TransGrid

Project EnergyConnect | Contingent Project Application – Revised Capex Application

30 April 2021

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Contents

1. Executive Summary

We are pleased to submit this Revised Capex Application, which contains our revised capex forecast for the New South Wales (NSW) component of Project EnergyConnect (PEC). This document is our response to the AER's December 2020 Preliminary Position paper[1], which itself responded to:

- our Contingent Project Application (Application) for PEC that we provided to the AER on 29 June 2020[2], and
- our forecast capex for PEC based on the outcomes of the Best and Final Offer (BAFO) stage of our procurement process, which we provided to the AER on 30 September 2020 (initial capex forecast)[3].

We have largely accepted the AER's Preliminary Position on our initial capex forecast.

Our revised capex forecast is $1,882.2 million (Real 2017-18)[4] on the basis that the Capital Expenditure Sharing Scheme (CESS) will continue to apply. This is $28.6 million (Real 2017-18) or 1.5 per cent lower than our initial capex forecast of $1,910.9 million (Real 2017-18). This compares with the AER's assessed capex allowance in its Preliminary Position paper of $1,709.8 million (Real 2017-18), which does not include any allowance for biodiversity risk costs and includes a nominal allowance for environmental offset costs[5]. Our revised capex forecast amends or further justifies the following elements of our initial capex forecast, to ensure that it accurately reflects our current circumstances and the latest and most accurate available information:

- Tendered works – we have
  - reduced our capex forecast for route deviations based on actual and potential deviations, and
  - reduced our forecast capex for other construction costs (OCCs) by accepting the AER's Preliminary Position for environmental impact statement (EIS) approval delay, the COVID-19 pandemic and extreme weather events.
- Property and easements – we have:
  - reduced our forecast capex for the negotiation margin required for property and easement acquisition. Updated advice from our property advisors, Jones Lang Lasalle (JLL) continues to support our initial capex forecast, however we have chosen to absorb part of this expected cost. We have only included 66 per cent of the expected negotiation margin, which is just above the mid-point between the AER's Preliminary Position and JLL's independent advice. We consider that this represents a reasonable compromise
  - increased our environmental offset costs to reflect updated advice from WSP, our accredited assessor, which incorporates outcomes from Biodiversity Development Assessment Report (BDAR) assessment for the Western section and additional field surveys for the Eastern section of PEC. This increase is offset by a reduction in our biodiversity risk costs discussed below, and
  - removed certain easement costs that would be avoided if the potential route deviation into Wagga Wagga goes ahead.

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1 AER, Preliminary Position - TransGrid Contingent Project - Project EnergyConnect, December 2020. Found at Link

2 TransGrid, Project Energy Connect Contingent Project Application (Principal Application), 29 June 2020. Found at Link

3 TransGrid, Contingent Project Application for Project EnergyConnect (Expenditure Forecasts), 30 September 2020. Found at Link

4 Including equity raising costs of $16.0 million (Real 2017-18)

5 The AER reduced our forecast capex of $127.4 million (Real 2017-18) by $101.0 million, or 79 per cent, to $26.4 million (Real 2017-18)

- Risks – we have reduced our biodiversity risk cost to reflect updated advice from WSP, which has considered the risk of not being able to identify and establish Biodiversity Stewardship Agreements (BSA) for the Eastern section of PEC.

If the CESS does not apply to our environmental offset costs, we propose a revised capex forecast of $1,863.5 million (Real 2017-18)[6]. This includes revised environmental offset costs, which reflect updated advice from WSP and accepts the AER's Preliminary Position on our biodiversity risk costs, which does not include any allowance for these costs. If the CESS does not apply to our environmental offset costs, our actual capex for this category would be included in the Regulatory Asset Base (RAB) and would not be subject to a CESS penalty or reward.[7]

We look forward to continuing to engage with the AER as it reviews this Revised Capex Application and our supporting documentation.

We also welcome customer and other stakeholder feedback on this Revised Capex Application.

The AER's approval of our prudent and efficient capex forecasts, and the resultant changes in our revenues and prices, will enable PEC to proceed to a final investment decision.

[6] Including equity raising costs of $15.8 million (Real 2017-18)

[7] If these costs were incurred in 2022-23, which is the final year of the current regulatory period, the outcome would be the same as under a true-up. This is because our actual costs (including any under- or over-spend against the allowance) would be rolled into our RAB at the end of the next regulatory period i.e. 2023-28, together with financing costs (i.e. 5 years of the regulated WACC).

2. Overview of Revised Capex Forecast

On 29 June 2020, we provided the AER with our Application for PEC. On 30 September 2020, we provided the AER with our capex forecast of $1,910.9 million (Real 2017-18)[8] based on the outcomes of the BAFO stage of our procurement process (initial capex forecast).

On 18 December 2020, the AER published its Preliminary Position paper, which set out its positions on the status of the trigger events for our Application and forecast expenditure and revenues for PEC. The AER's Preliminary Position reduced our forecast capex of $1,910.9 million (Real 2017-18)[9] by $201.0 million, or 10.5 per cent, to $1,709.8 million (Real 2017-18).

We have included two revised capex forecasts for PEC:

- a revised capex forecast of $1,882.2 million (Real 2017-18)[10] on the basis that the CESS will continue to apply. This includes revised environmental offset costs of $148.2 million (Real 2017-18) and biodiversity risk costs of $18.5 million (Real 2017-18) based on updated advice from WSP, and
- a revised capex forecast of $1,863.5 million (Real 2017-18)[11] if the CESS does not apply to our environmental offset costs. This includes revised environmental costs of $148.2 million (Real 2017-18) based on updated advice from WSP, however it does not include any allowance for biodiversity risk costs, consistent with the AER's Preliminary Position. If the CESS does not apply, our actual capex on environmental costs would be included in the RAB and would not be subject to a CESS penalty or reward.[12]

In all other respects our revised capex forecasts with and without the CESS are the same and reflect our current circumstances and the latest and most accurate available information.

Table 1 details our initial capex forecast, the AER's Preliminary Position and our revised capex forecasts with and without the CESS, by category. This shows that we have largely accepted the AER's Preliminary Position:

- Tendered works – substations and transmission lines, large specialist equipment and OCCs
- Property and easements – property and easement acquisition, except for the negotiation margin
- Indirect costs – actual costs and corporate and network overheads, and
- Real input escalators.

[8] including equity raising costs of $16.2 million (Real 2017-18)

[9] including equity raising costs of $16.2 million (Real 2017-18)

[10] Including equity raising costs of $16.0 million (Real 2017-18)

[11] Including equity raising costs of $15.8 million (Real 2017-18)

[12] If these costs were incurred in 2022-23, which is the final year of the current regulatory period, the outcome would be the same as under a true-up. This is because our actual costs (including any under- or over-spend against the allowance) would be rolled into our RAB at the end of the next regulatory period i.e. 2023-28, together with financing costs (i.e. 5 years of the regulated WACC).

