Basslink Transmission Revenue Proposal

September 15, 2023

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CEO's Foreword

We are pleased to submit our revenue proposal to the Australian Energy Regulator (AER) for the Basslink Interconnector (Basslink) for the five-year period from 1 July 2025 to 30 June 2030 (Proposal). Basslink Pty Ltd has also submitted an application to the AER to convert Basslink to a regulated Transmission Network Service Provider (TNSP).

APA is a leading Australian Securities Exchange (ASX) listed energy infrastructure business. Consistent with our purpose to strengthen communities through responsible energy, our diverse portfolio of energy infrastructure delivers energy to customers in every state and territory in Australia.

Following our acquisition of Basslink in October 2022, we have now proudly extended our footprint in Victoria and Tasmania. While we are new to Tasmania, we aren't new to energy infrastructure. For decades we have owned, operated and maintained some of Australia's most important energy infrastructure.

APA is a major owner and operator of solar farms and wind farms and a number of Australia's most critical electricity transmission interconnectors. We also own and operate some of the nation's most efficient gas-fired power generators and more than 15,000 kilometres of gas pipelines which deliver energy to families and industry across every corner of Australia.

As a result of this experience, we know the importance of energy infrastructure and we know the importance of Basslink to Victoria, Tasmania and the National Electricity Market (NEM).

Our goal is to support communities, businesses and our customers with an energy system that is reliable, affordable and low emissions. That means our focus is on ensuring the lights stay on – at our schools, our hospitals and in our homes – in the most efficient and affordable way, supporting jobs, manufacturing, industry and economic prosperity.

We acquired Basslink because we know how important it is to Australia's energy transition. Basslink already plays a key role in delivering low-cost renewable energy to Victorians and Tasmanians and we see this role only increasing as coal generation retires and Australia boosts its renewable energy. Basslink is APA's first investment in Tasmania and we are excited to play a role in fostering the continued development of Tasmania's unique renewable energy resources.

We are focused on ensuring Basslink is a sustainable operation and can continue to deliver the reliable electricity that Tasmanian and Victorian households and businesses depend on every day. Basslink is expected to deliver significant net market benefits to consumers of over $3.7 billion over the remainder of its life.

As well as the importance of a reliable electricity supply, we also understand the importance of ensuring Basslink's prices remain affordable. Cost of living concerns and energy affordability were key themes in the extensive stakeholder engagement we undertook in the development of this regulatory proposal, and this has been front of mind for APA in considering Basslink's future investments and services.

Under our proposal, Basslink's impact on consumers' cost of energy will remain relatively low at around $8 a year for Tasmanian residential consumers and just under $11 a year for Victorian residential consumers.

Stakeholder engagement and consumer preferences have guided each step of this regulatory proposal. We appointed an expert Regulatory Reference Group (RRG) comprised of stakeholders representing residential, small business and large energy users in Tasmania and Victoria to support the development of our proposal and co-design our stakeholder engagement plan. The RRG's independent advice was vital in helping to improve our understanding of the needs and expectations of different consumers.

As part of our stakeholder engagement activities we held extensive consumer workshops with over 90 consumers in Melbourne and Launceston. We undertook an online survey with more than 1,200 consumers, and we held a number of meetings with industry and government stakeholders to further understand consumer preferences and help in planning Basslink's future. I was pleased to open the RRG's first meeting in December 2022 and the consumer workshops held in March and April 2023 to share our initial plans for Basslink and seek consumer views.

We look forward your feedback on our regulatory proposal and your views on Basslink's future. We are committed to the long-term development of Basslink and continuing to work closely with communities across Tasmania and Victoria over the coming years as we put our plans into action.

