ISSUES PAPER

Directlink electricity transmission revenue proposal

1 July 2020 to 30 June 2025

March 2019

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165
Email: AERInquiry@aer.gov.au

AER reference: 62730

Invitation for submissions

A public forum on the proposal from Directlink will be held at the AER's Sydney office, Level 20, 175 Pitt Street, Sydney NSW on Tuesday 9 April 2019 from 2pm to 3:30pm. Interested parties are invited to register their interest in attending the forum by emailing Directlink2020@aer.gov.au with their name, the business or agency they represent (if relevant) and contact details by 5 April 2019.

Written submissions on Directlink's proposal are invited by 16 May 2019.

We will consider and respond to all submissions received by that date in our draft determination.

Submissions should be sent to: Directlink2020@aer.gov.au.

Alternatively, submissions can be sent to:

Sebastian Roberts
General Manager
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

Submissions should be in Microsoft Word or another text readable document format.

We prefer that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information should:

(1) clearly identify the information that is the subject of the confidentiality claim

(2) provide a non-confidential version of the submission in a form suitable for publication.

All non-confidential submissions will be placed on our website. For further information regarding our use and disclosure of information provided to us, see the *ACCC/AER Information Policy* (June 2014), which is available on our website.[1]

[1] https://www.aer.gov.au/publications/corporate-documents/accc-and-aer-information-policy-collection-and-disclosure-of-information

Contents

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
augex	augmentation capital expenditure
capex	capital expenditure
CESS	Capital Expenditure Sharing Scheme
COAG	Council of Australian Governments
CPI	Consumer price index
DL	diminishing value depreciation method
EBSS	Efficiency Benefit Sharing Scheme
MAR	maximum allowed revenue
MW	megawatt
MWh	megawatt hour
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
opex	operating expenditure
PTRM	Post tax revenue model
RAB	Regulatory asset base
repex	replacement capital expenditure
RFM	roll forward model
RIT-T	Regulatory Investment Test for Transmission
SL	straight line depreciation method
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission network service provider
TUoS	transmission use of system
WACC	weighted average cost of capital

1 Introduction

The Australian Energy Regulator (AER) works to make all Australian energy consumers better off, now and in the future. We regulate electricity networks in all jurisdictions except Western Australia. Our work is guided by the National Electricity Objective (NEO) which promotes efficient investment in, and operation and use of, electricity services in the long term interests of consumers.[2] As part of this, we set the maximum revenues that networks are allowed to recover from consumers through their network charges (this is known as the 'revenue cap' form of control). The amount of these revenues is based on our assessment of efficient costs. For electricity transmission businesses, this annual revenue is called the maximum allowed revenue, and directly affects the network charges Directlink can recover from customers as part of their electricity bills.

Although our decision influences the total revenue Directlink can recover from its transmission customers, we do not set transmission charges for each customer or the retail prices that end consumers pay. Retail prices are set by electricity retailers and include the costs associated with transmission, distribution, generation, and the costs incurred by retailers in selling the electricity.

Regulatory determinations usually occur every five years for each regulated business. We use an incentive approach where, once regulated revenues are set for a five year period, networks who keep actual costs below the regulatory forecast of costs retain part of the benefit. This benchmark incentive framework is a foundation of the AER's regulatory approach and promotes the delivery of the NEO. Service providers have an incentive to become more efficient over time, as they retain part of the financial benefit from improved efficiency. Consumers also benefit when efficient costs are revealed and a lower cost benchmark is set in subsequent regulatory periods.

On 31 January 2019, Directlink submitted its revenue proposal for the five years commencing 1 July 2020. This issues paper highlights some of the key elements of the proposal, and how stakeholders can assist in our reviews. We have not yet formed a view on the proposals put to us by Directlink. While we have commenced our review, we have not been able to consider all the materials and evidence that support the claims made by Directlink. Further, we have not applied all our regulatory tools to test the robustness of the proposal.

A key part of our review is consultation with stakeholders. The purpose in publishing this paper, required under clause 6A.11.3(b1), is to assist stakeholders by identifying those aspects of the proposal which, after our preliminary review, are likely to be relevant to our assessment of the proposal. Stakeholders can assist our process by providing their views on these aspects. Stakeholders should feel free to comment on any aspect of the regulatory proposals.

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[2] NEL, s. 7.

1.1 How can you get involved?

Consumer engagement is not only something we must have regard to when making our revenue determinations, but is a valuable input which we encourage. When we receive submissions from stakeholders that address issues in the proposal and provide evidence and analysis, our decision-making process is strengthened.

Consumers can be involved in this review in a number of ways. We will host a public forum during which consumers will be able to ask questions of representatives of the AER and DIrectlink. Consumers are encouraged to make submissions on this issues paper, Directlink's proposal and our draft determination in September this year.

The purpose of this issues paper is to help consumers and other stakeholders understand Directlink's proposal, and to alert them to issues we would particularly like feedback on based on our initial observations of the proposal.

Submissions will be of greater value to us if they address specific issues, supported by evidence and analysis. If you consider a certain aspect of the revenue proposal is not justified, you should tell us why this is the case. It is useful to us if you also state what further information you consider Directlink should provide to justify that aspect of its proposal. Likewise, if you consider a certain aspect is justified, you should explain why.

Submissions on Directlink's proposal and this issues paper are due by 16 May 2019.

A public forum on the proposal will be held at the AER's Sydney office, Level 20, 175 Pitt Street, Sydney NSW on Tuesday 9 April 2019 from 2pm to 3:30pm. As part of this review we're also seeking written submissions from stakeholders on Directlink's proposal, its priorities for these reviews and its views on where our assessment should focus.

The decisions we make and the actions we take affect a wide range of individuals, businesses and organisations. Hearing from those affected by our work helps us make better decisions, provides greater transparency and predictability, and builds trust and confidence in the regulatory regime.

The table below sets out the key milestones planned for these reviews:

Milestone	Date
Directlink submitted its proposal	*31 January 2019*
AER issues paper published	28 March 2019
Public forum on Directlink's proposal	9 April 2019
Submissions on AER's issues paper and Directlink's proposal due	16 May 2019
AER draft decision to be published	September 2019
Public forum on draft decision	October 2019

Directlink submits revised proposal	December 2019
Submissions on draft decision and revised proposal due	January 2020
AER final decision to be published	April 2020

Note: Timelines are subject to change

2 What would this proposal mean for customers?

Directlink is an electricity transmission business,[3] providing a 59km, 180MW High Voltage Direct Current (HVDC) interconnector between Queensland and New South Wales.[4]

Directlink has a finite technical life, with the asset to be fully depreciated by 2041.[5] This is an important aspect when considering future capital investment and the recovery of the costs over time.

Directlink's revenue proposal sets out the revenue that Directlink proposes to recover from consumers over the next regulatory period. This section provides an overview of Directlink's proposal in total.

