation from [redacted] dated 6 June 2023. Dollar Basis: Real 2022/23 dollars

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Credit Rating Assessments	[redacted]	CME 3	Our estimated capex for bi-annual financial credit assessment of Delivery Partners in line with delivery contract conditions is $[redacted] This is based on a fee quotation from [redacted] dated 12 May 2023. Calculated as: [redacted] biannual x 2 payment p.a. x 4 years = $[redacted] Dollar Basis: Real 2022/23 dollars
Dispute Avoidance and Adjudication Board (DAAB)	[redacted]	CME 7.1	Our estimated capex for DAAB is $[redacted]. This is based on a fee quotation from [redacted] 5 May 2023. Total Retainer Costs (Transgrid 50% Share) $[redacted] (East 18 months) + $[redacted] (West 24 months) = $[redacted] Total Referral Costs (Transgrid 50% Share) $[redacted] Total CPA2 Cost $[redacted] (Retainer Costs) + [redacted] (Referral Costs) = $[redacted] Dispute Avoidance and Adjudication Board (DAAB) in line with delivery partner contracts. Dollar Basis: Real 2022/23 dollars
Independent estimator services	[redacted]	CME 8	Independent cost estimator and quantity surveyor services to support assessment and resolution of Delivery Partner variations and claims in delivery. Our estimated capex for Independent Estimator Services is $[redacted] This is based on a fee quotation from [redacted] dated 23 May 2023. Dollar Basis: Real 2022/23 dollars
Financial Audit	[redacted]	CME 2	Our estimated capex for independent financial audits of delivery partner contract costs is [redacted] in line with delivery partner contract terms. This is based on a fee quotation from [redacted] dated May 2023. Refer to the Indicative Pricing Schedule on page 17 Calculated as: [redacted] (Audit costs) + [redacted] (Disbursement costs) = [redacted] Dollar Basis: Real 2022/23 dollars

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Total capex	15.62		

4.2.2. Project Management and Project Controls

As Table 4-2 shows, our Stage 2 indirect forecast Project Management and Controls capex cost is $18.61 million, of which the majority is project site office costs [redacted] The remaining costs are for establishing tools/systems, risk & assurance, meeting room hires, and executive fly over of the transmission line route during the Project's implementation phase.

Table 4-2: Summary of indirect capex for Project Management and Controls ($M, Real June 2023)

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Project Controls			
Document System License	[redacted]	PMC-9	Our estimated capex for the cost of document system license is $[redacted]. This is estimate is based off a previous [redacted] invoice dated 15 November 2021 which has been used for prior major projects. [redacted] software is used to streamline the capture, review, management and distribution of project documents. Dollar Basis: Real 2022/23 dollars
Assurance Audits - Line 2	[redacted]	PMC-4	Our estimated capex for the cost of Line 2 assurance audits is $[redacted] This is based on a tax invoice from ARO Strategic Consulting for 1 independent assurance auditor dated 2 May 2023, which is at a cost of $[redacted] There will be 5 audits for Humelink which require 4 independent auditors each. Calculated as: $[redacted] x 4 auditors (per audit) x 5 assurance audits = $[redacted] Transgrid's corporate governance and assurance procedures requires line 2 periodic reviews to evaluate the health of the project from which corrective actions are recommended. Dollar Basis: Real 2022/23 dollars
Line 1 reviews	[redacted]	PMC-5	Our estimated capex for the cost of Line 1 reviews is $[redacted] This is based on a tax invoice from [redacted] for independent review services dated 8 May 2023, which is at a cost of $[redacted] for 1 review team member. The project team has allowed for 5 independent reviews for Humelink which require 2 review team members each. Calculated as: [redacted] x 2 consultants (per review) x 5 assurance reviews = $[redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			Transgrid's corporate governance and assurance procedures requires line 1 independent review to evaluate the health of the project from which corrective actions are recommended. Dollar Basis: Real 2022/23 dollars
Dashboarding	[redacted]	PMC-17	Our estimated capex for dashboarding is $[redacted]. This is based on a [redacted] proposal dated 7 August 2023, as referenced in the Indicative Costings Section. Note only [redacted] are needed over a 3-year period for the Humelink Project. Calculated as: [redacted] (Year 1) + [redacted] (Year 2) + $[redacted] (Year 3) = $[redacted] Setting up and reporting of project dashboards. This will allow easy diagnostics and provide project snapshots and productivity rates. Dollar Basis: Real 2022/23 dollars
Quantitative Risk Analysis	[redacted]	PMC-2	Our estimated capex for quantitative risk analysis services is $[redacted]. This is based on a [redacted] Fee Submission for Consulting Services dated 9 December 2022. This fee outlines Transgrid's preferred fee breakdown (Option 2) where QSRA and QCRA are undertaken together, with a total cost of [redacted]. The project team has for quarterly QSRA's/QCRA's, over a 3-year span. Calculated as: $[redacted] x 4 (QSRA & QCRA undertaken together) x 3 years = $[redacted] This is required to undertake a up to date analysis of the contingency remaining and support the ongoing contingency management. Dollar Basis: Real 2022/23 dollars
Risk software licence	[redacted]	PMC-13.1 & PMC-13.2	Our estimated capex for risk software licenses is [redacted]. This estimate is based off two separate invoices: • [redacted] Network Subscription amount by Palisade dated 27 March 2023 • $[redacted] Desktop Subscription amount by Palisade dated 27 April 2023 Note these invoices cover At Risk software over the life of the project. Calculated as: [redacted] (March invoice) + $[redacted] (April invoice) = $[redacted] Risk software is a diagnostic tool to allow the project team to undertake Monte Carlo risk simulations.

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			This allows the project team to determine risk exposure at any given point in time. Dollar Basis: Real 2022/23 dollars
Smart tracking tech licence - transmission lines & subs	[redacted]	PMC-1	Our estimated capex for the Pilot Transmission Lines and Substations portion of SMART Tracking technology usage is [redacted]. This is based on a [redacted] Fee Proposal submitted to TransGrid dated 23 February 2023 which can be found on page 18. SMART is a new technology that tracks the movement Humelink's workforce to assist with the implementation of site biosecurity controls, safety and project management/contract management. Dollar Basis: Real 2022/23 dollars
Earned Value Analysis	[redacted]	PMC-16	Our estimated capex for the Earned Value Analysis is $[redacted]. This is based on a [redacted] Fee Proposal submitted to Transgrid dated 26 July 2023. This is a proven project management tool to assess the overall progress of a project which tracks performance, cost, and time. This allows for early troubleshooting and path correction. Dollar Basis: Real 2022/23 dollars
Project Management Expenses			
Project Site Office Costs	[redacted]	PMC-18	Our estimated capex for Project Site Office Costs is [redacted] This cost is based on an estimate from [redacted] dated 16 August 2023, which has a breakdown of the Total Anticipated Costs Summary in Page 3. An A Grade office space is needed with a total capacity of 350 personnel over the life of the Humelink Project (3 years) as per the Employers Requirements. Dollar Basis: Real 2022/23 dollars
Team related costs	[redacted]	PMC-11.1 PMC-11.2 PMC-11.3	Our estimated capex for team related costs is [redacted]. This cost is based off invoices which are representative of a typical team building event, which is [redacted] ($2023) per event. The costs comprise of facilities and food/room hire costs. The Humelink team have allowed for 6 team building events over the life of the project. Calculated as: [redacted] (per event cost) x 6 events = [redacted] Dollar Basis: Real 2022/23 dollars
Board meeting - hire out room	[redacted]	PMC 14.1 PMC-14.2	Our estimated capex for Board room meeting costs is [redacted]. This estimate is based on prior

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
		PMC-14.3 PMC-14.4 PMC-14.5	activities indicative of a typical board meeting, which is [redacted]. The Humelink team expect 2 board meeting to occur throughout the life of the project Calculated as: [redacted] x 2 board meetings = [redacted] Dollar Basis: Real 2022/23 dollars
Helicopter Costs	[redacted]	PMC-10	Our estimated capex for helicopter costs relating to Humelink sites is $[redacted]. This cost relates to flyovers to site for executive scoping and project branding activities. This estimate is based off a [redacted] invoice dated 8 June 2023 for 1 flyover, which is $[redacted]. It is estimated that 6 flyovers would be required over the life of the project. Calculated as: $[redacted] (unit rate of a single flyover) x 6 flights = $[redacted] Dollar Basis: Real 2022/23 dollars
Major Project Program Initiatives			
Advisory	[redacted]	MPP-2-0 MPP-1.1	Our estimated capex for project governance advisory and assurance is [redacted]. This is based on internal costs estimates outlined in a business case. The total cost of project governance advisory and assurance external costs from Jul 23 to Dec 26 is [redacted] to be shared across all major projects. This amount can be referenced in the Summary table of the business case (FY24 [redacted], FY25 [redacted], FY26 [redacted], FY27 [redacted] representing half of the $1,500,000 annual cost). The Humelink project will share 18% or [redacted] of this total cost. Calculated as: Total cost [redacted] (FY24) + [redacted] (FY25) + [redacted] (FY26) + [redacted] (FY27) / 2 (Jul-Dec 26)] = [redacted] [redacted] (Advisory & Assurance Total Costs) * 18.3% (Humelink share of total cost) = [redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			Project governance advisory will reduce the risk the project objectives are not achieved and increase benefits realisation. Dollar basis: Nominal dollars
Governance Reviews	[redacted]	MPP-2-0 MPP-1.1	Our estimated capex for governance review costs is [redacted]. This is based on internal costs estimates outlined in a business case. The total cost of Governance reviews is [redacted] from Jul 23 to Dec 23 to be shared across all major projects. This amount can be referenced in the Summary table of the business case (FY24 [redacted], FY25 [redacted], FY26 [redacted], FY27 [redacted] representing 6 months of the [redacted] full year cost). The Humelink project will share 25% representing a cost of [redacted]. Calculated as: Total cost [redacted] (FY24) + [redacted] (FY25) + [redacted] (FY26) + [redacted] (FY27) / 2 (Jul-Dec 26)] = [redacted] [redacted] (Total cost of Governance reviews) * 25% = [redacted] Project Governance has the accountability to build and deploy the Project Management Framework for all Transgrid projects. The external costs will comprise change management, training and document development. Dollar basis: Nominal dollars
Internal audit fees	[redacted]	MPP-1.9	Our estimated capex for internal audit fees is $[redacted] based on a [redacted] invoice dated 7 November 2022 for [redacted] for a prior audit performed for the Humelink project. It is anticipated audits during the construction phase for FY24-FY26 will be [redacted]% larger with an annual audit fee of $[redacted] Calculated as: [redacted] (FY24 audit fee) + [redacted] (FY25 audit fee) + [redacted] (FY26 audit fee) = $[redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			Dollar basis: Real 2022/23 dollars
Total capex	18.61		