Yours sincerely,

Adam Watson

CEO and Managing Director

APA Group

Introduction

Chapter 1 - Introduction

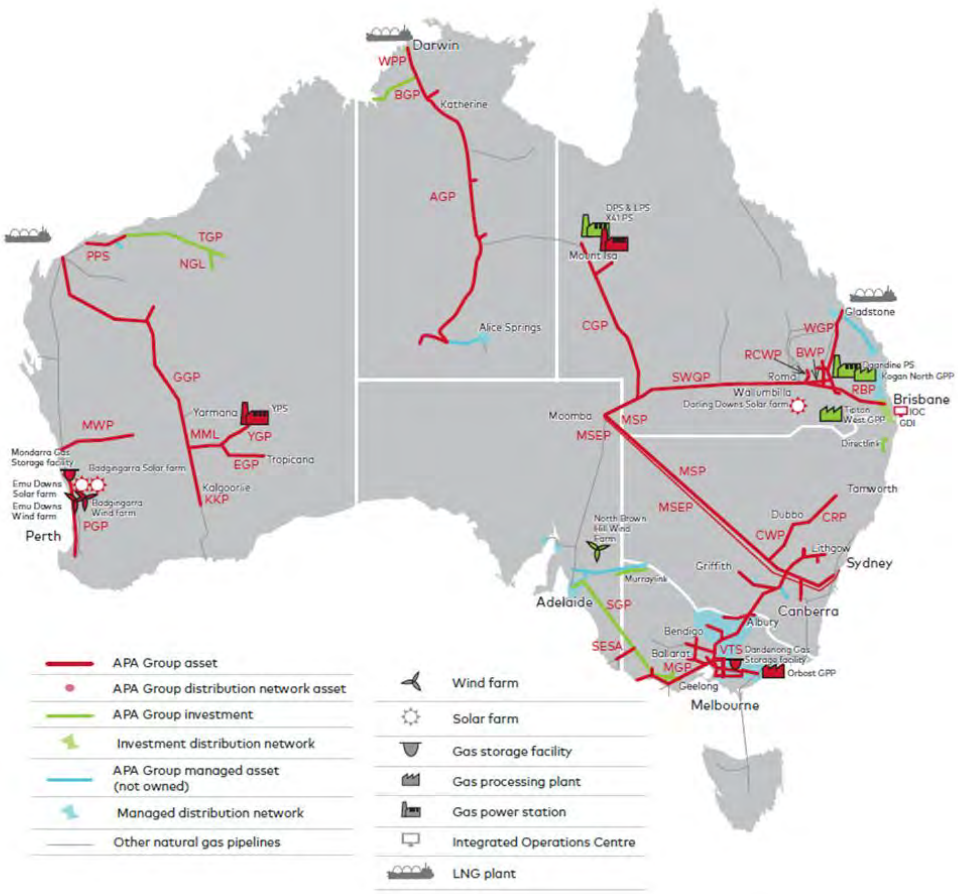
About APA

APA is a leading ASX listed energy infrastructure business. Consistent with our purpose to strengthen communities through responsible energy, our diverse portfolio of energy infrastructure delivers energy to customers in every state and territory.

Our 15,000 kilometres of natural gas pipelines connect sources of supply and markets across mainland Australia. We operate and maintain gas networks connecting 1.4 million Australian homes and businesses to the benefits of natural gas. And we own or have interests in gas storage facilities and gas-fired and renewable generation power stations.

We also operate and have interests in 681 MW of renewable generation infrastructure. Our asset portfolio includes high voltage electricity transmission assets that connect Victoria with South Australia, New South Wales with Queensland and Tasmania with Victoria.

Figure 1 – APA's assets



In August 2022, APA published its inaugural Climate Transition Plan which outlines our commitments to support Australia's energy transition and pathway to achieve net zero operations emissions by 2050.

In October 2022, we completed the acquisition of Basslink Pty Ltd, which owns and operates the 370km long high voltage direct current (HVDC) electricity interconnector between Victoria and Tasmania. The Basslink acquisition adds a third electricity interconnector to APA's energy infrastructure portfolio and is consistent with our strategy to play a leading role in the energy transition.

