

Operating Expenditure



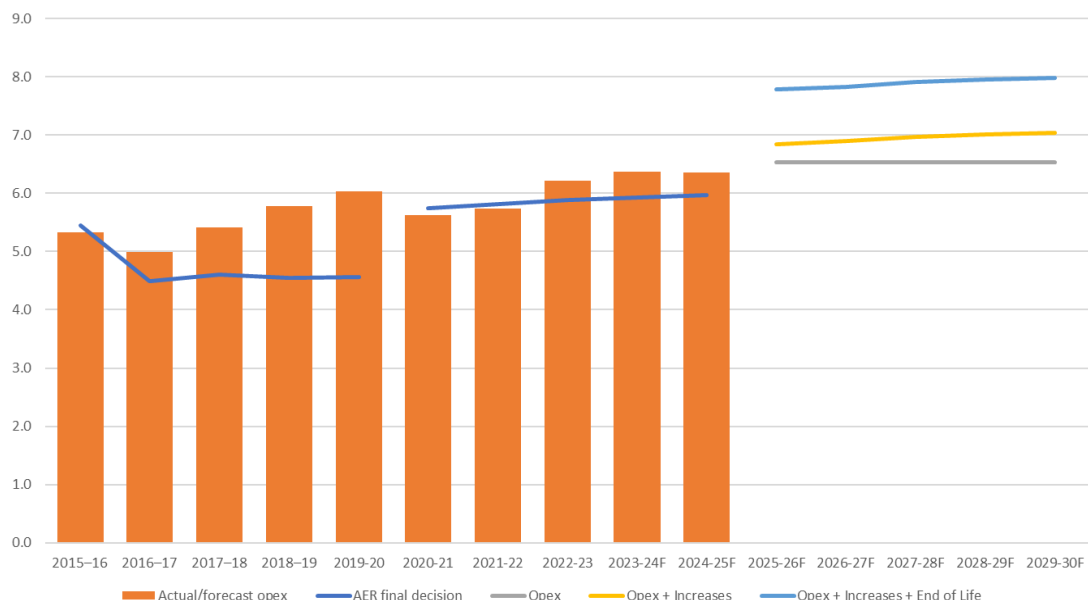
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1. Summary

- Directlink have applied the AER's preferred base-step-trend methodology to derive its operating expenditure forecasts in line with Directlink's *Expenditure Forecast Methodology*¹ as submitted to the AER in June 2023.
- Total operating and maintenance expenditure is forecast to increase by 30% to \$39.5m compared to the current regulatory period. However, excluding the category specific forecasts, underlying operating and maintenance expenditure has increased by 12.5% compared to the current regulatory period.
- Several external factors continue to create upward cost pressures, including:
 - insurance costs have increased substantially, adding \$2.6m to the nominal allowance for insurance approved in the previous determination;
 - increases in real labour costs; and
 - increased cyber security requirements that adds over \$1.3m in cyber security spending to total operating expenditure over the next 5 years.
- Directlink is also proposing a step change to recurrent operating expenditure to accommodate the plans for Directlink to participate in APA's Apprenticeship program with apprenticeships to be allocated starting from 2025.
- End of life costs have also been proposed to begin accounting for the rehabilitation costs that will be required when Directlink ceases to operate in 2042. This adds \$4.7m to the total operating cost over the period.

Figure 1-1: Operating expenditure (\$2024-25, million)



¹ Directlink, *Proposed Forecasting Methodology*, July 2023

2. Introduction

This attachment outlines Directlink's proposed operating expenditure forecast for the 2025 to 2030 regulatory period.

The approach used is consistent with the AER's *Framework and Approach for Directlink*² and Directlink's *Expenditure Forecast Methodology*³.

Claus 6A.6.6(a) of the National Electricity Rules (Rules) require Directlink to submit a forecast of total operating expenditure that is required to meet the following operating expenditure objectives:

- meet or manage the expected demand for prescribed transmission services over the period;
- comply with all applicable regulatory obligations or requirements associated with the provision of prescribed transmission services;
- maintain the quality, reliability and security of supply of prescribed transmission services; and the reliability and security of the transmission system through the supply of prescribed transmission services; and
- maintain the safety of the transmission system through the supply of prescribed transmission services.

The information and calculations presented in this attachment meet the requirements of clause 6A.6.6.

Similarly, the approach complies with schedule S6A.1.2 of the Rules that establishes the information and matters relating to operating expenditure that must be provided in the Directlink Proposal. The principal requirements are that the proposed operating expenditure must:

- meet the operating expenditure objectives;
- be subdivided into programs or types of expenditure and identify the fixed and variable components;
- include a forecast of key variables used to derive the forecast; and
- have Directors' sign off on the reasonableness of key assumptions used in the operating expenditure forecast.

Directlink has applied the AER's preferred 'base-step-trend' forecasting methodology in a manner that meets the operating expenditure objectives. The information presented in this attachment explains how we have applied this forecasting methodology and why the forecasts should therefore be accepted by the AER.

The operating and maintenance expenditure forecasts only relate to expenditure that is properly allocated to prescribed transmission services, in accordance with its Cost Allocation Methodology⁴. Directlink therefore considers that the forecast achieves the operating expenditure objectives as defined in the Rules.

