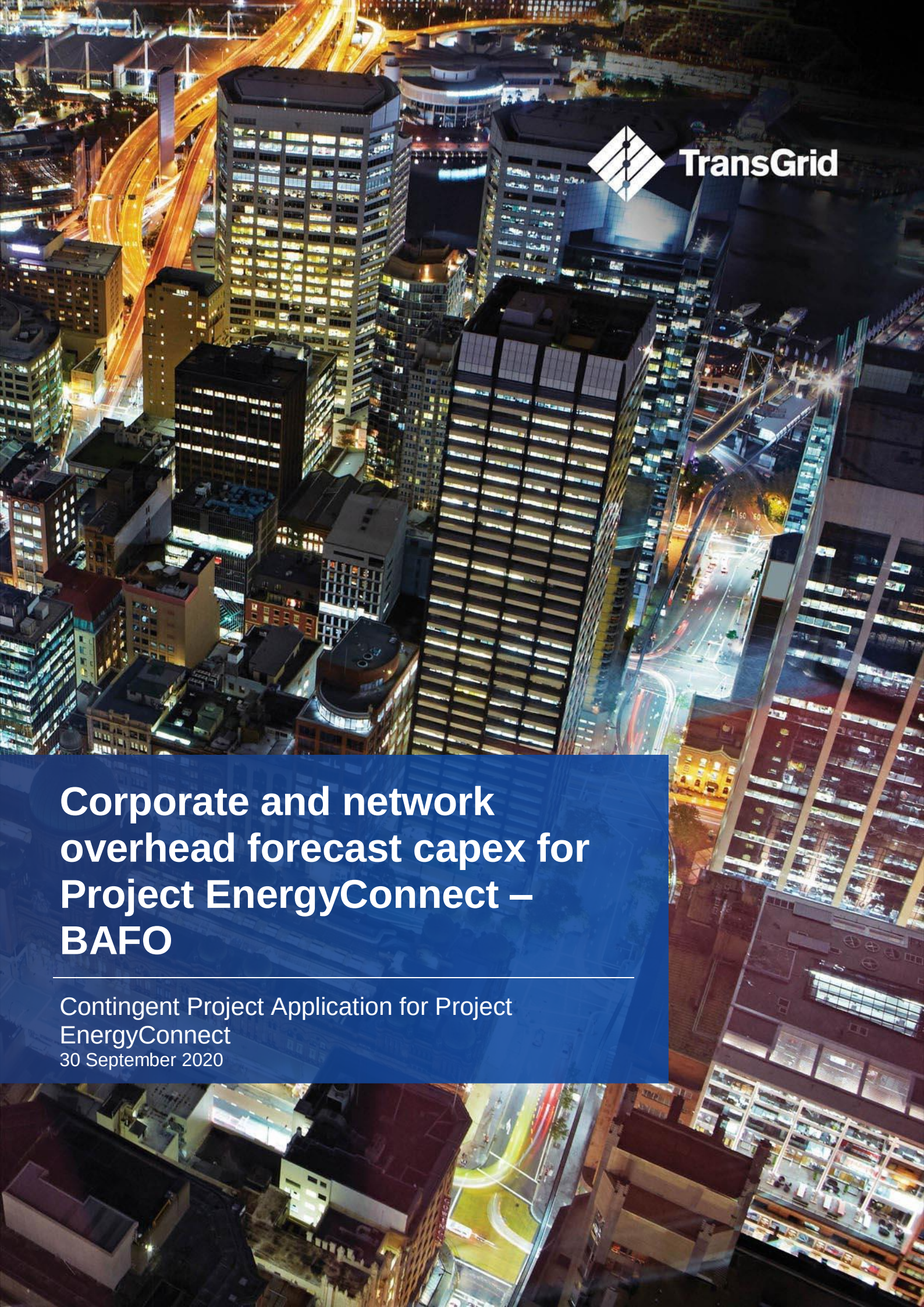

TransGrid

Corporate and network overhead forecast capex for Project EnergyConnect – BAFO

Contingent Project Application for Project EnergyConnect

30 September 2020

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Glossary

Term	Description
AER	Australian Energy Regulator
ACH	Aboriginal Cultural Heritage
CAM	Cost Allocation Methodology
CPA	Contingent Project Application
CPP	Community Partnerships Program
CSEP	Community and Stakeholder Engagement Plan
EIS	Environmental Impact Statement
EMF	Electric and Magnetic Fields
EPC/EPCC	Engineering Procurement Construction (Commissioning) Contract
ERP	Enterprise Resource Planning
IP	Intellectual Property
LGAs	Local Government Areas
LSE	Large Specialist Equipment
NER	National Energy Rules
PAI	Principal Arranged Insurance
PEC	Project EnergyConnect
RFP	Request for Proposal
RFQ	Request for Quote
TNSP	Transmission Network Service Provider

1. Purpose, structure and scope of this document

1.1 Purpose of this document

On 29 June 2020, we provided the Australian Energy Regulator (AER) with our Contingent Project Application (Application) for Project EnergyConnect (the Project or PEC). Our Application included our corporate and network overhead forecast – RFT Phase A document (Corporate and Network Overhead Forecast – RFT Phase A document), which set out our corporate and network overhead capital expenditure (capex)[1] for the 2018-19 to 2022-23 (2018-23) regulatory period.

At the time of submitting our Application, we were part way through our competitive tender process for the Project. We had received tender outcomes from the first stage of our formal tender process, being the Request for Tender Phase A (RFT Phase A).Our Application therefore reflected capex based on RFT Phase A.

We committed to providing the AER with a revised capex forecast once we obtained further tender outcomes in the second half of 2020, to ensure that our forecast capex for the Project, and therefore our adjusted revenues and prices, reflects the best available view of the market-tested costs.

This document sets out our updated capex forecast for corporate and network overheads (also referred to as indirect costs[2]) based on the final stage of our tender process, being the Best and Final Offer (BAFO).

This document forms part of our Application to the AER for PEC and should be read in conjunction with our Principal Application document and other supporting documents, including our Capex Forecasting Methodology – RFT Phase A, and our Supplementary Capex Forecasting Methodology – BAFO.

The anticipated practical completion date for the Project is December 2023[3]. We will therefore incur most of the expenditure over the remainder of the current 2018-19 to 2022-23 (2018-23) regulatory period, with a small amount expected to be incurred in 2023-24.

This capex is incremental to the capex approved by the Australian Energy Regulator (AER) in its 2018-23 Revenue Determination for TransGrid. This is because it relates to activities that are additional to our normal business activities[4].

All nominal and real 2018-19 values in this document have been converted into real 2017-18 dollars, consistent with the 2018-23 Revenue Determination[5]. This document references other supporting document for further detail.

[1] Non-network costs include property and IT costs, whilst network overhead costs include project management costs and corporate overheads include legal and regulatory costs.

[2] Although we refer to the expenditure through this document as indirect costs, they also include TransGrid direct labour costs. Attachment 8 to the PEC contingent project application separately identifies the direct labour cost share.

[3] Practical Completion date for the works from Buronga to Wagga Wagga of 31 December 2023, with Final Completion (post energisation, testing and minor finishing works) by 30 June 2024.

[4] Consistent with TransGrid's capitalisation policy, corporate and network overhead costs are capitalised if they are sufficiently connected with the delivery of capital works. The incremental overhead costs detailed in this document are required to deliver Project EnergyConnect, which is a capital project and so those cases have been treated as capital in nature for both financial reporting and regulatory purposes.

[5] The financial values exclude *both* inflation and any real input cost escalation (e.g. labour) from 30 June 2018 onwards. Although many of the unit rates used have been applied from 1 July 2019 onwards, these have been deflated by a year of actual inflation (from 30 June 2019 to 30 June 2018) and, where appropriate, de-escalated by a year of real labour cost escalation (using the rate allowed by the AER in its determination for the 2018-23 regulatory control period for the year to 30 June 2019).

1.2 Scope of this document

This document supersedes our Corporate and Network Overhead Forecast – RFT Phase A document, which explained our RFT Phase A capex forecast for indirect costs.

This document explains and justifies our BAFO capex forecast for indirect costs and provides a brief summary of the key differences between our RFT Phase A capex forecast and BAFO capex forecast for indirect costs.

Real escalation is not included as part of this report. Real labour escalation is undertaken in the Capex Forecast Model, provided as Attachment A.6 and as explained in the Supplementary Capex Forecasting Methodology - BAFO provided as Attachment A.5A.

This document does not address:

> Tendered costs, property costs or risk costs, and

> Taxes incurred as a result of the project, with the exception of Payroll tax which has been included within labour on-costs.

Tendered costs, property costs and risk costs are addressed in the Capex Forecasting Methodology.

We have forecast indirect capex from 1 August 2020 for the duration of PEC. As noted above, the anticipated practical completion date for the Project is December 2023[6]. We will therefore incur most of the expenditure over the remainder of the current 2018-19 to 2022-23 (2018-23) regulatory period, with a small amount expected to be incurred in 2023-24. These latter costs relate to system trials, testing, commercial and contract closure. This capex is separately identified in the PEC Corporate and network overhead spreadsheets[7] and it has been added to the 2022-23 year within the Forecast Capex Model.

Forecast expenditure has been identified as either capex or opex in a manner consistent with relevant accounting standards including AASB 116. All indirect costs for PEC have been treated as capex because they are directly attributable to the PEC capital project.

All property, plant and equipment, and actual capitalised costs are capitalised in accordance with the aforementioned standards, as they are directly linked to the PEC capital project. These costs are audited annually for compliance with these standards and our capitalisation policy. [8]

The approach employed in this document is consistent with the approach we have employed in other Project costs which has been externally verified. The independent expert report from HoustonKemp, provided as an Attachment to our Application, explains that incremental capex forecast for PEC meets the National Electricity Rules' (NER) requirements.

1.3 Structure of this document

This document is structured as follows:

> Section 2 summarises the change in our RFT Phase A and BAFO capex forecasts

> Section 3 overviews our historical indirect capex for PEC

> Section 4 summarises our forecast and total indirect capex for PEC

> Section 5 explains and justifies our forecasting methodology for works delivery indirect capex

> Section 6 explains and justifies our forecasting methodology for project development indirect capex

[6] Practical Completion date for the works from Buronga to Wagga Wagga of 31 December 2023, with Final Completion (post energisation, testing and minor finishing works) by 30 June 2024.

[7] PEC the Summary Tab – details the breakdown of all forecast capex costs including post commissioning costs to be incurred from July to December 2023.

[8] Expenditure Capitalisation Procedure, TransGrid, 2018.