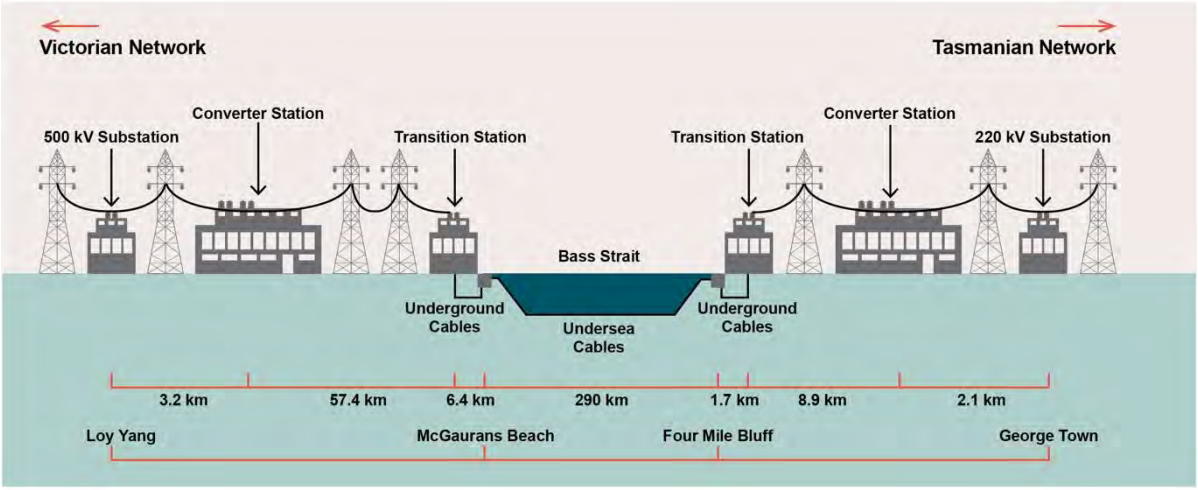
Our diverse energy portfolio means we are familiar with all the obligations and challenges that come with owning and operating critical infrastructure. We will leverage this experience when operating Basslink and apply best practice approaches when meeting new regulatory obligations (such as Security Of Critical Infrastructure obligations).

This Proposal is being made by Basslink Pty Ltd, which is the company that owns the Basslink asset. Throughout this proposal we will use the term Basslink when referring to the interconnector itself, and Basslink Pty Ltd as the company which has submitted the Proposal, noting that Basslink Pty Ltd is a subsidiary of APA.

About Basslink

Basslink is a 370km long HVDC electricity interconnector between Victoria and Tasmania. Basslink starts at the Loy Yang switchyard in Gippsland (South East Victoria) and travels by a 61 km high-voltage overhead transmission line until it is submerged. From there it travels for 290 km under Bass Straight at around 1.5 metres below the sea floor. It resurfaces again near George Town (Northern Tasmania) and travels another 11km via a high-voltage overhead transmission line to the George Town substation.