² Directlink, *Framework and Approach for Directlink*, July 2023

³ Directlink, *Proposed Forecasting Methodology*, July 2023

⁴ Directlink, *Attachment 07g: Cost Allocation Methodology*, Jan 2024

3. Key Assumptions

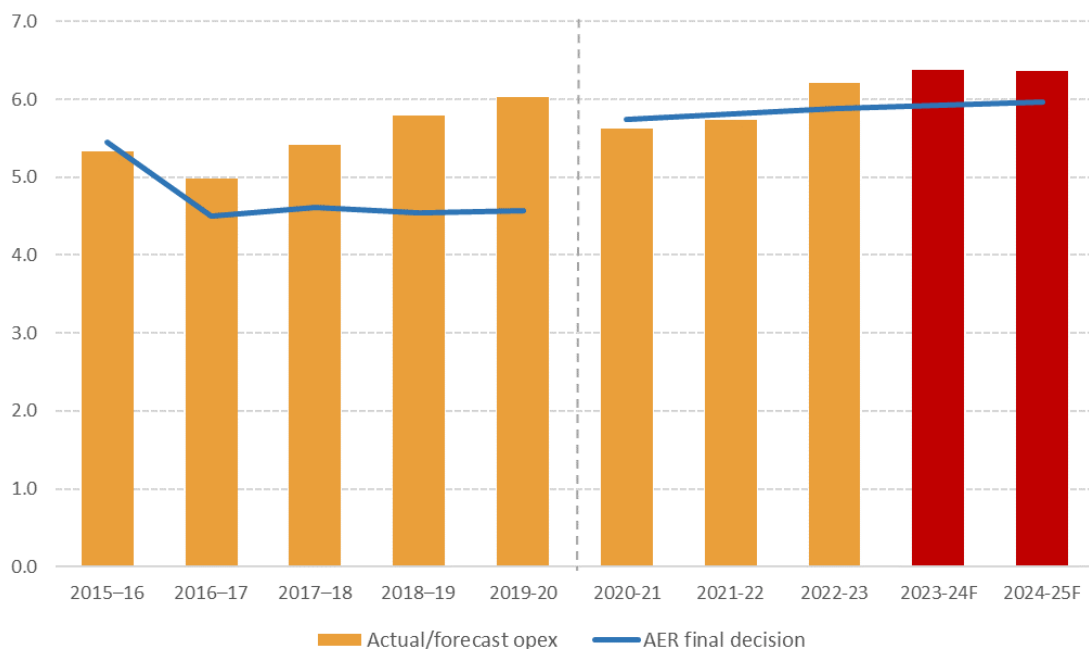
Forecasting Directlink's operating and maintenance cost over the next period is based on the following assumptions:

- there is no change being made to the maximum capacity of the Interconnector in the period 1 July 2025 to 30 June 2030;
- the forecasts are based on current legislative and regulatory obligations and these obligations will not materially change prior to 30 June 2030;
- the best forecast of operating expenditure to meet the Rules' objectives over the 2025-30 period is to use Directlink's current and most recent operating and maintenance requirements;
- adjustments are only required to reflect changes in input costs and step changes;
- there is no change in the outputs delivered by the Directlink interconnector; and
- forecast operating expenditure is designed to maintain and operate the Directlink interconnector and non-network options are not appropriate.

4. Historic operating expenditure

Figure 3.1 highlights in real terms Directlink's actual and forecast operating expenditure for the previous and current regulatory control period as well as the total regulated allowance set by the AER during both periods.

Figure 4-1: Historic operating expenditure, \$2024-25 mil



As shown, operating expenditure has been relatively constant in real terms and in fact, has increased by around 1 per cent per annum over this regulatory period when compared to the level of actual operating and maintenance expenditure in 2019-20.

A more detailed breakup of Directlink's actual nominal operating expenditure and the AER's regulated allowances for the current regulatory period are shown in Table 4-1.

The major component of the operating costs has been competitively sourced, and the actual expenditure remains closely comparable to the AER's allowance with actual cost estimated to be \$28.0m over the period, a \$1.0m increased over the AER regulated allowance of \$27m.

The main reason for the variance is the increase in the cost of insurance for Directlink when compared to the insurance allowance approved by the AER for the current period.

Insurance costs over the current regulatory period are estimated to total \$4.2m which is \$1.1m more than the AER's regulated allowance for insurance costs over the period.

Although operating costs, excluding insurance, are estimated to be lower than the AER's allowance over the regulatory period, we note that actual operating expenditure increased in 2022-23 due to additional maintenance requirements and the associated labour costs. This is forecast to continue in 2023-24 and 2024-25 and in future regulatory periods.

Table 4-1: Historic operating expenditure, nominal \$m

Categories	2020-21	2021-22	2022-23	2023-24F	2024-25F	Total
Actual and estimated costs						
Operating costs	4.1	4.2	4.9	5.2	5.3	23.7
Insurance costs	0.5	0.8	0.9	1.0	1.0	4.2
Total	4.7	5.0	5.8	6.2	6.4	28.0
AER Regulated Allowances						
Operating cost allowance	4.2	4.5	4.8	5.1	5.3	23.9
Insurance allowance	0.5	0.6	0.6	0.7	0.7	3.1
Total	4.8	5.1	5.5	5.7	6.0	27.0
<i>Variance</i>	<i>-0.1</i>	<i>-0.1</i>	<i>+0.3</i>	<i>+0.5</i>	<i>+0.4</i>	<i>+1.0</i>

5. Operating expenditure categories

Energy Infrastructure Investments (EII) is an unlisted investment vehicle that owns gas pipelines electricity transmission inter-connectors and other gas infrastructure.