- Section 7 explains and justifies our forecasting methodology for land and environment indirect capex
- Section 8 explains and justifies our forecasting methodology for stakeholder and community engagement indirect capex
- Section 9 explains and justifies our forecasting methodology for insurance premiums indirect capex
- Section 10 explains and justifies our forecasting methodology for tender facilities and bidder payments indirect capex
- Section 11 provides a summary of the key assumptions underpinning our forecast indirect capex, and
- Section 12 lists supporting documents that provide additional information on indirect capex.

Appendix A provides details on the expected incremental labour roles required for PEC.

2. Change in our capex forecast

Our BAFO forecast capex for indirect costs is $135.8 million. This is $13.4 million ($Real 2017-18) higher than our RFT Phase A capex forecast[9] of $122.4 million ($Real 2017-18), which is explained in section 8 of our Capex Forecasting Methodology – RFT Phase A.

We have retained the same methodology for calculating our BAFO capex forecast as we used to derive our RFT Phase A capex forecast. The increase in our forecast capex is due to:

> updating for actual incurred costs to 31 July 2020 (previously actual incurred costs were to 31 March)

> consequential re-profiling of costs after 31 July 2020, and

> some updated cost estimates relating to IT software, insurance, legal advice and Environmental Impact Statement activities.

Table 2-1 shows the changes in our RFT Phase A and BAFO capex forecasts for indirect costs.

Table 2-1 Changes in our RFT Phase A and B capex forecast for indirect costs ($M, Real 2017-18)

Item	RFT-A capex forecast	BAFO capex forecast	Difference	Comment
Actual costs incurred	17.1	27.8	10.7	Initially January 2019 to March 2020, now to June 2020
Forecast costs:			-	
- Project development	41.3	40.6	(0.7)	Revised and reforecast to exclude actual costs incurred
- Works delivery	20.2	19.9	(0.3)	Revised
- Land and environment	15.9	18.4	2.5	Revised and reforecast to exclude actual costs incurred
- Stakeholder and Community engagement	8.5	8.2	(0.3)	Revised and reforecast to exclude actual costs incurred
- Insurance	6.9	8.6	1.7	Revised
- Procurement bidders payments and data room	12.5	12.3	(0.2)	Reforecast to exclude actual costs incurred
Total cost	**122.4**	**135.8**	**13.4**	Excludes taxes, except for Payroll tax which has been included within labour on-costs

[9] The indirect capex forecast have not been derived from the tender process, however, we refer to the indirect capex forecast set out in our Capex Forecasting Methodology – RFT Phase A as the RFT Phase A capex forecast for simplicity purposes.

As noted above, our BAFO capex forecast for indirect costs supersedes our RFT Phase A capex Forecast for indirect costs. This documents explains and justified our BAFO capex forecast for indirect costs. Our:

> Capex Forecasting Methodology – RFT Phase A, explains our RFT Phase A capex forecast for indirect costs, and

> Supplementary Capex Forecasting Methodology – BAFO, explains our BAFO capex forecast for indirect costs and changes between our RFT Phase A and BAFO capex forecasts.

3. Historical Indirect Capex

Historical indirect capex of $27.83 million has been incurred between 1 July 2018 and 31 July 2020 to progress the PEC project. This capex is detailed in the table below.

Historical capex is based on transactions recorded in Ellipse, which is our enterprise resource planning (ERP) system. We have allocated and attributed historical capex to Project Energy Connect in accordance with our cost allocation methodology (CAM)[10]. We have also treated historical capex in accordance with our capitalisation policy.

Table 3-1 Historical indirect capex from 1 July 2018 to 31 July 2020 ($M, Real 2017-18)

Category	2018-19	2019 - 20	2020 - 21 (1/7/2020 to 31/7/2020)	Total capex
Labour	**1.42**	**4.48**	**0.39**	**6.29**
Labour related costs	**0.11**	**0.20**	**0.01**	**0.32**
Comprising:				
Travel	0.09	0.16	0.00	**0.25**
Sustenance	0.03	0.02	0.01	**0.05**
Training	-	0.01	-	**0.01**
Non-Labour costs	**1.89**	**17.73**	**1.60**	**21.22**
Comprising:				
Legal	0.06	1.71	0.01	**1.78**
Consulting	0.50	9.60	0.87	**10.98**
Engineering	1.03	3.81	0.29	**5.13**
Network/Property	0.25	0.64	0.12	**1.00**
Other	0.05	1.97	0.31	**2.33**
Total	**3.43**	**22.41**	**1.99**	**27.83**

[10] TransGrid Cost Allocation Methodology, TransGrid, 2016.

4. Summary of Forecast Indirect Capex

The total BAFO forecast for indirect capex for PEC is $107.97 million. This capex:

> is incremental to business-as-usual capex and would not be incurred if we do not proceed with PEC

> relates to the duration of the project, which has a practical completion date of December 2023, and

> includes $10.32 million of "post-commissioning" related and other indirect capex that we expect to incur during the period from July 2023 to March 2024[11].

There are six key categories of forecast indirect capex. Table 4-1 shows that:

> Works Delivery comprises $19.92 million or around 18 per cent of the total forecast indirect capex

> Project Development comprises $40.60 million or around 38 per cent of the total forecast indirect capex

> Land and Environment comprises $18.38 million or around 17 per cent of the total forecast indirect capex

> Stakeholder and community engagement comprises $8.18 million or around 8 per cent of the total forecast indirect capex

> Insurance comprises $8.59 million or around 8 per cent of the total forecast indirect capex

> Procurement and bidder payments comprises $12.30 million or around 11 per cent of the total forecast indirect capex

Table 4-1 Summary Corporate and Network Overhead costs by Category ($M, Real 2017-18)

	2020-21	2021-22	2022-23	Total 2019-23	2023-24[1]	Total 2019-24
Works delivery	2.20	6.04	7.72	**15.96**	3.96	**19.92**
Project Development	13.92	10.91	10.45	**35.27**	5.33	**40.60**
Land and Environment	10.99	5.72	1.17	**17.89**	0.49	**18.38**
Stakeholder and Community engagement	3.89	2.19	1.55	**7.63**	0.55	**8.18**
Insurance	2.53	3.03	3.03	**8.59**	-	**8.59**
Procurement bidders' payments	12.30	-	-	**12.30**	-	**12.30**
Total	**45.83**	**27.90**	**23.92**	**97.65**	**10.32**	**107.97**

Notes (1) These costs relate to post commissioning activities.

[11] Post-commissioning capex is expected to be incurred between December 2023 and March 2024. Some pre-commissioning capex is expected to be incurred during July and December 2023.

The total indirect capex of $135.80 million for the 2018-23 regulatory period is detailed in Table 4-2.

Table 4-2 - Summary total capex – actuals and forecast ($M, Real 2017-18)

Capex category	2018-19	2019-20	2020-21	2021-22	2022-23	Total 2018-23	2023-24	Total 2018-24
Actuals	3.43	22.41	1.99	-	-	**27.83**		**27.83**
Forecast	-		45.83	27.90	23.92	**97.65**	10.32	**107.97**
Total	**3.43**	**22.41**	**47.82**	**27.90**	**23.92**	**125.48**	**10.32**	**135.80**

5. Works Delivery Capex

This section explains and justifies our forecasting methodology for works delivery capex for PEC (i.e. capex associated the construction of PEC). We have forecast works delivery capex based on the additional resources (i.e. Full Time Equivalents (FTEs)) required and our standard labour rates. There are no non-labour costs included in the works delivery capex forecast.

Works Delivery FTE's are required to:

- Undertake project and contract management and project control functions in accordance with our project management delivery model
- Undertake the role of Principal Contractor for all brownfield substation construction activities
- Undertake civil, electrical, environmental and safety inspections to ensure that work, completed by the contractors, satisfies contractual requirements
- Coordinate high voltage equipment outages, for all brownfield substation and transmission line construction activities, to provide safe areas for contractor construction activities
- Provide power system safety rules (PSSR) qualified staff that provide safe access areas (i.e. electrical and mechanical isolations) for contractors on brownfield locations
- Provide qualified oversight of contractors for pre-commissioning checks and in-service commissioning activities of new equipment, and
- Provide qualified staff to manage interfaces between exiting equipment and systems with the new equipment and systems.

The table below shows that our total forecast capex for work delivery is $19.92 million

Table 5-1: **Summary of BAFO forecast capex for Works Delivery ($M, Real 2017-18)**

Category	Total BAFO capex	Report Reference
Labour	**18.88**	5.1
Labour related costs	**1.04**	
Comprising:		
Sustenance	0.51	5.2
Travel	0.08	5.2.4
Training	0.09	5.2.2
Recruitment	0.32	5.2.3
IT Hardware	0.04	5.2.5
Total Works Delivery	**19.92**	

5.1 Labour

The PEC detailed project schedule[12] underpins the forecast works delivery indirect capex. The PEC Project Schedule sets out the additional roles (i.e. 29 roles in total) required to deliver PEC. These resource requirements are incremental to our business as usual operations.

The PEC project schedule identified an additional 29 roles. These FTEs will be required across the site locations identified in the PEC planning documents.[13] This includes sub-station sites and transmission lines. The number of additional FTEs required for PEC is based on current practices, the complexity and timeframes of the project and relevant legislative requirements.[14]

The commencement of new FTEs is phased over the duration of the project as per the project schedule.

5.1.1 Labour rates

Standard labour rates, effective 30 June 2018[15], have been applied to calculate the works delivery capex forecast for PEC. These rates were used to calculate the capex forecast for the 2018-23 regulatory period. These rates are detailed in section 11.2 and reflect reasonable market conditions and constraints within NSW.

Overtime payments have been calculated for each FTE type and contribute to around 7 per cent or $1.40 million of the total works delivery capex forecast. This approach is consistent with good industry practice.

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

5.2 Labour related capex

5.2.1 Sustenance Allowances

We have forecast a total sustenance allowance of $0.51 million for works delivery staff. This relates to work related travel expenses such as food and accommodation. The forecast sustenance allowance is in line with the Australian Tax Office (ATO) Reasonable Allowance amounts based on a salary of $108,810 and below.

Sustenance allowances are provided under the following conditions under our Enterprise Agreement:

- Overnight Absences from home – when employees are transferred to a temporary headquarters and the temporary transfer requires them to be absent from their usual place of residence overnight, we must provide them with accommodation wherever practicable at our own expense. For each night's absence, employees must be paid an allowance of:
  - $15.80 when interstate, or
  - $12.70 when intrastate
- Where accommodation is not provided employees may arrange their own accommodation in which case we will pay for the following allowances:
  - Capital Cities – ATO reasonable allowance amounts set out below based on a salary of $108,810.
  - Other than Capital Cities – Relevant ATO reasonable allowance amount for High Cost Country Centre, Tier 2 Country Centre or Other Country Centre as per ATO Ruling[16].

[12] PEC Project Delivery Resourcing, TransGrid, 2019

[13] EnergyConnect Project Implementation Plan, TransGrid, 2019

[14] PEC Project Delivery Resourcing, TransGrid, 2019 – Document details the process of determining labour required for Works Delivery for PEC.