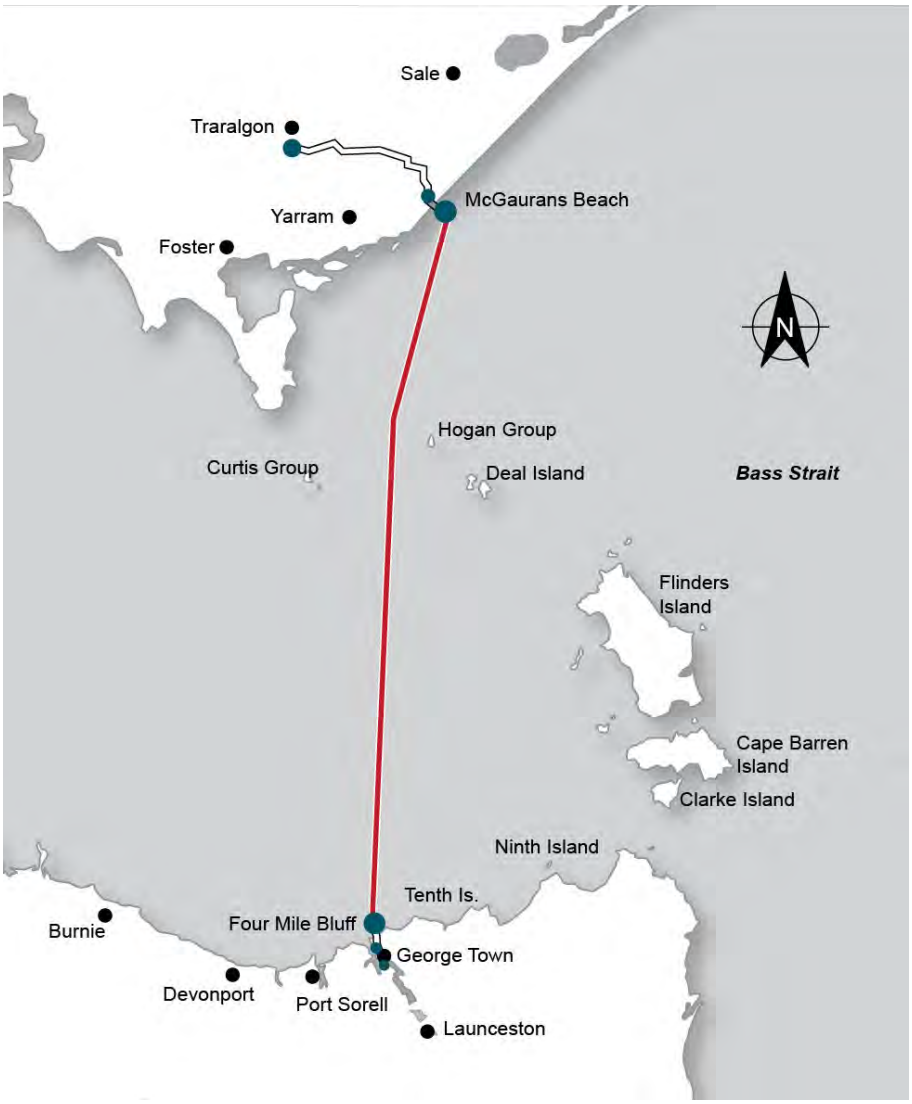
Figure 2 – Assets that make up Basslink



Basslink is currently the sole electricity interconnector between Tasmania and Victoria. Basslink plays a critical role in enhancing security of supply on both sides of Bass Strait.

Basslink has been operating since April 2006 and has a design life of 40 years. The original construction cost of Basslink is estimated to be $988m (nominal). This is an estimate because APA was not the owner of Basslink at the time of construction.

Figure 3 – Map of Basslink



Basslink Operating Environment

Chapter 2 - Basslink Operating Environment

Basslink was originally developed to serve the following three main purposes:

Security of Tasmanian electricity supply

- While Tasmania typically has sufficient generation capacity to meet Tasmanian energy demands, this depends on the amount of rainfall Tasmania receives.
- For example, in 2015 Tasmania experienced a record drought, leaving Hydro Tasmania with only 13 percent remaining energy potential compared to having full dams.
- The concurrent failure of Basslink forced the Tasmanian Government to re-commission a gas plant and import costly temporary diesel generators.

Access to a cheaper, more stable, electricity supply

- Basslink provides Victoria, and the NEM more broadly, with access to Tasmania's cheaper hydropower and wind power at its peak periods or when dams are overfilled.
- Basslink also provides Tasmania with access to Victoria's cheaper baseload power when water levels are low in Tasmania.
- Being able to 'smooth out' power supply and demands between Victoria and Tasmania also reduces the extent of large price variations.