Table 1 – Our initial capex forecast, the AER's Preliminary Position and our revised capex forecast with and without the CESS applying ($Million, Real 2017-18)

Category of PEC capex	Description	Initial Forecast Capex	AER Preliminary Position	Revised Forecast Capex		Difference between Initial and Revised Forecast Capex	
				With CESS	Without CESS	With CESS	Without CESS
Tendered works	Substations and transmission lines	1,240.3	1,240.3	1,240.3	1,240.3	-	-
	Route deviation provision	30.0	8.8[1]	26.8	26.8	(3.1)	(3.1)
	Large specialist equipment	140.2	140.2	140.2	140.2	-	-
	Other construction costs (OCC)	58.2	43.7	43.7	43.7	(14.5)	(14.5)
Property and easements	Property and easement acquisition (net of potential avoided costs)	121.5	97.5	109.6	109.6	(11.8)	(11.8)
	Environmental 'offset' costs	127.4	26.5	148.2	148.2	20.8	20.8
Indirect costs	Actual costs	27.8	27.8	27.8	27.8	-	-
	Corporate and Network overheads	108.0	108.0	108.0	108.0	-	-
Risks	Biodiversity risk cost	38.2	-	18.5	-	(19.7)	(38.2)
Real input escalators	Real labour cost escalation	3.2	3.2	3.2	3.2	-	-
Total capex (exc. equity raising costs)		**1,894.7**	**1,695.7**	**1,866.3**	**1,847.8**	(28.4)	(46.9)

Category of PEC capex	Description	Initial Forecast Capex	AER Preliminary Position	Revised Forecast Capex		Difference between Initial and Revised Forecast Capex	
				With CESS	Without CESS	With CESS	Without CESS
Equity raising costs (from the PTRM)		16.2	14.1	16.0	15.8	(0.3)	(0.5)
Total capex (inc. equity raising costs)		**1,910.9**	**1,709.8**	**1,882.2**	**1,863.5**	**(28.6)**	**(47.3)**

Notes – 1. This reduction relates to our contingency allowance for route deviations i.e. the cost of constructing an additional 20 km of transmission lines above the tendered construction costs. The AER stated that it reduced our forecast from $32.6 million to $11.4, which translated to a new value of $8.8 million (Real 2017-18). Our revised forecast is $26.8 million (Real 2017-18).

Table 2 sets out the key changes between our initial and revised capex forecast with the CESS and without the CESS for PEC:

- Tendered works – we have:
  - reduced our forecast capex for route deviations to reflect feedback from the AER and the latest and most accurate available information on actual and potential deviations, and
  - reduced our forecast capex for OCCs by accepting the AER's Preliminary Position for EIS approval delay, the COVID-19 pandemic and extreme weather events.
- Property and easements – we have:
  - reduced our forecast capex for the negotiation margin required for property and easement acquisition. Updated advice from our property advisors, JLL continues to support our initial capex forecast, however we have chosen to absorb part of this expected cost. We have only included 66 per cent of the expected negotiation margin, which is just above the mid-point between the AER's Preliminary Position and JLL's independent advice. We consider that this represents a reasonable compromise
  - increased our capex forecast for environmental offset costs based on updated advice from our environmental experts WSP, recent field surveys and the progress of BDAR for the Western region, and
  - removed avoided easement costs, which may arise if the potential route deviation into Wagga Wagga goes ahead. This is discussed in section 4.1.2.
- Risks – we have:
  - assuming the CESS continues to apply - reduced our biodiversity risk costs based on updated advice from WSP, and
  - if the CESS does not apply – accepted the AER's Preliminary Position, which did not include any allowance for biodiversity risk costs.

Table 2 – Key changes between our initial and revised forecast capex (excluding equity raising costs) ($Million, Real 2017-18)

Description of capex	Initial capex forecast	Revised forecast		Difference between Initial and Revised capex forecast		Basis for our revised capex
		With CESS	Without CESS	With CESS	Without CESS	
Tendered Works						
Substations and transmission lines – route deviation	30.0	26.8	26.8	(3.1)	(3.1)	We have reduced our initial capex forecast for route deviations based on the actual and potential deviations we have identified to-date
OCC – EIS delay	11.9	8.9	8.9	(3.0)	(3.0)	We have accepted the AER's Preliminary Position and reduced our revised capex forecast accordingly.
OCC – COVID-19 pandemic	8.0	6.0	6.0	(2.0)	(2.0)	
OCC – extreme weather events	10.7	1.2	1.2	(9.5)	(9.5)	
Property and easements						
Negotiation margin	29.9	19.8	19.8	(10.2)	(10.2)	We have reduced our revised forecast capex notwithstanding that updated advice from JLL continues to support our initial capex forecast. We have only included 66 per cent of the expected cost, which is just above the mid-point between the AER's Preliminary Position and JLL's independent advice. We consider that this represents a reasonable compromise.
Environment 'offset' costs	127.4	148.2	148.2	20.8	20.8	We have increased our capex forecast based on updated advice from WSP, which incorporates our most recent BDAR estimate for the Western section and additional field surveys for the Eastern section.

Description of capex	Initial capex forecast	Revised forecast		Difference between Initial and Revised capex forecast		Basis for our revised capex
		With CESS	Without CESS	With CESS	Without CESS	
Avoided easement costs	-	(1.7)	(1.7)	(1.7)	(1.7)	We have removed certain easement costs that would be avoided if the potential route deviation into Wagga Wagga goes ahead.
Risks						
Biodiversity risk costs	38.2	18.5	-	(19.7)	(38.2)	**Assuming the CESS continues to apply:** We have reduced our capex forecast to reflect updated advice from WSP, which has considered the risks associated with us not being able to identify and establish BSAs for the Eastern section of PEC. **If the CESS does not apply**: We have accepted the AER's Preliminary Position.
Equity raising costs						
Equity raising costs	16.2	16.0	15.8	(0.3)	(0.5)	
Total (incl. equity raising costs)				**(28.6)**	**(47.3)**	

2.1 Structure of this document

The remainder of this document is structured as follows:

- Chapter 2 overviews our revised capex forecast for PEC
- Chapter 3 summarises the AER's Preliminary Position
- Chapter 4 sets out our revised capex forecast for tendered works
- Chapter 5 sets out our revised capex forecast for environmental offset costs
- Chapter 6 provides additional information to support our proposed negotiation margin on property and easement acquisitions, and
- Chapter 7 further explains the nature of biodiversity risk costs associated with PEC, sets out our revised capex forecast and our proposed approach to allowing for a subsequent true-up for our actual expenditure.

2.2 Supporting documents

This Revised Capex Application is supported by the expert reports, documents and models detailed in Table 3.