4.3. Project Design and Construction

Our Stage 2 forecast capex indirect capex for Project Design and Construction is $7.30 million, comprising:

- $2.37 million for Project Design
- $4.93 million for Construction.

4.3.1. Project Design

As Table 4-3 shows, our Stage 2 indirect forecast Design capex is $2.37M, including specialist software, design & rerouting services, Lidar studies and external consulting services.

Specialist software is required to review Contractor substation and transmission line earthing safety designs (CDEGS) and view contractor designs (PLS CADD).

Design and rerouting services are required to fast track easement registrations and landowner approval for priority locations requiring augmentation of Essential Energy's distribution network to re-route outside Humelink's easement. Lidar studies are required for route refinement.

External consulting services are required to develop a digital engineering framework and support earthing safety studies and bushfire risk assessments.

Table 4-3: Summary of indirect capex for Design ($M, Real June 2023)

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Design			
Software Licence & Maintenance	[redacted]	ENG 6.1 ENG 6.2	Our estimated capex for CDEGS ongoing maintenance is $[redacted]. The CDEGS license has already been purchased for $[redacted] based on the [redacted] quote dated 31 January 2023. The ongoing maintenance fee of this software is 22% of the $[redacted] purchase price p.a as reflected in the email from the [redacted] dated 31 January 2023. Calculated as: $[redacted] p.a (maintenance cost) x 3 years = $[redacted] CDEGS software is used for induction, earthing and safety analysis. Dollar Basis: Real 2022/23 dollars

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Training- CDEGS/PLS CADD 5 Engineers	[redacted]	ENG 11.1 ENG11.2 & ENG 11.3	Our estimated capex for CDEGS and PLS CADD training is $[redacted]. This estimate is based on emails from the following suppliers: [redacted] dated 5 July 2023 of $[redacted] per person ($3900 CAD$) for CDEGS training Dul Huntly Works dated 20 July 2023 for [redacted] pp for 2.5 days PLS CADD training Calculated as: ([redacted] + [redacted]) x 4 engineers = [redacted] Engineering team members shall be up to date with the skill sets for carrying out a good quality work on a complex project like Humelink. Dollar Basis: Real 2022/23 dollars
Fast-tracked L3 Designs for DNSP line augmentations (non-hurdle sites) to resolve property, access, and easement negotiations	[redacted]	ENG 4	Our estimated capex for Fast Tracked L3 DNSP Line Augmentation Designs is $[redacted] This is estimate is based on a price breakdown proposal by [redacted] dated 21 July 2023. Priority locations require augmentation of Essential Energy's distribution network to reroute outside Humelink's easement. Design and rerouting services are required to fast track easement registrations and landowner approval. Fast tracking is required to enable achievement of the mandated Humelink project completion dates. Dollar Basis: Real 2022/23 dollars
Engineers Australia Membership - Registration	[redacted]	ENG 10	Our estimated capex for Engineers Australia Registration fees is [redacted]. This is estimate is based on a quote from Engineers Australia for 4 engineers to be registered from 11 July 2023. Calculated as: [redacted] x 4 engineers = [redacted] For the project governance, certain documents are required to be signed off by an Engineer who is either a Chartered Engineer or a Fellow. Registration with Engineers Australia is the first step in meeting this goal. Dollar Basis: Real 2022/23 dollars
Engineers Australia Membership Annual Fees	[redacted]	ENG 10	Our estimated capex for Engineers Australia Registration fees is [redacted]. This is estimate is based on a quote from Engineers Australia for 6 engineers to undergo the program for 2 years. Dated 11 July 2023. Calculated as: [redacted] p.a x 6 engineers x 2 years = [redacted] Annual Membership fees are required to be paid to maintain the registration and professional accreditation with Engineers Australia. Dollar Basis: Real 2022/23 dollars
			Engineering

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Digital Engineering	[redacted]	ENG 9	Our estimated capex for Digital Engineering is $[redacted] This is based on a quote from [redacted] dated 13 April 2023, which is $[redacted] in 5 of the Fees and Payments section. Calculated as: $[redacted] (Total cost) / 2 = $[redacted] This cost is shared between major projects and Humelink is funding 50% of the cost. This cost is to enable business improvement within Transgrid which comprises of enabling capability, improved project controls and supporting management of Digital Engineering project deliverables. This will help to mitigate project risk and support more reliable project outcomes on the Humelink project. Dollar Basis: Real 2022/23 dollars
Specialist Studies – Earthing /Transmission Line	[redacted]	ENG 2	Our estimated capex for Specialist Studies is [redacted]. This is based on a fee quotation from [redacted] dated 22 May 2023, which is in the Budgetary Costing section of the quote (Table 2). Induction and earthing safety during construction shall be studied to assess the risks and engineer a risk mitigation. These specialist studies assist Humelink in taking necessary mitigation measures in advance of construction program where possible. Dollar Basis: Real 2022/23 dollars
Bushfire risk assessment	[redacted]	ENG 8	Our estimated capex for Bushfire Risk Assessment Studies is [redacted]. This is based on a variation request submitted by [redacted] dated 10 May 2023. WSP has been engaged to perform the testing on surge arrestors to ensure they are not a bushfire risk. The cost has increased as the original scope was to develop the testing specification only. Now [redacted] will also perform the test also. Dollar Basis: Real 2022/23 dollars
LIDAR - Greenhills	[redacted]	ENG 3	Our estimated capex for LiDAR in the Greenhills area is $[redacted]. This is based on a fee quotation from [redacted] dated 30 March 2023 Section 1 Pricing & Intellectual Property page . This cost is to support the community lead Greenhills route refinement. LIDAR provides high levels of topography, vegetation and infrastructure mapping required to enable the design, planning and development of this refinement. Dollar Basis: Real 2022/23 dollars
Total capex	2.37		

4.3.2. Construction

As Table 4-4 shows, our Stage 2 indirect Construction costs are $4.93M, which relate to costs incurred during the preliminary and main construction project phases.

The Project is being constructed in remote alpine areas with no mobile phone or internet reception via the Telstra infrastructure. Satellite communication facilities, such as Starlink and long-range two-way radios, will therefore be required. The terrain will also require the use of special purpose vehicles before access tracks are built.

An investment in drone stringing technology is required to capture data over long distances. Analysis of this data will continually improve construction processes and provide evidence for commercial dispute resolution purposes.

Each substation will require operational equipment when staff are on site post completion of the project.

Councils have requested Transgrid to fund the remediation of the roads heavily used during construction.

Third party fees and licences will be incurred to enable access and construction over the Australian Rail Track and the Country Rail networks.

Table 4-4: Summary of indirect capex for Construction ($M, Real June 2023)

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Construction			
Communications Equipment - [redacted]	[redacted]	DIC-4	Our estimated capex for communications equipment is [redacted] This estimate is based on a [redacted] invoice dated 26 February 2023. 6 units of communication equipment is required, and each consists of x1 [redacted] kit and x1 travel case. Calculated as: [$[redacted] ([redacted] Kit) + $[redacted] ([redacted] Travel Case) x 6 units = [redacted] This expenditure is required to buy hardware and obtain reliable, mobile internet services throughout the project location some of which are in areas with no mobile reception. Dollar Basis: Real 2022/23 dollars
Communications Subscriptions - [redacted]	[redacted]	DIC-4	Our estimated capex for communications subscriptions is [redacted]. This estimate is based on a [redacted] invoice dated 26 February 2023 which shows the monthly subscription rate for communications subscription. This is needed for 6 communications units over a 24-month span. Calculated as: $[redacted] x 24 months x 6 units = $22,778 This expenditure is to pay for subscription of communications hardware.

