A.11 Opex Forecasting Methodology

2026-31 Revenue Proposal for the Enabling Central-West Orana Renewable Energy Zone Network Infrastructure Project (non-contestable)

July 2025

Contents

Acknowledgement of Country

In the spirit of reconciliation, the Transgrid Group acknowledges the Traditional Custodians of the lands where we work, the lands we travel through and the places in which we live.

We pay respect to the people and Elders past and present, and celebrate the diversity of Aboriginal and Torres Strait Islander peoples and their ongoing connections to the lands and waters of NSW and the ACT.

Pokolbin, NSW
Artwork: Yura. Gili. Nanga. the indigenous interpretation of Power. People. Possibilities

1. Purpose, scope and structure of this document

1.1. Purpose and scope of this document

This document sets out our incremental operating expenditure (opex) forecast for the Central-West Orana (CWO) Renewable Energy Zone (REZ) Network Infrastructure Project (referred to herein as the 'Enabling CWO RNIP' or 'Project') for the regulatory period commencing 1 July 2026 and ending 30 June 2031 (the 2026-31 regulatory period). It also explains the key steps we have taken to develop and validate our opex forecast. This document should be read in conjunction with our Revenue Proposal and other supporting documents.

Opex is the operating, maintenance and other non-capital expenditure that we incur to provide prescribed transmission services to our customers.

Unless otherwise stated, all forecast opex values in this document are presented in real 2025-26 dollars and include real input cost escalation.

Totals presented in tables may not add due to rounding. Zero values in tables are included where the specific units used do not allow for a meaningful representation of the costs (i.e. the costs are less than $0.1 million).

1.2. Document structure

The remainder of this document is structured as follows:

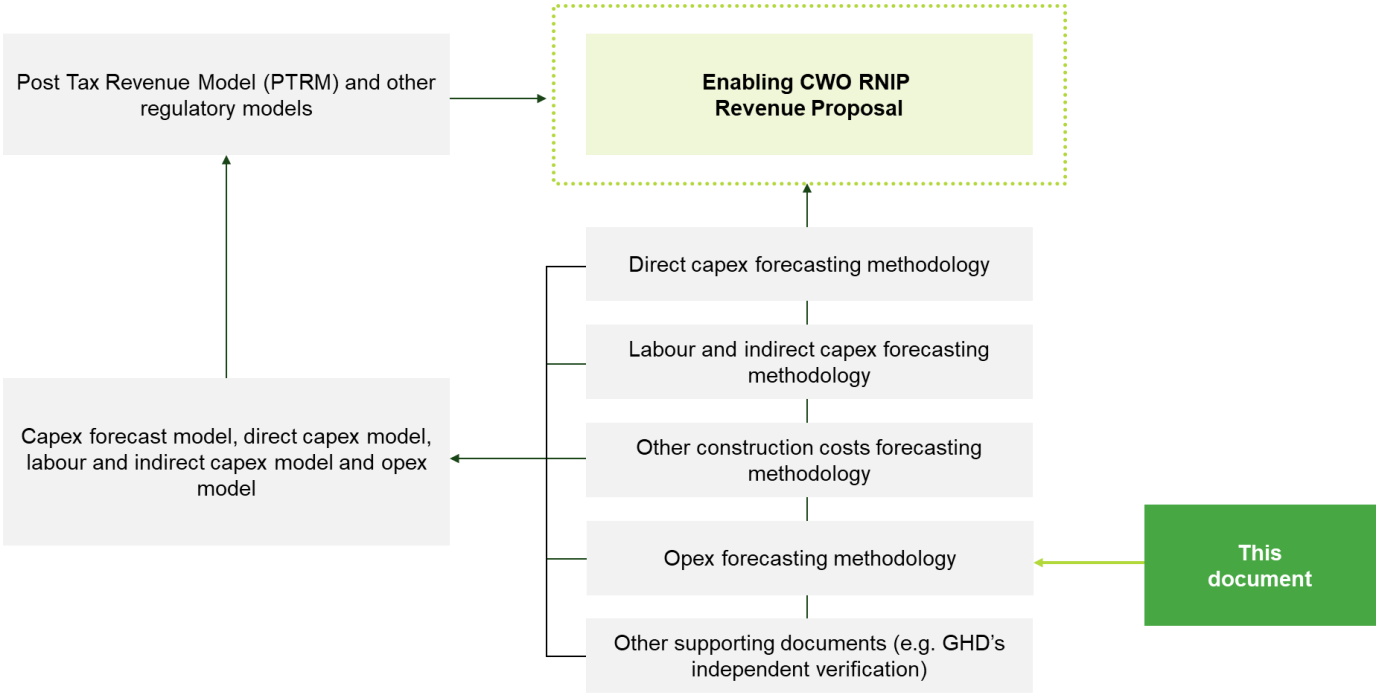
- Chapter 2 provides an overview of our incremental opex forecast
- Chapter 3 sets out our general opex forecasting approach
- Chapter 4 sets out our opex forecasting methodology for different cost components.

1.3. Structure of the Revenue Proposal

There are a number of other attachments and models that support, and form part of, our Revenue Proposal for the Project. This document references these attachments, models and other supporting documents for further detail and should be read in conjunction with all other documents comprising our Revenue Proposal.

Our Revenue Proposal is structured as illustrated in Figure 1-1 to be as clear and accessible as possible to the AER, customers and other stakeholders.

Figure 1-1: Revenue Proposal structure for Enabling CWO RNIP



The attachments and supporting models comprising our Revenue Proposal are detailed in Chapter 1 of our Revenue Proposal.