Table 3 – Expert reports supporting our revised capex forecast

Document / model number	Name	Content/ purpose
A.1	JLL, Response to AER Preliminary Position, TransGrid Contingent Project Application, Project EnergyConnect, February 2021	> Expert report from our land and property advisors on the appropriate negotiation margin for land and property acquisition for PEC.
A.2	WSP, Response to AER preliminary position TransGrid Contingent Project EnergyConnect – Environmental Offset Costs, March 2021	> Expert report from our environmental advisors WSP on the likely environmental offset costs and expected biodiversity risk costs associated with PEC.
A.3	Contractor, PEC – L2&L3 Budget Proposal, 2 February 2021	> Budget proposal from the Contractor to realign the routes between Buronga to Dinawan substations and Dinawan to Wagga Wagga substations (lines L2 and L3).
A.4	WSP, PEC Route Option – Approach to Wagga Wagga Assessment , 23 February 2021	> Expert report on the options and associated costs for the different corridor options for the final 8 km of transmission line terminating at the Wagga Wagga.
A.5	JLL, Land and Easement Acquisition Forecast Costs – 8km leg into Wagga Wagga, February 2021	> Expert report that sets out the total cost associated with the proposed acquisition of the 8 km section of the proposed 80 meter wide easement leading in to Wagga Wagga.
A.6	HoustonKemp, Independent Assessment of Revised Capex Forecast	> Independent economic assessment of the reasonableness of our revised capex forecast for PEC.
A.7	Modelling updates	> Describes the changes we have made to our PEC Capex Forecast Model and the Post-tax Revenue Model for the 2018–23 period to reflect our revised capex forecast.
A.8A	TransGrid, PEC Capex Forecast Model – Updated – With CESS	> An updated version of our PEC capex forecast model that reflects our revised capex forecast with CESS.
A.8B	TransGrid, PEC Capex Forecast Model – Updated – Without CESS	> An updated version of our PEC capex forecast model that reflects our revised capex forecast without CESS.

Document / model number	Name	Content/ purpose
A.9A	TransGrid, Post-tax Revenue Model – Updated – With CESS	> An updated version of the post-tax revenue model that includes our revised capex forecast model with CESS and the AER's recent cost of debt and X-factor updates for the 2021-22 pricing year.
A.9B	TransGrid, Post-tax Revenue Model – Updated – Without CESS	> An updated version of the post-tax revenue model that includes our revised capex forecast model without CESS and the AER's recent cost of debt and X-factor updates for the 2021-22 pricing year.

3. The AER's Preliminary Position

On 18 December 2020, the AER published its Preliminary Position paper on our PEC Application[13]. The AER's Preliminary Position is that the prudent and efficient forecast capex for the NSW component of PEC is $1,709.8 million (Real 2017- 18)[14]. This is 10.5 per cent lower than our initial capex forecast of $1,910.9 million (Real 2017-18)[15].

The AER's Preliminary Position is that the following elements of our capex forecast are reasonable:

- transmission lines, substations and large specialist equipment
- network and corporate overhead costs (indirect costs), which the AER concluded are reasonably required for a project the size and complexity of PEC, and
- the estimated land and easement costs, with the exception of the allowance included for the negotiation margin above market valuations.

We welcome and accept these elements of the AER's Preliminary Position, noting that:

- the forecast capex for transmission lines, substations and large specialist equipment was determined through a comprehensive competitive procurement process, and so reflects market outcomes
- our indirect costs were determined via a detailed bottom up-build approach and were verified as reasonable by an independent engineering firm, GHD, and
- the land and easement costs were based on independent expert advice from JLL.

The AER's Preliminary Position reduced our initial forecast capex in in the following areas:

Tendered works

- *Substations and transmission lines - Route deviations* **–** The AER reduced our capex forecast of $30.0 million (Real 2017-18)[16] by $21.1 million, or 71 per cent, to $8.8 million (Real 2017-18) because it applied a probability of occurrence of 35 per cent to this cost.
- *OCCs* – The AER reduced our forecast capex of $58.2 million (Real 2017-18) by $14.5 million, or 25 per cent, to $43.7 million (Real 2017-18), because it did not accept our probability of occurrence for:
  - EIS approval delay. The AER applied a probability of occurrence of 75 per cent, which reduced our capex forecast from $11.9 million (Real 2017-18) to $8.9 million (Real 2017-18)
  - COVID-19 pandemic. The AER applied a probability of occurrence of 75 per cent, which reduced our capex forecast from $8.0 million (Real 2017-18) to $6.0 million (Real 2017-18), and
  - Extreme weather. The AER reduced our capex forecast from $10.7 million (Real 2017-18) to $1.2 million (Real 2017-18) so that it aligns with a 1 in 100 year event risk occurring over the two year construction period rather than a 9 in 100 year event risk (that is, a reduction of 8/9, or 89 per cent).

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13 Found at Link

14 Including equity raising costs of $14.1 million (Real 2017-18).

15 Including equity raising costs of $16.2 million (Real 2017-18).

16 The AER's Preliminary Position paper states that our proposed capex forecast for route deviation was $32.6 million. The AER reduced this value to $11.4 million by applying a 35 per cent likelihood of occurrence and treating the difference of $21.2 million as real 2017-18 dollars. However, the $32.6 million value is actually in nominal terms for the 2022-23 year rather than real 2017-18 dollars. As such, we have adopted $30.0 million instead, because it represents the costs in real 2017-18 dollars. Removing the $21.2 million that the AER estimated and treated as being in real 2017-18 dollars in its Preliminary Position, reduces route deviation costs to $8.8 million (Real $2017-18).

Property and easements

- *Negotiating margin* – The AER reduced our capex forecast of $29.9 million (Real 2017-18) by $24.0 million, or 80 per cent, to $5.9 million (Real 2017-18) by reducing the margin above the market valuation from [redacted] per cent to 10 per cent.
- *Environmental offset costs* – The AER reduced our forecast capex of $127.4 million (Real 2017-18) by $101.0 million, or 79 per cent, to $26.4 million (Real 2017-18) because it considers that:
  - Our draft BDAR for the Western section of the route, submitted to the NSW Department of Planning, Industry and Environment (DPIE) and the Biodiversity and Conservation Division (BCD) in October 2020, detailed surveys and studies for the Western section that show that the expected environmental impacts in that section are below those forecast by WSP in its lowest scenario impacts in its November 2019 Report, and
  - We have already negotiated a significant biodiversity stewardship agreements (BSA), which is able to provide both ecosystem and species credit offsets at a cost in line with the lowest scenario impacts in WSP's November 2019 Report.

  The AER's Preliminary Position reflects 'the clearance impacts for the Western section, which is in line with WSP's lower scenario and was costed around $26 million for BSA land offsets'.[17]

Risks

- *Biodiversity offset risk cost* – The AER rejected our forecast cost of $38.2 million (Real 2017-18) and did not provide an allowance for this risk because it does not agree with our assumption that there is a 30 per cent likelihood that DPIE will reject our proposed approach of limited clearing and require us to undertake full clearing.

We have carefully considered the matters raised by the AER in its Preliminary Position and have sought updated advice from independent experts including WSP and JLL on the environmental offset costs, biodiversity risk and negotiating margin. Chapter 4 to Chapter 7 of this Revised Capex Application set out our responses to the AER's feedback and explain and our revised capex forecast by category of capex.