EII has no staff, and the management, operation and maintenance of its assets are performed by APA Operations Pty Limited (APA). This includes the Directlink interconnector.

APA recovers all contract costs and its direct overheads from EII on the basis of a Management, Operations and Maintenance and Commercial Services Agreement (MOMCSA) entered into between the parties in 2008.

Under this contract, all administrative, accounting, and other business functions, including compliance with legal and regulatory obligations, are recovered through a Commercial Services fee. EII then allocates this Commercial services cost among its various assets on the basis of each asset's contribution to total group revenue.

The AER has reviewed the MOMSCA previously in both Directlink and Murraylink reviews and has found it to be consistent with the requirements of the Rules.

To assist the AER with its assessment of this issue, EII has prepared an attachment⁵ that includes:

- an overview of the MOMCSA;
- EII's understanding of how the AER assesses the consistency of outsourcing arrangements with the Rules; and
- how the MOMCSA is consistent with the AER framework.

Directlink's electricity transmission costs therefore comprise the following components:

- direct network operations, including operating expenses, communications, energy costs and connection costs;
- direct maintenance costs;
- other direct costs, including insurance, contracted services, taxes, travel costs, utilities expenses, accounting fees and legal fees, and other direct expenses which can be attributed to the asset; and
- an allocation of the shared costs incurred by EII for all other commercial services under the MOMSCA.

Each of the direct costs identified above are incurred by Directlink and attributed to the prescribed transmission service.

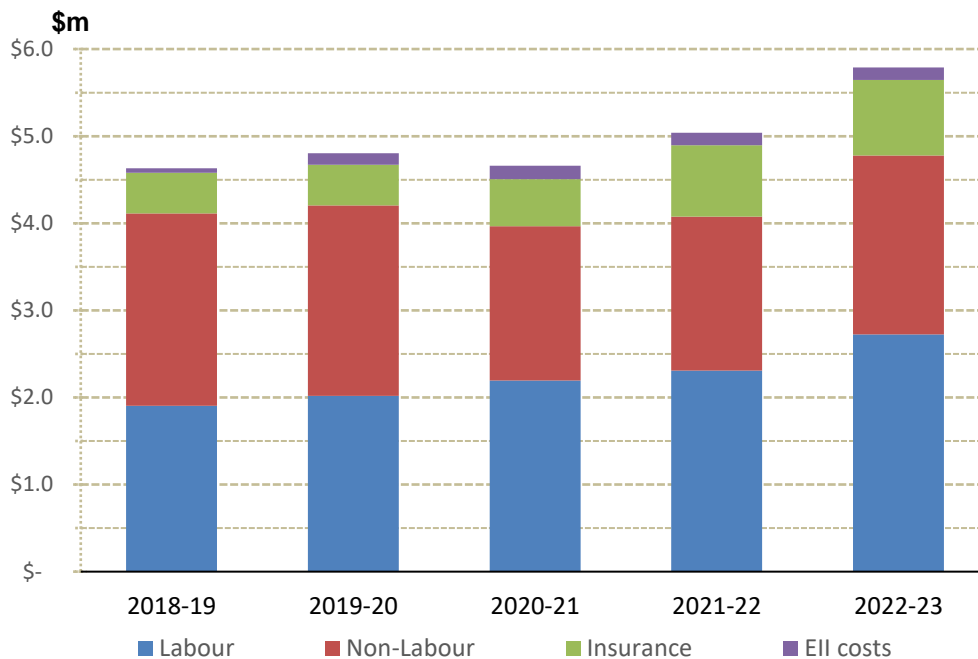
Figure 5-1 shows the trend in operating and maintenance cost over the last 5 years. All operating and maintenance costs have been categorised as labour or non-labour costs apart from Insurance premiums and specific EII costs (e.g. debt raising expenses and EII corporate costs) which are individually specified.

The labour costs include labour recoveries, training, operating and maintenance contractors and other labour costs. All other costs have been classified as non-labour.

⁵ Directlink, *Attachment 05b: Outsourcing Arrangements, 2025-30 Revenue Proposal*, January 2024

Historic actual operating expenditures have therefore been categorised to reflect the principal cost drivers and in the same manner as Directlink's operating expenditure forecast have been made.

Figure 5-1: Trend in operating costs, by category (\$m, nominal)



5.1. Network operating cost categories

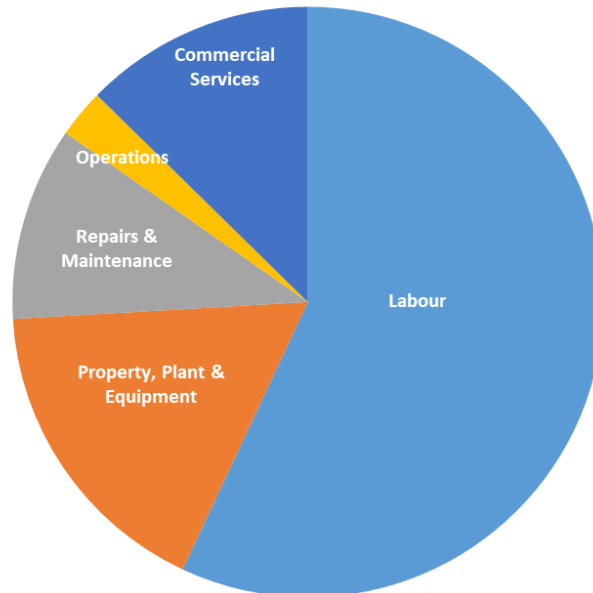
As with many other electricity transmission networks, Directlink's operating and maintenance activities comprise the following major components or functions:

- network operations, including operating expenses, communications, energy costs and connection costs;
- routine maintenance and fault repairs;
- property, plant and equipment; and
- Commercial services.