Directlink has proposed total revenue of $89.8 million ($nominal, smoothed), to be recovered from New South Wales electricity customers over the five years from 1 July 2020 to 30 June 2025 (see Table 1). In nominal terms (including the impact of inflation) the proposal is seeking higher revenues than what we approved for the 2015–20 regulatory control period, with an increase of 29.5 per cent proposed for Directlink.

Table 1 Summary of proposed revenue ($nominal, smoothed)

($ million)	2020–21	2021–22	2022–23	2023–24	2024–25	Total 2020–25	% change from 2015–20
Directlink	15.5	16.6	17.9	19.2	20.6	89.8	29.5%

Source: Directlink, *Post Tax Revenue Model*, January 2019.

A transmission business recovers revenue from its customers via network charges. The pricing methodology prescribes the way the business recovers this revenue.[6] Directlink recovers its revenue through TransGrid in NSW.[7] Directlink's revenue proposal would contribute a $1 increase in the transmission component of the average

[3] Directlink Transmission Company Pty. Ltd. is owned by Energy Infrastructure Investments Pty. Ltd. and managed by the APA Group.

[4] Directlink, *Revenue Proposal 2020–25*, January 2019, p.13.

[5] Directlink, *Revenue Proposal 2020–25*, January 2019, p.13.

[6] NER cl.6A.24.1(b).

[7] Directlink provides prescribed transmission services in NSW and TransGrid is the Co–ordinating Network Service Provider (see Directlink, *Pricing Methodology 2020–25*, January 2019, clause 2.1(b)).

annual residential electricity bill in NSW over the 2020–2025 regulatory control period, or about $0.20 per year.[8]

Consumer Engagement

Energy Infrastructure Investments Pty Ltd (EII), which owns and operates the Directlink and Murraylink[9] interconnectors in the NEM, has recently sought to broaden its stakeholder engagement. In the process it has engaged Newgate Research to advise on an appropriate stakeholder engagement process and to gain feedback on its consumer engagement to date.[10] The long term intention is to develop a stakeholder framework that meets the best practice principles outlined by the AER.[11]

Through its engagement to date EII submits that it has identified three key things:

- there is strong support for EII improving its stakeholder engagement
- future engagement should commence further in advance of the submission of the draft proposal
- there remain a number of areas that stakeholders wish to engage on.[12]

Although Ell's stakeholder engagement was not developed in time to enable stakeholder views to be reflected in the Directlink revenue proposal, Ell recognises:

> …the need to commence stakeholder engagement earlier and to build it into the decision making of the interconnector before a transmission determination period, [and] the ongoing consultation during this transmission determination period will feed into the next Transmission Determination proposal from Directlink.[13]

This is a welcomed acknowledgement of the value of stakeholder engagement and the need for a change in practice by Ell and the APA Group more broadly. We encourage Ell to continue to work with stakeholders during the course of this regulatory determination and beyond to ensure that stakeholder views are reflected in its proposals to the AER.

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8 Directlink's revenue accounts for approximately 1.7% of the total NSW transmission revenue and TransGrid's transmission charge accounts for 11% of the total electricity bill in NSW (AEMC's 2018 pricing trend report). Therefore, Directlink's transmission cost as a percentage of the total electricity bill is 0.2%.

9 Murraylink connects the Victorian and South Australian regions of the NEM, transferring power between the Red Cliffs substation (near Mildura) in Victoria and the Monash substation in Berri, South Australia. Murraylink is also a direct current interconnector with a rated capacity of 220 megawatts.

10 Directlink, *Revenue Proposal 2020–25*, January 2019, p. 27.

11 Directlink, *Revenue Proposal 2020–25*, January 2019, p. 28.

12 Directlink, *Revenue Proposal 2020–25*, January 2019, pp. 29–30.

13 Directlink, *Revenue Proposal 2020–25*, January 2019, p. 30.

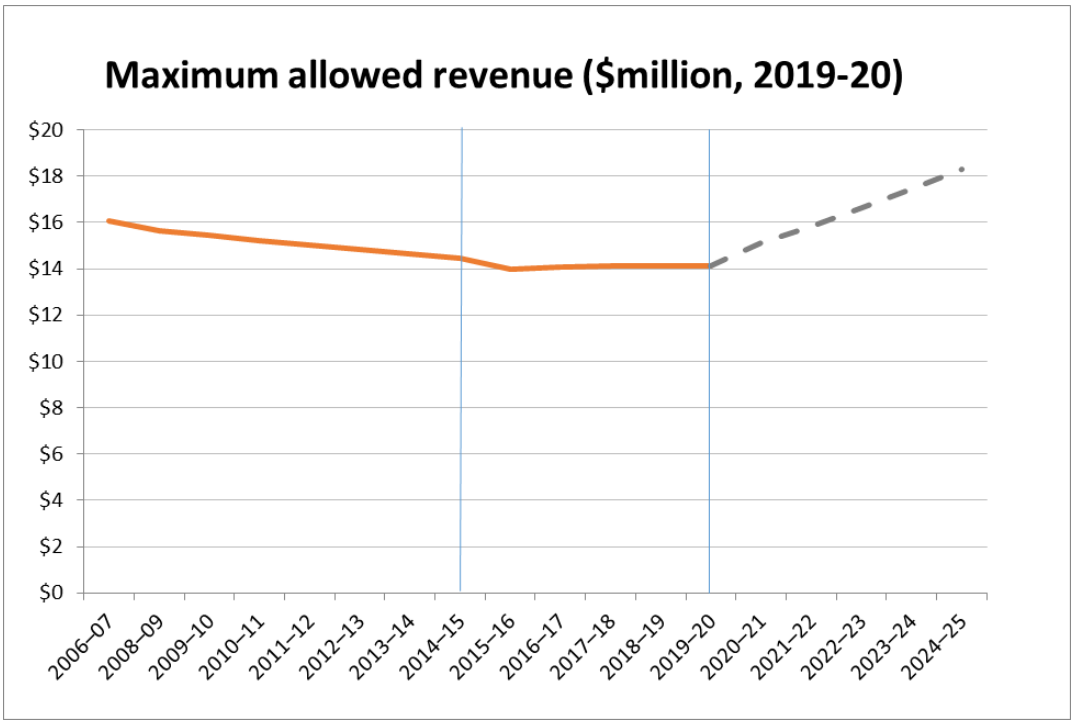
3 What's driving the change in revenue over time

In section 2 we outlined the proposed revenue in nominal terms, taking into account the expected inflation. The changing impact of inflation over time makes it difficult to compare revenue from one period to the next on a like-for-like basis. To do this, we use 'real' values based on a common year (in this case 2019–20), which have been adjusted to remove the impact of inflation.

In real terms Figure 1 shows a steep increase in revenue compared to the steady decline over the period 2006–07 until 2014–15 and the relatively flat revenue exhibited from 2014–15 until 2019–20. This represents an 18.4 per cent increase from our decision in 2015–20.