[17] AER, Preliminary Position, p. 24. Found at Link

4. Tendered works

4.1 Sub-station and transmission lines – route deviations

4.1.1 Our initial capex forecast and the AER's Preliminary Position

Our initial capex forecast included an allowance of $30.0 million (Real 2017-18) for 20 km of potential route deviations. At the time, this was considered prudent and necessary because our line length is based on a preferred route alignment, which may need to be altered or refined to minimise community opposition, environment and property impacts, or avoid difficult local conditions. Such circumstances only become apparent as detailed project planning and approval processes are undertaken. Our initial capex forecast was based on the estimate for 20 km of the Dinawan to Wagga 330kV transmission line provided by the Contractor.

The AER's Preliminary Position is that we have overestimated the likelihood that a route deviation would be required because our revised route to avoid Darlington Point and align with existing transmission easements for half the corridor should reduce the likelihood that route deviations are required.

Based on ElectraNet's approach to estimating route deviation risk, the AER's Preliminary Position applied a 35 per cent likelihood that route deviations would be required in NSW. This reduced our forecast capex forecast of $30.0 million (Real 2017-18) by $21.2 million (Real 2017-18) to $8.8 million (Real 2017-18).

4.1.2 Our revised capex forecast

The project design and procurement has advanced significantly since we submitted our initial capex forecast on 30 September 2020. We now have a firmer understanding of the likely line alignment, including the need for line deviations.

There are some sections of the route where line deviations have been confirmed through our design and planning process. We have therefore incorporated these costs into our revised capex forecast because they are now certain.

We expect that further deviations that are not yet confirmed will be required. We agree with the AER that we should consider the likelihood of needing a line deviation in these cases and have adopted the AER's 35 per cent likelihood assumption.

Our revised capex forecast for line deviations is $26.8 million (Real 2017-18), comprising:

- route deviations already identified – $5.6 million (Real 2017-18)
- expected deviations into Wagga Wagga – $9.1 million (Real 2017-18), and
- expected deviations on other sections of PEC – $12.1 million (Real 2017-18).

Each of these is discussed below. If the expected deviations into Wagga Wagga proceed, then we expect to avoid $1.7 million (Real 2017-18) in easement costs. This would result in net line deviation costs of $25.2 million (Real 2017-18).

Route deviations already identified

We have made significant progress on the design and planning of PEC since we submitted our initial capex forecast. This includes further evaluation of the proposed route with alternative route options. We have considered a number of factors to identify a preferred option, including:

- efficiency – the program impacts and constructability of each option
- capital costs – the difference in cost for each option

- property impacts – the extent to which each option minimises the impact on property acquisition and adjacent properties
- stakeholder impacts – the degree to which each option affects stakeholders and communities, and
- environmental and planning impacts – the extent to which each option minimises impacts on the environment and thereby planning approvals.

We have so far identified the need to realign the routes between:

- Buronga to Dinawan substations, where the main change is in the area near Argoon, and
- Dinawan to Wagga Wagga substations, including the route alignment around the Lockhart area in response to the community opposition (despite the proposed route being built alongside existing lines in the area).

These two deviations will result in an additional 4.64 km of transmission line and are estimated to cost $5.6 million (Real 2017-18) based on the budget proposal received from the Contractor to undertake these works, which is provided at **Attachment A.4** of this Application.

Expected deviations into Wagga Wagga

We have identified the final 8 km of line between Dinawan and Wagga Wagga as an area of significant uncertainty. We are still progressing with community engagement, property negotiations and environmental and heritage surveys, but an alternative solution may be required in this area because:

- there are potential heritage or environmental issues which could preclude our proposed route alignment, and
- the proposed route will pass through highly populated areas in Wagga Wagga. We therefore expect significant community opposition. The resistance we have received from Lockhart residents confirms that there could still be significant community opposition even if the proposed line is built alongside our existing infrastructure.

WSP has examined possible alternative solutions for the final 8 km to Wagga Wagga. WSP's report, provided at **Attachment A.5**, sets out three alternative options:

- Option 1 – rebuilding existing infrastructure to accommodate PEC, which is estimated to cost $26.1 million
- Option 2 – a deviation increasing the overall length by 30 km, which is estimated to cost $31.5 million, and
- Option 3 – undergrounding the lines, which is estimated to cost $94.5 million.

Each of these options has its own shortcomings and issues. Our preferred alternative, and the most likely solution, is option 1 – rebuild existing infrastructure.

Option 1 is the most likely solution because it is the next most cost efficient solution to maintain the current proposed route. It may not be, however, sufficiently different from the preferred solution to mitigate community concerns.

Our capex forecast for this line deviation is $9.1 million (Real 2017-18), or $7.5 million (Real 2017-18) when avoided easement costs of $1.7 million (Real 2017-18) are deducted. Our forecast capex is determined on the following basis:

- Option 1, which is the cheapest alternative option identified by WSP ($26.1 million (Real 2017-18))
- deduct the avoided easement acquisition costs for 8km of transmission line to Wagga Wagga as determined by JLL of $4.8 million (Real 2017-18) (see **Attachment A.6**), and
- apply a 35 per cent likelihood of this risk occurring based on the AER's Preliminary Position paper.

Risk of deviation on other sections of PEC

The total length of PEC in NSW is 694 km and the line deviations identified so far (and the potential line deviation into Wagga Wagga) are between a 97.6 km section between Dinawan and Lockhart. There is also a risk that there could be other line deviations in the remaining parts of PEC in NSW.

Our revised capex forecast for the risk of route deviations in the other sections of PEC is $12.1 million (Real 2017-18) based on:

- a 35 per cent likelihood of this risk arising. This reflects the AER's Preliminary Position and the assumptions adopted by ElectraNet
- an assumed cost of deviation of $5.6 million / 97.6 km, or $57,748 per km of line (Real $2017-18). This is based on the estimated cost for the 97.6 km section between Dinawan and Lockhart, and
- estimated line length of 596.4 km – calculated as 694 km for the total length of PEC in NSW less the 97.6 km section between Dinawan and Lockhart.

Multiplying the three figures together gives $12.1 million (Real 2017-18).[18] Given that estimated line deviations for the 97.6 km section between Dinawan and Lockhart is 4.64 km, this implies the $12.1 million (Real 2017-18) includes total deviations of 28.3 km, or 4.8 per cent.[19]

In total, our proposed allowance covers 1.7 per cent of additional route for the other sections of PEC (35 per cent likelihood multiplied by 4.8 per cent of route length). This compares with the 4.8 per cent of additional route we have already identified between Dinanwan and Lockhart, excluding possible deviations into Wagga Wagga.

Given this, we consider that our revised capex forecast for deviations is conservatively low as it assumes that there would be fewer route deviations on the remaining sections of PEC compared with the section between Dinawan and Lockhart.

Table 4 compares our initial and revised capex forecast for route deviations.

Table 4 – Comparison of our initial and revised capex forecasts for route deviations ($Million, Real 2017-18)

Route deviation	Length (km)	Cost if required ($Million)	Likelihood	Expected cost ($Million)
Initial capex forecast				
Dinawan to Wagga 330kV transmission line (20km)	20.0	30.0	100%	**30.0**
Revised capex forecast				
Dinawan and Lockhart transmission line	97.6	5.6	100%	**5.6**
Wagga Wagga transmission line	30.0	26.1	35%	**9.1**
Lines other than 97.6 km between Dinawan and Lockhart	596.4	34.4	35%	**12.1**
Total (before avoided costs)				**26.8**

[18] That is, 35% x $57,748 per km x 596.4 km = $12.1 million (Real 2017-18).