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			Dollar Basis: Real 2022/23 dollars
Communications Equipment – [redacted] handheld GPS	[redacted]	DIC-5	Our estimated capex for communications equipment is [redacted]. This estimate is based on a [redacted] invoice dated 23 January 2023. 6 units of communication equipment is required. Calculated as: [redacted] x 6 units = [redacted] This expenditure is to buy hardware and is required for effective communication between work sites in areas where no mobile reception is available. Dollar Basis: Real 2022/23 dollars
Communications Subscriptions – [redacted] handheld GPS	[redacted]	DIC-6	Our estimated capex for communications subscriptions is [redacted]. This estimate is based on a [redacted] invoice dated 5 May 2023 which shows the monthly subscription rate for communications subscription. This is needed for 6 communications units over a 24-month span. Calculated as: [redacted] x 24 months x 6 units = [redacted] This expenditure is required for effective communication between work sites in areas where no mobile reception is available. Dollar Basis: Real 2022/23 dollars
Fleet	[redacted]	DIC-1	Our estimated capex for fleet vehicles is [redacted]. This estimate is based on an [redacted] ice dated 15 June 2023 for a 4x4 vehicle that is a suitable vehicle specification for Humelink construction site access, costing [redacted] per vehicle. 6 modified fleet vehicles will be needed over the life of the project. Calculated as: [redacted] per vehicle rate x 6 units = [redacted] These special purpose vehicles are required to safely access construction area terrain. Dollar Basis: Real 2022/23 dollars
Consumable Equipment (office supplies and IT)	[redacted]	DIC-15.1 & DIC-15.2	Our estimated capex for consumable equipment is [redacted]. This estimate is based on Transgrid's IT hardware pricings that considers replacement of x1 laptop and x1 iPhone for each internal construction staff, once. Calculated as: [redacted] (unit cost iPhone) + ([redacted] x18) (monthly iPhone cost) + [redacted] (unit cost laptop)] x 50 staff = [redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			This expenditure is required for replacement of IT equipment for the Transgrid staff on the project over the life of the project. Dollar Basis: Real 2022/23 dollars
Substation Equipment	[redacted]	DIC 3	Our estimated capex for substation equipment is [redacted]. The cost estimate is built up from the equipment items required at substation sites after commissioning and their respective prices from Transgrid's warehouse catalogue. Substation operational equipment is needed across the Gugaa 500kV, Gugaa 300kV, Maragle 500kV, Bannaby 500kV and Wagga 330kV substations. Calculated as: Gugaa 500kV Equipment = [redacted] Gugaa 330kV Equipment = [redacted] Maragle 500kV Equipment = [redacted] Bannaby 500kV Equipment = [redacted] Wagga 330kV Equipment = [redacted] Total Cost: [redacted] This expenditure is required to place operational equipment at each substation for use by operational staff when on site post completion of the project. Dollar Basis: Real 2022/23 dollars
Drone Stringing Technology Investment	[redacted]	DIC-12	Our estimated capex for substation equipment is $[redacted], which can be found in the Commercial Estimates section of the artefact. This estimate is based on an [redacted] Proposal dated 18 July 2023. This expenditure is to capture and analyse construction data to support and improve the construction process. Dollar Basis: Real 2022/23 dollars
Heavy Haulage Road remediation and upkeep	[redacted]	DIC-13	Our estimated capex for heavy haulage and road remediation upkeep is [redacted]. This estimate is based on a Snowy Valleys Council Agreement correspondence letter dated 14 August 2023 which states that the total cost of heavy haulage and road remediation upkeep is [redacted] This cost is evenly split between two Transgrid projects (Snowy Hydro 2.0 and Humelink). This cost is for the remediation and upkeep of Elliot Way as this road will be used heavily by the project. Dollar Basis: Nominal dollars

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Third Party costs			
Third Party – Australian Rail Track ARTC Licence (New Infrastructure Within the Railway Corridor) Establishment and Annualised Fee over 20 years	[redacted]	DIC-9	Our estimated capex for Third Party ARTC license is [redacted], This estimate is based on a previous Kanandah license agreement between the Australian Rail Track Corporation and the Electricity Transmission Ministerial Holding Corporation. This is the most recent example of an agreement between Transgrid and ARTC. Applicable rates from this agreement are referenced from the "Schedule" on page 19: • Item 6 [redacted] annual license fee, and • Item 7 [redacted] establishment fee. • • Annual fees are applicable from FY24 to FY26. Calculated as: [redacted] (establishment fee) + [redacted] x 3 years] (annual license fee) = [redacted] This expenditure is to enable access and construction of the Humelink transmission line over the ARTC network. Dollar Basis: Real 2017/18 dollars
Third Party – [redacted] Regional Linx ([redacted]) - minor activities fees; and construction application/licence; and master access deed fees	[redacted]	DIC-10.1 & DIC-10.2	Our estimated capex for Third Party [redacted] fees is [redacted]. This estimate is based on two separate documents which represent indicative costs for this activity: - [redacted] Meeting Minutes dated 21 February 2023 (Indicative AIP and Minor Activities costs), refer to costings in page 3 of meeting minutes. - Master Access Deed dated 2 September 2019 (Application fees, subject to 5% annual increase), refer to costings in Schedule 8 Section A. Calculated as: [redacted] (AIP Costs) + [redacted] (Minor Activity Costs) + {$[redacted] + $[redacted] + $[redacted] x1.05 + $[redacted] x1.05x1.05} (Application Fees) = $[redacted] This expenditure is to enable access and construction of the Humelink transmission line over the Country Rail Network which is managed by [redacted] Dollar Basis: Real 2022/23 dollars
Third Party - Essential Energy - Electricity Works / Options Deed	[redacted]	DIC-19.1 DIC-19.2	Our estimated capex for Third Party – Essential Energy Electricity Works/Options Deed is [redacted] This estimate is based on two separate artefacts:

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			• Electricity Works Deed (provided by Essential Energy) which stipulates a security guarantee value of [redacted] as per Cl 3.2(1)(b) • Corrs schedule of rates that includes labour costs for lawyer (2hr) and counsel (4hrs) per easement submission, dated 16 May 2023. The Humelink team anticipate that 106 Essential Energy submissions will need to be undertaken for Essential Energy crossings. Calculation for Legal Cost per Essential Energy Submission: $[redacted] x 6.87hrs (labour estimate for Associate lawyer) = $[redacted] Calculated as: $[redacted] x 106 EE Crossings + [redacted] (Security Guarantee as per Electricity Works Deed) = $[redacted] This expenditure is to enable Essential Energy' to be augmented and passed over for access and construction of the Humelink 500kV transmission line. Dollar Basis: Real 2022/23 dollars
Third Party - Essential Energy - Joint Easement Terms	[redacted]	DIC-20	Our estimated capex for Third Party – Essential Energy Electricity Joint Easement Terms is [redacted]. This is based on a Corrs Fee Forecast and schedule of rates needed for relevant legal services, dated 16 May 2023. Calculated as: [redacted] (labour estimate for counsel) + (labour estimate for lawyer) = [redacted] Dollar Basis: [Real $2023 dollars] This legal services expenditure is to enable joint access for both Essential Energy and Transgrid on shared easements. Dollar Basis: Real 2022/23 dollars
Third Party - TfNSW - ROLs, WADs, MAD; and security fee and bond for WAD	[redacted]	DIC-20	Our estimated capex for Third Party – Essential Energy Electricity Joint Easement Terms is [redacted]. This is based on a Corrs Fee Forecast and schedule of rates needed for relevant legal services, dated 16 May 2023. Cost per WAD: [redacted] x7hrs (labour estimate for counsel) + x2hr (labour estimate for lawyer) = [redacted] Calculated as: [redacted] x 3 WAD's = [redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			This legal services expenditure is to enable access and construction of the Humelink transmission line over major roadways owned by TfNSW. Dollar Basis: Real 2022/23 dollars
Total capex	4.93		

4.4. Community & Stakeholder Engagement

Our Stage 2 indirect capex of $15.62 million includes consulting costs for community engagement, community giving, and media and communications.

This will be guided by our Humelink Engagement Strategy and the Community and Stakeholder Engagement Plan, including Indigenous engagement and social impact engagements and initiatives.

Consistent and ongoing community engagement is needed to ensure the Project has an appropriate social licence, including managing media and communications and leading the community strategy and activities.