This rise is driven by depreciation and an increase in capital expenditure, due to a number of replacement expenditure projects, which Directlink submits are directed at maintaining capacity and reliability of the interconnector.

Figure 1 Changes in regulated revenue over time ($million, 2019–20)



Source: AER Final decision PTRM for 2006–15 and 2015–20 regulatory periods; Directlink Regulatory Proposal PTRM 2020–25 regulatory period.

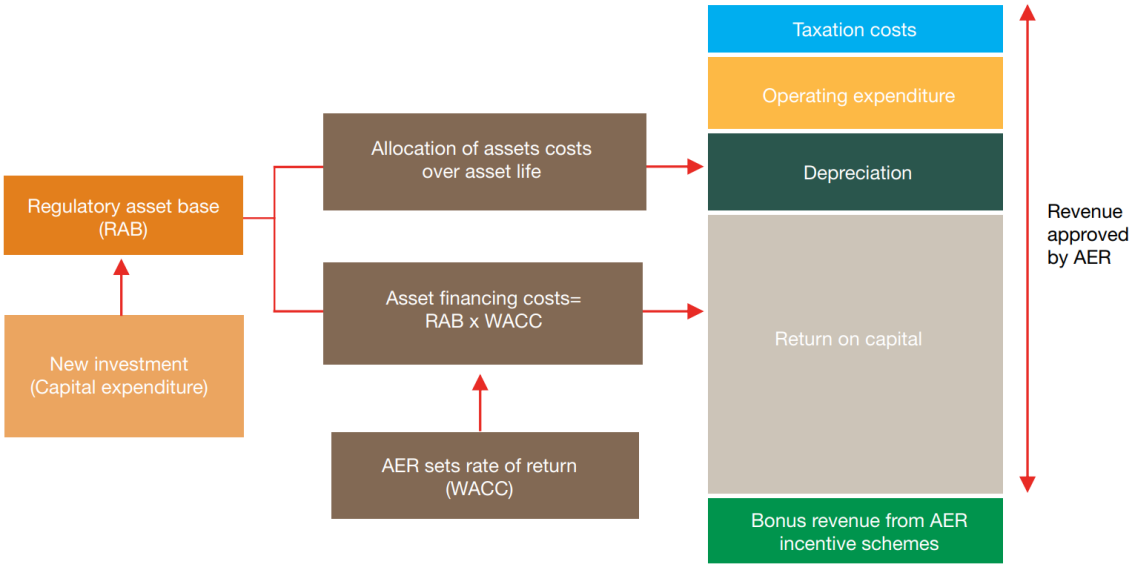
3.1 How we determine forecast revenue

The total revenue Directlink has proposed reflects its forecast of the efficient cost of providing its transmission network services over the 2020–25 regulatory control period.

This revenue proposal, and our assessment of it under the NEL and NER, are based on a 'building block' approach (see Figure 2) which looks at five cost components:

- a return on the RAB (or return on capital, to compensate investors for the opportunity cost of funds invested in this business)
- depreciation of the RAB (or return of capital, to return the initial investment to investors over time)
- forecast opex - the operating, maintenance and other non-capital expenses, incurred in the provision of network services
- revenue increments or decrements resulting from the application of incentive schemes such as the opex Efficiency Benefit Sharing Scheme (EBSS) and Capital Expenditure Sharing Scheme (CESS)
- the estimated cost of corporate income tax.

Figure 2 The building block model to forecast network revenue



Source: AER, *State of the Energy Market, December 2018, p. 138.*

We use an incentive approach where, once regulated revenues are set for a five year period, networks who keep actual costs below the regulatory forecast of costs retain part of the benefit. This benchmark incentive framework is a foundation of the AER's regulatory approach and promotes the delivery of the NEO and National Gas Objective. Service providers have an incentive to become more efficient over time, as they retain part of the financial benefit from improved efficiency. Consumers also benefit when efficient costs are revealed and a lower cost benchmark is set in subsequent regulatory periods.

Our assessment breaks these costs down further. For example:

- Capex—the capital costs and expenditure incurred in the provision of network services—mostly relates to assets with long lives, the costs of which are recovered

over several regulatory control periods. The forecast capex approved in our decisions directly affects the size of the capital base and therefore the revenue generated from the return on capital and depreciation building blocks. All else being equal, higher forecast capex will lead to a higher RAB and higher return on capital and regulatory depreciation allowances

- The RAB accounts for the value of regulated assets over time. To set revenue for a new regulatory control period, we take the opening RAB value from the end of the last period and roll it forward year-by-year by indexing it for inflation, adding new capex, and subtracting depreciation and other possible factors (for example, disposals or customer contributions).[14] This gives us a closing value of the RAB at the end of each year of the regulatory control period. The value of the RAB is used to determine:
    - the return on capital building block, which is the product of the RAB and our approved rate of return (see section 3.1.1)
    - regulatory depreciation (or the return of capital).

There are two aspects of our approach to forecast revenue that were recently reviewed. The outcomes of these reviews—discussed in sections 3.1.1 and 3.1.2 below—may impact our final decisions for these businesses.

3.1.1 Rate of return

The return (the 'return on capital') each business is to receive on its RAB continues to be a key driver of proposed revenues. We calculate the regulated return on capital by applying a rate of return to the value of the RAB.

The allowed rate of return is a forecast of the costs of funds a network business requires to attract investment in the network.

We estimate the rate of return by combining the returns of the two sources of funds for investment: equity and debt. The return on equity is the return shareholders of the business will require for them to continue to invest. The return on debt is the interest rate the network business pays when it borrows money to invest.

A good estimate of the rate of return is necessary to promote efficient prices in the long term interests of consumers. If the rate of return is set too low, the network business may not be able to attract sufficient funds to be able to make the required investments in the network and reliability may decline. Alternatively, if the rate of return is set too high, the network business may seek to spend too much and consumers will pay inefficiently high tariffs.

[14] The term 'rolled forward' means the process of carrying over the value of the RAB from one regulatory year to the next. This is reflected in the AER's roll forward model (RFM).

We will apply the 2018 rate of return instrument (the instrument) published by us and the values contained in this to calculate Directlink's rate of return.[15] The instrument was developed after extensive consultation and is binding following legislative amendments passed by the South Australian Parliament in December 2018. [16] The instrument also sets out the process by which we will annually update the return on debt (and therefore the overall rate of return) during the regulatory period.