[15] 30 June 2018 labour rates have been calculated using standard rates as at 30 June 2019 which have been adjusted to 2017-18 dollars through removing labour escalation and CPI.

[16] ATO, TD 2019,11

Table 5-2 Sustenance Allowance rates, Rates applicable at 30 June 2018

Location	Overnight Breakfast	Overnight Lunch	Overnight Dinner	Overnight All meals
City ($)	25.90	29.15	49.65	104.70
Country ($)	23.20	26.50	45.70	95.40

All sustenance expenses are claimed through expense timesheets, with the provision of tax receipts and require formal approval by a line manager.

The sustenance allowance set out in Table 5-2 applies only to Works Delivery staff. A different allowance applies to Project Development, Land Environment, Major Projects Division staff and Stakeholder Engagement staff, in accordance with the allowances per salary band within the ATO Guidelines and assumptions regarding sustenance requirements for these teams. This is discussed in section 11.

5.2.2 Training

We have included an allowance for training of new Works Delivery FTEs at the standard rate of $1,500 per person, per annum in line with the methodology set out in section 11.2.2. The total forecast capex for training of Works Delivery staff is $94,825.

5.2.3 Recruitment

We have included an allowance for recruitment costs of Works Delivery FTEs based on the methodology set out in section 11.2.3. The total forecast capex for training of work delivery FTEs is $316,893. This is based on historical experience and current market conditions.

5.2.4 Travel for Works Delivery

In addition to the sustenance allowance, a forecast capex of $79,021 for flight costs for Works Delivery staff has been included. This is set out in section 11.2.8.

The assumptions underpinning each role, including frequency of travel and location are based on the Updated Labour Assumptions Report, TransGrid 2019.[17]

Table 5-3 Travel Costs Works Delivery

Cost	Travel
Cost Category	Works Delivery / Non-Labour Costs
Nature of Costs	All flights for Works Delivery staff travel as per project schedule and Works Delivery labour assumptions
Forecast capex ($, Real 2018-2019)	$80,000
Forecast capex (Real 2017-18)	**$79,021**
Assumptions and methodology	> Total flight costs have been determined in line with the schedule within the Updated Works Delivery Labour Assumptions Report

[17] Updated Labour Assumptions Report, TransGrid 2019 – Prepared by TransGrid Works Delivery team, detailing role assumptions for each FTE including overtime, flights and sustenance allowances.

Cost	Travel
	> An allocation or 1-2 flights per month for site visits has been provisioned for relevant project resources

5.2.5 Works Delivery IT Costs

Table 5-4 - Works Delivery - IT Costs

Cost	IT costs
Cost Category	Works Delivery / Non-Labour Costs
Nature of Costs	IT hardware costs for Works Delivery staff: > IT Hardware bundle includes: > Laptop (Standard issue) > Single monitor > Lock > Keyboard > Mouse > Backpack > Standard issue mobile phone **Total cost per standard IT Bundle - $2650**
Forecast capex ($, Real 2018-2019)	$37,100
Forecast capex (Real 2017-18)	**$36,646**
Assumptions and methodology	> Total IT hardware costs is based on actual costs of IT hardware > Total IT Cost was determined through establishing a set IT hardware bundle required for Works Delivery FTEs (total calculated based on no. of FTEs requiring hardware phased across the lifetime of the project) > Excludes IT support costs

5.2.6 Other assumptions

We have not included any additional non-labour costs (e.g. property) in the works delivery capex for PEC. No additional office space is required for the new FTE's, who will largely operate on the PEC project site.

6. Project Development Capex

This section explains and justifies our forecasting methodology for project development capex for PEC. Project development capex relates to the set up and ongoing project management of PEC.

The majority of the project development costs relate to incremental labour (i.e. new FTEs). In particular, 50 new roles are required relating to the project development of PEC.[18] We have forecast project development capex based on the additional required FTEs and our standard labour rates.

For roles which work across multiple major projects, we have allocated their costs between the PEC and other major projects on which they are also working, using the total expected capex for each project as the allocator. This is discussed further in section 11.1.1.

There are also some non-labour costs for geotechnical studies, legal fees and consultant and professional fees as set out in the table below.

The table below shows that our total forecast capex for project development is $40.60 million.

6.1 Summary

Table 6-1 - BAFO forecast capex for project development ($M, Real 2017-18)

Category	Total BAFO capex	Report Reference
Labour	**28.67**	**6.2**
Comprising:		
Project Management Team	18.46	
Major Projects team	3.56	
Support	6.65	
Labour related costs	**5.52**	
Comprising:		
Travel	3.52	6.3.4
Training	0.11	6.3.1
Recruitment	0.60	6.3.2
Office & IT costs	1.30	6.3.3
Non-Labour costs	**6.41**	
Comprising:		
Geo-Technical	0.63	6.4.1
Legal Costs	4.58	6.4.2
Consultant and Professional fees	1.21	6.4.3/5.4.4

[18] The establishment of a Major Projects Division is required by TransGrid in order to coordinate and deliver PEC and subsequent contingent projects including Hume Link (Snowy 2.0), Queensland Interconnector (QNI) and Powering Sydney's Future (PSF).

Category	Total BAFO capex	Report Reference
Total Project Development	**40.60**	

6.2 Labour

As noted above, 50 new roles are required for PEC and the Major Project Division. These roles have been categorised across five functions as shown in the table below.[19]

Table 6-2 - Project Development - Resource requirements

Role	Responsibility	Number of roles	% allocation to PEC	Total labour cost attributable to PEC
Project Management	Directly manage PEC for TransGrid	6	100%	7.91
Transaction Procurement Support (Major Infrastructure Expertise)	Assist in managing the PEC tender process and ongoing support of PEC contract management	8	100%	4.38
Technical and Geotechnical	External support in initial phases of project	12	100%	6.17
Major Projects team	Small team to support across Major Projects	5	46%	3.56
Other Support and Corporate roles[20]	Other roles supporting PEC including engineering, regulatory, spatial, finance, HR, ongoing procurement	19	46%	6.65
Total		**50**		**28.67**

The full listing of these roles is available at Appendix A (see section A.1.1).

6.2.1 Rates

Labour rates have been estimated using our salary ranges and labour rates as at 30 June 2018. We have not applied labour cost escalation rates or CPI to these rates. The labour rate methodology is consistent with the labour rate methodology detailed in section 11.2.1.

Where the FTEs are expected to work across multiple Major Projects, we have allocated 46 per cent of their costs to PEC (using a share of total capex as the allocator). This methodology is discussed further in section 11.1.1.

[20] Other Support and Corporate Roles are a mix of existing TransGrid FTEs reallocated to the Major Project Division, where a backfill resource has been recruited and new labour hired specifically for the purposes of supporting the Major Projects Division.

6.3 Labour related costs

6.3.1 Training

We have included an allowance for training costs of new Project Development FTEs at the standard rate of $1,500 per person, per annum in line with the methodology detailed in section 11.2.2. The total forecast capex for training of Project Development staff is $113,321.

6.3.2 Recruitment

We have included an allowance for recruitment costs for new Project Development FTEs, based on the methodology set out in section 11.2.3. The total estimated cost for training of Project Development staff is $595,018. This cost includes a 46 per cent allocation of major projects labour recruitment costs. Recruitment cost estimates are based on historical experience and current market conditions.

6.3.3 Office Lease Costs

6.3.3.1 Property

Additional short term office space is required to accommodate the Major Projects Division Team and the PEC Team. Our current office at Haymarket does not have sufficient facilities including desk space, meeting rooms and video conferencing facilities to accommodate the 50 new Project Development FTEs. We are currently renting additional meeting room space in order to meet the requirements of the current workforce.

In order to accommodate the additional FTEs for PEC, we have shortlisted six suitable properties within the vicinity of our Haymarket office. The evaluation of potential suitable property options was determined based on the following criteria:

> Proximity to existing premises

> Price

> Capacity

> Facilities – including meeting rooms, video conference capacity and collaboration space.

Based on the above criteria, we consider that a new office space at [redacted] is the most efficient and prudent option to meet our growing needs. This option includes 50 workstations, two meeting rooms (including VC and audio set up) and one private office.

We have allocated 46 per cent of the costs of the new office space to PEC as per the methodology explained in section 11.1.1 for the period to 31 December 2024, which covers the period up until project commissioning and the post commissioning phase.

All property costs have been estimated using the preferred option identified in our *Short Term Office Leasing Report*[21].

Table 6-3 - Project Development – Property costs

Criteria	Property – Office Space	
Cost Category	Project Development / Labour Related Costs	
Forecast capex ($, Real 2018-2019)	Rent	$819,360
	Outgoing Costs (e.g. cleaning, security)	$409,680

[21] TransGrid Short Term Office Preliminary Options Report V2 20191016.

Criteria	Property – Office Space	
	Office space estimate	**$1,229,040**
Forecast capex (Real 2017-18)	**$1,213,999**	
Nature of capex	The scale of the PEC requires a significant uplift in labour. The current TransGrid office space is at capacity and therefore new office space is required for the new heads. The Works Delivery team will be predominantly based at sites and have not been factored into the office requirement.	
Assumptions	$500,000 per annum rent (factored into total - $895,579 as above), plus $250,000 per annum office outgoings charge (factored into total - $447,790 as above) applied at 46% allocation to PEC, adjusted to 2017/8 dollars.	
Basis/Source of capex forecast	Forecast capex is based on current available market rates and recent historical data	

6.3.3.2 IT costs

Additional IT hardware and connectivity is required for the new FTEs. We have based these costs on quotes from existing suppliers at current rates. Costs relate to hardware and IT requirements for the establishment of the Major Projects Division Office (lap-tops, phones, VC set up etc.). We have not included any IT support costs in our capex forecasts, as our Expenditure Capitalisation Procedure.[22]

Only 46 per cent of these costs will be allocated to PEC as per the methodology outlined in section 11.1.1.