2. Summary of forecast opex for the Project

2.1. Our opex forecast

Forecast incremental opex required for the Project over the 2026-31 regulatory period is $28.8 million, including debt raising costs, or $27.9 million, excluding debt raising costs. Our forecast opex includes:

- **Maintenance costs** – These incremental costs are estimated based on the scope of maintenance activities for the newly built transmission lines and modifications to existing substations. In addition to the main base scope of work, Transgrid interface equipment will be installed at Barigan Creek Switching Station (BCSS) to allow integration of the REZ into Transgrid's network, and maintenance of this equipment has been included in the opex forecast. The forecast includes routine maintenance and inspections, as well as an allowance for condition-based and defect maintenance. We have leveraged the scale of our maintenance regime for the existing NSW transmission network in developing this forecast.
- **Operating costs** – These costs reflect the additional labour and operational activities necessary to manage the expanded assets, interface with EnergyCo and ACEREZ, comply with contractual obligations and meet our regulatory obligations for the Project. This includes asset management, network planning, network operations, commercial contract management and preparation of regulatory submissions.
- **Insurance costs** – These costs account for the estimated premiums for industrial special risks and operational third-party insurance covering the Project assets once commissioned.
- **Vegetation Integrity Rehabilitation costs** – These costs cover works to restore and maintain native vegetation to its target condition.
- **Strategic Benefits Payments** – These ongoing payments compensate private landowners impacted by the Project, in line with the NSW Government's Strategic Benefit Payment Scheme.

We have used a 'bottom-up-build' approach to determine the incremental forecast opex. This approach allows for a more precise estimate of the required incremental opex for the Project. We have also:

- applied the labour escalation rates. The labour escalators for 2026-27 and 2027-28 are as set out in our 2023-28 Revenue Determination. For 2028-29 to 2030-31, the labour escalator is assumed to be equivalent to the average applied in 2026-27 and 2027-28, and
- added benchmark debt raising costs.

Table 2-1 sets out our incremental opex forecast for the Project by sub-category over the 2026-31 regulatory period.

Table 2-1 Incremental forecast opex for the Enabling CWO RNIP over the 2026-31 regulatory period ($M, real 2025-26)

Sub-category	2026-27	2027-28	2028-29	2029-30	2030-31	Total
Maintenance costs (excluding labour escalation)	-	0.1	0.5	0.8	0.2	1.6
Operating costs (excluding labour escalation)	0.5	2.5	5.9	7.2	6.6	22.8
Insurance costs	-	0.3	0.3	0.4	0.3	1.3
Vegetation Integrity Rehabilitation costs	0.1	0.1	0.1	0.1	0.1	0.7

Sub-category	2026-27	2027-28	2028-29	2029-30	2030-31	Total
Strategic Benefits Payments	-	0.1	0.2	0.2	0.2	0.7
Real input cost escalation	-	0.1	0.2	0.3	0.3	0.9
Total opex excluding debt raising costs	**0.6**	**3.2**	**7.3**	**9.0**	**7.8**	**27.9**
Debt raising costs	0.1	0.2	0.2	0.2	0.2	0.9
Total opex including debt raising costs	**0.7**	**3.3**	**7.5**	**9.2**	**8.0**	**28.8**

2.2. Basis of opex forecast

Table 2-2 sets out forecast incremental opex for the Project by component, together with a summary of the basis of the forecast. We have applied a bottom-up build approach to forecast incremental opex.

Table 2-2 Forecast incremental opex for the Project by category ($M, real 2025-26)

Opex item	Value	Basis for forecast expenditure
Maintenance costs (excluding labour escalation)	1.6	Current and proposed maintenance activity unit rates multiplied by projected volumes of maintenance activities
Operating costs (excluding labour escalation)	22.8	Projected labour requirements based on incremental opex activities required to meet regulatory and contractual obligations multiplied by labour rates for each resource type
Insurance costs	1.3	Based on independent report from Lockton Australia
Vegetation Integrity Rehabilitation costs	0.7	Based on works required within the easement clearance zone for the Project
Strategic Benefits Payments	0.7	Calculated in accordance with NSW Government's Strategic Benefit Payments scheme
Real input cost escalation	0.9	The labour escalators for 2026-27 and 2027-28 are as set out in our 2023-28 Revenue Determination. For 2028-2029 to 2030-31, the labour escalator is assumed to be equivalent to the average applied in 2026-27 and 2027-28
Debt raising costs	0.9	Calculated using the same approach in our 2023-28 Revenue Determination, as reflected in the PTRM
Total incremental opex	**28.8**	

3. Approach

This chapter outlines the forecasting approach to determine the incremental forecast opex for the Project and ensure costs are prudent, efficient and reasonable.

3.1. Choice of 'bottom-up-build' forecasting method

We have used a bottom-up-build to forecast incremental opex for the Project. This is because:

- no base year is available for the Project because this is our initial Revenue Proposal for the Enabling CWO RNIP. This means that we are not able to apply the base-step-trend approach to forecast opex
- it is consistent with the approach used to derive our internal budget for the Project over the regulatory period
- it is consistent with the opex forecasting approach for ISP projects, which would be subject to a Contingent Project Application under the National Electricity Rules (NER). The AER has accepted a bottom-up-build approach to determine forecast opex for these types of projects.

A bottom-up build approach allows for an accurate estimate of the required incremental opex for the Project. The maintenance regime we have assumed is consistent with our maintenance policies and maintenance of other 'like' assets.