Directlink submitted that it has applied the instrument and the key values of its proposal are set out in the table below.[17]

Table 2 Key rate of return values

	Directlink proposal	2018 Instrument
Return on equity	6.11% (indicative)	Risk free rate + 3.66%
Risk free rate	2.45% (indicative)	Based on criteria in the instrument
Market risk premium	6.1%	6.1%
Equity beta	0.6	0.6
Equity risk premium (market risk premium*equity beta)	0.6*6.1%=3.66%	0.6*6.1%=3.66%
Return on debt (nominal pre-tax)	4.55% (indicative)	Based on criteria in the instrument
Gearing	60%	60%
Gamma (value of imputation credits)	0.585	0.585

Source: AER analysis

3.1.2 Corporate income tax allowance

The building block approach to calculating the annual revenue requirement includes an allowance for the estimated cost of corporate income tax payable by the business. We calculate the expected allowance consistent with the requirements of the NER.[18]

Our estimate of the corporate income tax allowance begins with the estimation of the assessable income that would be earned by a benchmark efficient company operating Directlink's network. Estimated tax expenses to be used as tax deductions are then calculated. Estimated tax expenses include interest (using our benchmark 60 per cent gearing), depreciation, operating expenditures, and any capital expenditures that are immediately expensed. The taxable income is then determined (assessable income

15 AER, *Rate of return instrument*, 17 December 2018; AER, *Rate of return instrument explanatory statement*, December 2018. Available at: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/rate-of-return-guideline-2018/final-decision

16 *Statutes Amendment (National Energy Laws) (Binding Rate of Return Instrument) Act 2018* (SA).

17 Directlink, *Revenue Proposal 2020–25*, January 2019, p. 46.

18 NER, cl. 6A.6.4.

less tax deductions) and the statutory income tax rate of 30 per cent is applied to arrive at the notional tax payable. Finally, an adjustment that reduces the notional tax payable is made to account for the value of imputation credits (gamma), thereby resulting in the net tax allowance.

In December 2018, we completed a review of our regulatory tax approach.[19] The final report presented analysis of the current tax management practices of the regulated networks and identified some required changes to the estimation of the tax expenses. The changes to our regulatory tax approach require amending our models to:[20]

- recognise immediate tax expensing of some capex forecast for a regulatory control period
- adopt the diminishing value (DV) method for tax depreciation to all future capex except for a limited number of assets which must be depreciated using the straight-line (SL) depreciation method under the tax law.

On 25 January 2019, we released our proposed amendments to the distribution and transmission PTRMs, which implemented these changes for consultation. The final amended PTRMs will be published by the end of April 2019, in time to be applied to the draft decision for Directlink's 2020–25 transmission determination in September 2019.

Since the amended PTRM has not been finalised at the time of the submission of Directlink's regulatory proposal, the proposal did not account for the changes to the regulatory tax approach from our tax review.[21] To apply these changes we require further information from Directlink that was not included in its regulatory proposal.

Our draft decision will focus on reviewing further information to be provided by Directlink including:

- forecast immediately tax expensed capex for each asset class. This input is required to calculate the estimate of tax expenses. Our treatment of forecast immediate expensing of capex will be guided by Directlink's actual immediate expensing of capex from the past period and further information to be sought from Directlink
- assets which are exempted from the DV tax depreciation method. Our tax review report found that we should apply the DV method as the new regulatory benchmark for calculating tax depreciation to all new capex.[22] However, there are some exceptions to this method under the tax law such as expenditures relating to in-house software, buildings and equity raising costs. We note the unique nature of Directlink's asset categorisation given its network is a single interconnector, and

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19 AER, *Final report: Review of regulatory tax approach*, December 2018.

20 Capping of gas asset tax lives was also a finding from the final report, but does not require a model change.

21 Directlink, *Revenue Proposal 2020–25*, p. 91.

22 AER, *Final report: Review of regulatory tax approach*, December 2018, p. 76.

will engage with Directlink on the relevance of such re-allocation of asset classes in respect of its forecast capex.[23]

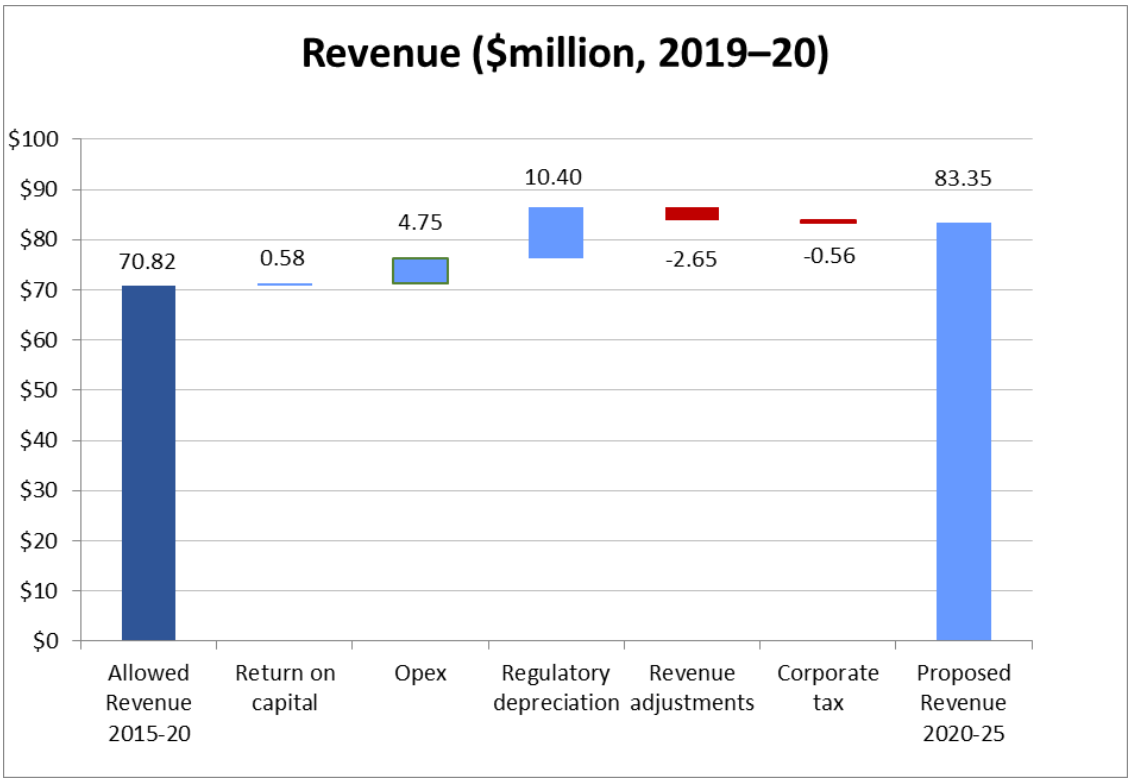
We will consult with Directlink to obtain these inputs, where relevant, and will use them to complete our modelling of the estimated corporate income tax allowance for our draft decision.

[23] The PTRM calculates any equity raising costs requirements using a benchmark approach and applies the SL method of tax depreciation to this amount.