Table 6-4 - Project Development – IT costs

Criteria	IT fit out costs
Cost Category	Project Development / Labour Related costs
Forecast capex ($, Real 2018-2019)	Office Network Connectivity Data and Voice – $72,000
	Hardware - $30,000
	[redacted] IP Desktop Phones - $28,000
	Laptop and Desk set up – $87,500
	VC Set up - $45,000
	Conference Phones - $2,600
	[redacted] Multifunction Printer – $5,000
	Total – $270,100 **($82,317 allocated to PEC)**
Forecast capex ($, Real 2018-2019)	**$81,310**

[22] Expenditure Capitalisation Procedure, TransGrid, 2018

Criteria	IT fit out costs
Assumptions	> Office Network Connectivity Data and Voice cost is total based on a $1,200 monthly recurring fee as per similar arrangements currently in place > Costs for [redacted] IT Desktop phones and Laptop and desktop set up for 50 workstations within the Major Projects Office (including the PEC Team) > 46% of all IT set up and network connectivity costs will be allocated to PEC
Basis/Source of Estimate	> Estimates based on previous quotes provided from current and potential vendors
Nature of Costs	**Costs Include:** > Office Network Connectivity Data and Voice ([redacted] – $72,000 (rate is for $1,200 per month for a duration of 5 years) > Hardware – includes Router, 48 Port Switch stack, inverter and Wifi AP > Laptop and Desktop set up includes – Laptop, Single Monitor, Docking Station, Mouse, Keyboard, Lock and Backpack $1750 per (for 50 workstations) > [redacted] IP Desktop Phone total cost – Estimated at $560 per unit, for 50 units (1 per workstation)

6.3.4 PEC Project Development Team Travel and Sustenance

Forecast capex for air travel (flights) and sustenance expense for Project Development staff is $3.77 million. This has been forecast in accordance with the ATO's Standard Guidelines and our Sustenance Rates. This is discussed further in section 11.2.8.

Table 6-5 - Project Development – Travel costs

Criteria	PEC Team Travel & Expenses
Cost Category	Project Development / Labour Related Costs
Nature of Costs	**Costs Include:** > All travel, flights, accommodation and expenses for the duration of the project
Forecast capex ($, Real 2018-2019)	$3,558,757
Forecast capex (Real 2017-18)	**$3,515,206**
Assumptions	> Non-recurring capex > Includes all travel related expenses for the duration of PEC > Aligned with ATO Standard Guidelines as explained in section 11.2.8 > Excludes car hire

6.4 Project Development - Non-Labour Costs

Forecast non-labour Project Delivery capex is $6.4 million. Forecast capex is based recent historical costs and is consistent with our procurement and governance processes.

6.4.1 Geotechnical Studies

Forecast capex for geotechnical studies is $0.63 million. This forecast includes geotechnical field investigations, supervision of investigations and system planning studies. This approach is consistent with standard industry practice.[23]

6.4.1.1 Geotechnical Field Investigations

Table 6-6 - Project Development – Geotechnical field investigation costs

Criteria	Geotechnical Field Investigations
Cost Category	Project Development / Non-Labour costs / Geotechnical
Nature of Costs	**Costs Include:** All geotechnical field investigations required for PEC
Forecast capex ($, Real 2018-2019)	$293,800- geotechnical field investigations
	$184,350 - supervision and safety – geotechnical field investigations
	$478,150
Forecast capex (Real 2017-18)	**$470,653**
Assumptions	> Total tender costs of geotechnical field investigations > Excludes geotechnical field supervision and safety officers for oversight of the investigations (these are separately identified under labour) > Total capex forecast is for a single tender for the geotechnical studies > Non-recurring capex
Basis/Source of Estimate	> Forecast capex based on recent historical costs

6.4.1.2 System Planning Studies

Table 6-7 - Project Development – System planning study costs

Criteria	System Planning Studies
Cost Category	Project Development / Non-Labour costs / Geotechnical
Nature of Costs	**Costs Include:** > System planning studies provided by professional services firm

[23] Project EnergyConnect Request for Proposal for Geotechnical Field Investigation Services, TransGrid, 2019 – RFP document provides detail regarding specifications and requirements for Geotechnical Field Investigation services to be provided for PEC

	> Joint study to be undertaken between TransGrid and ElectraNet[24]
Forecast capex ($, Real 2018-2019)	$157,000
Forecast capex ($, Real 2018-2019)	**$154,543**
Basis/Source of Estimate	> Forecast capex is based on the agreed rate provided by the successful tenderer > Service provider was selected through a formal RFP process[25] > Forecast capex is based on recent historical costs for similar projects > An additional allowance for the remaining cost may be required > Non-recurring capex

6.4.2 Legal Fees

We will require legal support in the development phase of the PEC project to establish the Tender Contract. Additional legal support will be required to provide expert technical advice and to support the EPC contract process. In addition, legal support will be required for the delivery of PEC over the course of the construction phase given the scale and complexity of the project.

Forecast capex is based on advice from our external legal advisors, who have provided a detailed fee estimate setting their standard fees and charges and the expected scope of work. This is based on work undertaken to date and their experience supporting projects with a similar nature and scope**.**

Legal costs in relation to Land and Environment Costs are additional to these costs and are separately identified in section 7.4.3.1.

6.4.2.1 EPC Contract Tender Support

Table 6-8 - Project Development – EPC contract tender support costs

Cost	Legal Fees, EPC Contract Tender Support
Cost Category	Project Development / Non-Labour / Legal Fees
Nature of Costs	**Costs Include:** > Tender Process Deeds and Reviewing RFT Documentation > EPC Contract Preparation > Reviewing Bidder Departures > Final negotiation and contract execution
Forecast capex ($, Real 2018-2019)	$2,250,000
Forecast capex (Real 2017-18)	**$2,214,721**

[24] The system inputs to the project design are based on the Transmission Network (South Australia – New South Wales to Victoria) load flow studies. These studies were conducted during the options identification and assessment process. TransGrid is required to out further detail planning studies within the Project Development phase prior to construction.

[25] RFP – Design Studies for Interconnector between SA and NSW, ElectraNET, 2019 – Document provides the scope of work for the design studies to be undertaken.

Cost	Legal Fees, EPC Contract Tender Support
Assumptions	> Forecast capex is for assistance to establish the Tender Contract > Non-recurring capex
Basis/Source of Estimate	> Forecast capex is based advice from our legal advisors detailing standard rates and services that we would likely require.

6.4.2.2 Legal Fees EPC/LSE Delivery Support

Table 6-9 - Project Development – Legal fees EPC/LSE delivery support costs

Cost	EPC/LSE Delivery Support
Cost Category	Project Development / Non-Labour / Legal Fees
Nature of Costs	**Costs include:** > Preparation of analysis of responses from tenderers > Negotiation of documentation including ancillary documentation from preferred bidder > All document preparation, review and consultation in relation to EPC/LSE[26] > Assistance in contract administration during development and construction phase > Supply Agreements for Specialist Equipment > ElectraNet Connection Agreement (Draft Agreement) > ElectraNet Connection Agreement (Negotiation) > AusNet Connection Agreement > Legal support for achieving FID > Allowance for legal support to cover a possible disputes following signing
Forecast capex ($, Real 2018-2019)	$2,400,000
Forecast capex (Real 2017-18)	**$2,365,369**
Assumptions	> The capex forecast is in addition to fees in relation to Contract Tender Support > The capex forecast includes a $20,000 monthly allowance for fees in relation to EPC/LSE Delivery Support until February 2024 > Supply agreements for Specialist Equipment estimated at $30,000 per agreement > Allowance of $1.25M to cover a possible dispute following signing (based on advice from legal advisor of $5M)
Basis/Source of Estimate	> The capex forecast is based on advice from our legal advisor and who has provided details regarding rates, costs incurred to date and expected future support costs

[26] LSE – Refers to Large Specialist Equipment, LSE support referring to the legal support required in the purchase of large specialist equipment

6.4.3 Consulting Fees – application preparation

Specialist consultants have been engaged to support us prepare our application and supporting documents for PEC. As set out in the table below, these consultants have provided:

> Drafting assistance and specialist knowledge and skills for specific tasks, and

> Independent verification of project costing.

Table 6-10 - Project Development – Consulting fee costs

Cost Category	Consulting Fees
Classification	Project Development / Non-Labour / Consulting & Other Costs
Forecast capex ($, Real 2018-2019)	$230,454
Cost restated to 2017/18 $	**$226,841**
Assumptions	> Non-recurring capex > Based on fees expected to be incurred over the course of the project
Basis/Source of Estimate	> Based on actual costs incurred to date and fee proposals from suppliers. > Where specific fee proposals have not been provided by suppliers, estimates have been made based on agreed rates under master service agreements

Table 6-11 - Project Development - Summary of Consulting Cost Estimate

Cost Category	Detail	$ Total
Forecast methodology documentation and advice	External support to lead the drafting of the capex forecasting methodology and provide critical review of the approach	[redacted]
Forecast overhead cost documentation and advice	External support to document the methodology for determining the indirect PEC capex, including consolidating inputs and validating methodologies and assumptions	[redacted]
Regulatory compliance review	External review of the consistency of our proposed costs for PEC with the National Electricity Rules (NER) requirements	[redacted]
Other support	Other drafting and modelling support for the CPA	[redacted]
Forecast capex ($, Real 2018-2019)		**230,454**
Forecast capex (Real 2017-18)		**226,841**

6.4.4 Software Service Fee

We will require specialist software to assist in the management of the project including maintaining appropriate document capabilities. The software will be provided in a Software as a Service basis and includes the cost of implementation and training of users.

Table 6-12 - Project Development – Other costs

Cost Category	Software licence
Classification	Project Development / Non-Labour / Consulting & Other Costs
Forecast capex ($, Real 2018-2019)	$1,000,000
Cost restated to 2017/18 $	**$984,321**
Assumptions	> Non-recurring capex > Based on fees expected to be incurred over the course of the project
Basis/Source of Estimate	> Based on service fee proposal from software provider

7. Land and Environment Capex

7.1 Summary

This section explains and justifies our forecasting methodology for Land and Environment capex. The table below shows that our total forecast capex for is $18.38 million.

Table 7-1 Total forecast Land and Environment indirect capex for PEC ($M, Real 2017-18)

Category	Total capex	Report Reference
Labour	**5.26**	**7.2**
Labour related costs	**0.57**	
Comprising:		
Travel	0.45	7.3.1
Training & Recruitment	0.12	7.3.2 / 7.3.3
Non-Labour costs:	**12.55**	
Comprising:		
Property Consulting	3.61	7.4.2
Environmental Impact Studies	5.99	7.4.1
Surveys, Legal & Professional fees	2.95	7.4.3
Total Land & Environment	**18.38**	

These costs are additional to the capex for property and easement acquisition and environmental offsets, discussed in the Forecasting Methodology.

7.2 Labour

We expect that around 200-230 property easements or acquisitions will be required to deliver PEC. Significant resources will be required to manage the property and environmental implications of the project.

We have identified that eleven additional FTEs will be required over the course of the project to assist with the following matters:

> land acquisition

> environmental impact studies, and

> resolution and property administration.

These activities will be greatest at the commencement of the project. This timing is reflected in the phasing of FTEs. No additional FTEs are included post 2021-22.

A full listing of additional FTEs can be found at Appendix A (see section A.1.1).

7.3 Labour Related costs

7.3.1 Travel Costs

We have included a forecast capex of $445,904 for travel related expenses. This relates to travel for the Land and Environment team and travel necessary to undertake geotechnical studies, site visits, and property and easement acquisitions. The travel costs estimates are in line with the ATO's standard rates. Further details of the methodology are set out in section 11.2.8.