[19] That is, 4.64 km x 596.4/97.6 = 28.3 km.

Route deviation	Length (km)	Cost if required ($Million)	Likelihood	Expected cost ($Million)
Avoided easement costs	8.0	(4.8)	35%	**(1.7)**
Total				**25.2**

5. Environmental offset costs

We are required to offset the biodiversity impact arising from the construction of PEC under *the Biodiversity Conservation Act 2016* (NSW), the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), and associated regulations (Biodiversity Laws). We may do this by either establishing BSAs and/or making a payment to the biodiversity conservation fund (BCF) to generate or purchase the required number of environmental offset credits. Environmental offset costs represent the estimated costs we will incur to offset the environmental impact of PEC, and are determined by both the number of credits we will need to obtain and the costs of obtaining those credits.

Our estimate of the likely quantum of the environmental offset credit obligation for our portion of PEC and the costs to meet this credit obligation has been refined over time as we have progressed our EIS/BDAR and more accurate information has become available.

The status of our BDAR and our updated capex forecast for environmental offset costs is set out below.

5.1 Current status of our BDAR

A BDAR must be prepared by an accredited assessor for all State Significant Infrastructure in accordance with the biodiversity assessment method (BAM) set out in Secretary Environmental Assessment Requirements (SEARs) issued by the DPIE for the proposal. A BDAR:

- documents the steps applied to avoid and minimise the impact of the project on biodiversity
- sets out the number/type of ecosystem and species credits required to offset residual impacts of the activity on biodiversity (the credit obligation).

A BDAR and an EIS are then submitted to the relevant consent authorities, which for PEC are DPIE and the BCD. The relevant consent authorities determine whether to approve the proposed activity and the conditions of approval. The relevant consent authorities also review the adequacy and application of the BAM in the BDAR to determine the final credit obligation. A proponent can only proceed with a project once it has met its credit obligations.

We are progressing the BDAR and EIS processes for PEC separately for the Western and Eastern portion of PEC in NSW. The table below sets out the status and expected timelines for the EIS and BDAR for each portion.

The BDAR for the Western region is close to completion – a draft was submitted in October 2020 and we met with BCD and DPIE several times over the period February to April 2021. The final revised BDAR is expected in early May 2021 and the BCD and DPIE are expected to make their decision in August 2021.

In contrast, we are still preparing the BDAR for the Eastern region, which is expected to be finalised by mid 2022. The BCD and DPIE are expected to make their decisions for this portion in the third quarter of 2022.

The status of the BDAR means that our estimate of the credit obligation for the Western region is close to final whereas our estimate for the Eastern region is necessarily still preliminary.

Table 5 – Expected timelines for Western and Eastern NSW EIS/BDAR

Key steps	Western NSW EIS/BDAR	Eastern NSW EIS/BDAR
Determine if biodiversity offset scheme applies	Completed	Completed
Prepare BDAR	Completed, draft BDAR submitted to DPIE in October 2020	In progress

Key steps	Western NSW EIS/BDAR	Eastern NSW EIS/BDAR
Consent authority determines whether to approve or refuse project	December 2020 – July 2021. We met with BCD/DPIE on the BDAR in February, March and April 2021. A final revised BDAR is expected in early May 2021.	Early to mid 2022
Consent authority determines the application and sets credit obligation	August 2021	Third quarter of 2022
The proponent satisfies credit obligation before it can proceed with approved activity	Underway	Late 2022

WSP is our accredited assessor for PEC and has provided advice on the expected credit obligation and associated costs. WSP's report is provided at **Attachment A.2** of this Application. Providing accurate biodiversity offset liabilities for business cases is complicated by limitations in accuracy of desktop information, regular changes in the biodiversity scheme policy, market fluctuations in credit prices and the availability of suitable 'like for like' offset areas required to establish BSAs.

It follows that the estimated number of credits required and costs of offsetting these credits can change significantly over time. The table below summarises the advice that WSP has provided to us over the past two years as the project has progressed. The estimated number of credits required has increased over this time, as more information on actual field condition and clearing requirements has become available. In particular, the estimated credit obligation has undergone the following refinement since the AER published its Preliminary Position paper in December 2020:

- targeted field surveys for threatened species over a proportion of the Eastern section
- changes to the limited clearing scenario and other potential impacts informed by comments from the BCD on the BDAR for the Western section, and
- changes in the design footprint for the Eastern section informed by the Contractor for PEC.

WSP's most recent estimate suggests that PEC will require 38,782 ecosystem credits, comprising 9,347 in the Western section and 29,434 in the Eastern section. In addition, PEC will also require species credits. In contrast, the AER's Preliminary Position assumes that the number ecosystem credits required will be 19,848, which is substantially lower than our most recent estimate, and made no allowance for species credits.

Table 6 – How the estimated number of certificates has changed over time

Date of WSP advice	Basis for estimate and estimated credit
November 2019	Estimate of certificates required were based on an initial desktop assessment and preliminary clearing assumptions. The report included three scenarios to provide an indication of the range of potential outcomes. This suggested that PEC required the following number of ecosystem credits: - 19,848 in the lower scenario - 24,811 in the mid-range scenario - 29,773 for the upper scenario

Date of WSP advice	Basis for estimate and estimated credit
September 2020	Estimate of certificates required based on refined vegetation clearing requirement assumptions and detailed field validated mapping of biodiversity values of the areas to be potentially impacted on the Western section and portions of the Eastern section. The revised assessment identified a need for 29,380 ecosystem credits.
October 2020	Estimated number of certificates consistent with the draft BDAR submitted to the DPIE and BCD. The estimated number of ecosystem credits required was 31,144.
Revised capex application	Estimate of certificates required based on feedback from BCD on Western section and the most recent information on the Eastern section. This is the most recent estimate and suggests that 38,782 credits are required.

5.2 Our initial capex forecast and the AER's Preliminary Position

Our initial capex forecast for environmental offset costs is $127.4 million (Real 2017-18) to meet the estimated credit lability of 29,380 ecosystem credits plus species offset credits. This reflected WSP's September 2020 advice. It also reflected the proposed route alignment at the time, which avoids Darlington Point.

The AER's Preliminary Position reduced our forecast capex of $127.4 million (Real 2017-18) by $101.9 million, or 79 per cent, to $26.4 million (Real 2017-18), because the AER considered:

- that the credit obligation would be lower than our estimate – the AER reviewed the draft BDAR for the Western section and concluded that the expected credit obligation is lower than WSP's lower scenario in its November 2019 report, and
- that we could meet our credit lability through one BSA – in particular, the AER noted that one of the BSAs we have negotiated is expected to generate 48,000 ecosystem credits and species credits.

In addition, the AER's Preliminary Position paper found that we have already sought to minimise the environmental and biodiversity impact of the project by:

- proposing a revised route and using existing infrastructure corridors – the AER expects that this would minimise the project's environmental impacts, and
- avoiding the use of guyed towers, which has a larger footprint and so higher environmental impact.