These activities are discussed below.

Although Directlink's labour costs cannot be fully allocated to these categories, the other components of Directlink's regulatory accounts in 2022-23 have been allocated to these categories to provide an indication of their proportion, along with labour, of total operating cost as shown in Figure 5-2.

Figure 5-2: Network operating costs as allocated for 2022-23 (%)



5.1.1. **Property, Plant and Equipment**

Expenditure on property, plant and equipment for Directlink predominantly consists of expenditure on:

- plant and equipment hire;
- rent and property;
- buildings and
- motor vehicles.

Any equipment expenditure as part of maintenance or operations functions is allocated accordingly to those specific activities and cost categories.

5.1.2. **Repairs and Maintenance**

Repairs and maintenance expenditure is made up of both routine and fault expenditure.

Routine expenditure is the recurrent maintenance activities undertaken by Directlink. This involves maintenance tasks and activities undertaken on a scheduled basis including asset testing, inspections, line patrols, vegetation clearance. The materials and spare parts associated with routine maintenance are also included in this cost category. All routine maintenance is in accordance with the manufacturer's recommendations.

Fault expenditure is undertaken in response to either failure or deteriorating condition of an asset. This work involves short-term responses to unplanned events to restore assets to an operational state. Examples include mechanical breakdown, storm damage and other weather events, equipment malfunction and deterioration. The main driver of this activity is the condition of the assets and the likelihood of failure.

5.1.3. Network Operations

The operation of Directlink is controlled remotely. This is a 24-hour continuous requirement with the control room manned by operators that provide the functions of network operation, coordination and switching sheet preparation for all plant outages. The control room is also used for the control of other assets, so Directlink is only charged an allocation of the cost based on its revenue.

Other operational activities include:

- Off-line system security support involving network security analysis, including an ongoing need to perform contingency planning;
- Technical support for the Energy Management System and SCADA systems including configuration, upgrade, hardware installation, software upgrade and maintenance; and
- Asset Monitoring for performance and condition, which includes auditing network configurations and performing fault diagnosis and response management.

5.1.4. Commercial services

The APA Group provides commercial services (financial management and reporting, legal and regulatory and project management services) on a fixed flat rate fee to EII. This commercial services fee is then allocated to EII assets based on their annual contribution to total revenue.

The nominal charge allocated to Directlink has been increasing over time reflecting the revenue share from Directlink and other EII assets but the real cost of commercial services under the MOMSCA has varied little in real terms over the life of the contract. This is not expected to change.

5.2. Fixed and variable cost categories

The Rules⁶ require Directlink to identify the extent that the categories of costs above are fixed or variable.

Consistent with the nature of Directlink's operations, in particular AEMO's control of its dispatch, none of its costs vary directly with the amount of electricity transported through the interconnector. Indeed, few costs are controllable or can be varied. The cost of electricity used for driving fans and cooling equipment varies with the load on the interconnector, but it is driven by AEMO and not within Directlink's control.

Other cost categories are largely fixed and do not vary with volumes as:

- maintenance on the converter stations is scheduled in advance and in accordance with the programmed procedures and manufacturer's recommendations using predictable spares and consumables;
- operations costs are an allocated component of total control room costs which are expected to remain fixed in real terms for the regulatory control period; and
- The commercial services fee, insurance, governance and taxes are largely fixed charges.

⁶ National Electricity Rules, S6A.1.2

6. Base-step-trend methodology

The AER's *Expenditure Forecast Assessment Guideline for Electricity Transmission*⁷ highlights that the base-step-trend methodology, using past actual costs as the starting point, is its preferred approach for determining an efficient operating expenditure forecast.

Directlink have largely applied the base-step-trend methodology in deriving its operating expenditure forecasts.

A specific forecast has been used to separately estimate Directlink's insurance costs because they are an external cost and a material component of Directlink's total operating cost. End of life costs have also been estimated individually as they are not part of the operation of the interconnector. These separate cost category forecasts are discussed in Section 7.

6.1. Base Year

The base-step-trend methodology recognises that actual past expenditure should be a good indicator of the efficient expenditure a TNSP requires in the future. Indeed, the AER's ex-ante incentive regime provides an incentive for TNSP's to reduce expenditure and retain a portion of cost savings made during the regulatory control period.

Using a revealed cost methodology for a base year is especially relevant for Directlink given the asset's small size and the limited and consistent nature of its operating expenditure.

Consistent with our operating expenditure forecasting methodology, Directlink has selected the 2022-23 financial year as the base year for our forecast of operating expenditure.

The 2022-23 base year is appropriate because it has the following characteristics:

- it is the most recent completed financial year;
- it is most reflective of current conditions and a typical year of operations on the Directlink interconnector;
- no adjustments are required for non-recurrent expenditure or for inefficient recurrent operating expenditure; and
- it reflects a 'revealed cost' approach as preferred by the AER.

This makes it a transparent starting point for the calculation of forecast operating expenditure using the AER's base-step-trend methodology.

6.2. Adjustments to base year

The revealed cost methodology requires the base year to be analysed for any adjustments required for efficient increases or decreases in expenditure (step and scope changes).