Table 7-2 Forecast capex for travel related expenses

Cost	Land and Environment Team Travel Costs
Cost Category	Land and Environment / Labour Related Costs
Nature of Costs	**Costs Include:** > Flights > Accommodation > Meal allowances Additional expenses allowances
Forecast capex ($, Real 2018-2019)	$451,428
Forecast capex (Real 2017-18)	**$445,904**
Assumptions	> Non-recurring capex > Forecast capex is aligned with ATO standard rules
Basis/Source of Estimate	> Estimated Cost is based on allowance detailed in 11.2.8

7.3.2 Training

We have included an allowance for training costs at the standard rate of $1,500 per person, per annum in line with the methodology detailed in section 11.2.2. The total forecast capex for training of additional Land and Environment FTEs is $25,805.

7.3.3 Recruitment

We have included an allowance for the recruitment of Land and Environment staff, based on the methodology set out in section 11.2.3. The total forecast capex for training of additional Land and Environment FTEs is $93,663. This is based on historical experience and current market conditions.

7.4 Non-Labour

There are a number of other non-labour related costs associated with Land and Environment, which are required for the delivery of PEC. These costs are explained in the tables below, together with underlying assumptions and supporting information.

7.4.1 Environmental Impact Study (EIS)

Criteria	EIS
Cost Category	Land and Environment / Non-Labour Costs
Nature of Costs	**Costs Include:** > EIS Proposal > EIS Provisional Sums – Including: – Additional EIS documentation, Final EIS for exhibition & scoping report - $380,000 – Buronga to Victorian Border (EIS, New specialist studies, submission report) - $490,000 – Victorian border to Red Cliffs (Planning support and preparation of planning approval documentation, EES) - $445,000 – Field Staff Easement Training - $70,000 – Biodiversity offset strategy desktop study - $12,000 – Biodiversity Offset strategy stewardship agreement - $106,000 – In field support to stakeholder engagement - $20,000 – Climate Change Assessment - $30,000 – Sustainability Management Plan - $42,500 – Post Approvals Advice - $12,000 – Technical Editor - $22,000 > Additional work required to complete EIS (including review, scope creep, rework and extra capacity) > Preparation of an Environmental Impact Statement is a NSW and Federal Planning requirement, that must be undertaken prior to the commencement of any Construction Works[27] > EIS support including technical evaluation and land assessment
Forecast capex ($, Real 2018-2019)	EIS Proposal Full Scope – $2,565,514 (net of historical spend)
	EIS Provisional Sums – $1,515,090
	EIS Additional Work – $2,000,000
	Total - $6,080,604
Forecast capex (Real 2017-18)	**$5,985,264**
Assumptions	> Non-recurring capex

[27] NSW Department of Planning - https://www.planningportal.nsw.gov.au/major-projects/assessment/state-significant-development/ssd-process/prepare-eis

Criteria	EIS
	> Includes all EIS related activities provided by specialist engineering services provider
Basis/Source of Estimate	Forecast capex is based on cost estimates provided by the successful engineering services provider who have drawn on their experience with projects of a similar nature and scale. This is consistent with previous EIS performed by the service provider. Prior to the selection of the service provider, an RFQ was issued to the Environmental services panel for the environmental assessment tasks associated with the preparation of an EIS and approval for PEC Buronga to Wagga. During this process, three tenders were received and evaluated on a technical and commercial basis. The preferred tenderer and was asked to provide an updated tender for environmental assessment services for PEC (from South Australia/ New South Wales Border to Buronga). The provisional sums quoted above were included in the revised tender.

7.4.2 Property Consulting Fees

Criteria	Property Consulting Fees
Cost Category	Land and Environment / Non-Labour Costs
Nature of Costs	**Costs Include:** > 4 x land agents engaged in desktop assessments and ongoing site engagement activities from SA Border to Buronga (Phase 1) and Buronga to Wagga Wagga region (Phase 2) > Property consulting scheduled and forecast across the duration of the project > Costing for each phase includes – any travel, accommodation, expenses and other costs
Forecast capex ($, Real 2018-2019)	Phase 1 Proposal (Border to Buronga) – $750,000
	Phase 2 Proposal (Buronga to Wagga Wagga) – $2,000,000
	Property consulting fees - $518,470
	Travel costs (for Property Consulting Team) – $400,000
	Total – $3,668,470
Forecast capex (Real 2017-18)	**$3,610,950**
Assumptions	> Non-recurring capex > Travel costs for property consulting team included as part of the total contract estimate
Basis/Source of Estimate	> Forecast capex based on rates provided by property advisor and recent historical data provide a useful guide

7.4.3 Surveys, Legal and Other Fees

7.4.3.1 Legal

Criteria	Legal and other Fees (Property)
Cost Category	Land and Environment / Non-Labour Costs
Nature of Costs	**Costs Include:** > Land Acquisition Advice > Land Acquisition Specialized Project Planning Tool (developed for PEC) > Native Title Advice > Property Acquisition > Interface Agreements > Access Licences > Disbursements > Legal fees
Forecast capex ($, Real 2018-2019)	Total - $3,000,000
Forecast capex (Real 2017-18)	**$2,952,962**
Assumptions	> Capex forecast based on advice from our legal advisors > Legal Fees for Tender and Contract/LSE support are not included in this estimate
Basis/Source of Estimate	> Forecast capex based on the fee schedule provided by legal advisor

8. Stakeholder and Community Engagement Indirect Capex

This section explains and justifies our forecasting methodology for Stakeholder and Community engagement capex for PEC. Stakeholder and Community engagement is an essential part of managing and delivering PEC in a sustainable way. Given the nature, scale and scope of PEC, it will impact many communities in NSW, through both the construction and commissioning phase.[28]

Forecast capex for Stakeholder and Community engagement for PEC is $8.18 million.

Table 8-1 – Forecast stakeholder and community engagement indirect capex ($M, Real 2017-18)

Category	Total capex	Report Reference
Labour	**2.87**	8.1
Labour-related costs	**0.61**	
Comprising: Travel	0.61	8.2.1
Non-Labour costs:	**4.70**	
Comprising: Community engagement – External support	3.06	8.3.1
Design / Communciation costs	1.35	8.3.2
Community Improvement	0.30	8.3.3
Total Stakeholder and Community Engagement	**8.18**	

8.1 Labour Costs

The labour costs for stakeholder and community engagement are based on four additional FTEs that are required for PEC and one FTE to work across the Major Projects Division.

Table 8-2 Stakeholder and Community Engagement – additional FTEs required

Role	Core Responsibility
Media & Communications Manager – Major Projects	Managing Media and Communications in relation to the Major Projects portfolio 46% of the costs of this resource are allocated to PEC in accordance with the methodology in section 11.1.1
Stakeholder and Community	Leading community engagement strategy and activities for PEC

[28] PEC Community Engagement Timeline, KJA, 2019

Role	Responsibility	Number of roles	% allocation to PEC	Total labour cost attributable to PEC
Media & Communications Manager – Major Projects	Managing Media and Communications in relation to the Major Projects portfolio	1	46% as per Major Projects allocation	0.41
Stakeholder and Community	Leading community engagement strategy and activities for PEC	4	Varied based on detailed project schedule	2.46
Total		**5**		**2.87**

The full listing of these roles is available at Appendix A (see section A.1.1).

The new FTE roles have been phased over the duration of the project in accordance with the required activities during construction. We have adopted a phased approach to community and stakeholder engagement to ensure appropriate levels of consultation during the planning, approvals and design and construction phases.

As a significant piece of infrastructure with a large geographical footprint, PEC will require a significant program of engagement to support project planning and delivery and meet the requirements of the NSW planning legislation and other statutory instruments including the Property Acquisition Standards[29].

This will include consultation to inform the preparation and exhibition of an EIS, support for land access and easement negotiations, and communications during project delivery. This will require a significant volume of resources with experience in regional infrastructure projects.

Our model for resourcing the planning approvals stage of major transmission projects is to augment internal resources which provide strategic oversight and leadership of the engagement and communications program, with specialised external contractors. Once a project has been approved, the internal team is bolstered to provide communications and stakeholder engagement capability in addition to the community engagement functions of the selected delivery contractor.

8.2 Labour Related Costs

8.2.1 Travel Costs

An estimate for travel related costs is included for the stakeholder and community engagement team, including costs for outsourced labour. Travel is required for site visits and community engagement meetings that will be undertaken during the project development phase of PEC. Forecast capex for travel is in line with the ATO standard rates, further explanation of the methodology can be found in 11.2.8

Table 8-3 Stakeholder and Community Engagement – Travel costs

Cost	Team Travel Costs
Cost Category	Stakeholder and Community / Labour Related Costs
Nature of Costs	**Costs Include:**

[29] DFSI-2019-03-Property Acquisition Standards – Document provides detail regarding the revised Property Acquisition Standards and the application of the Land Acquisition (*Just Terms Compensation)* Act 1991

Cost	Team Travel Costs
	> Flights > Accommodation > Meal allowances > Additional expenses allowances
Forecast capex ($, Real 2018-2019)	$616,952
Forecast capex (Real 2017-18)	**$609,401**
Assumptions	> Non-recurring capex > Forecast capex based on expected number of trips per annum based on the activities outlined within the CSEP[30] and has been aligned to the ATO standard rates
Basis/Source of Estimate	> Forecast capex based on travel assumptions detailed in 11.2.8 aligned with ATO rates

8.3 Non-Labour Costs

8.3.1 External assistance with community and Stakeholder engagement

We have engaged an external professional services firm to undertake all community and stakeholder engagement activities within the project development phase of PEC. The selection of the preferred supplier was determined through a competitive RFP process involving four suppliers.[31]

Forecast capex for external assistance with community and stakeholder engagement is $4.70 million.