3.2. Alignment with our capex forecast for the Project

Our incremental opex forecast for the Project aligns with our capital expenditure (capex) forecast, in that opex has been forecast in alignment with our capex assumptions as follows:

- maintenance activities are assumed to begin once capital assets are installed and commissioned
- operating costs are assumed to commence upon Project commissioning in 2027-2028, with the exception of regulatory submission activities. These activities are expected to begin in the first year of the regulatory period (i.e. 2026-27), to support annual updates and adjustment mechanisms
- Strategic Benefit Payments assumed to commence once the Project reaches the energisation phase, targeted for February 2028
- operational insurance coverage will commence once the assets are commissioned (with the premium costs incurred prior to the year of coverage), and
- debt raising costs are assumed to be incurred when new debt is required to fund capital investment.[1]

The entire asset life cycle forms part of our ISO55001 certified Asset Management System. This represents a shift in lifecycle phase from build to operate and maintain. It is vital that asset management activities are approached in a systematic manner to ensure the many significant risks associated with the nature of our

[1] Debt raising costs are transaction costs incurred each time debt is raised or refinanced as well as the costs of maintaining the debt facility. This reflects benchmark costs, and not actual debt raising costs. The inclusion of debt raising costs as part of opex allowance align's with the AER's preferred approach. Debt raising costs are included in the opex because these are regular and ongoing costs which are likely to be incurred each time service providers such as Transgrid refinance debt.

assets are managed appropriately. As such, the drivers, objectives and values underpinning the entire asset lifecycle are aligned across our business.

3.3. Robust approach to determining forecast incremental opex

We applied a two-step process to forecast incremental opex for the Project:

Step one involves determining the base expenditure by:

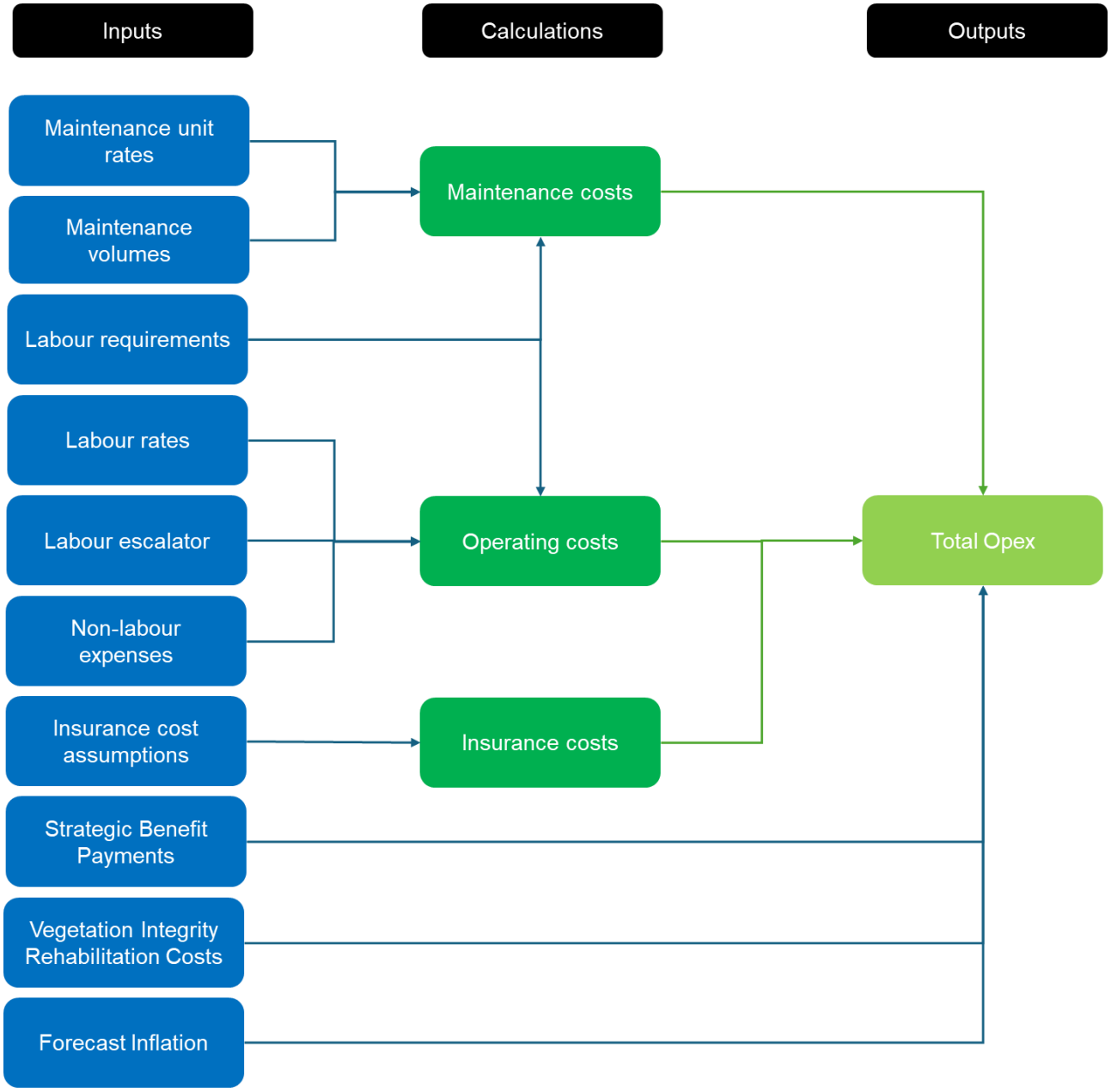
- multiplying unit rates by forecast volumes for maintenance activities[2]
- forecasting expected labour requirements multiplied by labour rates for each resource type and forecasting non-labour expenses for operating activities
- identifying the number and cost of internal resources required to meet our contractual obligations, manage our commercial contracts and meet our regulatory requirements
- basing the operational insurance premium costs on the independent expert report from our broker, Lockton Australia
- calculating Strategic Benefit Payments in accordance with the NSW Government's Scheme.

Step two involves applying labour escalators to the base labour expenditure (in step one), as relevant, and adding an allowance for debt raising costs.

This forecasting approach is summarised in Figure 3-1 below.

[2] Maintenance unit rates are based on standard job costs comprising two components: labour and material rates. These rates are multiplied by the required labour resources and material volumes to calculate total maintenance costs.