Table 4-5: Summary of indirect capex for Community & Stakeholder Engagement ($M, Real June 2023)

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Community Engagement			
[redacted] – Community Consultative Group Chair and Secretariat services (July 2024 - Dec 2026)	[redacted]	CSE-3	Our estimated capex for the Community Consultative Group Chair and Secretariat services is [redacted]. This is based on the final row of the table in the [redacted] Proposal submitted to Transgrid dated 1 June 2023 to provide these services for 26 meetings. The Stowe Report recommended forming Community Consultative Groups for the Humelink project. These Community Consultative Groups have been in place since 2021 and represent a vital communication and engagement channel for the project. Dollar Basis: Real 2022/23 dollars
Community Consultative Group Room Hire	0.00	CSE-4	Our estimated capex for the Community Consultative Group room hire is [redacted]. This is based on a previous quote by [redacted] dated 28 February 2023. The total cost is based on conducting 26 Community Consultative Group meetings. Calculated as: [redacted] per meeting x 26 meetings = [redacted] This enables Community Consultative Group meetings to be held in neutral venues that are

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			publicly accessible and located within the project footprint. Dollar Basis: Real 2022/23 dollars
Community Consultative Group Catering	[redacted]	CSE-5	Our estimated capex for the Community Consultative Group catering is [redacted]. This is based on a previous quote by [redacted] dated 10 February 2023. The total cost is based on conducting 26 Community Consultative Group meetings. Calculated as: $[redacted]/meeting x 26 meetings = $[redacted] Catering required as appropriate gesture for contribution of the participants. Dollar Basis: Real 2022/23 dollars
Aboriginal Engagement, on country recognition of culturally significant milestones	[redacted]	CSE-20	Our estimated capex for Aboriginal Engagement on country is $[redacted]. This is based on a tax invoice by [redacted] dated 13 April 2023 with costings for a Reconciliation Action Plan launch event which is representative of the per unit costs of this engagement of $[redacted]. We plan to recognise x5 on-country milestones. Calculated as: $[redacted] x 5 on-country milestones = $[redacted] Engagement with Aboriginal stakeholders in recognising culturally significant milestones reduces project opposition and risk. This will include on country recognition of NAIDOC, National Sorry Day and National Reconciliation Week with the communities the Humelink project is impacting. Dollar Basis: Real 2022/23 dollars
Familiarisation opportunities	0.31	CSE-21.1 & CSE-21.2 & CSE-21.3 & CSE-21.4	Our estimated capex for familiarisation opportunities is $314,823. This is based on multiple invoices which represent the cost of $31,482 for a typical familiarisation experience. We plan to hold 10 experiences (x2 in each impacted government area). Calculated as: $31,482 per experience x 10 experiences = $314,823 Providing opportunities to increase familiarity with the community and stakeholders works to reduce the risk of concern, outrage and opposition. Dollar Basis: Real 2022/23 dollars

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Community information stand and outreach - Tumbafest	[redacted]	CSE-22	Our estimated capex for community information stand and outreach – Tumbafest is [redacted]. This estimate is based on a previous tax invoice from Tumbafest Committee dated 2 March 2022. The cost of each information stand is [redacted] and we plan to participate in x3 community information sessions. Calculated as: [redacted] x 3 events = [redacted] Community information outreach is part of the long-term approach to build familiarity and reduce outrage, risk and opposition. Dollar Basis: Real 2022/23 dollars
Community Investments			
Social License/Social Impact Evaluation	[redacted]	CSE-6	Our estimated capex for the Workshop Support services for social license concerns is [redacted] This is based on an invoice by [redacted] dated 24 April 2023. This cost is a workshop to ensure we are complying with our social license framework and we close any capability gaps. Dollar Basis: Real 2022/23 dollars
Connectivity Community Participation Program Grants	0.50	CSE-1	Our estimated capex for the Community Participation Program for social license is $500,000. This is based on CPP grants forecast of $200,000 p.a. This program cost is also benchmarked from a similar Essential Energy regional program, which costs $250,000 per year. Calculated as: [$200,000 p.a x 2.5 years = $500,000] The Community Participation Program Grant scheme provides an opportunity for local small grants to be provided to community organisations as recommended by AEIC Commissioner Dyer. Dollar Basis: Real 2022/23 dollars
Connectivity Community Giving - ad hoc requests	0.48	CSE-14.1 CSE-14.2	Our estimated capex for the Community Giving – Ad Hoc requests is $480,000. This is based on a Humelink Sponsorship Funding Briefing Note which outlines proposed budget for Ad Hoc requests for CPA2. The cost of the program is $120,000 p.a. for 4 years. Calculated as:

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			$120,000 p.a. * 4 years = $480,000 This cost is benchmarked against a similar program run by AGL with an annual cost of $108,024 p.a. as shown on AGL's website. Community Giving responds to ad-hoc requests from the community for support, contributes to improved social license and reduce risk of community opposition. Dollar Basis: Real 2022/23 dollars
Connectivity Regional Telecommunications for 8 sites	9.67	CSE-11	Our estimated capex for the Connectivity Regional Telecommunication of 8 sites is $9,671,500. This is based on a [redacted] Briefing Note dated 28 April 2023. This briefing note consists of two necessary cost portions: • Development, site set-up and preliminary deployment of the Cell on Wheels Solution, which is [redacted], which can be found in the table under 'Temporary Solution – Class 3 Estimate' on page 9 • Moving to the permanent deployment of the HV Solution, which is $[redacted], which can be found in the table under 'Permanent Solution – Class 3 Estimate' on page 9 Calculated as: [redacted](Cost for preliminary/temporary telecommunications solution) + [redacted]0 (Cost for permanent telecommunications solution = [redacted] This cost is for the deployment of telecommunications infrastructure to improve connectivity in hard-to-reach regions. This initiative is to demonstrate Transgrid's commitment to social licensing. Dollar Basis: Real 2022/23 dollars
Connectivity Mental Health and Community Resilience Training	[redacted]	CSE-8.1 & CSE-8.2	Our estimated capex for the Mental Health and Community Resilience Training for [redacted] This is based on a quote by [redacted] dated 8 June 2023. Calculated as: [redacted] (second tab) + $[redacted] (third tab) = $[redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			To contribute to improving regional mental health services in areas impacted and associated with development of electrical infrastructure Dollar Basis: Real 2022/23 dollars
Opportunity for all Sponsorship of local business awards and events	0.06	CSE-10.1 CSE-10.2	Our estimated capex for the Sponsorship of Local business awards and events is $60,000. This is based on a sponsorship invitation by Business NSW dated 5 April 2023 TransGrid will be involved as a Regional Category Sponsor. Calculated as: [$5,000/event x 12 events = $60,000] This investment supports the growth of local suppliers for current and future energy projects. Dollar Basis: Real 2022/23 dollars
Opportunity for all Membership of local chambers of commerce etc	0.03	CSE-9.1 CSE-9.2	Our estimated capex for the membership of local chambers of commerce etc is $30,000. This is based on a sponsorship invitation by Business NSW dated 5 April 2023. TransGrid will be involved as a Gold Category Sponsor, which can be found in the 'Membership Packages' table. Calculated as: [$10,000/event x 1 event per year x 3 years = $30,000] This investment supports the growth of local suppliers for current and future energy projects. Dollar Basis: Real 2022/23 dollars
Opportunity for all Strategic Workforce Development Partnership	0.45	CSE-12	Our estimated capex for the "Opportunity for all" Strategic Workforce Development Partnership is $446,813. This assumption is based on Payment 2 and Payment 3 from Section A.4 of the Regional Development Australia proposal dated 25 October 2022. The total costs of the community investment are to be split with the Project Energy Connect project 50-50. It also takes into consideration the CPA2 portion of the funding (Payments for 2023-2024 and 2024-2025). The program will deliver: • Access to a website for employees and network of training providers • Content for promotional collateral • Access to career pathways into Humelink/Transgrid via TAFE Calculated as:

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			($482,900 + $410,725) (Payment 2 and 3 from RDA proposal) / 2 (project split 50-50) = $446,813 A multifaceted approach to assist in tackling the growing workforce skill shortages. Dollar Basis: Real 2022/23 dollars
Accessible Accommodation Cost of repurposing workers accommodation	[redacted]	CSE-16	Our estimated capex for the cost of repurposing workers accommodation is [redacted]. This estimate is based on a [redacted] quote dated 11 July 2023. The single unit cost for a prefabricated home costed at $[redacted]. It is estimated that 8 prefabricated homes will be needed over the life of the project. Calculated as: $[redacted] x 8 cabins = [redacted] This program repurposes temporary workforce accommodation buildings at the end of the HL lifecycle for community benefit. Dollar Basis: Real 2022/23 dollars
Care for Country- On-country Cultural Awareness Training	[redacted]	CSE-17	Our estimated capex for the cost of cultural awareness training is $[redacted] This estimate is based on a website quote from [redacted] dated 11 July 2023. The corporate cultural awareness program is costed at a [redacted] rate per FTE. It is estimated that 100 internal FTE's will undergo this training throughout the life of the project. Calculated as: $[redacted] per course * 100 FTE = $[redacted] On-country cultural awareness training ensures the project team have the appropriate skills to engage with the communities the Humelink project is impacting. Reducing risk of project opposition. Dollar Basis: Real 2022/23 dollars
Care for Country - Tree Planting	[redacted]	CSE-13.1 CSE-13.2	Our estimated capex for the cost of tree planting is [redacted]. The per-program rate is based on a previous biodiversity tree planting program by [redacted] dated 23 May 2023, which is [redacted] per program (refer to the Budget section on page 13). The Humelink CSE team anticipate that two programs similar to the works undertaken by [redacted] will be required across each of the 7 LGA's identified in the projects Social Impact Statement. An Internal Briefing Note has been