4 Key elements of Directlink's revenue proposal

Directlink's proposal would allow it to recover $83.4 million ($2019–20, smoothed) from its customers over the 2020–25 period. This is an 18.4 per cent increase from our decision in 2015–20,[24] this will lead to rises in annual allowed revenue over all the years of the proposal. Figure 3 highlights changes in Directlink's proposal at the building block level to illustrate what is driving its proposed increase in revenue from 2015–20 to 2020–25.

Figure 3 Changes in building blocks: Directlink's total revenue 2015–20 to forecast revenue 2020–25 ($million, 2019–20 – unsmoothed)



Source: AER Final decision PTRM for 2015–20 regulatory period; Directlink Regulatory Proposal PTRM 2020–25 regulatory period.

4.1 RAB and depreciation

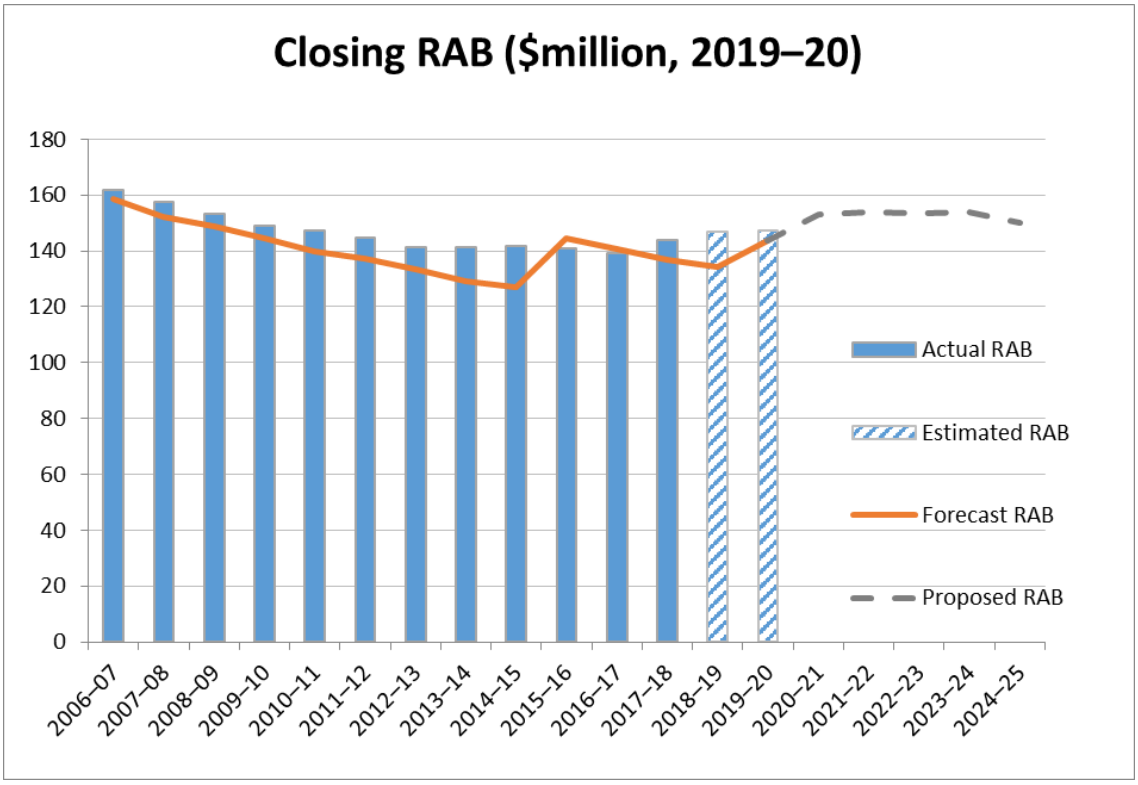
The RAB is the value of assets used by Directlink to provide network services. The value of the RAB substantially impacts Directlink's revenue requirement, and the price consumers ultimately pay. Other things being equal, a higher RAB would increase both

[24] This is in 'real terms' and is lower than the $89.8 million and 29.5% difference in section 2, which is expressed in 'nominal terms' i.e. not accounting for inflation.

the return on capital and depreciation (return of capital) components of the revenue determination.

Figure 4 shows the growth in value of Directlink's RAB over time.

Figure 4 Directlink's RAB value over time ($million, 2019–20)



Source: AER Final decision PTRM and RFM for 2015–20 regulatory period; Directlink Regulatory Proposal PTRM and RFM for 2020–25 regulatory period.

Regulatory depreciation is the allowance provided so capital investors recover their investment over the economic life of the asset (return of capital). The regulatory depreciation building block has increased from the 2015–20 regulatory period due to the increasing size of Directlink's RAB.

4.2 Capex

Capital expenditure (capex) refers to the capital expenditure incurred in the provision of Directlink's network services. Capex is added to the RAB and so forms part of the capital costs of the building blocks used to determine total required revenue.

Under the rules, we must accept the proposed forecast of total capex if we are satisfied it reasonably reflects the capital expenditure criteria (capex criteria) set out in the NER.[25] The capex criteria relate to the efficient costs incurred by a prudent operator in

[25] NER, cl.6A.6.7(c).

light of realistic demand forecasts and cost inputs. We must have regard to the capex factors in the NER when making that decision.[26]

4.2.1 How do we assess capex expenditure

Our approach is to compare the service provider's total capex forecast with an alternative estimate that we are satisfied reasonably reflects the capex criteria. Having established our alternative estimate of the total forecast capex, we can test the service provider's proposed total forecast capex. This includes comparing our alternative estimate total with the service provider's proposal total. If there is a difference between the two, we may need to exercise our judgement as to what is a reasonable margin of difference.

If we are satisfied that the service provider's proposal reasonably reflects the capex criteria, we accept it. If we are not satisfied, the rules require us to put in place a substitute estimate which we are satisfied reasonably reflects the capex criteria taking into account the capex factors.[27] Where we have done this, our substitute estimate is based on our alternative estimate.

We assess forecast capex proposals through a combination of top down and bottom up assessments. Our focus is typically on determining the prudent and efficient level of forecast capex.

We will generally assess forecast capex through assessing:

- the need for the expenditure
- the efficiency of the proposed projects and related expenditure to meet any justified expenditure need.

This is likely to include consideration of the timing, scope, scale and level of expenditure associated with proposed projects.

Where businesses do not provide sufficient economic justification for their proposed expenditure, we will determine what we consider to be the efficient and prudent level of forecast capex. In assessing forecasts and determining what we consider to be efficient and prudent forecasts we may use a variety of analytical techniques to inform our views.

Our assessment approaches for capex and opex differ. We use revealed costs for opex to a greater extent than for capex, because we consider opex is largely recurrent. Past actual expenditure for TNSPs may not be an appropriate starting point for capex given it is largely non-recurrent and hence more 'lumpy', and so past expenditures or work volumes may not be indicative of future volumes. Further, TNSPs will tend to

[26] NER, cl.6A.6.7(e).