Figure 3-1 Process to determine forecast incremental opex for the Project



Note: Debt raising costs, although a component of forecast incremental opex, are not shown. These costs are calculated within the PTRM.

This is the first time we are forecasting opex for a REZ project of this scale and complexity. Accordingly, we adopted a bottom-up approach tailored to meet the operating expenditure objectives under EII Chapter 6A, including:

- meeting or managing the expected demand over the regulatory period
- complying with all regulatory requirements
- maintaining the safety of the Project through the supply of the network services.

In developing our forecast, we also considered our operational and maintenance warranty obligations and specific obligations under our electricity transmission licence.

The opex forecast has been prepared in accordance with our Asset Management System, which has been independently certified to comply with the international asset management standard ISO55001. This system underpins a disciplined and structured approach to managing our assets, focusing on optimising performance, managing risk, and delivering value for NSW energy consumers. Compliance with ISO55001 also ensures a continuous improvement cycle, reinforcing robust decision-making, transparency, and stakeholder confidence.

We have also taken into account our contractual and regulatory obligations under the suite of new agreements established for this Project. These obligations require dedicated resources to ensure effective implementation and compliance. The forecast reflects the minimum level of labour and support necessary to meet these mandatory obligations while maintaining delivery standards and operational integrity.

Our proposed expenditure forecast draws on historical performance data and pricing from existing agreements to ensure our forecast is both realistic and reasonable. The unique nature of the commercial arrangements, combined with their scale and novelty, means that opportunities for commercial efficiency savings at this stage are limited. However, other non-commercial operational efficiencies have been applied as identified. We are committed to continuous improvement and will apply lessons learned to enhance efficiency in future determinations for this Project.

4. Forecasting methodology

This chapter explains the methodology and assumptions used to determine incremental costs for each opex category.

4.1. Maintenance costs

Maintenance costs are forecast by assessing the number and timing of expected maintenance tasks for the Project and the associated unit costs.

Maintenance activities – which underpin those costs – cover both:

- condition based or defect maintenance, and
- routine maintenance and inspection work.

We expect to incur some relatively minor routine inspection, condition based and corrective maintenance costs from 2027-28, the year following when assets are first commissioned (given the newness of the assets). The assets are expected to be commissioned in stages: substations in 2027-28 and transmission lines (including line transpositions) in 2028-29.

Key elements of the forecast routine maintenance opex are:

- warranty inspections on circuit breakers, instrument transformers and disconnectors installed at the various substations
- end of defects liability period transmission line inspections for new and modification structures on lines
- routine maintenance of automation, communication and metering interface equipment with ACEREZ installed at BCSS (assuming operation by ACEREZ).

Forecast opex has been calculated by multiplying current standard unit rates for 12 different categories of maintenance activities by the expected quantities of the activities in each category.

Table 4-1 sets out the maintenance activities, which are assigned to two broad maintenance plan requirements.

Table 4-1 Maintenance activities

Maintenance plan requirement	Maintenance activity
Substations assets maintenance[3]	[redacted]

[redacted]

Maintenance plan requirement	Maintenance activity
	[redacted]
Transmission line assets maintenance[4]	

Table 4-2 sets out the key inputs and assumptions used to calculate the maintenance expenditure forecast.

Table 4-2 Key inputs and assumptions for maintenance expenditure

Item	Description
Unit rates	Unit rates for each maintenance activity combine both standard labour and material unit rates and: • are based on standard jobs sourced from data in our accounting system (in 2024-25 dollars) and have been converted to 2025-26 dollars,[5] and • reflect the average actual rates of all employees assigned to labour resource categories (based on the nature of the work performed) which include labour on-costs and overhead costs. Actual labour rates reflect our Enterprise Agreement (EA) and individual employment contracts where the EA does not apply.
Quantities	Quantities, or maintenance frequencies, are based on the standard frequencies outlined in our maintenance plan for each asset class under our ISO55001 certified Asset Management System (AMS) and Electricity Network Safety Management System to manage network safety risks to SFAIRP and ALARP. These include substations plant and equipment and transmission lines. The activities are assumed to start in the 2027-28 year, i.e. the year after the first assets is commissioned.
Real input cost escalation	Real input escalation is applied only to the labour component of the unit rates and is based on the labour escalation rates approved by the AER in its 2023–28 Revenue Determination.[6] This is described in section 4.6. Consistent with the AER's 2023-28 Determination, we have not adopted any real material escalation.

[4] [redacted]

[5] Standard job costs represent the cost per maintenance task, based on typical labour resource quantities and material expenses using actual data. Most are predominantly labour-based, with a smaller expense component, though this can vary.

[6] The labour escalation rates adopted by the AER for the 2023-28 Revenue Determination have been applied. The labour escalators for 2026-27 and 2027-28 are consistent with those set out in our 2023-28 Revenue Determination. As the AER's decision does not extend beyond 2027-28, we have assumed the labour escalator for 2028-29 to 2030-31 to be equivalent to the average escalation applied in 2026-27 and 2027-28.

Item	Description
	The unit rates are in 2025-26 dollars and real labour escalation is applied cumulatively to the year in which the costs are expected to be incurred. This means, for instance, that 2 years of labour escalation are applied when estimating labour costs in 2027-28.
Key Assumptions	Based on historical performance, defect costs have been estimated as a percentage of expected routine maintenance costs: • 168% for transmission lines • 137% for substations • 122% for automation, metering and communications at Transgrid sites • 579% for Transgrid's assets directly interfacing with BCSS (higher percentage has been used due to the site being designed and constructed by ACEREZ to a non-Transgrid standard integrated and interfaced with non-Transgrid assets at the site. This is expected to result in higher response costs for defects due to the need to work with non-Transgrid designs and systems, as well as interface and coordinate with ACEREZ for the response).