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			prepared to support the initiative and proposed cost. Calculated as: 2 programs per LGA x 7 LGAs x [redacted]/program = [redacted] This cost is to replace habitat that is removed as part of the project but not captured by the Biodiversity Offset Scheme. Dollar Basis: Real 2022/23 dollars
Other Costs			
CSE Engagement – Distribution Costs	1.51	CSE-23.1 CSE-23.2 CSE-23.3 CSE-23.4 CSE-23.5 CSE-23.6 CSE-23.7 CSE-23.8 CSE-23.9 CSE-23.10 CSE-23.11 CSE-23.12 CSE-23.13 CSE-23.14	Our estimated capex for the cost of CSE Engagement – Distribution Costs is $1,525,031. The estimate is based on a CSE Engagement Plan 2024-2026, which provides the activity rate and frequency across the life of the project which is 2.5 years. The engagement activities (below) include activity rates which are representative of previous supplier invoices. - Quarterly Video Production (10 engagements): [redacted] ([redacted] Invoice) Calculated as [redacted] x 4p.a x 2.5 years = [redacted] - Monthly Photography (30 engagements): [redacted] ([redacted] Invoice) Calculated as $2,407.32 x 12p.a x 2.5 years = [redacted] - Quarterly CPP Grants (10 engagements): [redacted] ([redacted]) Calculated as [redacted] x 4p.a x 2.5 years = [redacted] - Monthly Project Newsletter (30 engagements): [redacted] Calculated as [redacted] x 12p.a x 2.5 years = [redacted] - Project notification (22 engagements as required): [redacted] Calculated as [redacted] x 22 engagements = [redacted] - Quarterly Community Information Sessions (10 engagements): [redacted]) Calculated as [redacted] x 4p.a x 2.5 years = [redacted] - Project fact sheets (10 engagements as required): [redacted] ([redacted] Calculated as [redacted] x 10 engagements = [redacted] - Advertising (22 engagements as required): [redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			[redacted]) Calculated as [redacted] x 22 engagements = [redacted] Calculated as: [redacted] x 10) + [redacted] x 30) + ([redacted] x 10) + [redacted] x 30) + [redacted] x 22) + [redacted] x 10) + [redacted] x 10) + [redacted] x 22) = [redacted] Ensures project meetings NSW Department of Planning requirements to keep the impacted community informed of the project development. Dollar Basis: Real 2022/23 dollars
Maintenance, registration, insurance on-costs	0.02	CSE-24	Our estimated capex for the ongoing vehicle costs is $20,528. This estimate is based on a Transport for NSW registration invoice dated 15 May 2023. We expect to incur this cost for 16 vehicles. Calculated as: $1,283 x 16 = $20,528 Dollar Basis: Real 2022/23 dollars
Consultation Manager - Annual license fee	[redacted]	CSE-19	Our estimated capex for the cost of consultation manager – annual license fee is [redacted]. This estimate is based on an invoice from [redacted] dated 21 Nov 2022. Dollar Basis: Real 2021/22 dollars
CSE Training	[redacted]	CSE-15 & CSE-15.1	Our estimated capex for the cost of CSE Training is [redacted]. The base rate for this is from a [redacted] pricing schedule for engagement training dated 26 November 2017. The CSE team anticipate 10 FTE's to undergo this training throughout the life of the project. Calculated as: [redacted] $AUD ([redacted] $NZD) x 10 FTE's = [redacted] Training to ensure team members are adequately and appropriately skilled, to reduce project risk. Dollar Basis: Real 2017/18 dollars
Total Capex	15.62		

4.5. Corporate Support

Our Stage 2 forecast capex indirect capex for Corporate Support is $123.40 million, comprising:

- $1.41 million for HSE Management

- $10.82 million for Environmental Approvals
- [redacted] million for Insurance
- [redacted] million for Legal.

4.5.1.1. Health Safety and Environmental Management

As Table 4-6 shows, our Stage 2 indirect forecast HSE management indirect capex is $1.41 million to engage specialist environmental consultants to assist with contamination and Incident Cause Analysis Method (ICAM) investigations, contractor consistency assessment report reviews and IS Rating sustainability report reviews.

Contamination investigations will be required where significant contamination finds are encountered during construction outside known contaminated areas identified in the Environmental Impact Statement. A contamination investigation would involve sampling in accordance with NSW and Federal requirements and preparing an investigation report detailing findings, recommendations and implementation plans.

Should a significant incident occur during construction, an ICAM investigation will be performed requiring an independent assessment of the East and West Principal Contractors' actions, culminating in a report detailing recommended prevention actions.

Consistency assessments review all planning requirements and environmental aspects to determine whether a project modification can be conducted within existing environmental approvals, or whether a project Environmental Impact Statement Modification Report is required, to be approved by the NSW Department of Planning and Environment. These reviews are required before the principal (East and West) contractor works can proceed.

Infrastructure Sustainability (IS) Rating Reviews improve the sustainability performance of the Project by assessing the adequacy of East and West Principal Contractor IS project ratings. These reviews assess the acceptability of contractor IS Rating sustainability reports to ensure project IS Ratings are achieved.

To meet HSE requirements, allowance has been made for procuring PPE clothing and equipment and special purpose vehicles.

To sustain and improve project HSE performance, joint conferences and other activities with East and West principal contractors will be held to set HSE standards and promote initiatives to improve performance. These conferences will be conducted throughout construction at key intervals or in response to certain events.

The Humelink project team will be required to obtain key HSE competencies and licences to ensure all project HSE requirements are being met.

Table 4-6: Summary of indirect capex for Health, Safety and Environmental Management ($M, Real June 2023)

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Consultant investigations			
Contamination investigations (accounted for	[redacted]	HSE-1	Our estimated capex for Contamination investigations is [redacted] This is based on previous proposal for similar scope from [redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
3 potential investigations)			for [redacted] per investigation dated June 2, 2021. We have assumed that 3 investigations for this project. Calculated as: 3 investigations x [redacted] per investigation = [redacted] Contamination investigations required to meet environmental legal requirements and obligations for unexpected contaminated sites. Dollar Basis: Real 2020/22 dollars
Independent Incident Investigation (ICAM) for significant incidents	[redacted]	HSE-2.1 HSE 2.2 HSE 2.3	Our estimated capex for ICAM investigations is [redacted]. This is based on the estimated cost of 1 investigation of $[redacted] comprising: • [redacted] contractors rates based on Transgrid Panel Agreements with [redacted] • 4WD hire – rate based on AVIS website • Fuel – rates based on internal estimates We have assumed that 3 investigations for this project. Calculated as: 3 investigations x [redacted] per investigation = [redacted] Independent ICAM investigations required for potential significant project incidents. Dollar Basis: Real 2022/23 dollars
"Assistance with Consistency Assessments and any planning approval changes (for x2 contractors)"	[redacted]	HSE-3.1 HSE-3.2 HSE-3.3	Our estimated capex for Consistency Assessments is [redacted]. This is based on the estimated cost of: • [redacted] contractors ([redacted] – rates based on Transgrid Panel Agreements with [redacted] • 4WD hire ([redacted]) – rate based on AVIS website • Fuel ([redacted]) – rates based on internal estimates Consistency assessments are required to determine if project modifications are within the existing project conditions of approval. Dollar Basis: Real 2022/23 dollars
Assistance with reviewing Principal Contractor	[redacted]	HSE-4	Our estimated capex for Contamination investigations is [redacted]. It is assumed that we require a Sustainability Consultant for 3 months to review Principal Contractor Sustainability

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Sustainability Plans and IS Rating documentation (x 2 PC contractors)			Plans and IS Rating Documentation for both contractors ([redacted] & [redacted] Rates: • [redacted] specialist- [redacted]/month - Schedule 8.6 Calculated as: 3 months x $[redacted]/month = [redacted] Dollar Basis: Real 2022/23 dollars
PPE			
HSE PPE Equipment + Hire Car Equipment (recovery, HSE, Environment etc) for Hire Car to meet Transgrid requirements	[redacted]	HSE-5.01 HSE-5.02 HSE-5.03 HSE-5.04 HSE-5.05 HSE-5.06 HSE-5.07 HSE-5.08 HSE-5.09 HSE-5.10 HSE-5.11 HSE-5.12	Our estimated capex for PPE and Hire Car Equipment is [redacted]. This is based on the estimated cost of 1 set costing [redacted] comprising: • Spill kit • 1st Aid kit • Snake bite kit • Portable UHF radio and phone holder • Biosecurity and firefighting kit • 4WD recover boards • Jack Base • Torch • Personal Locator Beacon • Various PPE clothing It is assumed that 50 sets of this equipment are required for CPA 2. Calculated as: 50 sets x [redacted] per set = [redacted] It is a mandatory Transgrid requirement for site vehicles to have a full complement of safety (i.e. recovery gear, 1st aid kits, fire extinguishers etc) and environmental (i.e. biosecurity kits, washdown gear) equipment for access to landholder properties and sites. Dollar Basis: Real 2022/23 dollars
Management			
HSE Initiatives (safety launch, joint initiatives, videos or movies)	[redacted]	HSE-6.1 HSE-6.2 HSE-6.3	Our estimated capex for HSE Initiatives is [redacted] This is based on actual costs previously incurred for similar events. Our expected cost per event is [redacted]. We expect to hold 8 events during the project. Calculated as: [redacted] per event x 8 events = [redacted] These events will sustain and improve the HSE performance of the Humelink project which will consist of project wide “Town Hall” type meetings, conferences and other initiatives

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			involving Transgrid staff and the engaged East and West principal contractors. Dollar Basis: Real 2022/23 dollars
Training			
Specialist training	[redacted]	HSE-7.1 HSE-7.2 HSE-7.3 HSE-7.4 HSE-7.5 HSE-7.6 HSE-7.7	Our estimated capex for Specialist Training Courses is [redacted]. This is based on multiple quotes from various providers that include: • 4WD training • ICAM Lead Investigation training • Working from Heights training • Confined Spaces training • First Aid Training (calculated annually) • IS Rating Training Required training on: • 4WD training – Mandatory training to access unsealed roads • ICAM – Incident investigations must be led by trained persons • Confined spaces/working from heights – training required to undertake assessments • First Aid – mandatory training for Transgrid staff • IS rating – training required to assess contractor ratings Dollar Basis: Real 2022/23 dollars
Total capex	1.41		

4.5.1.2. Environmental Approvals

As Table 4-7 shows, our Stage 2 indirect capex for Environmental Approvals is $10.82 million, relating to finalising the Environmental Impact Statement (EIS) for public exhibition from 30 August 2023. This includes the assessment fee calculated by the Department of Planning and Environment as a proportion of the Project's capital investment value.