Table 8-4 External assistance with Community and Stakeholder advisor

Cost	Community and Stakeholder Engagement
Cost Category	Stakeholder and Community Engagement / Labour costs
Nature of Costs	**Costs Include:** • All stakeholder and community engagement activities detailed within TimeLine and Community Engagement Schedule • All roles within the Community and Stakeholder Engagement Team, including: • Stakeholder and Communications Executive Leader • Stakeholder & Communications Planning Lead (Project Wide) • Communications Lead & EIS Development (Project Wide) • Project Lead - Buronga to Wagga Wagga

[30] CSEP Refers to the Community and Stakeholder Engagement Plan – Referenced within Appendix 11 of the EnergyConnect Project Implementation Plan, TransGrid, 2019

[31] Memo – PEC Community Engagement - Recommendation to Award, TransGrid, 2019

Cost	Community and Stakeholder Engagement
	• Project Lead for Aboriginal Engagement -Support for Buronga to Wagga Wagga • Project Lead - Border to Buronga and for all Substation works across the project • Project Lead - Buronga to Red Cliffs • Project Consultant
Forecast capex ($, Real 2018-2019)	The following projected costs have been provided by KJA based on agreed rates and proposed scope of works[32]
	Total – $3,103,750 (net of historical costs)
Forecast capex (Real 2017-18)	**$3,055,085**
Assumptions	• Costs to be incurred during the project development phase of PEC only • Estimated labour per quarter is 480 hours • Project Director FTE, phased across 2019-20 to 2021-22 • Project Coordinator and Project Director – cost is investment at no charge to us
Basis/Source of Estimate	• Forecast capex based on fee proposal from supplier

8.3.2 Design and Communications costs

Cost	Design and Communication costs
Cost Category	Stakeholder and Communications / Non-Labour
Nature of Costs	**Costs Include:** > Research/ testing project messages > printed materials > web and social media > video and animations production > events management and planning > advertising > graphic design
Forecast capex ($, Real 2018-2019)	$1,375,000
Forecast capex (Real 2017-18)	**$1,353,441**

[32] Professional Services Period Agreement – Project Energy Connect Community Relations, TransGrid and supplier, 2019 – document details services to be provided including breakdown of rates and total estimated cost.

Cost	Design and Communication costs
Assumptions	> Capex forecast based on $25,000 cost per month over the course of the project > This rate is based on recent historical costs for these activities[33]

8.3.3 Community Improvement

Table 8-5 Stakeholder and Community Engagement – Community improvement costs

Cost	Community Improvement
Cost Category	Stakeholder and communications / Non-Labour
Nature of Costs	**Costs Include:** > Community based giving programs in communities where PEC will be constructing and working > In 2016-17, and 2017-18, our Community Partnerships Program allocated $100,000 across the state for business-as-usual activities including line replacement and maintenance programs. > In 2018-19, our Community Partnerships Program (CPP) was expanded to include the LGAs affected by the proposed alignment for PEC. We received a high number of applications with a value exceeding the overall program budget. We awarded funding to a total value of $52,149 in the PEC LGAs, with the balance of the CPP funding already allocated.[34] > Given the high level of interest, it is proposed to run a CPP project specific annually throughout the project timeline.
Forecast capex ($, Real 2018-2019)	$300,000
Forecast capex (Real 2017-18)	**$295,296**
Assumptions	> Estimate based on $100,000 cost per year over the course of the project adjusted to 2017-8. > Based on our internal experience and recent historical costs for similar activities

[29] Memo – PEC Community Engagement - Recommendation to Award, TransGrid, 2019

[34] PEC CPP, TransGrid 2019

9. Insurance capex

Forecast capex of [redacted] million for insurance during construction is based on incremental premium costs [redacted]

We will require additional insurance to cover the risk associated with "construction" activities during the construction phase of PEC. The provision of additional insurance coverage has been scoped as Principal Arranged Insurance[35] [PAI] and includes:

> construction all risks insurance

> construction third party liability insurance, and

> marine cargo insurance, to cover the period from construction to commissioning.

As noted, these costs relate to the construction phase of the project and are additional to our current operational insurance [redacted]. On completion of the project, the assets will impact our ongoing insurance requirements. These additional ongoing costs are not included in this document, rather they are incorporated into the opex forecast (as detailed in the PEC Opex Forecasting Methodology).

For accounting purposes, we have applied our Expenditure Capitalisation Procedure[36] in conjunction with the accounting standards requirements set out in AASB 116 Property, Plant and Equipment.

The cost of property, plant and equipment under AASB 116 includes any cost that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

The construction risk insurance costs for the project are considered to be directly attributable costs in this respect. This treatment is consistent with our capitalisation of the PAI costs for our constructed assets.

Table 9-1 Forecast capex for insurance during construction

Cost	Insurance
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 > Marine Cargo – Insurance coverage for international shipment, providing coverage for loss or damage to goods insured whilst in transit anywhere in the world
Forecast capex ($, Real 2018-2019)	[redacted]
	[redacted]
	[redacted]

[35] 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.

[36] TransGrid Expenditure Capitalisation Procedure, TransGrid, 2018

Cost	Insurance
	[redacted]
	[redacted]
Forecast capex (Real 2017-18)	[redacted]
Assumptions	[redacted]
Basis/Source of Estimate	[redacted]

[37] How Climate Change Effects Insurance Premiums, James McCay, 2019

[38] PI, Refers to Professional Indemnity Insurance

10. Capex for Tender Payment and Facility Costs

This section explains and justifies our forecasting methodology for tender payments and facility costs for PEC. This includes:

> **Tender facility costs**. Fees to use the tender portal and data room[39], which will enable us to view and query responses from prospective bidders in a secure data room and gain access to real time reporting in order to evaluate prospective options in an effective and efficient manner. [40]

> **Unsuccessful tenderer payments.** In order to secure an EPC[41] contract that meets the scope and requirements of PEC, compensatory payments (referred to as 'Bidder Payment 1 and Bidder Payment 2) will be provided to reimburse unsuccessful bidders for the time and effort associated with preparing submissions for the tender process. Payments of this nature are in line with standard industry practice.[42]

'Under bidder payments' for unsuccessful tenders are required to encourage the competitive participation of multiple bidders by guaranteeing the quality and quantity of bidders and submissions provided. Necessity of these payments was confirmed through early market soundings that analysed market appetite (to bid). We found that such payments would enhance tender efficiency and competitive tension, consistent with finding set out in the Australian Construction Associations' Major Infrastructure Projects Practice Note[43].

The bidder payment amounts have been determined in line with NSW Government policy[44], supporting the reimbursement of up to 50 per cent of the expected bid costs for projects exceeding $100 million. Given that PEC presents the first project of this nature and scope in Australia, we believe that the $12.5 million, which is less than 25 per cent the actual bid cost, is a prudent and efficient. In the absence of these payments, we were unlikely to get the best outcomes from the tender process because bids are too few or less competitive.

Table 10-1 Tender payment and tender facility costs

Criteria	Tender and Bidder Process
Cost Category	Tender and Bidder Process
Nature of Costs	Costs Include: Fees in relation to usage of tender portal and data room Bidder payments that comprise of: 2 x $4m under bidder payments to be paid to the two losing bidders in order to reimburse for the costs of bid preparation, design costs incurred in order to develop 30% solution for tender submission. 2 x $2m to be paid to each of the unsuccessful bidders once the contract award has been determined and announced
	Bidder Payment 1 – $500,000

[39] Ansarada Memo – TransGrid, 2019 – Memo details the recent experience and functionality of Ansarada as a tender portal for a number of major infrastructure projects within Australia.

[40] Selection of Ansarada Tender portal was determined through an evaluation of the capabilities of multiple vendor options including Tenderlink and SharePoint. The evaluation process identified that given the scale and complexity of PEC, Ansarada was the only suitable option to meet project requirements.

[41] EPC/EPCC – refers to Engineering, Procurement Construction and Commissioning Contract, which is a common form of contract used to undertake large scale complex infrastructure projects

[42] Probity Advice: Recovering Bid Costs, O'Connor Marsden & Associates, 2019 – Document details advice in relation to standard industry practice for recovering Bid cost contributions

[43] Major Infrastructure Projects Practice Note, Australian Constructors Association, 2019

[44] Bid Costs Contribution Policy, NSW Treasury, 2018

Criteria	Tender and Bidder Process
Forecast capex ($, Real 2018-2019)	Bidder Payment 2 – $12,000,000
	Total - $12,500,000
Forecast capex (Real 2017-18)	**Total – $12,304,007**
Assumptions	Bidder Payment amounts determined by standard compensation amounts provided to unsuccessful bidders within tender process Bid cost reimbursement amounts are aligned with standard industry practice[45] and account bid preparation costs including design fees and expected design improvements gained by us through IP shared within bid process.
Basis/Source of Estimate	Determined in line with NSW Government policy[46]

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[45] Memo – Bidder Payments, MBB Group, 2019

[46] Bid Costs Contribution Policy, NSW Treasury, 2018

11. Summary of Key Assumptions

This section explains and justifies the key assumptions and calculation underpinning our indirect capex forecast for PEC.

11.1 Cost Allocation

11.1.1 Costs associated with the Major Projects Division

The establishment of a Major Projects Division is required in order to coordinate and deliver major Integrated System Plan (ISP) projects including PEC, HumeLink, Queensland New South Wales Interconnector (QNI) and Victorian Interconnector (VNI).

The cost estimates associated with the Major Projects Division have been allocated between each of the major projects based on the indicative total capex forecast for each project. We have applied the percentage allocations below in this Application:

Table 11-1 - Allocation rates between Major Projects

#	Major Projects Portfolio	% of Portfolio
1	Project Energy Connect (PEC)	46%
2	Hume Link (Snowy 2.0)	46%
3	Queensland New South Wales Interconnector	5%
4	Victorian Interconnector (VNI)	2%
Total		**100%**

We have applied the following assumptions and methodologies to derive our indirect capex forecast for PEC:

- All costs (labour and non-labour) that are directly attributable to PEC will be 100% allocated to PEC
- Allocated 46 per cent of costs associated with the Major Projects Office to PEC. These include:
  - Labour – Major Projects Division Core and Support Team
  - Property and Facilities – Major Projects office (including office rental, maintenance and outgoing costs)
  - IT – support costs, licencing and hardware for the Major Projects Office
  - Expenses and Travel – Major Projects Division Staff
  - Training – Major Projects Division Staff
- All cost estimates will only be allocated once
- Actual costs will be allocated across projects as per the AER-approved CAM and our accounting policies and practices.

11.2 Labour

Labour cost estimates associated with Project Development and Works Delivery have been calculated based on the following:

- Standard labour rates apply
- Training expenses are required for all staff and contractors on an annual basis
- Recruitment costs are incurred to recruit new staff and contractors
- Labour on-costs incurred for all staff and contractors
- Resources seconded from existing business as usual roles to PEC will be backfilled in most cases
- External contractor rates will be sourced from those contracts where appropriate
- No real labour cost escalation is included in the rates (as this in applied subsequently in the PEC Capex Forecast Model, as explained in the Capex Forecasting Methodology)
- Standard travel and related expense allowances apply for expected PEC-related travel.

These conditions are explained further below.

11.2.1 Standard Labour Rates

Labour rates and role classifications are aligned to our 2019 Standard labour rates[47] and our Employee's Agreement.[48] These are consistent with the approved 2018 determination allowances. The labour rates were restated to 30 June 2018 labour rates using a discount factor. Escalation rates have not been applied to subsequent years of the project.

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

Proportional Effort of Existing FTE charged to Project Work Order:

In accordance with our approved CAM:[49]

- All project staff will timesheet and charge to a Work Order
- Actual times (logged to work orders) will be used to determine labour costs
- In limited cases, where an employee is an existing staff member allocating a significant proportion (25% or more) of time to Project Energy Connect, only the time charged to the Work Order will be used to calculate the cost
- The significant portion of time spent by existing team members is considered an incremental cost due to the required backfill of these roles.