⁷ AER, *Expenditure Forecast Assessment Guideline*, November 2013

Actual expenditure for 2022-23 has been reviewed and no adjustments are required for non-recurrent expenditure or an inefficient level of recurrent controllable operating expenditure.

However, Directlink has been required to adjust the base year to include the full costs attributable to reforms to the *Security of Critical Infrastructure Act* that apply to APA and its subsidiary businesses and are allocated to Directlink as part of EII.

6.2.1. Security of Critical Infrastructure (SoCI)

The *Security of Critical Infrastructure Act* (Act) provides a framework for managing and protecting critical infrastructure with the latest amendments to the Act passed in April 2022.

The Act formally defines responsibilities and activities to support good risk practices and greater awareness of threats and vulnerabilities to critical infrastructure assets. It assigns penalty provisions to certain obligations with a clear intent to drive an uplift in critical infrastructure resilience.

As a result, additional capital and operating expenditure is required during the forthcoming regulatory period through a range of related SoCI projects, including cybersecurity.

The SOCI costs attributable to APA were identified and allocated to the Victorian Transmission System (VTS) and Murraylink Determinations as approved by the AER. The allocation of these costs to Directlink is under the MOMCSA as the expenditure is required to meet statutory and regulatory requirements.

Table 6-1 highlights Directlink's annual share of SoCI operating costs for the various workstreams. These costs will continue to apply from 2022-23 onwards.

Table 6-1: Directlink share of SoCI costs (\$'000 pa)

Project	2022-23
Cyber Security	175
Program Management and Risk	32
Enterprise Security Governance	16
Personnel Security	6
Supply Chain Security	13
Total	243

Any cost related to SOCI were previously excluded from Directlink's allocated and direct costs but have now been separately identified and are being charged to EII and hence Directlink. However, for 2022-23, only 6 months of SoCI costs were included in the Directlink 2022-23 regulatory accounts.

Consequently, Directlink has adjusted the base year for 2022-23 to reflect the full annual cost for SOCI. This will ensure that ongoing analysis of Directlink's forecast operating costs for the period will include recovery of these costs and will be comparable to Directlink's future regulatory accounts.

6.3. Real cost escalation

To account for cost inflation, we must escalate the base year operating and maintenance cost for the regulatory period 2025-30. Directlink has applied an approach where labour costs are escalated by a wage index and any non-labour cost are only escalated by the Consumer Price Index (CPI).

The total base-year operating cost is split into labour and non-labour based on historic division of labour and non-labour costs over the last 5 years, from 2018-19 to 2022-23. This results in a ratio of labour to non-labour costs of 53:47.

CPI is used to escalate all non-labour costs and consequently, they stay constant in real terms over the regulatory period.

In order to forecast changes to labour costs, Directlink has relied on recent forecasts of BIS Oxford Economics⁸ for an appropriate wage index for an electricity network.

For electricity network related labour, BIS Oxford Economics forecasts that total wage costs for Electricity, Gas, Water and Waste Services (EGWWS) — expressed in Wage Price Index (WPI) terms — will average 3.7% per annum from 2025-26 to 2029-30.

This means that the Australian EGWWS WPI is expected to be 0.3% higher than the All Industries average.

Utilities wages are forecast by BIS Oxford Economics to increase by more than the national average because:

- the electricity, gas and water sectors are capital intensive industries whose employees have higher skill, productivity and commensurately higher wage levels than most other sectors;
- of the strong union presence in the utilities sector so wage outcomes for collective agreements remain above the average national wage increases;
- increases in individual agreements are expected to strengthen as the labour market remains tight with unemployment below 4% over the next 2-3 years; and
- demand for skilled labour remain high and is expected to strengthen with the high levels of predicted utilities investment.

In real (inflation-adjusted) terms, the EGWWS WPI is forecast to average 1.1% p.a. over the five years to 2029-30 (see Table 6-2).

Table 6-2: CPI and Real wage price index forecasts (%)

	2025-26	2026-27	2027-28	2028-29	2029-30
CPI	3.14%	2.98%	2.82%	2.66%	2.50%
Real WPI	1.29%	1.09%	0.90%	1.18%	1.33%

Source: Bis Oxford Economics

⁸ BIS Oxford Economics, Attachment 05a: Labour Escalation Costs – Basslink: Forecasts to 2029/30, May 2023

6.4. Growth and productivity changes

The Directlink interconnector is not forecast to have any potential for output growth as it is a point to point interconnector available to AEMO for dispatch as required.

Directlink is not required to derive its allowed revenue from demand served and therefore does not establish tariffs for the provisions of its service. Accordingly, no allowance has been made for changes to operating and maintenance costs because of growth factors.

Furthermore, Directlink has not applied any productivity measure when forecasting operating cost using the base step trend methodology. As highlighted in section 5.2, the operating costs for Directlink are largely fixed and the opportunity for productivity gains are severely limited.

Directlink has already taken a conservative approach in escalating the base year by restricting the real escalation of real cost inputs to labour only. It would therefore be inappropriate to apply a productivity improvement measure.

6.5. Step changes

The demand for skilled labour in the electricity transmission sector is high and increasing given the significant growth in investment in transmission assets. The Directlink interconnector is a small asset with a limited number of available resources with the competencies and experience to work and operate given its unusual DC technology.

Maintaining access to skilled labour for the life of the asset is therefore a large risk for Directlink and it has been considering ways to improve its labour resilience and access to replacement labour with the requisite skills, whether through labour retention payments, apprenticeships, or trade programs.