External consulting costs will be incurred [redacted] to prepare the Response to Submissions and Amendment reports due to be lodged with the Department of Planning and Environment in April 2024. The Submissions report will be based on the submissions received during the EIS public exhibition. Additional costs will be incurred responding to requests for information from the Department of Planning and Environment and Department of Climate Change, Energy, the Environment and Water during their assessment of the EIS, Submissions Report and Amendment Report. The Amendment Report will capture the design refinements and changes to the proposed construction methodology arising as the EIS is finalised and will assess the following changes:

- selection of the Green Hills alignment west of Batlow

- identification of new construction compounds and accommodation facilities, additional access tracks to be used during the construction and operational phase.

Table 4-7: Summary of indirect capex for Environmental Approvals ($M, Real June 2023)

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Response to Submissions and Amendment report	[redacted]	ENV(A) 2	Our estimated capex for the Response to Submissions and Amendment report is [redacted] based on a fee proposal from [redacted] The Response to Submissions and Amendment Report is a regulatory requirement under the EP&A Act and involves assessment and reporting activities by [redacted] Dollar Basis: Real 2022/23 dollars
EIS Fees	[redacted]	ENV(A) 4	Our total estimated capex for EIS fees is $[redacted] based on a NSW Department of Planning and Environment fee calculator of [redacted] less the funding approved for this activity in the Humelink Stage 1 CPA of [redacted] The EIS fee is based on the Projects Capital Investment Value. As the Capital Investment value for this project has increased the EIS fee has also increased. Calculated as: $[redacted] (Total EIS fee based on revised project cost) - [redacted] (CPA 1 EIS funding approval) = [redacted] It is a regulatory requirement under the Environmental Planning and Assessment Regulation 2021 (NSW) (s. 256F) to pay an EIS application fee to the NSW Department of Planning and Environment on lodgement of the Environmental Impact Statement. Dollar Basis: Real 2022/23 dollars
Total capex	10.82		

4.5.1.3. Insurance

Forecast capex of [redacted] for insurance during construction is based on an estimate provided by [redacted] for premium costs incremental to our current operational insurance.

The provision of additional insurance coverage covers construction risk activities up to commissioning. It has been scoped as Principal Arranged Insurance,[3] which includes:

[3] Principal Arranged Insurance refers to an insurance arrangement where the policy is held by the Principal (property owner or developer) rather than the contracted parted responsible for construction.

- construction all risks insurance
- construction (third party liability) insurance
- marine cargo insurance
- professional indemnity insurance
- contractors pollution liability insurance.

This insurance forecast does not include the impact on Transgrid's operational premiums as a result of the commissioning of this Project. These costs are incorporated into the opex forecast (as detailed in the Opex Forecasting Methodology).

Table 4-8: Insurance summary ($M, Real June 2023)

Cost	Description
Cost Category	Insurance
Nature of Costs	Costs include: • Construction all risks insurance – insurance coverage for material damage. This includes all coverage in respect to risk or physical loss, destruction or damage to the Insured Property occurring within the construction period; • Construction (third party liability) insurance – this provides cover for our legal liability (including bushfire liability) for Third Party property damage and bodily injury during the construction period; and • Marine cargo insurance – insurance coverage for international shipment, providing coverage for loss or damage to goods insured while in transit anywhere in the world. • Professional indemnity insurance • Contractors' pollution liability insurance
Forecast Capex	Our estimated capex insurance is [redacted] consisting of: • [redacted] for Professional Indemnity • [redacted] for Marine Cargo • [redacted] for Marine Cargo – Extended Storage • [redacted] for Contractors Pollution Liability. • [redacted] for Construction All Risks • [redacted] for Construction TPL - Primary • [redacted] for Construction TPL – Excess Dollar Basis: Real 2022/23 dollars
Assumptions	• Premiums are for a Principal Arranged Agreement to be held by Transgrid • All rates above are non-recurring incremental insurance costs covering the period from construction to commissioning, additional coverage will be required to insure operational assets post commissioning • All estimates relating to operational insurance have been excluded from this report • Premium costings have been determined at the upper range of the estimates, given recent climate volatility and predicted premium increases • Estimates exclude delay in start-up insurance • Estimates include any statutory charges (where applicable) based upon current rates

Cost	Description
	• Further work may be required to determine the most suitable bundling of insurance cover either as PAI or within the EPC Arrangement
Basis / Source of Estimate	[redacted]

4.5.1.4. Legal

Forecast legal fees of [redacted] Real 2022/23 dollars) during construction is based on [redacted] for expected legal services required during the construction phase of Humelink Stage 2. We will require assistance and legal advice in relation to environmental, property, commercial matters and disputes during Humelink Stage 2 from construction to commissioning. Legal works and advice required includes:

- land access matters
- interface agreements
- environmental & heritage issues
- general legal advice
- legal advice for major contracts
- defending contractor claims and proceedings

Table 4-9: Legal fees summary ($M, Real June 2023)

Cost	Description
Cost Category	Legal
Nature of Costs	Provision of legal advice in relation to environmental, property, commercial matters and disputes.
Forecast Capex	Our estimated capex for Legal Fees is [redacted] (nominal), consisting of: • [redacted] for land access matters • [redacted] for interface agreements • [redacted] for environmental & heritage issues • [redacted] for general legal advice • [redacted] for legal advice for major contracts • [redacted] for defending contractor claims and proceedings Dollars Basis: Nominal dollars
Basis / Source of Estimate	This is based on a fee quotation from [redacted]. Artifact: CME 1.1 & CME 1.2

4.6. Major Projects Program Initiatives

As Table 4-10 shows, our Stage 2 indirect capex for Major Projects Program Initiatives is $21.93 million. The Major Projects Program Initiative activities relate to all Major Projects at a portfolio level. Cost has been allocated to individual projects, including Humelink, based on the expected benefit these projects will derive from each initiative. The benefits of these Major Projects Program Initiatives include:

- streamlining and improving processes with improved document control, program and resource planning, coordination and enhanced reporting using P8 and P6 document control software and process reengineering
- improving Transgrid's social licence and community engagement works to reduce opposition to these projects with the Wagga hub providing local training to communities impacted by construction and the sponsorship of the Telegraph Bush Summit providing a valuable opportunity to promote the benefits of these projects
- addressing skills shortages through the Wagga Training Centre.

Table 4-10: Summary of indirect capex for Major Projects Program Initiatives ($M, Real June 2023)

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
Origination function costs	[redacted]	MPP-1.0 MPP-1.7	Our estimated capex for the Origination's teams external costs is [redacted]. This is based on internal costs estimates outlined in a business case comprising: • commercial support – opportunity development • engineering support/advice • legal support • route and technical services • schedule & pipeline support • recruitment placement fees • travel costs • team development The total cost of the Origination's team external costs from Jul 23 to Dec 26 is [redacted] based on the Summary table in the business case to be shared across all major projects. This amount can be referenced in the Summary table of the business case [redacted] representing 6 months of the [redacted] annual cost). The Humelink project will share 20% [redacted] of this total cost. Calculated as: Total cost [redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			Humelink share of Total cost [redacted] 20% (Humelink share of total cost) [redacted] Origination consulting activities include developing and coordinating design inputs, coordinating specialist studies, including but not limited to EIS, property and bio-diversity, developing commercial strategies and models, compiling and validating (benchmarking) project estimates, facilitating safety in design / constructability reviews and validation, and coordinating and supporting regulatory, legal and market inputs. Dollar basis:Nominal dollars
Wagga Training Centre	[redacted]	MPP-1.0 MPP-1.2	Our estimated capex for the Wagga Training Centre is [redacted] This is based on a Transgrid business case. The total cost of the Wagga Training Centre from Jul 23 to Dec 26 is [redacted] of which the Humelink project will share 33.3% representing a cost of [redacted] Calculated as: [redacted] (Wagga Training Centre total cost) * 33.3% (Humelink share of total cost) [redacted] Dollar basis: Nominal dollars
[redacted] and [redacted] Integration and Implementation costs	[redacted]	MPP-1.0 MPP-1.1	Our estimated capex for the [redacted] and [redacted] Integration and Implementation costs is [redacted] This is based on a Transgrid business case. The total cost for the [redacted] and [redacted] Integration and Implementation costs from Jul 23 to Dec 26 is [redacted] to be shared across all major projects. This amount can be referenced in the Summary table of the business case (FY24 [redacted] [redacted] & [redacted] Integration costs and [redacted]). The Humelink project will share 25% or [redacted] of this total cost. Calculated as: Total cost [redacted] (FY24 [redacted] & [redacted] Integration costs) + [redacted] (FY24 System Implementation Resources) = [redacted]