The AER's Preliminary Position paper also points to specific provisions for transmission lines in the NSW offsets policy framework, which allows for calculation of partial vegetation retention within impact zones.

5.3 The environmental offset costs associated with PEC

The environmental offset costs of a project depend on two fundamental matters:

- the credit obligation associated with a project, i.e. the number and type of credits required, and
- the biodiversity offset strategy, i.e. the mechanism of delivering the offsets, which determines the cost of meeting the offset liability.

5.3.1 Number of certificates required

The estimate of the credit obligation associated with the NSW portion of PEC has evolved as we have progressed our EIS and BDR over time. The most recent advice from WSP suggests that we will need to offset

38,782 ecosystem credits, comprising 9,347 in the Western Section and 29,434 in the Eastern section, as well as species credits. WSP's estimate already factors in:

- the revised route, most notably, the avoidance of Darlington Point
- the fact that 71 per cent of the route uses existing infrastructure corridors
- the use, or otherwise, of guyed towers, and
- the NSW offsets policy framework.

These issues are discussed further in WSP's report provided at **Attachment A.2** of this Application. In other words, we agree with the AER that we have sought to minimise the environmental and biodiversity impact of the PEC and our revised estimate incorporates these factors.

It appears that the AER has misinterpreted the draft BDAR we submitted to DPIE in October 2020. Our October 2020 BDAR suggests that the number of credits required, as calculated using BAM, is 8,845 for the Western section, which is 25 per cent *above* those estimated in WSP's September 2020 report. The credit obligation in the draft BDAR suggests that the number of credits required is higher than even the highest scenario contemplated by WSP in November 2019.

Notwithstanding, WSP's November 2019 estimates, which were based on desktop information and preliminary clearing scenarios, have been superseded. Our most recent estimate reflects:

- revised BDAR estimates for the Western region, which have been updated based on feedback from DPIE and BCD, and
- additional field data and project alignment for the Eastern section.

We therefore consider that our revised estimate of the number of certificates required represents the best estimate currently available, based on the latest information.

5.3.2 The biodiversity offset strategy

The key objective of our biodiversity offset strategy is to minimise the overall costs of meeting our credit obligation. To this end, we have sought to meet the majority of our credit obligation though BSAs, which is the most cost efficient approach. The residual credit obligation will then be meet through payments to the BCF.

The AER's Preliminary Position assumes that we will be able to meet our credit obligation through one single BSA for the entire project and that additional payments into BCF will not be required. It also assumes that the BSA would allow us to meet our species offset liability. The AER has sourced its estimate of $26.4 million (Real $2017-18) for such a hypothetical BSA from the 2019 WSP report.

We note that the 2019 WSP report advised that we would not be able to meet our entire obligation through a single BSA and that we would need to consider a mixed BCF and BSA approach, where residual obligations are met through BCF payments. The 2019 WSP report estimated that the cost of this approach would be $83 million for the lower scenario, which is substantially higher than the AER's allowance in its Preliminary Position.

We expect that multiple BSAs targeting the specific biodiversity values impacted by PEC will be required to offset the liability of PEC. The initial BSA we have identified (the Tareena & Big Bend site) is currently estimated to cost $31.5 million, which is already above the AER's allowance in its Preliminary Paper. In addition, it will cover only a proportion of our offset obligation as only some of the credits generated are considered 'like for like', and so can be used to offset our credit obligation.

5.3.3 The value of residual credits from Western BSAs

WSP had advised that surplus credits generated from the BSAs are expected to have little or no value. WSP notes that the value of credit is fundamentally related to the supply and demand for credits. In some areas, such as western Sydney within the Cumberland Plain, the value of credits is very high (up to $40,000 a credit) because:

- demand for credits is high due to intense development within the area, and
- supply is low due to poor availability of ecosystem credits within the region as:
  - little remnant native vegetation is left on the Cumberland Plain, and
  - the high value of native vegetation, which only appears in Western Sydney in the entire world.

In contrast, WSP expects the value of surplus certificates generated by BSAs in the Western section of PEC to have no or minimal value. This is because the existing trading rules that mean credits can only be used to offset impacts that are in similar locations and have similar conservation/ecological characteristics. The location of the Western BSAs would require the potential buyer to be located within:

- the Murray Darling Depression Interim Biogeographic Regionalisation for Australia (IBRA) region, and
- 100 km of the South Olary Plain IBRA subregion.

To assess the potential demand for certificates, WSP has reviewed past demand for certificates in this region. It found that:

- for the Murray Darling Depression IBRA region:
  - there have never been any BioBanks or Biodiversity Stewardship sites with available credits for sale
  - there are no 'credits wanted' in the region on the public 'credits wanted' list, and
  - there have been no credit transactions recorded on the public 'BOS transactions register' list since the inception of the credit schemes in 2008
- there are a small number of credits on the Wanted Credits list that the Tareena and Big Bend site would have in excess – this could theoretically mean excess credits could be sold for a maximum total of around $213,617.

Given the above, WSP concluded that likely demand for surplus credits from the Western BSAs is very limited.

We are currently evaluating options for the long term ownership of the BSAs established. This could include divestment with perpetuity conservation management contribution to private or public land owners, or dedication to regional reserve estates. Any transfer of land ownership could include the residual credit surplus and in the case of dedication to reserve estates, the retirement of credits. It follows that we may not own the surplus credits generated in the long run, and so it would not be prudent for us to factor in any value for the excess credits.

5.4 Our revised capex forecast

Our revised capex forecast for environmental offset costs is $148.2 million (Real 2017-18). This comprises:

- $80.1 million (Real 2017-18)[20] to cover the costs of acquiring BSAs
- $46.2 million (Real 2017-18) [21] for payments into the BCF to cover residual ecosystem credit obligations, and
- $21.9 million (Real 2017-18) [22] for payments into the BCF to cover species credit obligations.

Our revised capex forecast is a reasonable estimate of the environmental offset costs we will incur and:

- is consistent with the most recent estimate of the credit obligations for PEC, which is based on the latest information available

[20] This is equivalent to $81.1 million (Real 2019-20)

[21] This is equivalent to $46.7 million (Real 2019-20)

[22] This is equivalent to $22.2 million (Real 2019-20)

- factors in the proposed design of PEC, including route alignment, avoiding the use of guyed towers and the use of existing corridors
- reflects the most recent field survey data
- incorporates the most recent estimates in the BDAR for the Western section, including feedback provided by the BCD, and
- has been estimated by an accredited assessor, WSP.

WSP has also compared our revised environmental offset cost capex forecast with other comparable projects. WSP found that our capex forecast of $148.2 million (Real 2017-18) is consistent and proportionate with other comparable projects given its scale. For example:

- PEC's biodiversity impact is nearly four times the Snowy Hydro 2.0 project and five times Western Sydney Airport stage 1. Both these projects require substantial offsets with biodiversity offset payment calculator (BOPC) estimated liabilities and/or estimated offset approaches exceeding $100 million
- the current Sydney Metro Greater West greenfield project has an impact on just 36 ha, or less than 2 per cent of PEC's impact, but has an BOPC offset liability of $32 million, and
- the more substantial N2N stage of the inland rail project has a comparable area of impact to PEC and has an estimated liability of more than $200 million.