One of these avenues is access to the APA Apprenticeship program to develop future resources with the relevant skills and experience on the interconnector. Directlink has therefore included a step change allowance in its operating cost forecast based on the estimated cost of participating in the APA Apprenticeship program.

The current efficient costs of the base year do not include any allocation for labour retention or apprenticeships and Directlink believes the inclusion of this step change will better allow it to achieve the objectives in clause 6A.6.6(a) of the Rules and more reasonably reflect the criteria in clause 6A.6.6(c) of the Rules.

6.5.1. Apprenticeship program

Employers are reporting an increasing shortage of technicians and trade workers, and these are essential workers in the utilities sector. A key problem is that the TAFE (technical and further education) have not been training enough workers. BIS Oxford Economics research shows this is being compounded by the number of new graduates in the trade streams not increasing at a rate fast enough to replace retiring workers. As a result, some numbers are actually falling.

Directlink is aware of this skill shortage and is proposing to leverage the apprenticeship program that is currently conducted by APA.

The APA's apprenticeship program was implemented in 2020 with its first intake of apprentices in that year. Its first intake was of 6 apprentices with 4 remaining and anticipated to complete their apprenticeship in late 2024.

The program in its current format has 19 employed apprentices and is now in its third year, with a fourth intake due to start in February 2024.

The 19 apprentices currently employed are in the following apprenticeship trades:

- Electrical & Instrumentation;
- Mechanical (fitters);
- Fabrication/welding;
- Gasfitting; and
- Civil Construction.

Apprentices are hired into one team and the management and salary is owned by this team for the duration of the apprenticeship, with the idea that they will slot into a full time role within the team at the completion of the apprenticeship. However, the apprentices are expected to be sent to other teams/projects/sites for additional work placements. These are usually short in duration, less than a month, as the need arises and provide:

- required learnings that their specific site may not be able to provide work experience in; and
- exposure to other APA assets, ways of working and further skill development.

The current average cost of the APA apprenticeship program is \$156k per apprentice in 2022-23. EII is proposing is to participate in the APA apprenticeship program through the allocation of 1-2 apprenticeships. Consequently, one apprenticeship has been allocated to Directlink with the additional cost included as a step-change in forecast operating and maintenance expenditure, as shown in the following table.

Table 6-3: Step changes (\$2024-25 mil)

	2025-26	2026-27	2027-28	2028-29	2029-30
Apprenticeship scheme	0.17	0.17	0.17	0.17	0.17

7. Individual cost category forecasts

In addition to the base-step-trend methodology, Directlink has proposed two category specific forecasts for deriving its operating expenditure forecast, namely:

- insurance premiums; and
- end of life costs.

Insurance premium costs were separately forecast in Directlink's 2020-25 Revenue determination as the AER⁹ recognised Directlink's specific circumstances that:

- its insurance costs represent a much higher proportion of operating cost than other network service providers so total operating cost is very sensitive to changes in the insurance market;
- if increases in insurance costs exceed the rate of change for base operating expenditure, it would be inappropriate to include this cost in the base-step trend methodology. It would not allow Directlink to recover its efficient costs given its small size and limited flexibility; and
- a separate forecast for insurance as a non-controllable cost better achieves the requirements of s. 6.5.8 and 6A.6.5 of the Rules.

Directlink believes this reasoning still holds and is therefore continuing to forecast insurance premiums independently from the base-step-trend methodology.

Directlink has also included an allowance for end of life costs in its forecast operating expenditure. This would start the process of recovering the future costs that will be necessary to remove the Directlink assets when they reach end of life. It has been included as an individual cost forecast as it has no connection with Directlink's current operating and maintenance expenditure.

In the 2020-25 Revenue Determination process, Directlink proposed recovery of end of life costs but it was not accepted by the AER at that time.

Directlink believes an appropriate method for handling end of life costs is required and should be considered in the operating cost forecast for the 2025-30 Revenue Determination to satisfy the requirements of the Rules.

An allowance is also made for the debt raising costs calculated using the procedures in the AER's Post tax Revenue Model (PTRM).

7.1. Insurance

Global commercial insurance pricing continued to rise in 2023. According to the Marsh Global Insurance Market Index, it has risen in 24 consecutive quarters which is the longest run of increases since the inception of the index in 2012.

In line with this global trend, Directlink has seen significant increases in its insurance premiums during the current regulatory period with insurance premiums increasing by 60 per cent from 2020-21 to 2022-23.

⁹ AER, *Draft decision, Directlink 2020–25 Attachment 6 - Operating expenditure*, October 2019 and *Final decision, Directlink 2020–25 Attachment 6 - Operating expenditure*, June 2020

Directlink has engaged Marsh Pty Limited (Marsh) to provide insurance premium projections in relation to Directlink for the period effective from 1 July 2025 to 30 June 2030.¹⁰

This independent report by Marsh forecasts that although the insurance market cycle remains in a “Hard Market”, it would appear to be moving into a transition phase where capital flows back into the market to capture the stronger underwriting returns. This should then lead to insurance premiums stabilising and beginning to fall in the future subject to global factors, particularly reinsurance costs.

- The forecast market changes in insurance premiums for Property and General Liability shown in

Table 7-1 are extracted from the Marsh report and forecast based on information available today. They indicate that:

- Property premiums will be stable but are still seeing some pricing pressure driven by reinsurance and due to ongoing volatility of Natural Catastrophes; and
- the Liability premium rate will continue to increase but is expected to moderate in the next few years, although inflationary pressures are expected as claim payments increase.