Additional revenue streams

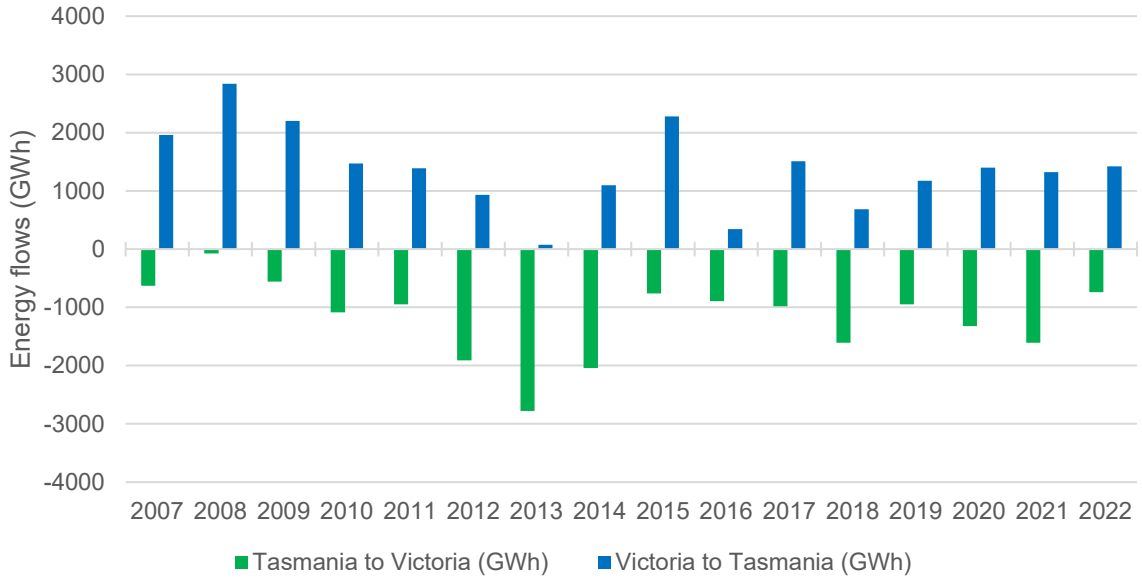
- Basslink connects Tasmania to the NEM. This provides generators across the entire NEM with access to Tasmanian customers, and vice versa.

Historical energy flows

The total energy transported across Basslink each year has recently averaged 2,300 GWh[1]. As is illustrated in Figure 4 below, the dominant direction of the flow has varied each year according to market conditions. In general:

- flows from Victoria to Tasmania are higher in summer due to excess low cost solar generation being produced in Victoria, and reduced water availability in Tasmania; and
- flows from Tasmania to Victoria are higher in winter due to higher rainfall and more hydro electricity being produced in Tasmania and less solar generation being produced in Victoria.

Figure 4 – Annual energy flows across Basslink



Historical and current revenue arrangements for Basslink

Basslink began operations in 2006 as a Market Network Service Provider (MNSP). Basslink is the only MNSP currently operating in the NEM, and has been for since Directlink was converted to a regulated network in 2006.

The AER does not currently set Basslink's annual revenue like it does for TNSPs. The revenues of TNSPs are regulated by the AER under Chapter 6A of the National Electricity Rules (the Rules).

For most of its operational life, Basslink Pty Ltd had a commercial service contract in place with Hydro Tasmania, the Basslink Services Agreement (BSA). Under the BSA, certain market revenue earned by Basslink Pty Ltd was transferred to Hydro Tasmania, in return for a facility fee. The facility fee was an annual payment for making Basslink available to Hydro Tasmania to the required technical standards and availability factors.

[1] FY17 to FY22 average. Office of the Tasmanian Economic Regulator, Energy in Tasmania Report 2021-22.