11.2.2 Training

Training costs for PEC staff within Project Development, Works Delivery, Land & Environment teams are based on our standard allowance of $1,500 per person, per annum. This allowance is for all FTEs that are Contract Officers or under an Enterprise Agreement (Award).

The allowance for training has been applied on a per FTE basis. The total training costs have been allocated using the costs allocation approach described above. For example, if the role is 100 per cent attributable to PEC, then the costs are directly attributed to PEC. In contrast, where an FTE works across all four major

[47] Labour and Support Cost Rates Effective July 2019

[48] TransGrid Employees Agreement 2016

[49] TransGrid, Cost Allocation Methodology, 14 December 2016 (pg. 15)

projects (see table 11.1) then 46 per cent of their costs is allocated to PEC as per the method outlined in section 11.1.1.

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

A Learning and Development resource (one FTE) has also been included in the incremental resources relating to major projects. This FTE will be responsible for identifying learning and development needs, coordinating formal learning requirements including induction of the incremental and seconded resources and will be shared across major projects.

The training costs that have been included in the estimates for Works Delivery, Project Development and Land and Environment are in line with the categorisation of labour as explained in this report.

11.2.3 Recruitment

In order to account for the recruitment of the additional resources required for PEC and the Major Projects Division, an allocated recruitment cost has been included in the forecasted additional labour costs in Works Delivery, Project Development and Land and Environment.

We have employed a Talent Acquisition Advisor[50] to coordinate the engagement with external recruitment agencies and to facilitate the on-boarding process for successful candidates across the Major Projects portfolio. This cost is included within the Project Development labour costings and has been allocated at 46 per cent to PEC.[51]

In addition, we will 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, it is anticipated that 50 per cent of the new FTEs (including backfilled roles) will be employed directly and the remaining 50 per cent will require recruiter assistance. These rates will be based on the procurement panel utilising vendor negotiated rates.[52]

The recruitment costs are applied on the following basis:

Recruitment fees = sum of annualised salary of new FTEs x 50% x 15%

This has been applied consistently across as Project Development, Works Delivery and Land and Environment cost estimates.

11.2.4 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 11-2 - Labour on-cost rates

Labour On Cost Rate		
Type	**Rate (%)**	**Breakdown**
Employees under Award – Enterprise Agreement	0.4	Annual Leave – 10%
		Long Service Leave – 7%

[50] Talent Acquisition Advisor – Position Description – Project Based, TransGrid, 2019 – Document details the position description of the Talent Acquisition Advisor acquired for PEC.

[51] One FTE for project development – Major Projects Division - see Appendix A.

[52] Agency Contact Details- Q42_18 Recruitment Services, TransGrid 2019 – Document details TransGrid's Recruitment Panel Service providers and negotiated rates for recruitment fees. Given the commercial sensitivity of information included within the document, it has not been included as an attachment to this report but may be available upon request.

Labour On Cost Rate		
		Payroll Tax – 7%
		Superannuation – 16%
Employees on individual employment contracts – Contract Officers	0.24	Annual Leave – 10%
		Long Service Leave – 7%
		Payroll Tax – 7%
		*Superannuation is included in the base rate for Contract Officers

11.2.5 Resource Backfill and Evidence

The following assumptions have been applied in this document:

> Where an existing employee takes on a new role that is required for PEC, it is assumed that their previous role will be backfilled using the existing standard labour rate and level.

> Where more than 25 per cent (or more) of an existing employees' time is expected to be required to support PEC or the Major Projects Office, it is assumed that their previous role will be backfilled, and hence this cost is incremental and would not be incurred if PEC did not proceed.

11.2.6 External Contractor Rates

The rates applied for external contracted labour have been determined based on documentation provided by the external party detailing fees, rates and charges. These rates have been provided at current rates, being 2019-20 dollars. The costs have been translated to 2017-18 dollars for this document.

11.2.7 Escalation Factors

No escalation factors have been applied. It is noted that the labour rates have been restated to 30 June 2018 rates.

11.2.8 Travel and Expenses

All costs in relation to Travel and Expenses (including accommodation, meal allowances and other expenses) have been determined in accordance with the ATO Guidelines TD 2019/11[53]. The application of these standard rates and calculation methodologies are summarised in the table below:

Table 11-3 Travel and expenses methodology and assumptions

Labour Type	Calculation Methodology, Assumptions and Application
TransGrid PEC Team or Major Projects Team Staff	> Allowance for travel costs has been determined in accordance with the following assumptions in relation to travel frequency, duration and location: – Estimation methodology includes scheduled frequency and duration of visits per role and grade

[53] ATO, TD 2019,11

Labour Type	Calculation Methodology, Assumptions and Application
	– Estimated total is averaged to allow for - weekly travel of 10 FTE for the duration of the project for a series of roles across Project Development as indicated in A.1.1 – Flight allowance has been determined using average flight costs for Sydney to Mildura and Sydney to Wagga (Return) during the duration of the construction period – All expenses and accommodation allowances have been aligned with ATO Standard Rates – Estimate is based on average trip duration is 3 nights, with an allowance of $293.65 per night – Expenses and accommodation allowances have been determined utilising a salary grade of $124,481 - $221,550 for all FTEs (including Executive staff) – All expense amounts have been calculated using the Tier 2 Country Cost Centre classification provided by the ATO
Works Delivery Labour	> All travel costs have been integrated into the labour rates for Works Delivery with a detailed breakdown provided in 5.2 > Flights – are estimated as a total cost for flights on a per FTE basis for the duration of the construction period > This estimate has been included in Works Delivery non-labour costs in 5.2.4 > All estimates have been aligned to the ATOs standard rules
Land, Environment and Team	> The estimate provided for travel and expenses for the PEC Land and Environment Team has been determined in alignment with the ATO Standard Rates > Estimation methodology includes scheduled frequency and duration of visits per role and grade > Flight allowance has been determined using average flight costs for Sydney to Mildura and Sydney to Wagga (Return) during the first two years of the construction period > Estimated total is averaged to allow for - monthly travel of 10 FTE for the first two years of the construction period for a series of roles across the Land and Environment Team as indicated A.1.1 > Estimate is based on average trip duration is 3 nights, with an allowance of $293.65 per night > All expenses and accommodation allowances have been aligned with ATO Standard Rates > Expenses and accommodation allowances have been determined utilising a salary grade of $124,481 - $221,550 for all FTEs (including Executive staff) > All expense amounts have been calculated using the Tier 2 Country Cost Centre classification provided by the ATO
Stakeholder and Community Engagement	> The estimate provided for travel and expenses for the KJA Stakeholder and Community Engagement Team has been determined in alignment with the ATO Standard Rates

Labour Type	Calculation Methodology, Assumptions and Application
	> Estimation methodology includes scheduled frequency and duration of visits per role and grade > Flight allowance has been determined using average flight costs for Sydney to Mildura and Sydney to Wagga (Return) during the first two years of the construction period > Estimate is based on average trip duration is 3 nights, with an allowance of $293.65 per night > Estimated total is averaged to allow for - monthly travel of 3 FTE for the first year of the construction period (until March 2021) and monthly travel for 8 FTE for the subsequent period (until June 2023) for a series of roles across the KJA Stakeholder and Community Engagement Team as indicated A.1.1. > All expenses and accommodation allowances have been aligned with ATO Standard Rates > Expenses and accommodation allowances have been determined utilising a salary grade of $124,481 - $221,550 for all FTEs (including Executive staff) > All expense amounts have been calculated using the Tier 2 Country Cost Centre classification provided by the ATO

11.3 External Advice – Consulting Fees and Other Services

Where possible, costs in relation to consulting fees and legal advice were sourced directly from external party documents that detail fees, rates, and charges. All rates are assumed to have been provided at current rates which are assumed to be in dollars as at June 2019. No escalation for CPI or real rate escalation was applied.

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

11.4 IT

As the proposed office facility will house employees operating across the four major projects, all IT set up costs and network connectivity costs associated with the new office space will be attributed at 46 per cent to PEC as per section 11.1. Our approach to IT for Major Projects is consistent with our IT Strategy. All cost estimates are based on the selected preferable option noted in 6.3.3.2.

12. Reference Material

Agency Contact Details- Q42_18 Recruitment Services, TransGrid

Ansarada Memo – TransGrid, 2019

ATO, TD 2019,11

Bid Costs Contribution Policy, NSW Treasury, 2018

DFSI-2019-03-Property Acquisition Standards – Document provides detail regarding the revised Property Acquisition Standards and the application of the Land Acquisition (Just Terms Compensation) Act 1991

Electric and Magnetic Fields Fact sheet, TransGrid, 2019

EnergyConnect Flood Study – Phase 1 Stage 1, BECA 2019

Expenditure Capitalisation Procedure, TransGrid, 2018

GHD Independent Verification Assessment Report, 2019

How Climate Change Effects Insurance Premiums, James McCay, 2019

Labour and Support Cost Rates Effective July 2019

Major Infrastructure Projects Practice Note, Australian Constructors Association, 2019

Memo – Bidder Payments, MBB Group Pty Ltd, 2019

Memo – PEC Community Engagement - Recommendation to Award, TransGrid, 2019

PEC CPP, TransGrid 2019

PEC Community Engagement Timeline, KJA, 2019

PEC Project Delivery Resourcing, TransGrid, 2019

PEC Workpapers – TransGrid – Summary- ICCC – Draft -191202-Workpapers-shared, TransGrid, 2019

Power Frequency Electric and Magnetic Fields Management Policy, TransGrid, 2016

Probity Advice: Recovering Bid Costs, O'Connor Marsden & Associates Pty Ltd, 2019

Professional Services Period Agreement – Project Energy Connect Community Relations, TransGrid and KJA, 2019

Project EnergyConnect - Request for Proposal for Geotechnical Field Investigation Services, TransGrid, 2019

RFP – Design Studies for Interconnector between SA and NSW, ElectraNET, 2019

TransGrid Short Term Office Preliminary Options Report V2 20191016

[redacted]

TransGrid Employees Agreement 2016

TransGrid, Cost Allocation Methodology, 14 December 2016

Talent Acquisition Advisor – Position Description – Project Based, TransGrid, 2019