Table 7-1: Forecast market changes in insurance premiums (%)

	2025-26	2026-27	2027-28	2028-29	2029-30
General Liability	5.0%	2.5%	2.5%	2.5%	0.0%
Property	0.0%	2.5%	5.0%	2.5%	0.0%

Marsh has utilised these forecast market changes in conjunction with Directlink’s current actual insurance premiums to forecast the insurance costs that will apply to Directlink over the forthcoming regulatory period. The General Liability and Property premiums are shown in Table 7-2 in real \$2024-25.

Table 7-2: Forecast insurance premiums (\$m \$2024-25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
General Liability	0.16	0.16	0.16	0.16	0.16	0.8
Property	0.84	0.86	0.90	0.93	0.93	4.5
Total Insurance	1.00	1.02	1.07	1.09	1.08	5.3

Although insurance costs are now significantly higher than the AER’s regulated allowance provided for insurance in the current regulatory period, they remain stable over the next regulatory period from 2025 to 2030.

However, customer affordability is an area of priority and Directlink’s Stakeholder Reference Group has questioned whether these increased insurance costs can be mitigated by changing levels of liability or other methods, such as self-insurance.

¹⁰ Marsh, *Attachment 05c: Directlink Insurance Pricing Report for the Period Commencing 1 July 2025*, December 2023

Directlink is sensitive to these concerns but would highlight that its insurance arrangements are governed by the MOMSCA with EII being provided all insurance services under the APA Group insurance.

Accordingly, self-insurance nor changing liability limits are not possible.

However, Directlink would emphasise that it derives significant benefits from the current arrangement where APA is providing the service as part of its group insurance because:

- APA's insurance provides cover for a higher liability but is only charging EII and Directlink for the nominated \$300 million level of liability;
- Directlink is being charged for insurance based on the EII investment portfolio, not the stand-alone cost of insuring Directlink's interconnector. Insuring for a portfolio of assets is much more economic than buying a "standalone" cover for each asset. EII and Directlink are charged accordingly and therefore obtain this portfolio benefit; and
- the insurance charges for Directlink are also provided at a 12.5% discount to the forecast market cost of the EII investment portfolio.

7.2. End of Life costs

Directlink has been in service since 2002 and the expected service life of the primary convertor station equipment is 40 years. The DC cables that connect the converter stations have a potential service life in excess of 40 years.

Directlink is currently expected to operate until 2042. All transmission equipment is on easements or land owned by the transmission network service provider. Once Directlink has ceased operation, it will be required to remove any equipment and rehabilitate land to comply with future laws, planning standards and agreements and make the site safe for the community and the environment.

The costs associated with these activities are considered "end of life costs" and will be significant.

Directlink is therefore proposing to include an allowance for end of life costs in its forecast operating expenditure.

In its Revised Proposal to the AER as part of its 2020-25 Revenue Determination process, Directlink first proposed the recovery of end of life costs. The AER did not accept this initial proposal because of the level of uncertainty with regard to:

- what will replace the Directlink assets at the end of life and if there is a need for remediation;
- the estimated level of the costs required to remove the asset and rehabilitate land; and
- when Directlink will finally cease to operate.

Directlink understands the AER's position in its Final Decision¹¹ and agrees that there is a significant amount of uncertainty surrounding when Directlink will cease to operate and what the future costs for asset removal and land rehabilitation will be.

¹¹ AER, *Final Decision Directlink 2020-25 Revenue Determination*, April 2019

However, it is certain that the expected life of Directlink is limited, and it will not be replaced by a like for like asset as the technology is no longer appropriate for new assets.

Consequently, the current assets cannot be reused and the cables, converter stations and other equipment must be removed, irrespective of whether the land and easements are utilised for an alternative asset or not. If an alternative asset is not developed on the site, then land and easement rehabilitation will also be required.

Therefore, end of life costs will be incurred, and customers will be required to pay the costs now, or in the future. Directlink believes it is in the long-term interest of customers to start recovering these costs from this regulated period as:

- extending the payment over a longer period reduces the price impact on consumers;
- it harnesses the time value of money with the accumulated interest greatly reducing the direct payments that need to be made by consumers; and
- the customers who benefit from the operation of Directlink are paying the end of life costs, rather than future customers.

This is consistent with feedback from our stakeholders.

Directlink notes that the AER has raised the situation that any asset removal could be included as part of the initial capital expenditure used to construct an alternative asset in the future. Not only does this method transfer the liability to future consumers but is only practical in a scenario where Directlink invests in the alternative asset.

In all other scenarios (e.g. no replacement asset or a different entity invests in the alternative asset) then this situation is not possible as the asset removal cost will either not be able to be recovered or will have been factored into the sale transaction of the land.

In calculating the future costs for end-of-life, Directlink is only including the costs of asset removal in this proposal.

Previously, Directlink engaged GHD to estimate the end of life costs for both removal of the Directlink assets and rehabilitation of the land and easements consistent with current obligations. This is based on the view that the best proxy for future costs is an estimate of the current costs. Directlink has again utilised the GHD cost estimates¹² but to mitigate some of the uncertainty regarding the future of the land and easements, has removed any costs attributable to land rehabilitation.

This is a conservative approach that should provide greater certainty on the level of end of life costs.

The estimate of future costs taken from the GHD report has been converted into an annuity using the following formula to derive an annual revenue stream that would recover the future liability.