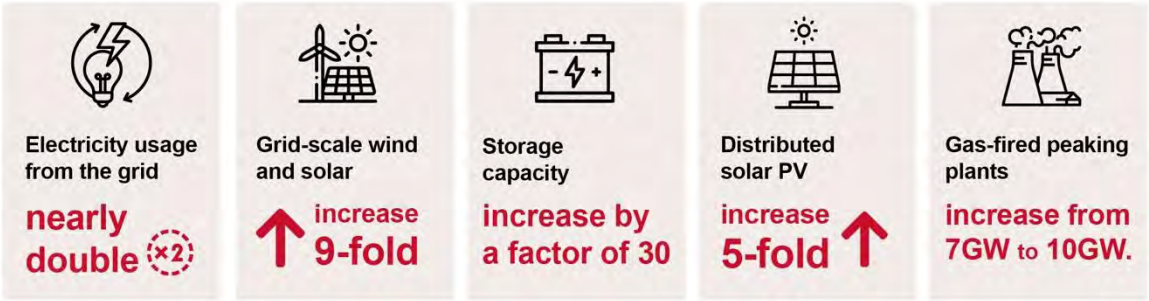
The operation of Basslink was also subject to constraints imposed by the BSA and a Ministerial Notice issued under s36 of the *Electricity Supply Industry Act 1995* (Tas). In effect, these constraints required Basslink to be operated in a manner that replicates how it would be bid as a regulated asset – effectively providing an open link between Tasmania and the mainland, rather than operating as an asset seeking price arbitrage between the relevant regions.

The BSA was terminated in 2022. Basslink Pty Ltd now receives revenue under a contract with Hydro Tasmania (the Network Services Agreement (NSA)), which provides Basslink Pty Ltd with a stream of revenue and incentives similar to regulated revenue. The bidding constraints contained in the BSA and Ministerial Notice are effectively replicated in the NSA, such that Basslink is currently operating in a manner similar to a regulated transmission link.

However, the continuation of this arrangement (or something similar) should not be considered to be a viable medium-term counterfactual to regulation. The NSA will expire in mid-2025. The future of Basslink, with and without conversion, is addressed in further detail below and in **Attachment 1** to this Proposal.

Basslink supports the energy market transition

The scale of investment needed to transition the NEM is unprecedented. According to the 2022 Integrated System Plan (ISP), around $12 billion of investment is needed in the NEM's grid infrastructure to accommodate the significant growth in renewable generation. AEMO's 2022 Step Change Scenario (from 2022 ISP) anticipates the following increases by 2050 to transform the NEM:



Other studies have similar findings. For example, Net Zero Australia's recent study found that Australia needs to grow renewables as our main domestic and export energy source to 40 times the current NEM capacity. This figure considers direct use and clean fuel production like renewable hydrogen.[2]

This scale of transformation will not be a costless exercise. Efficiently using existing assets will play a critical role in delivering the most optimal pathway to net zero. Basslink is increasingly supporting the energy market transition and contributing to the achievement of emissions reduction targets.

[2] AEMO, 2022 Integrated System Plan (ISP) Infographic (30 June 2022).

There are at least four ways in which Basslink will support the NEM's transformation:

1. **Tasmania has significant wind resources** and the commercial feasibility of leveraging that depends on the availability of high-capacity interconnection between Tasmania and mainland Australia.

2. **Tasmania at times receives more rain than its dam capacity allows.** Any reduction in the optimal operation of the interconnection between Tasmania and Victoria would lead to the waste of that renewable energy because water will need to be spilled from the dam, rather than be used to generate energy.

3. **Hydro Tasmania's water storages can act as long-term energy storage** that can 'firm-up' intermittent renewable generators such as wind and solar. This better enables renewable energy technologies to displace 'firm' thermal technologies such as coal and gas.

4. **Basslink enables Tasmania to export its excess renewable electricity** to the rest of Australia, attracting investment and innovation into Tasmania. This is a key enabler of the Battery of the Nation strategy announced by Hydro Tasmania

Conversion Application

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Chapter 3 - Conversion Application

Since acquiring Basslink in October 2022, APA has signalled its intention to seek conversion of Basslink from the status of an MNSP to a regulated TNSP.

The Rules do not prescribe what a conversion application must look like, nor what factors the Australian Energy Regulator (AER), as decision maker, must take into account when making such a decision.

This section of the Proposal sets out Basslink's application to convert to a TNSP. Further detail of this application is provided in **Attachment 1** to this proposal.

Over the past few months, we have been talking to stakeholders about the conversion of Basslink and the factors we have been thinking about. In our view, Basslink should be converted to a TNSP if the benefits of such conversion outweigh its costs.

What is the difference between an TNSP and MNSP?