[27] NER, cl.6A.12.2(b)(4).

propose smaller volumes of large, high cost projects which we may need to consider on a case-by-case basis.

The assessment techniques that we may adopt to assess Directlink's forecasts of total capex are outlined in our expenditure forecast assessment guideline.[28]

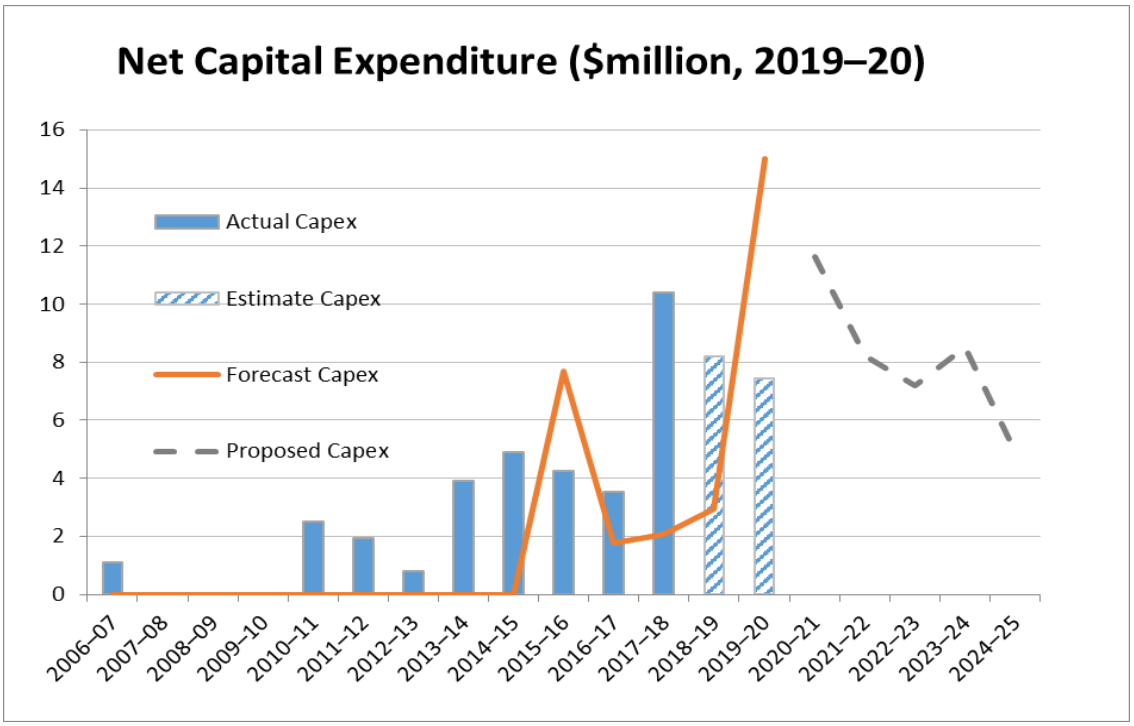
4.2.2 Directlink's capex proposal

Directlink has proposed forecast capex of $40.5 million ($2019–20) over the forthcoming regulatory period.[29] This represents an average increase of approximately 16 per cent compared to actual and expected expenditure over the current period.[30]

Directlink submitted that the proposed capex forecast is predominantly network replacement and refurbishment capex (96 per cent).[31] A significant part of the forecast ($17.3 million or 43 per cent) is for replacement of obsolete Insulated Gate Bi-polar Transistors (IGBTs). The only other capex category in Directlink's capex forecast is non-network capex ($0.3 million).[32]

Figure 5 shows Directlink's proposed capex forecasts, compared to historic levels and capex allowances.

Figure 5 Comparison of Directlink's past and forecast capex



[28] AER, *Expenditure Forecast Electricity Distribution Guideline*, November 2013.
[29] Directlink, *Revenue Proposal 2020–25*, January 2019, p. 77.
[30] Directlink, *Revenue Proposal 2020–25*, January 2019, p. 53.
[31] Directlink, *Revenue Proposal 2020–25*, January 2019, p. 77.
[32] Directlink, *Revenue Proposal 2020–25*, January 2019, p. 77.

Source: Actual/Estimated: Directlink RFM 2015–20 (final decision; 2021–25 Regulatory Proposal; AER forecast/Proposed: Directlink PTRM – 2006–15 Final decision; 2015–20 Update 3; 2020–25 Regulatory proposal.

Our role is to ensure that Directlink's forecast capex for 2020–25 is consistent with the capex criteria; efficiency, prudency and a realistic expectation of the demand forecast and cost inputs required to achieve the capex objectives under the NER.

As part of our assessment of Directlink's capex forecast, we are interested in stakeholder views as to how well its proposal—the key drivers of which are summarised below—addresses its key themes of affordability, reliability and sustainability, and the extent to which its capex forecast addresses the concerns of electricity consumers, as identified in the course of its engagement on its proposal.

4.2.3 Key drivers of the capital expenditure proposal

The key driver of Directlink's capital expenditure forecast is the identified need to replace obsolete IGBTs. Other significant proposed capex programs include undergrounding part of Directlink's cable to address safety concerns ($4.8 million), a number of reliability maintenance projects ($4.4 million) and establishing a land rectification and restoration contingency fund ($2.1 million).

Insulated Gate Bi-polar Transistors Replacement

Directlink submitted that as a consequence of the cessation of manufacturer support for generation one IGBTs, which are integral to the operation of Directlink, its preferred option is to establish a long term replacement contract with the manufacturer, ABB. Directlink submitted that this option:

- is the lowest cost long-term option for consumers
- ensures the risk of technical obsolescence is addressed by ABB.[33]

Directlink also submitted that as a consequence of the replacement of generation one IGBTs with generation three IGBTs the valve control units, which are involved in the coordinated control and protection of the IGBT, will also need to be upgraded.[34]

This project will be subject to a RIT-T and will form part of Directlink's ongoing stakeholder engagement. We intend to assess Directlink's analysis of options to address the identified need for this project, to confirm whether Directlink's preferred option is prudent and efficient.

[33] Directlink, *Revenue Proposal 2020–25*, January 2019, pp. 57–60.

[34] Directlink, *Revenue Proposal 2020–25*, January 2019, p. 60.

Cable protection

Directlink submitted that the likely development of the Northern Rivers Rail Trail on land adjacent to sections of the Directlink route will likely require expenditure to ensure the ongoing safe and secure operation of its cables.[35]

Directlink submitted that Rail Trail construction activity and significant change of use of the corridor into a recreational area represent real changes to the current risk profile of cable interference probability.[36] While the final design of relocating its cable has yet to be completed, Directlink's estimates of the cost are based on a minimal 4.1 km of the 14 km cable in the galvanised steel tray being safely undergrounded.[37]

Directlink acknowledges that there remains uncertainty surrounding the level of capital contributions that relevant proponents of the Rail Trail may make towards the relocation of the cable. This uncertainty will only be resolved once construction options for the project are finalised.[38] We will consider the need, scope and costs of the identified cable protection works in the 2020–25 regulatory control period, including the extent to which any costs associated with a change in land use should be borne by electricity consumers.