Table 4-3 sets out the forecast maintenance costs for the Project over the 2026-31 period by category.

Table 4-3 Maintenance costs forecast for the Project for the 2026-31 regulatory period ($M, real 2025-26, excludes labour escalation)

Maintenance costs	2026-27	2027-28	2028-29	2029-30	2030-31	Total
Transmission lines	-	-	0.1	0.4	0.1	0.6
Substations	-	0.1	0.4	0.3	0.1	1.0
Total maintenance costs	**-**	**0.1**	**0.5**	**0.8**	**0.2**	**1.6**

4.2. Operating costs

Operating costs reflect additional activities to meet our obligations set out in agreements for the Project and regulatory requirements. These include:

- additional asset management and commercial contract management activities related to new and untested commercial agreements with EnergyCo and the CWO REZ Network Operator for the Main RNIP (i.e. ACEREZ)
- increased network planning and network operation activities to support the connection and operation of the CWO REZ within our transmission network, and
- ongoing regulatory activities for the Project, including annual updates, adjustment mechanism applications and preparation of our next regulatory submission.

We expect to incur labour costs from May 2028 once the first Project assets are commissioned. Key elements of our operating costs are summarised in Table 4-4.

Table 4-4 Opex activities for the Project

Item	Description
Asset management	This includes costs of incorporating new and modified assets into Transgrid's asset management systems and ensuring compliance with licence and contractual obligations. Key activities include:

Item	Description
	• Meeting obligations set out in the REZ Network Connection Agreement in relation to connection assets and protection and control schemes (sections 5), Operational requirements (section 6), Connection agreement data book (section 8), SCADA Communication protocol (section 9), Operations RACI, Operations protocols and procedures and switching (section 10), and Site access, inspection and testing (section 11). • Meeting obligations set out in the Line Crossing Deed in relations to the Operations Phase (Part C and D) • Preparation, implementation and routine review of assets management plans for the new Transgrid assets and ACEREZ interface assets to ensure requirements are met • Updating equipment registers, data platforms, and maintenance plans • Managing spares inventory and updating strategic asset management documents • Ensuring alignment with corporate governance processes • Fulfilling contractual commitments such as: - Attending regular liaison committee meetings. - Preparing and submitting annual/regular reports.
Network planning	The integration of the CWO REZ requires ongoing planning and system analysis to manage its impact on Transgrid's broader transmission network. Activities include: • Joint planning with the Infrastructure Planner to ensure efficient integration (e.g. joint planning meetings, issues resolution, and connection agreement data book review and updates, review and integration of CWO REZ materials into the Transmission Annual Planning Report) • Review and assessment of REZ area demand and renewable energy forecasts • Updating and maintaining network and system analysis models and data • Perform system integration studies to update transient stability, voltage stability, small signal stability limits and fault levels due to REZ network and generator changes • Monitor and perform power quality compliance assessments at the interfaces to CWO REZ • Investigate any non-compliance with the CWO REZ network connection agreement, or any system event that has impact on the performance of the Transgrid network.
Network operations	Operating the network in real time will become more complex with the introduction of the REZ. Key considerations include: • 24/7 monitoring and response by a team of shift workers and on-call engineers • increase in system alarms, requiring additional FTEs to monitor and respond • managing increased complexity due to the variability of renewable generation, necessitating adjustments in system operations, protocols and processes such as: - maintenance of customer operating protocols, operating manuals, and High Voltage Operating Diagrams - outage management including contingency planning and clash avoidance - manage electrical data models for state estimator - provision and management of additional SCADA data points for new assets - management of changes to data interfaces with new connections

Item	Description
Commercial contract management	The CWO REZ introduces a suite of new and interlinked commercial arrangements between Transgrid, EnergyCo and ACEREZ, which include: • Transgrid Non-Contestable Augmentations Project Deed between EnergyCo and Transgrid • Interface Deed between EnergyCo, ACEREZ and Transgrid • CWO REZ Network Connection Agreement between ACEREZ and Transgrid • Line Crossing Deed between ACEREZ and Transgrid, and • Coordination Deed between EnergyCo and Transgrid. These arrangements are the first of their kind to facilitate the coordinated connection of a REZ into the backbone transmission network in NSW. The novelty, scale and interdependencies of these agreements introduce a high degree of commercial and operational complexity. They necessitate proactive and dedicated commercial oversight to ensure our obligations are fulfilled, counterparties uphold their contractual commitments and effectively manage disputes and commercial expectations. In response to these requirements, we have developed a structured approach to forecast the opex required to support commercial contract management functions. Our approach includes: • identifying contractual obligations under each agreement and the associated compliance requirements for Transgrid • determining the appropriate internal roles or employee classifications needed to fulfil these obligations • estimating labour requirements by role, based on indicative effort levels and the likelihood of relevant events, informed where possible by our experience managing similarly complex commercial frameworks. This forecasting approach has enabled us to systematically map out the ongoing activities required to support these agreements. These activities represent a substantial and sustained workload and justify a dedicated allocation of resources. Key responsibilities that have been identified across all agreements include: • meeting commercial obligations set out in the CWO REZ Network Connection Agreement in respect of connection services, annual updates to the connection agreement data book (one major review annually) and management of quarterly charges (four events per year, involving internal calculations, quality assurance process and counterpart agreement) • meeting commercial obligations set out in the Line Crossing Deed in respect of outage coordination, payments and access rights every year • overarching commercial and legal management in respect of dispute resolution, force majeure events, default scenarios, change in law, assignment and novation processes, and termination under multiple agreements • managing the Scheme Financial Vehicle liaison and Payment Deed administration (four events per year, involving internal calculations, quality assurance process and counterpart agreement) • meeting commercial obligations and administration of the Financier's Tripartite Deed between Transgrid, EnergyCo, ACEREZ/ACEREZ Financiers • contract administration activities including preparing, reviewing and issuing notices under multiple agreements