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			[redacted] ([redacted] & [redacted] Integration & Implementation Costs total) * 25% (Humelink share of total cost) = [redacted] Dollar basis: Nominal dollars
Incurred by PTT function, to set up function, dashboarding and resourcing	[redacted]	MPP-1.0 MPP-1.6	Our estimated capex for Powering Together Tomorrow's (PTT) function set up, dashboarding and resourcing costs is [redacted]. This is based on a Transgrid business case. The total cost for PTT team's function set up, dashboarding and resourcing costs from Jul 23 to Dec 26 is [redacted] which will be shared across all major projects. This amount can be referenced in the Summary table of the business case (FY24 [redacted], FY25 $[redacted], FY26 [redacted] and FY27 [redacted] representing 6 months of the $1,320,000 full year cost). The Humelink project will share 23% or [redacted] of this total cost. Calculated as: Total cost [redacted] (FY24) + [redacted] (FY25) + [redacted] (FY26) + [redacted] (6 months of the [redacted] full year cost) = [redacted] [redacted] (Total PTT costs) * 23% (Humelink share of total cost) = [redacted] Dollar basis: Nominal dollars
Wagga Hub	[redacted]	MPP-1.0 MPP-1.3	Our estimated capex for the Wagga Hub is [redacted] This is based on a Transgrid business case. The total cost for the Wagga Engagement Hub is from Jul 23 to Dec 26 is [redacted] which will be shared across all major projects. This amount can be referenced in the Summary table of the business case (FY24 [redacted], FY25 [redacted], FY26 [redacted] and FY27 [redacted] representing 6 months of the full year [redacted] annual cost). The Humelink project will share 33.3% of [redacted] of this total cost. Calculated as: Total cost

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			[redacted] (FY24) + [redacted] (FY25) + [redacted] (FY26) + [redacted] (6 months of the [redacted] full year FY27 cost) = [redacted] Humelink share [redacted] (Total Wagga Hub costs) * 33% (Humelink share of total cost) = [redacted] The Wagga Hub will be a central office and community engagement facility in Wagga Wagga. Its primary purpose is to enhance Transgrid's social licence, presence and reputation. Dollar basis: Nominal dollars
[redacted] and [redacted] Licence	[redacted]	MPP-1.0 MPP-1.1	Our estimated capex for the [redacted] and [redacted] Licence is $1,256,851. This is based on a Transgrid business case. The total cost for [redacted] and [redacted] licences is [redacted] from Jul 23 to Dec 26 which will be shared across all major projects. This amount can be referenced in the Summary table of the business case (FY24 [redacted], FY25 [redacted], FY26 $[redacted], FY27 $[redacted] representing 6 months of the [redacted] full year cost). The Humelink project will share 25% or [redacted] of this cost. Calculated as: Total Cost $[redacted] (FY24) + [redacted] (FY25) + $[redacted] (FY26) + [redacted] (6 months of the [redacted] full year cost) = [redacted] Calculated as: [redacted] (Total [redacted] and [redacted] Licence cost)* 25% (Humelink share of total cost) = $[redacted] [redacted] and [redacted] software is a specialised construction document repository for capturing, controlling, versioning, analysing and distributing project documents, while also tracking their history. Dollar basis: Nominal dollars
Project Benchmarking	[redacted]	MPP-1.0 MPP-1.1	Our estimated capex for Project Benchmarking is [redacted]. This is based on a Transgrid business case.

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			The total cost for Project Benchmarking is [redacted] from Jul 23 to Dec 26 which will be shared across all major projects. This amount can be referenced in the Summary table of the business case (FY24 [redacted], FY25 [redacted], FY26 [redacted] & FY27 [redacted] representing 6 months of the [redacted] FY27 full year cost). The Humelink project will share 25% or [redacted] of this total cost. Calculated as: Total cost [redacted] (FY24) + [redacted] (FY25) + [redacted] (FY26) + [redacted] (FY27 full year cost) / 2] = [redacted] Humelink share [redacted] (Total Project Benchmarking cost)* 25% (Humelink share of total cost) = [redacted] Project Benchmarking services will develop a whole of Transgrid benchmarking capability and framework to develop international best practice to support major decisions in contract, procurement engineering. Dollar basis: Nominal dollars
Sponsorships (Telegraph Bush Summit)	[redacted]	MPP-1.0 MPP-1.5	Our estimated capex for the Telegraph Bush Summit sponsorship is [redacted] This is based on a sponsorship agreement with [redacted] signed by Transgrid on 3 April 2023 for [redacted] The total cost of this sponsorship from Jul 23 to Dec 26 is [redacted] which will be shared across all major projects. This amount is based on an annual cost of [redacted] p.a. between FY24 to FY26 and a [redacted] cost for FY27. Humelink will share 25% or [redacted] of this total cost. Calculated as: Total cost [redacted] (FY24) + [redacted] (FY25) + [redacted] (FY26) + [redacted] (FY27 full year cost) /2] = [redacted] Humelink share

Category	Capex ($m, Real June 2023)	Artifact Ref	Description / estimation methodology / dollar basis
			[redacted] (Total Telegraph Bush Summit cost) * 25% = [redacted] Transgrid's participation in the Telegraph Bush Summit provides a valuable opportunity to promote the benefits of the Humelink project to the rural community impacted by construction. Dollar basis: Real 2022/23 dollars
Stakeholder Engagement Consultants	[redacted]	MPP-1.0 MPP-1.4	Our estimated capex for Stakeholder Engagement Consulting services is [redacted]. This is based on a fee proposal from [redacted] dated 17 May 2022 providing a monthly retainer charge of [redacted]. The total cost of this consulting service from Jul 23 to Dec 26 is [redacted] based on the monthly retainer of [redacted] for 3.5 years. This cost will be shared across BAU and all major projects. Humelink will share 12.2% or [redacted] of this total cost. Calculated as: Total cost of Stakeholder engagements [redacted] (monthly retainer) * 12 months * 3.5 years = [redacted] Humelink share of total cost [redacted] (Total Stakeholder Engagement cost) * 12.2% (Humelink share of the total cost) = [redacted] Stakeholder engagement consultants assist Transgrid in identifying and building key relationships in the government. Dollar basis: Real 2022/23 dollars
Total capex	21.93		

5. Key assumptions

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

5.1. Labour

The number of incremental FTEs required for Humelink is based on current practices, the complexity and timeframes of the project, plus relevant legislative requirements. FTEs will begin work in phases over the duration of the project as per the project schedule.[4]

Labour cost estimates have been calculated based on:

- using standard labour rates
- incurring labour on-costs for all staff and contractors
- seconding resources (fully or partially) from existing business as usual roles to Humelink will be backfilled with internal labour or via greater reliance on outsourced arrangements
- sourcing external contractor rates from those contracts where appropriate
- excluding labour cost escalation as this is applied subsequently in the Humelink Capex Model

These are explained further below.

5.1.1. Standard Labour Rates

Labour rates and role classifications were aligned to our 2023 Standard Labour rates.[5]

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

Consistent with our approved CAM:[6]

- All project staff will timesheet and charge to a Work Order.
- Actual times (logged to work orders) will be used to determine Labour costs.
- The time spent by all Humelink team members is considered an incremental cost on the basis that Transgrid has no spare resources, so time spent by existing staff members on Humelink 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 but undertaken in the Capex Forecast Model, as explained in the Capex Forecasting Methodology.

[4] All scheduling and resource forecasting for Humelink 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.
[5] Labour and Support Cost Rates Effective 1 December 2022 to 30 June 2023.
[6] Transgrid, Cost Allocation Methodology, May 2023.

5.1.2. 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 5-1: 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%

5.1.3. 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.

5.1.4. Resource Backfill and Evidence

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

- Time spent by all Humelink team members is considered an incremental cost on the basis that Transgrid has no spare resources.
- Time spent by existing staff members on Humelink will lead to higher costs for Transgrid through backfill with internal Labour or via greater reliance on outsourced arrangements.

5.1.5. External Contractor Rates

Labour costs are stated in Real 2022/23 dollars. Real labour cost escalation is applied in the Humelink Capex Model.

5.1.6. Escalation Factors

Labour costs are stated in Real 2022/23 dollars. Real labour cost escalation is applied in the Humelink Capex Model.

5.2. Labour-related costs

5.2.1. 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 per person per annum (Real 2022/23 dollars). This allowance is for all FTEs that are Contract Officers or under an Enterprise Agreement (Award). It has been applied on a per FTE basis, noting that CSE, Regulatory and Program workstreams have been excluded. 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.

5.2.2. Travel and expenses

5.2.2.1. Domestic travel

All costs in relation to travel and expenses (including accommodation, meal allowances and other expenses) have been determined in accordance with ATO Guidelines TD 2022/10[7]. Allowance for travel costs has been determined in accordance with the following assumptions:

- The CSE, Land, Environmental Approvals and Program workstreams are assumed to travel for one night each trip. The cost per trip per staff for a one-night trip is assumed to be $1,557.85 (Real 2022/23 dollars). This cost consists of:
  - Cost per return flight to site per staff: $494.58 based upon historical Qantas flight costs for Humelink between Sydney and Wagga Wagga.
  - ATO rates for accommodation and meals: $327.55 based on the ATO Allowances[8], and selecting Wagga Wagga as the default travel location[9].
  - Car hire per day at site: $210.72 [10]
  - Travel allowance per trip: $525.00 based on the assumption that three hours of additional travel time for staff is required.
- The Commercial, HSE, Project Management, Controls, Design and Construction team are assumed to travel for four nights each trip. The cost per trip per staff for four nights trip is assumed to be $3,172.66 (Real 2022/23 dollars), based on the ATO accommodation and meals and car hire, multiplied by four, plus the rate for a return flight and travel allowance.