Reliability maintenance

Directlink submitted that it currently experiences reliability issues, and that its full 180MW of capacity is currently only available 70 per cent of the time. In order to avoid further deterioration of Directlink's availability, Directlink has proposed a number of projects that will impact on its reliability performance, including:[39]

- Cyber security – upgrade the cyber security on Directlink's communications network which was commissioned in 2000
- Power supply upgrade – augment existing Uninterrupted Power Supply systems to ensure longer backup times during long duration auxiliary power outages
- Variable Speed Drive (VSD) for phase reactor and cooling pumps – a VSD provides greater flexibility to the temperature control function, increasing and decreasing cooling air flow to manage phase reactor temperatures, thereby reducing wear and tear on the phase reactor and also reducing overall operation noise from the convertor station.

We will assess the cost benefit analysis undertaken by Directlink to support these reliability driven investments.

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35 Directlink, *Revenue Proposal 2020–25*, January 2019, pp. 60–65.
36 Directlink, *Revenue Proposal 2020–25*, January 2019, p. 62.
37 Directlink, *Revenue Proposal 2020–25*, January 2019, p. 64.
38 Directlink, *Revenue Proposal 2020–25*, January 2019, p. 65.
39 Directlink, *Revenue Proposal 2020–25*, January 2019, pp. 65–67.

Land rectification and restoration

Under Directlink's deed of licence, Directlink is required to return the easements and other land it uses when its regulatory life expires in 2041–42, back to the state it was in when Directlink commenced construction. Directlink has proposed to set aside an annual amount ($0.4 million) to cover the cost of restoration and rectification works at the end of the life of the interconnector.[40]

Directlink identified two benefits of setting aside an annual allowance:[41]

- the benefit of compounding returns, which it argues will benefit consumers, as the amount to be set aside each year will be less than the amount that will be required to be charged to customers in 2041–42
- consistency with the National Electricity Objective. By setting aside an allowance in each year of operation, Directlink is charging customers who are benefiting from its operation the total cost of Directlink (including decommissioning costs) rather than charging customers who are no longer receiving the prescribed transmission service.

This is an unusual item of expenditure in the context of a forecast capex proposal. We will consider how Directlink's proposal to set aside funds for future remediation costs fits within the regulatory framework, the methodology used to estimate these costs, and the justification for including these costs within the 2020–25 regulatory control period.

4.3 Opex

Operating expenditure (opex) is the operating, maintenance and other non-capital expenses, incurred in the provision of network services.

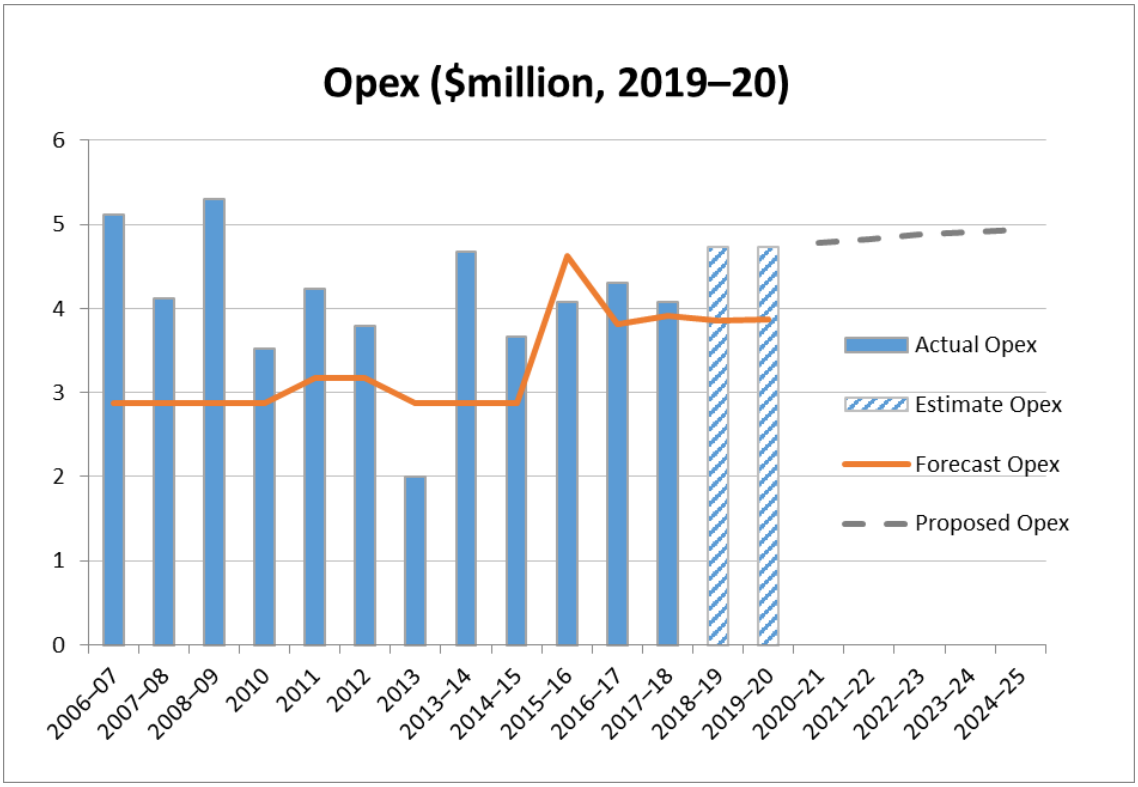
Directlink proposes total opex of $24.7 million ($2019–20) for the 2020–2025 regulatory control period, which is an 11.5 per cent increase over the current regulatory period.

Figure 6 shows the trend in Directlink's opex over time.

[40] Directlink, *Revenue Proposal 2020–25*, January 2019, pp. 69–71.

[41] Directlink, *Revenue Proposal 2020–25*, January 2019, p. 71.

Figure 6 Comparison of Directlink's past and forecast opex



Source: Actual – Regulatory accounts; AER forecast - Final decision (as updated) PTRM 2006–2015, 2015–20; Estimate - Directlink 2020–25 Reset RIN; Proposed - Directlink 2020–25 PTRM - regulatory proposal.

Note: (1) 2012 reported opex is exclusive of costs for scrapping property, plants and equipment. (2) 2006–07 and 2007–08 opex are reported in financial years; 2008–09 opex represents an 18 month period; 2010–2012 opex are reported in calendar years; 2013 opex represents a six month period (Jan–Jun 2013), opex are reported in financial years from 2013–14 onwards.