Item	Description
	• reviewing requests for infrastructure requests for variations, augmentations or upgrades and undertaking contract negotiations and deed amendments, where necessary • fulfilling general contractual commitments such as: - participating in over 20 operating and committee meetings per year, which requires preparation, attendance and addressing action items after those meetings - reviewing project documentation with commercial impact, including annual updates and reviews of the O&M plan and annual updates to operation protocols and agreement data book - preparing project commercial monthly reporting and audit (12 reports per year, including preparation and review) - commercial oversight on the calculation and administration of payments and charges (at least four events per year, involving internal calculations, quality assurance process and counterpart agreement).
Regulatory submissions	Transgrid must manage regulatory processes to ensure cost recovery and compliance. This involves preparing annual updates and adjustment mechanisms, and developing the 2031-36 Revenue Proposal for the Enabling CWO RNIP. Commercial and finance support will also be needed for preparing regulatory submissions to ensure contractual obligations are properly reflected.
Other	This includes costs associated with meeting statutory and regulatory compliance obligations that fall outside the core functions listed above. It includes finance function support for annual reporting requirements, administration of Strategic Benefits payments, as well as external audit fees and internal resourcing to support audit. It also includes minor ongoing delivery costs relating to property matters and planning and management of access tracks.

Table 4-5 sets out the key inputs and assumptions used to calculate the operating costs for the Project.

Table 4-5 Key inputs and assumptions for operating costs

Item	Description
Labour resource requirements	We have forecast the expected FTE labour resource requirements for each task required to operate the Enabling CWO RNIP assets, meet the obligations under the commercial agreements and support the regulatory process: • asset management requiring 0.5 FTE in 2027-28 then 1.0 FTEs from 2028-29 to 2030-31 • network planning requiring 0.5 FTE in 2027-28 then 1.0 FTE from 2028-29 to 2030-31 • network operation requiring 1.0 FTE in 2027-28 then 2.0 FTEs from 2028-29 to 2030-31 • commercial contract management requiring 0.3 FTEs in 2027-28 then 3.7 FTEs from 2028-29 to 2030-31 • preparation of: - within-period regulatory submissions, including 29 adjustment mechanisms that require on average 0.7 FTE per year from 2026-27 to 2030-31, and - our 2031-36 revenue proposal requiring 2.2 FTEs in 2029-30 and 1.3 FTE in 2030-31.

Item	Description
	• other activities requiring 0.40 FTE in 2027-28 then 0.65 FTE from 2029-30 to 2030-31.
Labour unit rates	Labour costing rates are the average rates calculated based on the actual rates of all employees assigned into labour resource categories including labour on-costs and overhead costs. Standard labour rates including labour on-costs and overhead costs. Resources seconded (fully or partially) from existing business-as-usual roles to the Project will be backfilled with internal Labour or via greater reliance on outsourced arrangements.
Escalation and inflation	Real input escalation is applied only to the labour component of the unit rates and is based on the labour escalation rates approved by the AER in its 2023-28 Revenue Determination. [7] This is described in section 4.6. Consistent with the AER's 2023-28 Determination, we have not adopted any real material escalation. The unit rates are in 2025-26 dollars and real labour escalation is applied cumulatively to the year in which the costs are expected to be incurred. This means, for instance, that 2 years of labour escalation are applied when estimating labour costs in 2027-28.
Assumptions	Labour resource requirements are assumed based on estimated effort required to fulfill the requirements under the commercial agreements with EnergyCo and the CWO REZ Network Operator for the Main CWO RNIP.

Table 4-6 sets out the forecast operating costs for the Project over the 2026-31 regulatory period by category.

Table 4-6 Operating costs forecast for the Project over the 2026-2031 regulatory period ($M, real 2025-26, excludes labour escalation)

Operating costs	2026-27	2027-28	2028-29	2029-30	2030-31	Total
Asset management	-	0.3	0.5	0.5	0.5	1.9
Network planning	-	0.3	0.6	0.6	0.6	2.1
Network operations	-	0.6	1.1	1.1	1.1	3.9
Commercial contract management	-	0.2	2.3	2.3	2.3	7.0
Regulatory submissions	0.5	0.5	0.5	1.9	1.3	4.6
Other	-	0.7	0.9	0.8	0.8	3.3
Total operating costs	**0.5**	**2.5**	**5.9**	**7.2**	**6.6**	**22.8**

[7] The labour escalation rates adopted by the AER for the 2023-28 Revenue Determination have been applied. The labour escalators for 2026-27 and 2027-28 are consistent with those set out in our 2023-28 Revenue Determination. As the AER's decision does not extend beyond 2027-28, we have assumed the labour escalator for 2028-29 to 2030-31 to be equivalent to the average escalation applied in 2026-27 and 2027-28.

4.3. Insurance costs

We expect to incur incremental opex associated with insurance premiums for assets required for the Project once they are commissioned. We require two types of insurance for our regulated infrastructure assets:

- **Industrial special risks** – this covers physical loss, destruction or damage to the assets occurring during operation
- **Third-party liability** – this covers Transgrid's legal liability for third party property damage or bodily injury occurring during operation of the assets.

Both types of insurance are prudent as they cover risks that are both material and that we cannot easily (or cost effectively) avoid. Operational insurance cover will be required once each separable portion achieves practical completion which are all within the 2027-28 policy year.

An independent insurance broker engaged by Transgrid has estimated the costs of insuring the Project during construction and once the assets are operational:

- The construction phase insurance costs are included in the capex forecast (indirect costs). This is explained in the Capex Forecasting Methodology.
- The operational phase insurance costs are included in the incremental opex forecast for the Project.