The relevant domestic trip cost assumptions were subsequently applied to the number of domestic trips required for each workstream each year to derive the total domestic travel cost.

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7 ATO, TD 2022/10, available at td2022-010.pdf (ato.gov.au).
8 ATO, TD 2022/10, available at td2022-010.pdf (ato.gov.au)
9 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.
10 This quote is based on historical rental costs incurred for Humelink for a 4WD Full Size vehicle. In some instances, a downward adjustment factor has been applied to account for car sharing.

Table 5-2: Number of domestic trips taken in each year of the modelling period

Broader cost category	2023/24	2024/25	2025/26	2026/27	TOTAL
Commercial	-	56	120	45	221
CSE	-	9	8	2	19
Enviro Approvals	-	6	4	3	13
Land	-	60	60	5	125
Controls	-	40	60	35	135
Construction	-	1,696	4,128	1,421	7,245
Design	-	32	60	22	114
HSE	-	181	181	62	424
Program	-	4	12	15	31
TOTAL	**-**	**2,084**	**4,633**	**1,610**	**8,327**

5.2.2.2. International travel

Costs for international travel (including accommodation, meal allowances and other expenses) have been primarily based on sources including ATO Guidelines TD 2022/10[11], and quotes from Transgrid's Corporate Travel Management (CTM) system. They are based on these assumptions:

- The Commercial Procurement team are required to travel to three different locations in Asia for procurement purposes and are assumed to travel for four nights each trip. The cost per trip per staff for a four-night trip is assumed to be $10,549.00 (real $2022/23). This cost consists of:
  - Cost per return flight to site per staff: $6,429.67 based on quotes from Transgrid's CTM for March 2024 and May 2024 flights
  - Rates for accommodation: $395.67 based on quotes from Transgrid's CTM for March 2024 and May 2024 accommodation
  - ATO rates for meals: $308.33 based on the ATO Allowances[12]
  - Car hire per day: $94.00 [13]
  - Travel allowance per trip: $525.00 based on the assumption that three hours of additional travel time for staff is required.
- The Commercial Insurance team are required to travel to London and are assumed to travel for four nights each trip. The cost per trip per staff for a four-night trip is assumed to be $15,476.00 (real $2022/23). This cost consists of:

[11] ATO, TD 2022/10, available at td2022-010.pdf (ato.gov.au).
[12] ATO, TD 2022/10, available at td2022-010.pdf (ato.gov.au)
[13] This quote is based on Hertz rental costs for a Full Size vehicle. In some instances, a downward adjustment factor has been applied to account for car sharing.

- Cost per return flight to site per staff: $10,728.00 based on quotes from Transgrid's CTM for March 2024 and May 2024 flights
- Rates for accommodation: $537.00 based on quotes from Transgrid's CTM for March 2024 and May 2024 accommodation
- ATO rates for meals: $290.00 based on the ATO Allowances[14]
- Car hire per day: $125.00 [15]
- Travel allowance per trip: $525.00 based on the assumption that three hours of additional travel time for staff is required.

The relevant international trip cost assumptions were subsequently applied to the number of domestic trips required for each workstream each year to derive the total domestic travel cost.

Table 5-3: Number of international trips taken in each year of the modelling period

Broader cost category	2023/24	2024/25	2025/26	2026/27	TOTAL
Commercial - Procurement	6	3	-	-	9
Commercial - Insurance	2	-	-	-	2
TOTAL	**8**	**3**	**-**	**-**	**11**

5.2.2.3. Fleet costs

Existing fleet vehicles would also be used for travel purposes in the delivery of Humelink Stage 2. Annual running costs for these fleet vehicles include:

- fuel
- repairs and maintenance
- registration costs
- cost of tracking equipment
- road toll charges
- other costs (such as roadside assistance, SOC call centre support).

Historical fleet vehicle running costs for PEC were used as an estimate for Humelink Stage 2. Based on the PEC costs, we have applied a $9,864.98 annual operating cost to the number of fleet vehicles required each year as shown in Table 5-4.

Table 5-4: Number of fleet vehicles each year of the modelling period

	2023/24	2024/25	2025/26	2026/27	Total
Construction	-	50	50	50	150
Land and Property	-	5	5	5	15

[14] ATO, TD 2022/10, available at td2022-010.pdf (ato.gov.au)
[15] This quote is based on Hertz rental costs for a Full Size vehicle. In some instances, a downward adjustment factor has been applied to account for car sharing.

CSE	4	3	2	2	11
TOTAL	**4**	**58**	**57**	**57**	**176**

5.2.3. Recruitment (External)

To recruit the additional resources required for Humelink, 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 per cent of the value of the first year's annualised salary where a recruitment service provider is used.

Based on historical experience, we expect that 50 per cent of the new roles (including backfilled roles) will be employed directly and the remaining 50 per cent 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 and that costs associated with CSE, Regulatory and Program workstreams have been excluded.

The recruitment costs are applied on the following basis:

Recruitment fees = sum of annualised salary of incremental employees x 50% x 15%

Table 5-5 shows the incremental increase in 'new' FTEs year-on-year assumed in our calculations:

Table 5-5: Incremental increase in number of 'new' FTEs (excludes CSE, Regulatory and Program workstreams)

Broader cost category	2023/24	2024/25	2025/26	2026/27	TOTAL
Commercial	5.93	-	-	-	5.93
Environmental Offsets	1.48	-	-	-	1.48
Enviro Approvals	-	0.14	-	-	0.14
Land	0.62	1.20	-	-	1.82
Controls	5.86	-	-	-	5.86
Construction	16.45	6.59	4.77	0.18	28.00
Design	6.32	0.87	-	-	7.18
HSE	3.58	-	-	-	3.58
Project Management	-	-	-	-	-
Regulatory	-	0.70	-	-	0.70
Program	-	-	-	-	-
TOTAL	**40.23**	**9.51**	**4.77**	**0.18**	**54.69**

5.2.4. 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 (Real 2022/23 dollars), as shown in Table 5-6. The estimates are based on the current supply rate from our vendors.

Table 5-6: IT expenses

Item	Cost
Lightweight laptop	$2,103
27” Monitor	$310
Headset	$90
Backpack	$35
Standard iPhone	$799
Total	**$3,337**

Total IT expenses were calculated based on all new starters by year for most workstreams (excluding CSE, Regulatory and Program), as shown in each requiring $3,337 worth of IT hardware.

Table 5-7: Incremental increase in number of ‘new’ roles (excludes CSE, Regulatory and Program workstreams)

Broader cost category	2023/24	2024/25	2025/26	2026/27	TOTAL
Commercial	7.00	-	-	-	7.00
Environmental Offsets	2.00	-	-	-	2.00
Enviro Approvals	-	1.00	-	-	1.00
Land	2.00	3.00	-	-	5.00
Controls	7.00	-	-	-	7.00
Construction	22.00	12.00	16.00	3.00	53.00
Design	7.00	4.00	-	-	11.00
HSE	4.00	-	-	-	4.00
Project Management	-	-	-	-	-
TOTAL	**51.00**	**20.00**	**16.00**	**3.00**	**90.00**

5.3. 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 Real 2022/23 dollars unless otherwise specified. No escalation for 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 to deliver this report, we have used our experience from previous projects to estimate the costs of external advice.

5.4. Direct Labour costs assumption

In practice, some labour and labour-related costs are reported as direct costs for regulatory purposes. The QNI contingent project application did not split the forecast labour and labour-related costs between direct and overhead components. Recognising the AER's concern with the level of forecast indirect costs for QNI,[16] forecast Transgrid labour and labour-related costs for Humelink have been split between direct and overhead costs.

For the 2021/22 financial year, 74 per cent of Transgrid capitalised labour and labour related costs were reported as direct costs within the category analysis RIN response.[17] Based on this, we have assumed that 70 per cent of forecast Transgrid labour and labour-related costs for Humelink are direct in nature. In other words, 30 per cent of labour and labour-related costs are assumed to be indirect capex.

[16] See: AER, Final Decision – TransGrid Contingent Project, QNI Minor Upgrade, April 2020, pp. 17–21.

[17] 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%.

Appendix A Glossary

Term	Description
AER	Australian Energy Regulator
ATO	Australian Taxation Office
CAM	Cost Allocation Methodology
CCE	Collaborative Contractor Engagement
CPA	Contingent Project Application
CPI	Consumer Price Index
CSE	Community and Stakeholder Engagement
ECI	Early contractor engagement
EIS	Environmental Impact Statement
EOI	Expression of Interest
ERP	Enterprise Resource Planning
FTE	Full Time Equivalents
NER	National Energy Rules
PEC	Project EnergyConnect
QNI	Queensland New South Wales Interconnector
RFT	Request for Tender

Appendix B Humelink Organisation Chart