¹² GHD, *End-of-life costs for Directlink Interconnector*, 9 December 2019

$$C = \frac{FV - PV(1+i)^n}{\left[\frac{(1+i)^n - 1}{i} \right]}$$

Where: C = the necessary annual payment

FV = End of Life Cost, determined by GHD and escalated by inflation

PV = the assumed value of money received

I = a discount rate - Directlink has used the average cost of debt over the regulatory period, consistent with the binding rate of return instrument

N = number of years remaining

Directlink is currently expected to have an economic life out to 2041-42. It is at this point that it will have to undertake removal of the redundant assets. Directlink has assumed a duration for the calculation of the annuity the same as the expected economic life.

Table 7-3 highlights the estimates of end-of-life allowance that would be required under various scenarios.

Directlink is proposing Option C which has a reduced future cost as it only includes the asset removal costs and no land rehabilitation.

For comparison:

- Option A shows the allowance proposed by Directlink in the previous 2020-25 Determination using the total cost estimated by GHD.
- Option B shows the allowance required if the total cost estimated by GHD was used in this proposal. The end-of-life costs increase significantly because of the shorter time period and increase in discount rate.
- Option D has been included to show the impact if the life of the asset was extended. It is material as the cost estimates are sensitive to the remaining life of the asset. This sensitivity is also evident if the life of the asset is less than expected.

This demonstrates why Directlink believes that recovery of end-of-life costs begins as soon as possible to benefit from compounding interest and minimise the direct cost to consumers.

Table 7-3: Proposed allowance for End of Life Costs (\$m)

Options	End of Life cost		Discount rate (%)	Years remaining (no.)	Annual Allowance \$000
	\$2019-20	\$2041-42			
A) 2020-25 Determination	15.0	23.1	1.05	21.2	900
B) 2025-30 Determination	15.0	29.1	4.98	16.2	1,200
C) Asset removal only	11.6	22.5	4.98	16.2	940
D) C + 10 year extended life.	11.6	28.2	4.98	26.2	560

The uncertainty regarding the final future end-of-life cost and timing of this cost cannot be fully mitigated in the current period but Directlink believes it will not disadvantage customers and can be resolved in future regulatory periods.

Directlink supports the AER reviewing and updating the annuity calculation in each determination period. The review would enable the AER to take into account:

- the amounts already collected from previous regulatory periods;
- updated end of life cost estimates'
- changes to discount rates; and
- further clarity on the remaining life.

This will ensure that costs recovered at the end of life are appropriate as:

- if the expected life of the Directlink interconnector changes then the revised value will be the input to the annuity calculation and will automatically adjust the outcome for any change in life expectancy; and
- any forecast changes to future cost will be recovered through the annual amount and ensure that the recovered amounts to date plus future annuities will recover the revised total expected cost.

7.3. Debt raising costs:

The allowances for debt raising costs are calculated using the procedures in the AER's Post tax Revenue Model (PTRM).

8. Forecast operating expenditure

Directlink's operational activities and discretionary expenditure is severely limited as an interconnector. Directlink has very few cost categories and its operating expenditure is minor compared to other network service providers.

The methodology, key variables and reasons for the forecast operating expenditure to differ from historic operating expenditure are set out in section 4 of this document. The forecast operating costs consider the work being undertaken in each area.

Table 8-1 sets out the calculation of the forecast operating expenditure using the base-step-trend. It highlights that the impact of the base year adjustment, real price changes and step change are a minor component of the forecast increases in operating cost.

However, the costs of insurance and end-of-life that are separately forecast categories are significant accounting for around 25 per cent of annual operating cost.

Consequently, the proposed forecast for Directlink's total operating expenditure over the period is \$39.5 million including debt raising costs.

Table 8-1: Forecast operating expenditure (\$m real 2024-25)

	2022-23	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Base Year	5.4						27.1
Base year adjustment and real price changes	0.1	0.2	0.2	0.2	0.3	0.3	1.1
Growth	-	-	-	-	-	-	
Productivity	-	-	-	-	-	-	
Step changes	-	0.2	0.2	0.2	0.2	0.2	0.9
Base-step-trend	5.6	5.8	5.8	5.8	5.9	5.9	29.1
Insurance	0.9	1.0	1.0	1.1	1.1	1.1	5.3
End of Life costs	-	0.9	0.9	0.9	0.9	0.9	4.7
Debt Raising Cost	0.1	0.1	0.1	0.1	0.1	0.1	0.4
Total	6.6	7.8	7.8	7.9	8.0	8.0	39.5

This forecast operating expenditure applies only to the prescribed transmission services and Directlink has not identified any operating expenditure to improve the performance of the network.

Glossary

AARR	Aggregate Annual Revenue Requirement
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Capex	Capital Expenditure
CESS	Capital Expenditure Sharing Scheme
CPI	Consumer Price Index
DC	Direct Current
EBSS	Efficiency Benefits Sharing Scheme
EGWWS	Electricity, Gas, Water and Waste Services
EII	Energy Infrastructure Investments
GW	Gigawatt
GWh	Gigawatt hours
HVDC	High Voltage Direct Current
ISP	Integrated System Plan
MNSP	Market Network Service Provider
MW	Megawatt
MWh	Megawatt-hour
NEM	National Electricity Market
NSP	Network Service Provider
NSW	New South Wales
PTRM	Post Tax Revenue model
RAB	Regulatory Asset Base
Rules	National Electricity Rules
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission Network Service Provider
WACC	Weighted Average Cost of Capital