Full details are set out in an independent report from our insurance broker, provided as an attachment to the Revenue Proposal.

Table 4-7 sets out the key inputs and assumptions used to calculate the incremental insurance-related opex for the Project, split between industrial special risk and operational third-party insurance.

Table 4-7 Incremental insurance related opex for the Project

Insurance type	Description
Industrial special risks	Industrial special risks insurance covers physical loss, destruction or damage of insured property occurring during operation. Lockton estimated premium of $209,628 (in real 2024-25 dollars and excluding GST), assuming $435.6 million declared asset value.
Operational third-party liability	Operational third-party liability insurance covers Transgrid's legal liability for third party property damage and bodily injury occurring during operation. Lockton estimated the premium of $96,163 (in real 2024-25 dollars and excluding GST), assuming a $250 million limit.

Additionally, there will be a one-off increase in insurance costs amounting to $57,507 in the year 2029-30. This increase is related to the preparation of insurance premiums for the following regulatory period for the Project.

Table 4-8 sets out the annual insurance costs forecast as explained above.

Table 4-8 Insurance forecast costs for the Project over the 2026-2031 regulatory period ($M, real 2025-26)

Cost component	2026-27	2027-28	2028-29	2029-30	2030-31	Total
Insurance costs	-	**0.3**	**0.3**	**0.4**	**0.3**	**1.3**

4.4. Vegetation Integrity Rehabilitation Costs

The Project is required to maintain a target native vegetation condition state (or vegetation integrity) on-easement, the attributes of which are defined in the biodiversity impact assessment under the Infrastructure Approval.

Whilst routine operational maintenance activities will seek to avoid and minimise impacts to native vegetation at all times, it is likely to be acknowledged in the approval that routine maintenance activities may temporarily impact native vegetation below the target condition state. As a result, budget allocation is required for works to rehabilitate native vegetation to its target condition following each easement maintenance event, in association with environmental mitigation measures.

Rehabilitation works would be delivered by appropriately qualified and experienced bush regeneration crews and include (but not be limited to):

- topsoil replacement
- soil decompaction
- stabilisation and erosion control
- targeted weed control
- brush-matting
- opportunistic direct seeding, and
- plant translocation.

Table 4-9 Vegetation Integrity Rehabilitation costs for Mt Piper to Wallerawang

Item	Description
Bush regeneration crew	Assumes works required within areas where native vegetation will be retained on-easement only, coming to a total of 30 ha implementation area. Budget to support: • Justification for no indirect nor prescribed impacts proposed in the BDAR (i.e. via resourcing weed controls measures, and potentially native shrub restoration to enhance connectivity) • Justification for partial impact calculations in the BDAR (TBD) • Broader Transgrid positive on-easement biodiversity management Activities: • Native vegetation management and restoration (within safe transmission line operating conditions) • Delivered by appropriately qualified and experienced ecological management and restoration specialists • Ground remediation following construction and/or maintenance vegetation removal (as required) • Native vegetation restoration practices following construction and/or maintenance vegetation removal • Selective control of exotic plant and tall-growing native vegetation • Restoration of high-diversity native shrub cover (not tall-growing vegetation), particularly at fauna connectivity corridor locations identified in the Biodiversity Management Plan [redacted]

Item	Description
	[redacted]
Administration costs	We have forecast the expected FTE labour resource requirements to oversee the works and ensure they meet the target native vegetation condition state on-easement as per the biodiversity impact assessment under the Infrastructure Approval. We estimate 0.15 FTE will be needed each year to perform the required work over the 2026-2031 regulatory period. For labour rates, we have applied a consistent approach as previously discussed in this document: • Labour costing rates are the average rates calculated based on the actual rates of all employees assigned into labour resource categories including labour on-costs and overhead costs. • Standard labour rates including labour on-costs and overhead costs.
Escalation and inflation	For bush regeneration crew, cost values are assumed to stay constant in real terms. For administration costs, real input escalation is applied only to the labour component of the unit rates and is based on the labour escalation rates approved by the AER in its 2023-28 Revenue Determination.[8] This is described in section 4.6. Consistent with the AER's 2023-28 Determination, we have not adopted any real material escalation. The unit rates are in 2025-26 dollars and real labour escalation is applied cumulatively to the year in which the costs are expected to be incurred. This means, for instance, that 2 years of labour escalation are applied when estimating labour costs in 2027-28.

[8] The labour escalation rates adopted by the AER for the 2023-28 Revenue Determination have been applied. The labour escalators for 2026-27 and 2027-28 are consistent with those set out in our 2023-28 Revenue Determination. As the AER's decision does not extend beyond 2027-28, we have assumed the labour escalator for 2028-29 to 2030-31 to be equivalent to the average escalation applied in 2026-27 and 2027-28.

Item	Description
Assumptions	• Implementation area: 30 hectares (Mt Piper to Wallerawang on-easement partial clearing areas) [redacted] • 5-year maintenance period • 0.15 FTE each year to oversee work and ensure compliance

Table 4-10 sets out the forecast costs for Vegetation Integrity Rehabilitation over the 2026-31 regulatory period.

Table 4-10 Vegetation Integrity Rehabilitation forecast costs for the Project over the 2026-2031 regulatory period ($M, real 2025-26)

Cost component	2026-27	2027-28	2028-29	2029-30	2030-31	Total
Vegetation Integrity Rehabilitation costs	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.7**

4.5. Strategic Benefit Payments

The NSW Government is committed to transforming NSW's electricity system into one that is cheaper, cleaner and more reliable. To facilitate the timely delivery of investments needed to transform the energy system, the NSW Government has introduced a Strategic Benefit Payments (SBP) Scheme to compensate private landowners impacted by these projects.[9]

The proposed SBP Scheme will provide additional payments to eligible landowners, who are not a Public Authority in NSW who host new high voltage transmission projects on their land for the transmission easements required to enable the construction of these network infrastructure projects, including for CWO REZ. These payments:

- acknowledge the critical role these landowners have in hosting the new energy infrastructure that will power NSW into the future
- ensure that these landowners share directly in the benefits of this significant economic investment.