Updated Labour Assumptions Report, TransGrid 2019

Appendix A

A.1.1 Incremental labour by role

Category	Requirement/Responsibilities	Role	Duration
Project Development			
1 Project Management Team	Responsible for oversight of PEC, ultimately responsible for decisions regarding delivery of the project	Project Director	Duration of the project
2 Project Management Team	Responsible for supporting the Project Director in the delivery of the project	PD Support	Duration of the project
3 Project Management Team	Responsible for commercial management of PEC including the implementation of policies and execution of business strategy	Commercial Manager	39 months
4 Project Management Team	Responsible for supporting the Project Director in the delivery of the project	Project Administrator	Duration of the project
5 Project Management Team	Responsible for technical management of PEC	Technical Project Manager	9 months
6 Project Management Team	Short term project development role required during the establishment phase of the project	Project Developer	6 months at 40% utilisation
7 Project Management Team	Responsible for ensuring the performance of controls activities for the duration of the project	Project Controls Manager	Duration of the project
8 Project Management Team	Specialist technical advisor	Strategic Advisor	9 months
9 Project Management Team	Specialist role required to provide support for transaction activities	Transaction Manager 1	9 months
10 Project Management Team	Specialist role required to provide support for transaction activities	Transaction Manager 2	9 months
11 Project Management	Complex project with multiple sites and phases of work requiring experienced scheduler to coordinate activities.	Programme Schedule Manager	Duration of the project
12 Project Management	Specialist role required to manage data room required for project	Data Room Manager	9 months

Category	Requirement/Responsibilities	Role	Duration
13 Project Management	Specialist technical support role	Technical Officer	9 months
14 Project Management	Specialist technical support role	Technical Writer 1	9 months
15 Project Management	Short term specialist technical support role	Technical Writer 2	1 month
16 Project Management	Specialist technical support role	Owners Engineer (OE)	Duration of the project
17 Project Management	Specialist management role	Geotechnical Project Manager	9 months
18 Project Management	Responsible for risk management activities for the duration of the project	Risk Officer	Duration of the project
19 Project Management	Short term specialist role required to complete estimation activities during project establishment phase	Project Estimator	5 months
20 Project Management	Short term specialist role required during project establishment phase	Major Project Asset Manager 1	3 months
21 Project Management	Procurement support role required for the duration of the project	Procurement Officer 1	Duration of the project at 50% utilisation
22 Project Management	Procurement support role required for the duration of the project	Procurement Officer 2	Duration of the project
23 Project Management	Procurement advisory role required for the duration of the project	Procurement Advisor	Duration of the project at 25% utilisation
24 Project Management	Short term safety officer support role	Safety Officer	12 months
25 Project Management	Short term technical support role	Category Assistance	6 months
26 Project Management	Specialist contract administration role	Contract Administrator	39 months
Major Projects			
1 Major Projects	Leadership across all four major projects. Ensuring that each project remains on track to deliver within project budget and	Executive	Duration of the project

Category	Requirement/Responsibilities	Role	Duration
	timelines. Leadership and sponsorship of program of works		
2 Major Projects	Responsible for supporting the Executive in the oversight of all works within the Major Projects portfolio.	Assistant	Duration of the project
3 Major Projects	Coordination of activities across all four major projects. Interdependencies and interactions identified and managed	PMO	Duration of the project
4 Major Projects	Responsible for implementing safety protocols across the four major projects	Safety Leader	Duration of the project
5 Major Projects	Responsible for commercial management across all four major projects including the implementation of policies and execution of business strategy	Commercial Manager	Duration of the project
6 Major Projects	Responsible for the management of communications and stakeholder engagement activities across all four major projects.	Media & Communications Manager – Major Projects	Duration of the project
Stakeholder and Communications			
1 Stakeholder and Communications	Responsible for the management of communications and stakeholder engagement activities for the duration of the project.	Stakeholder and Communications Manager	Duration of the project
2 Stakeholder and Communications	Responsible for the delivery of stakeholder and communications activities.	Stakeholder and Communications Officer 1	Duration of the project
3 Stakeholder and Communications	Responsible for the delivery of stakeholder and communications activities.	Stakeholder and Communications Officer 2	19 months
4 Stakeholder and Communications	Responsible for the delivery of stakeholder and communications activities.	Stakeholder and Communications Officer 3	19 months
Major Projects – Engineering and Support			
1 Major Projects – Engineering and Support		Engineering	Duration of the project

Category	Requirement/Responsibilities	Role	Duration
2 Major Projects – Engineering and Support	Engineering Team – Required to perform to deliver all engineering inputs required to deliver PEC.[54]	Engineering - Lines	
3 Major Projects – Engineering and Support		Engineering - Civil Lines/Substations	
4 Major Projects – Engineering and Support		Engineering - Civil Lines/Substations	
5 Major Projects – Engineering and Support		Engineering - Substations	
6 Major Projects – Engineering and Support		Engineering - Structural	
7 Major Projects – Engineering and Support		Engineering - Communications	
8 Major Projects – Engineering and Support		Engineering - Secondary Systems	
9 Major Projects – Engineering and Support		Engineering - System Planning	
10 Major Projects – Engineering and Support	Role required to perform inputs in relation to System planning, testing and commissioning of PEC	Spatial Systems Data team	Duration of the project
11 Major Projects – Engineering and Support	Delivery and oversight of all regulatory requirements for contingent project portfolio. Including the development and execution of all regulatory documentation and reporting.	Regulatory	Duration of the project
12 Major Projects – Engineering and Support	Responsible for developing budgets and estimates across all four projects. Tracking and reporting on financial performance across projects. Ensuring consistency of	Finance Business Partner	Duration of the project

[54] Engineering team roles identified have been aligned to the phases and requirements outlined in the EnergyConnect Project Implementation Plan, TransGrid, 2019

Category	Requirement/Responsibilities	Role	Duration
	financial reporting. Providing support for decision making.		
13 Major Projects – Engineering and Support	Significant increase in headcount, creates a need for additional HR support across HR business partnering, payroll and recruitment.	HR, Payroll and Recruitment	Duration of the project
14 Major Projects – Engineering and Support	Coordination of training for PEC employees including induction training of new staff.	Learning & Development	Duration of the project
15 Major Projects – Engineering and Support	Role to provide internal audit of PEC whilst in construction phase. The nature of the project requires specialist skills in this domain.	Audit	Duration of the project
16 Major Projects – Engineering and Support	Other Support Resources	Risk Management, Workshops & Modelling	Duration of the project
17 Major Projects – Engineering and Support	Required to respond to incremental procurement activity as a result of the four major projects. The combined cost estimates of the major projects is $3.2bn and will require procurement of goods and services from new and different suppliers Procurement Support	Procurement Manager	Duration of the project
18 Major Projects – Engineering and Support		Procurement Manager	Duration of the project
19 Major Projects – Engineering and Support		Procurement Specialist	Duration of the project
Land and Environment			
1 Land & Environment	Time allocation for Head of Property and Environment (TG) to oversee delivery of environmental approvals and property/easement acquisitions	Head of Property & Environment	Duration of the project at 40% utilisation
2 Land & Environment	Responsible for oversight and delivery of project specific environmental approvals and property/easement acquisitions	Land Access and Environment PM	Duration of the project
3 Land & Environment	Responsible for managing the project EIS. Complex project with both NSW and Commonwealth approvals requirements	Senior Environment Manager	Duration of the project

Category	Requirement/Responsibilities	Role	Duration
4 Land & Environment	Responsible for all project related mapping and spatial data management	Spatial Systems Officer	19 months
5 Land & Environment	Responsible for managing the property and easement acquisitions for the project. Complex project with between 220 and 240 easement agreements	Senior Property Manager	36 months
6 Land & Environment	Responsible for managing the property and easement acquisitions for the project. Complex project with between 220 and 240 easement agreements	Senior Property Manager 1	19 months
7 Land & Environment	Responsible for managing the property and easement acquisitions for the project. Complex project with between 220 and 240 easement agreements	Senior Property Manager 2	9 months
8 Land & Environment	Support role for property and easement acquisitions for the project. Complex project with between 220 and 240 easement agreements	Senior Surveyor	19 months
9 Land & Environment	Support role for delivery of complex project with both NSW and Commonwealth approvals requirements	Environment Officer	Duration of the project at 25% utilisation
Works Delivery			
1. Project Management - Works	Project Wide Delivery Management	Asset & Engineering Manager	Works Delivery Roles Phased across duration of the construction period[55]
2. Project Management - Works	Project Wide Delivery Management	Design HV	
3. Project Management - Works	Project Wide Delivery Management	Design TL	
4. Project Management - Works	Project Wide Delivery Management	Design Secondary	
5. Project Management - Works	Project Wide Delivery Management	Design Layout TL	

[55] The Updated Labour Assumptions Report, TransGrid, 2019 details the assumptions and phasing for all roles

Category	Requirement/Responsibilities	Role	Duration
6. Project Management - Works	Project Wide Delivery Management	Design Structural TL	
7. Project Management - Works	Project Wide Delivery Management	Design Manager	
8. Project Management - Works	Project Wide Delivery Management	Design Civil 1	
9. Project Management - Works	Project Wide Delivery Management	Design Civil 2	
10. Project Management - Works	Project Wide Delivery Management	Senior Drafting Officer	
11. Project Management - Works	Project Wide Delivery Management	Design System Planning 1	
12. Project Management - Works	Project Wide Delivery Management Support Role	Design System Planning 2	
13. Project Management - Works	Project Wide Delivery Management	Design System Planning 3	
14. Project Management - Works	Project Wide Delivery Management	Subs Asset Manager	
15. Project Management - Works	Project Wide Delivery Management Technical Fitter	TL Asset Manager	
16. Project Management - Works	Project Wide Delivery Management Site Management Role	Field Support	
17. Project Management - Works	Project Wide Delivery Management Site Management Role	Commissioning Manager	
18. Project Management - Works	Project Wide Delivery Management Support Role	Commissioning Support	
19. Project Management - Works	Project Wide Delivery Management Support Role	Commissioning Engineer	
20. Project Management - Works	Project Wide Delivery Management Support Role	Commissioning Field Staff	
21. Project Management - Works	Project Wide Delivery Management Support Role	Commissioning Permit Officer	
22. Project Management - Works	Project Wide Delivery Management Support Role	TL Engineer	

Category	Requirement/Responsibilities	Role	Duration
23. Project Management - Works	Project Wide Delivery Management Technical Fitter	Subs Engineer	
24. Project Management - Works	Project Wide Delivery Management Site Management Role	Document Controller	
25. Project Management - Works	Project Wide Delivery Management Site Management Role	Equipment Engineer	
26. Project Management - Works	Project Wide Delivery Management Site Management Role	TL Program Manager	
27. Project Management - Works	Project Wide Delivery Management Site Management Role	Subs Program Manager	
28. Project Management - Works	Project Wide Delivery Management Technical Fitter	Engineer	
29. Project Management - Works	Project Wide Delivery Management Site Management Role	Senior Site Manager Lines	
30. Project Management - Works	Project Wide Delivery Management Site Management Role	Senior Site Manager Subs	
31. Project Management - Works	Project Wide Delivery Management Technical Management Role	Construction Manager	
32. Project Management - Works	Project Wide Delivery Management Support	Senior Project Manager	