Directlink has adopted our base-step-trend approach to forecasting opex. It has chosen 2017/18 as its base year, as this provides the most recent completed financial year of data and has no non-recurring costs. Directlink forecasts insurance costs separately and has removed this cost from its base year opex to avoid double counting. The adjusted base opex is $21.4 million ($2019–20).

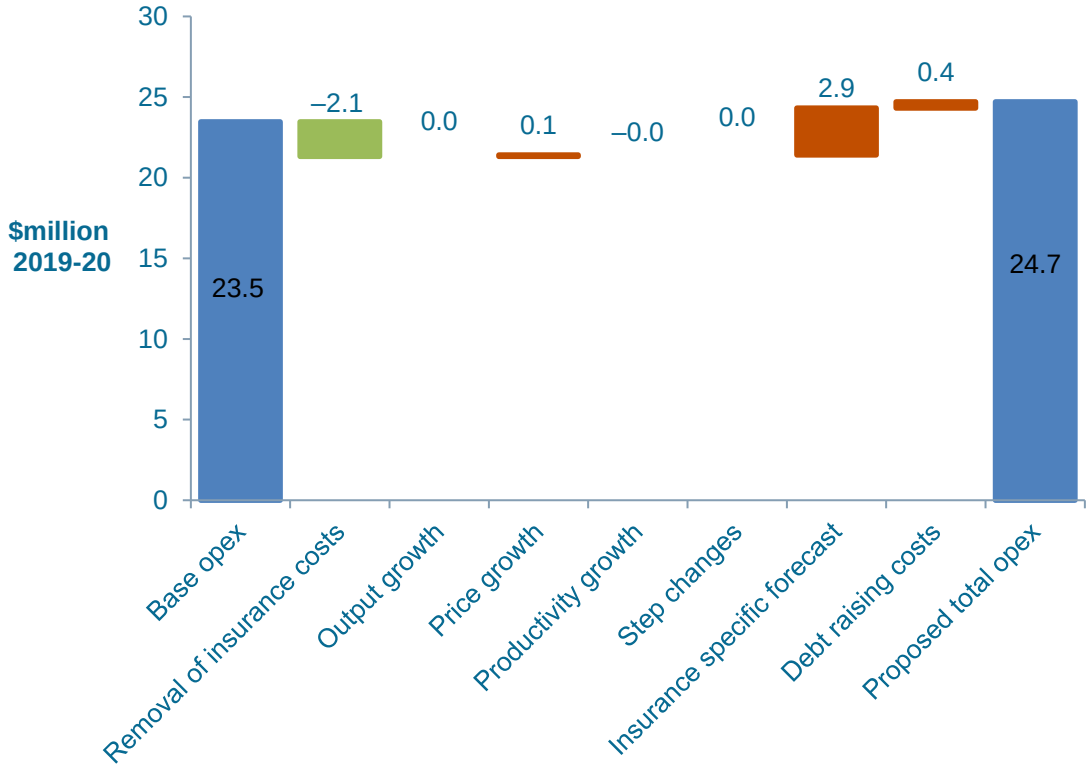
Consistent with the AER's approach, Directlink has applied a CPI only escalation factor to non-labour costs and a labour escalator derived by Deloitte Access Economics to the labour costs. Directlink has forecast an increase of $0.1 million ($2019–20) as labour cost increases. Directlink did not forecast output or productivity growth.

Directlink has not forecast any step changes. However, Directlink has specifically forecast insurance costs of $2.9 million ($2019–20) because it is expecting increases in its insurance premium through to 2025. Directlink considers it appropriate to adopt a separate forecast for this item as it is unable to control the insurance market.

Directlink has forecast debt raising cost of $0.4 million.

Figure 7 shows how each of these components has contributed to Directlink's total opex forecast.

Figure 7 Breakdown of Directlink's opex forecast ($million, $2019–20)



Source: AER analysis; Directlink's opex model

5 Incentive schemes

Incentive schemes are a component of incentive based regulation and complement our approach to assessing efficient costs. The incentive schemes that might apply to transmission businesses are:

- the opex efficiency benefit sharing scheme (EBSS)
- the capital expenditure sharing scheme (CESS)
- the service target performance incentive scheme (STPIS).

Once we determine how network revenues will be calculated networks have an incentive to provide services at the lowest possible cost, because returns are determined by their actual costs of providing services. If networks reduce their costs to below our forecast of efficient costs, the savings are shared with their customers in future regulatory periods through the EBSS and CESS. The STPIS ensures that the network is not simply cutting costs at the expense of service quality.

Our incentive schemes encourage network businesses to make efficient decisions. They give network businesses an incentive to pursue efficiency improvements in opex and capex, and to share them with consumers. Incentives for opex and capex are balanced with the incentives under the STPIS to maintain or improve service quality. The incentive schemes encourage businesses to make efficient decisions on when and what type of expenditure to incur, and meet service reliability targets.

Directlink has proposed the application of our EBSS, CESS and STPIS. These provide important balancing incentives under our revenue determinations to encourage distributors to pursue expenditure efficiencies and demand side alternatives to capex and opex, while maintaining the reliability and overall performance of their networks.

5.1 EBSS

Our EBSS is intended to provide a continuous incentive for distributors to pursue efficiency improvements in opex, and to fairly share these between distributors and consumers. Consumers benefit from improved efficiencies through lower network tariffs in future regulatory control periods.

Directlink proposes that a 5-year carryover period should be adopted and to exclude debt raising costs from the calculation of the EBSS. There are no other proposed adjustments to the EBSS calculation.

5.2 CESS

Our CESS aims to incentivise businesses to undertake efficient capex throughout the regulatory control period by rewarding efficiency gains and penalising efficiency losses (each measured by reference to the difference between forecast and actual capex).

In our final Framework & Approach paper we set out our intention to apply the CESS (as set out in our capex incentives guideline[42]) to Directlink in each regulatory year of the 2020−25 regulatory control period.[43]

5.3 Service target performance incentive scheme

Our STPIS, version 5, provides a financial incentive to TNSPs to maintain and improve service performance. There are three STPIS components of the STPIS but only two are applicable to Directlink:

- the Service Component provides a reward/penalty to improve network reliability, by focussing on unplanned outages
- the market impact component provides an incentive to TNSPs to minimise the impact of transmission outages that can affect wholesale market outcomes.[44]

Directlink's revenue proposal accepted the Framework and Approach paper's proposal to apply version 5 of the STPIS for the next regulatory control period.[45]

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42 AER, *Capital expenditure incentive guideline for electricity network service providers*, pp. 5–9.

43 AER, *Final Framework and approach, Directlink, regulatory control period commencing 1 July 2020*, July 2018, p. 18.

44 AER, *Electricity transmission network service provider Service Target Performance Incentive Scheme Version 5*, September 2015, clause 2.2, p. 3.

45 Directlink, *Revenue Proposal 2020–25*, January 2019, p. 96.