These payments comprise annual payments for a period of 20 years and are separate and in addition to compensation under the *Land Acquisition (Just Terms Compensation) Act 1991* (Just Terms Act).

Table 4-11 sets out the key inputs and assumptions used to calculate the Strategic Benefit Payments for the Project.

[9] NSW Government, Strategic Benefit Payments Scheme, October 2022. This requires that annual payments for a given line are calculated in real 2022 dollars, as eligible line length kilometres x $200,000 ÷ 20 years.

Table 4-11 Key inputs and assumptions for Strategic Benefit Payments

Item	Description
Unit rates	Under the SBP Scheme, private landowners hosting new high voltage transmission projects critical to the energy transformation will be paid $200,000 (real 2021-22 dollars) per kilometre (of transmission lines hosted, in annual instalments over 20 years, linked to CPI. Once the Project is commissioned (energised), we will commence making these annual payments to eligible private landowners.
Escalation and inflation	SBP amounts have been escalated by CPI to real 2025-26 dollars.
Assumptions	Calculation of SBPs per annum is as follows: • Length of easement x $10,000 per Kilometre + CPI (for the years following the initial amount). Our forecast SBP Native Title and eligible landholder costs ar[redacted] per annum (real 2021-22 dollars), adjusted for CPI for 20 years calculated as follows: • [redacted]km x $10,000/km per year = [redacted] per annum, excluding CPI adjustments The above will need to be converted to 2025-26 dollars to be consistent with the rest of opex forecasts in this document: • [redacted] km x $11,632/km per year = [redacted] per annum, excluding CPI adjustments SBP will commence upon the Project's construction reaching the energisation phase targeted for February 2028. The SBP cost forecast for 2027-28 is therefore pro-rated for this financial year as follows: • [redacted] (Total annual SBP) x 4/12 (the proportion of the months the payment will apply) = [redacted]
Administration costs	We have forecast the expected full time equivalent (FTE) labour resource requirements to ensure we meet our regulatory obligations for Strategic Benefit Payments. We estimate 0.15 FTE will be needed each year to perform the required work over the 2026-2031 regulatory period. For labour rates, we have applied a consistent approach as previously discussed in this document: • Labour costing rates are the average rates calculated based on the actual rates of all employees assigned into labour resource categories including labour on-costs and overhead costs. • Standard labour rates include labour on-costs and overhead costs. Real input escalation is applied only to the labour component of the unit rates and is based on the labour escalation rates approved by the AER in its 2023-28 Revenue Determination. This is described in section 4.6. Consistent with the AER's 2023-28 Determination, we have not adopted any real material escalation. The unit rates are in 2025-26 dollars and real labour escalation is applied cumulatively to the year in which the costs are expected to be incurred. This means, for instance, that 2 years of labour escalation are applied when estimating labour costs in 2027-28.

Table 4-12 sets out the forecast SBP for the Project over the 2026-31 regulatory period.

Table 4-12 Forecast SBP over the 2026-2031 regulatory period ($M, real 2025-26)

Cost component	2026-27	2027-28	2028-29	2029-30	2030-31	Total
Strategic Benefit Payments	-	**0.1**	**0.2**	**0.2**	**0.2**	**0.7**

4.6. Real labour price escalation

Two components of the opex forecast – maintenance costs and operating costs – are primarily driven by labour costs. As expenditure forecasts were prepared in real 2025-26 dollars, labour escalation needs to be applied from 2026-27 onwards.

Where possible, we have adopted the labour escalators in the AER's 2023-28 Revenue Determination. This is the simple average of forecasts provided by KPMG and BIS Oxford Economics. Given that the AER's determination only includes forecasts out to 2027-28, we have extrapolated the forecast by setting the 2028-29, 2029-30 and 2030-31 real labour escalators equal to the average of that adopted by the AER for 2026-27 to 2027-28.

Table 4-13 Real labour escalation forecast for the 2026-31 regulatory period

Component	2026-27	2027-28	2028-29	2029-30	2030-31	Total
Real labour escalation (%)	0.43	0.30	0.37	0.37	0.37	N/A
Real labour escalation ($M, real 2025-26)	0.0	0.1	0.2	0.3	0.3	0.9

4.7. Debt raising costs

Debt raising costs are the transaction costs incurred each time debt is raised or refinanced as well as the costs for maintaining the debt facility. These costs may include underwriting fees, legal fees, company credit rating fees and other transactions.

We have adopted the AER's benchmark approach and parameters to estimate debt raising costs for a benchmark efficient business (rather than our actual costs). Our PTRM, provided as an attachment to this Revenue Proposal, sets out the detailed calculations of our debt raising costs.

Table 4-14 describes the approach and assumptions we have adopted, per the AER's benchmark approach.

Table 4-14 Debt raising cost estimation approach and assumptions

Component	Approach and assumptions
Forecast debt	This is calculated by multiplying the forecast Project RAB in the PTRM by the benchmark leverage ratio (i.e. 60 per cent) adopted by the AER in its 2023-28 Revenue Determination for our prescribed transmission services.
Debt raising costs	Debt raising costs are calculated for each year of the 2026-31 period by multiplying the opening RAB value for the year by a unit rate. We propose adopting a unit rate of 8.3 basis points per annum as a placeholder, which is the value adopted by the AER in its 2023-28 Revenue Determination.
Assumptions	• Forecast Project RAB • leverage ratio of 60 per cent, and • debt raising cost benchmark of 0.083 per cent.