6. Property and easement acquisition

6.1 Our initial capex forecast and the AER's Preliminary Position

Our initial capex forecast included a negotiation margin of $29.9 million (Real 2017-18) calculated based on [redacted] per cent margin, above the market valuation, for land and easement acquisition costs. This would enable us to negotiate agreements with private landholders to acquire property and easements required for PEC. This approach would minimise compulsory acquisition of property along the route, which would be detrimental to relationships with the local community and may delay project construction. The [redacted] per cent negotiation margin is based on expert advice from JLL, which concluded that this was a reasonable allowance.

The AER's Preliminary Position is that $5.9 million (Real 2017-18), calculated based on negotiation margin of 10 per cent, is a reasonable negotiation margin for PEC because:

- we have secured easements for up to 20 per cent of the route and the average margin to-date is [redacted] per cent, and
- the remaining settlements are considered to be lower risk due to:
  - a significant proportion (i.e. 71 per cent) of the proposed corridor running parallel to existing 220kV easements, which should minimise the impacts on landowners and their correspondingly likelihood of seeking higher compensation for their land
  - avoiding regions where there is a 'high risk' of negotiations not being successful and requiring compulsory acquisition – in particular, avoiding extensive irrigation zones and agricultural land near Darlington Point, and
  - changes to the scope for the 220 kV line between Buronga and Red Cliffs to rebuild the existing 220kV line rather than built along existing infrastructure would minimise easement requirements.

6.2 Updated advice from JLL

JLL has reviewed the AER's Preliminary Position and reconsidered what an appropriate negotiation margin would be for PEC. JLL's updated report is provided at **Attachment A.1** to this Application.

JLL's updated advice finds that:

- the negotiation margin is expected to increase over time as we settle more agreements, and a [redacted] per cent margin remains appropriate
- the remaining settlements are not expected to have lower risks or require a lower negotiation margin, and
- there is other qualitative evidence that suggests that a [redacted] per cent margin remains appropriate.

Each of these points is discussed in further detail below.

6.2.1 Realised negotiation margins have increased and are expected to increase further over time

The AER's Preliminary Position is based on the 24 agreements we made as of August 2020. Since then, an additional 12 agreements have been made. The status of our agreements as of 16 February 2021 is summarised in the tables below:

- Table 7 presents an overview of the agreements made to date
- Table 8 summarises the outstanding agreements for which we have received a counter offer, and
- Table 9 sets out the outstanding agreements for which we have yet to receive a counter-offer.

We have not yet commenced property and easements acquisitions for stage four of PEC.

Table 7 – Agreements made to date ($Nominal)

Stage	Agreements made	Valuation of agreements	Agreed amount	Increase over valuation
1	13	[redacted]	[redacted]	[redacted]
Stage 1A	5	[redacted]	[redacted]	[redacted]
Stage 2	13	[redacted]	[redacted]	[redacted]
Stage 3	5	[redacted]	[redacted]	[redacted]
Total	36	[redacted]	[redacted]	[redacted]

Table 8 – Outstanding agreements where we have received a counter offer ($Nominal)

Stage	Counter offers	Valuation of agreements	Counter offer amount	Increase over valuation
1	[redacted]	[redacted]	[redacted]	[redacted]
Stage 1A	[redacted]	[redacted]	[redacted]	[redacted]
Stage 2	[redacted]	[redacted]	[redacted]	[redacted]
Stage 3	[redacted]	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]	[redacted]

Table 9 – Outstanding agreements where we not yet received a counter offer ($Nominal)

Stage	Agreements outstanding	Valuation of agreements
1	[redacted]	[redacted]
Stage 1A	[redacted]	[redacted]
Stage 2	[redacted]	[redacted]
Stage 3	[redacted]	[redacted]
Total	[redacted]	[redacted]

As of 16 February 2021, we have made 72 offers to landowners and:

- have made [redacted] agreements with an average negotiation margin of [redacted] % ($[redacted] million valuation compared with $[redacted] million agreed amount, $Nominal)
- have received [redacted] counter offers at [redacted] times our valuations ($[redacted] million valuation compared with $[redacted] million of counter offers, $Nominal). JLL estimates that these agreements may be settled at $[redacted] million ($Nominal), or $[redacted] million ($Nominal) above their valuations ([redacted] %[23] negotiation margin), and

[23] Calculated as $2.6M / $0.9M

> [redacted] agreements with a value of $[redacted] million remain outstanding and a counter offer has not been received.

JLL estimates that the expected settlement amount for agreements made or outstanding but where a counter offer has been received is around $[redacted] million, compared with an assessed value of around $[redacted] million. This represents a negotiation margin of around [redacted] per cent, or $[redacted] million. Based on this, JLL concludes that the original negotiation margin is appropriate and should be preserved.

JLL also considers that we will likely receive counter offers that are substantially above our assessed valuation for outstanding offers where we have not yet received a counter offer. JLL has pointed out several reasons why negotiation margins are expected to be higher for these outstanding agreements, stating that[24]:

> *It is logical and evidently clear from experience that a correlation exists between the length of time taken to negotiate a voluntary agreement and the quantum of compensation agreed i.e. the longer the time taken to negotiate an agreement the greater the quantum of agreed compensation. Those agreements that have been settled within a relatively short time will naturally be at or close to the statutory valuation (assessment of compensation) amount.*

JLL considers that there are many reasons that this may be the case, including:

> with the benefit of additional time, landowners are more likely to seek independent third party advice, which will result in a greater likelihood of an increased settlement amount, and

> rapid increases in rural land values across Australia, partially fuelled by historically low interest rates and improved seasonal conditions, will only result in compensation expectations ratcheting up as time progresses.

6.2.2 Compensation risk on the remaining route

JLL also consider whether the remaining section of PEC will have lower risk of landowners seeking compensation above market valuations, thereby requiring a lower negotiation margin. JLL advises that the remaining sections of PEC do not have lower compensation risks because:

> brownfield easements do not mean there is a lower likelihood of landowners seeking higher compensation as:
>
> – landowners often develop their land up to the edge of existing easements to maximise the land's earning potential, and
>
> – legacy issues mean that many landowners may seek to 'claw back' compensation they perceived to have missed out when the original power line was constructed or be cautious about entering into an agreement with us.

> the change in scope of the 220 kV line between Buronga to Red Cliff (rebuilding existing infrastructure building alongside existing infrastructure) will not minimise associated risks to delivery, and

> the nature of the properties in the Eastern section of PEC will likely make reaching an agreement more difficult. This is because land values are higher in the east, and the more intensive land use in the east will mean PEC will have a larger land impact. Further, there are more institutional and corporate owners in the east. These factors are expected to contribute to the need for a greater negotiating margin.

6.2.3 Other evidence to support a [redacted] per cent negotiation margin

JLL's report also provides anecdotal evidence that suggests that a 66 per cent negotiation margin is appropriate. For example, JLL's discussions with other land acquisition professionals suggest that margins:

[24] JLL, Response to AER Preliminary Position, TransGrid Contingent Project Application, Project EnergyConnect, February 2020, p.14 (Attachment A.1)

- 100 per cent above valuation are common for the onshore gas industry with some exceptions being 200 per cent above valuation
- up to and above 50 per cent above valuation are common for the electricity sector, depending on the delivery drivers and social licence risks associated with the project, and
- some transmission network service providers (TNSP) make initial offers at 15 per cent or greater above valuation to incentivise landowners to enter into timely agreements.

6.3 Our revised capex forecast

Notwithstanding that JLL's updated advice continues to support our initial capex forecast of $29.9 million, we have chosen to absorb part of the expected cost. Our revised capex forecast for the negotiation margin (for property and easement acquisition) is $19.8 million, which is 66 per cent of the expected negotiation margin cost in our forecast. This amount is just above the mid-point between the AER's Preliminary Position and JLL's independent advice, which we consider represents a reasonable compromise

This is a conservative estimate in light of updated advice from JLL (provided at **Attachment A.1**) and because:

- as we have settled more agreements, the negotiation margin has increased and is expected to continue to increase over time
- the remaining route for PEC does not have a lower risk, rather it is expected to require a higher negotiation margin due to the nature of the land, and
- there are significant benefits that arise from voluntary negotiations and avoiding/minimising compulsory acquisition, which are enabled by having an appropriate negotiation margin.

7. Biodiversity risk costs

7.1 Our initial capex forecast and the AER's Preliminary Position

Our initial capex forecast for environmental risk costs is $38.2 million (Real 2017-18). This is based on advice we received from WSP in September 2020 and was reflects a 30 per cent likelihood that the DPIE would require us to implement a full clearing scenario as opposed to a limited clearing scenario. This would increase the credit obligation for PEC to 62,788 credits, more than doubling the number of credits needed.

The AER's Preliminary Position rejected our initial capex forecast and did not make any allowance for biodiversity risk costs. As discussed in section 4.2, the AER considers that we have already minimised the environmental impact by:

- proposing a revised route that minimises PEC's environmental impacts and uses existing infrastructure corridors where possible, and
- avoiding the use of guyed towers.

The AER's Preliminary Position also found that:

- the NSW offsets policy framework, which has specific provision for transmission lines, provides more certainty in the offset scenario and forecasts that are most likely to occur, and
- 'The full clearance scenario is not a construction or environmental scenario that has been proposed by TransGrid in its Environmental Impact Statements or its BDAR or engineering documents. This was also not a scenario that WSP assigned any probability to occurring'[25].

7.2 Uncertainty in our biodiversity offset costs

As discussed in Chapter 4, we have revised our credit obligation based on the most recent available information and advice from WSP, taking into account the proposed route, the reduced use of guyed towers, and the NSW offset policy framework. However, the relevant consent authorities are required to review the adequacy and application of the BAM in the BDAR. This means that there will always be a degree of uncertainty associated with our estimate of credit obligations, and therefore our associated costs.

Notwithstanding this, we expect the estimated credit obligation to be more accurate and certain for the Western section. This is because we have provided a draft BDAR for the Western section to DPIE and BCD and have already received feedback from them. In contrast, the credit obligation for the Eastern section is still preliminary because a BDAR has not yet been developed and field work has only been undertaken for part of this section of the route.

WSP's report (provided at **Attachment A.2** of this Application) explains that there are several sources of risk that could increase the biodiversity offset costs associated with PEC:

- the clearing scenario required by the relevant consent authority
- additional impacts identified by the relevant consent authority
- requirements from the relevant consent authority to change the designs of access tracks, and
- generation of fewer than expected certificates from the BSAs, which will then increase our payment through the BCF in order to meet our offset liability.

Our experience with estimating the credit obligation for the Western section and how this has evolved over time as more information has become available and through our interactions with the consent authority highlights

[25] AER, Preliminary Position, p. 24. Found at Link

the risks and the increases our biodiversity offset costs. Our recent correspondence with BCD on the Western section BDAR/EIS indicates that we will need to consider additional impacts and potentially change our access tracks designs required for construction. These revisions have resulted in a 32 per cent increase in the credit obligation from the base case limited clearing scenario and demonstrate that the assumption we made in our initial capex forecast (i.e. a 30 per cent likelihood that the actual credit liabilities needed would double) is reasonable.

In contrast to the AER's understanding, WSP assigned a 20–40 per cent probability of a full clearing scenario being required in its 2019 report. We therefore adopted a 30 per cent likelihood that a full clearing scenario would eventuate.

7.3 Our revised capex forecast

Assuming the CESS continues to apply, our revised capex forecast for our revised capex for biodiversity offset risk costs is $18.5 million (Real 2017-18), based on advice from WSP (provided at **Attachment A.2**) and is calculated as follows:

- 20 per cent probability that we will not be able to identify and establish BSAs for the Eastern section, which would require us to rely on payments to the BCF to meet our credit obligation, and
- meeting our obligations through payments to the BCF would cost us $187.6 million (Real 2017-18), which would be $92.5 million (Real 2017-18), more expensive than our proposed strategy of having a mixed BSA and BCF approach.

Our revised capex forecast is conservative because it is calculated based on one risk only and does not include any risk costs for the Western section.

If the CESS does not apply to biodiversity offset risk costs:

- we accept the AER's Preliminary Position, which did not make any allowance for these costs, and
- our actual capex would be included in the RAB and would not be subject to a CESS penalty or reward.[26]

As noted above, our environmental offset costs are beyond our control because our credit liability is determined by DPIE and BCD. We then need to acquire BSA sites to offset our credit liability, which will depend on the availability of suitable like-for-like sites as well as the willingness of landowners to enter into agreements.

To address any concerns that the AER or other stakeholders may have around the efficiency of the negotiated BSA sites costs, we would be willing to appoint an external probity advisor, and/or to allow AER to observe the negotiating process. This transparency would mitigate any concerns around our incentives to achieve efficient cost outcomes in acquiring BSAs in the absence of the CESS, whilst providing a more efficient allocation of the risks associated with biodiversity liabilities.

[26] If these costs were incurred in 2022-23, which is the final year of the current regulatory period, the outcome would be the same as under a true-up. This is because our actual costs (including any under- or over-spend against the allowance) would be rolled into our RAB at the end of the next regulatory period i.e. 2023-28, together with financing costs (i.e. 5 years of the regulated WACC).

Appendix E – Glossary

Abbreviations/acronyms	Definition
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Application	Contingent Project Application
BAFO	Best and Final Offer
BCD	Biodiversity and Conservation Division
BDAR	Biodiversity Development Assessment Report
BSA	Biodiversity Stewardship Agreement
EIS	Environmental Impact Statement
DPIE	Department of Planning, Industry and Environment
Capex	Capital expenditure
CPA	Contingent Project Application
IBRA	Interim Biogeographic Regionalisation for Australia
M	Millions
NER (Rules)	National Electricity Rules
NSW	New South Wales
Opex	Operating expenditure
QNI	Queensland-New South Wales interconnector