TNSPs and MSNPs both provide electricity transmission services across the NEM. While there are many TNSPs, there is currently only one MNSP (Basslink) in the NEM. The key distinguishing features of TNSPs and MSNPs are as follows:

- TNSPs build, maintain and operate transmission networks in the NEM.
- TNSPs' revenues are fully regulated by the AER in five yearly revenue determinations.
- The AER also imposes incentive and service performance schemes to create incentives for the TNSPs to operate their businesses efficiently and maintain reliability.

- MNSPs do not have revenues set by the AER.
- MNSPs rely on price differences between reference nodes, or contractual arrangements, to earn revenue.
- MNSPs do not have incentive or service performance schemes imposed by the AER.

Why we are seeking conversion

As articulated throughout this Proposal, there are various reasons why we are seeking to have Basslink converted to a TNSP. In summary, the main reasons are:

Better alignment of customer and business interests

- MNSPs earn revenue based on price differences between different regions in the NEM.
- These price differences may be more pronounced if MNSPs are capacity constrained.
- If Basslink is converted to a TNSP, any incentive for the interconnector to be constrained will be removed, ensuring that Basslink is available to transport as much renewable energy between Tasmania and Victoria as possible.
- This better aligns the interests of Basslink and its customers.

Reliability of supply

- The 2016 Tasmanian Energy Crisis demonstrated the importance of Basslink to energy security in Tasmania.
- Having the AER approve Basslink expenditure and maintenance plans, with input from customers, will provide stakeholders with confidence that the asset is being operated in a manner that best promotes security of supply.

Certainty of costs and revenues for Basslink and customers

- As an MNSP, revenues are unregulated and dependent on energy flows between regions. In contrast, revenues for TNSPs are approved by the AER in five yearly cycles, with greater visibility over TNSP spending plans.
- Converting Basslink to a TNSP will provide stakeholders with the opportunity to comment on Basslink's five year spending plans as part of the AER revenue determination process, as well as providing much greater certainty over costs and revenues.

Benefits of conversion outweigh the costs

- We have considered the costs and benefits of converting Basslink to a TNSP.
- We have also sought expert advice on the market benefits associated with Basslink.
- Despite the additional costs imposed by regulation, in this instance the benefits of converting Basslink to a TNSP have been shown to outweigh the costs.

Benefits of conversion

To consider the costs and benefits, it is important to understand how Basslink is likely to be operated in the future if it were to remain a MNSP – i.e. we need to compare the future with Basslink operating as a regulated asset, with the future with Basslink operating as an MNSP.

It is important to note that Basslink has not been operated as a typical MNSP in the past, but has largely been operated in a manner more akin to that of a TNSP[3]. This is because the effect of the historical agreements between Basslink and Hydro Tasmania, and the operation of other regulatory obligations specific to Hydro Tasmania[4], were such that Basslink was required to operate as an 'open link', and these requirements were effectively replicated in the current agreement between Basslink and Hydro Tasmania. The contractual arrangements with Hydro Tasmania are due to expire on 1 July 2025.

In considering a future in which Basslink is operating as an MNSP, it should be noted that the ACCC has previously observed that the revenue model for MNSPs under the Rules, as described above, may lead to some curtailment of the benefits that would otherwise accrue from interconnection of NEM regions, stating that[5]:

> *[The] Commission is aware that the operation of a market network service may detract from the public benefits that could otherwise be expected. The Commission recognises that the incentive placed on the proponents of a market network service may be to preserve price differentials between regions. Interested parties claim that MNSPs will have an incentive to either construct a link of smaller than socially optimal capacity and/or restrict flows between the regions. As such the expected public benefits that could arise from the introduction of market network services may not be fully realised. An MNSP may bid its capacity into the NEM at high prices, though such strategies will be constrained by the bid prices of competing generators and interconnectors.*

In practice, this means that a TNSP will provide enhanced public benefits for the following reasons:

- MNSPs have an incentive to be dispatched to maximise revenue. This requires decisions about how much capacity to make available during any one time period. By contrast, TNSP assets are made available to the full transfer capacity.
- MNSP's derive their revenue in a manner dependent on both the volume of energy flows in each direction and on the price differences between Tasmania and Victoria. To optimise revenue, a MNSP would have strategic opportunities to reduce the capacity it makes available to the market in order to achieve a higher price differential. As noted by the ACCC, this is a legitimate dispatch strategy fully consistent with market design.
- A MNSP operating in a manner designed to seek price arbitrage would likely mean less transmission capacity would be available between Tasmania and Victoria. This would likely have the effect of increasing the average electricity price in both States, with a potentially

[3] Note that during a period of administration in 2022, Basslink was not a party to any agreement with Hydro Tasmania and was largely operated as a merchant asset.
[4] Further details available at: https://www.hydro.com.au/about-us/our-governance/esi-compliance-plans
[5] https://www.accc.gov.au/system/files/public-registers/documents/D01%2B43022.pdf

greater effect in Tasmania. In addition, Victoria would risk having less access to peaking hydro power from Tasmania and would need to rely on thermal generation for that purpose, leading to higher greenhouse gas emissions.

In contrast, a future in which Basslink operates as a regulated TNSP would be characterised by:

Basslink operating as an 'open link' where its dispatch is driven by the efficient movement of electricity between the regions

All stakeholders having a much greater say in Basslink's spending plans and revenues, providing greater confidence that future investment is efficient and in the long-term interests of customers

Greater certainty for customers of the interconnector's availability and reliability relative to the absence of regulation

Market participants on both sides of the link gaining access to the Interregional Settlement Residue Auctions, which will enhance competition in the market.

Costs of conversion

The most significant counterpoint to an argument in favour of regulatory conversion is the transfer of the investment risk from the investor to the users. For regulated transmission infrastructure, once investment has been deemed efficient by the AER and has occurred, users are obligated to pay enough to ensure return on and of the investment. Both the return on investment and the depreciation profile are set by the AER.

For MNSPs, on the other hand, there are no regulated constraints on the rate of return or how quickly the capital is paid back. However, there is also no guarantee that capital will be returned. If the asset is not needed by the market and is not able to earn sufficient revenue, the risk is entirely with the investor.

This transfer of risk will only have a cost if it can be assumed that the asset would recover more revenue as a TNSP than it will as a MNSP. It cannot be assumed that Basslink as an MNSP would not be able to recover the same level of revenue over a shorter period of time, namely in the period before additional generation and transmission capacity reduces the incidences of significant price disparity between Victoria and Tasmania. However, it should be assumed that the MNSP would seek to recover those costs over a significantly shorter period than if the asset were a TNSP. As noted above, this will impact the incentives for a MNSP to make long term investments.

On balance, APA is of the view that regulatory conversion will deliver material net benefits to the NEM and electricity consumers, and that it is therefore appropriate for the AER to convert the asset to a TNSP.

For Tasmania, Basslink will help achieve the Tasmanian Renewable Energy Target (TRET) and support Tasmania's energy security long into the future. Basslink can:

Protect Tasmania against the risk of energy shortages

Enable Tasmania to buy renewable energy from the mainland (especially when mainland renewables are cheaper)

Transport renewable energy to Victoria and southern states during peak demand periods

Promote the development of additional renewable generation in Tasmania by providing a path to market for that new energy

Potentially support the development of the Australian offshore wind industry via subsea electricity cables.

Regulation will ensure Basslink continues to operate as an open link and therefore support the NEM's transformation by 2050. As a regulated asset, Basslink can provide greater transparency and certainty on our costs to our stakeholders.

Basslink and Marinus Link

One of the high visibility projects currently being considered for the NEM is the Marinus Link Project (Marinus). Marinus is a proposed electricity and telecommunications interconnector between Tasmania and Victoria. Marinus is targeting a final investment decision in December 2024.

If constructed, Marinus involves approximately 255 kilometres of undersea High Voltage Direct Current (HVDC) cable and approximately 90 kilometres of underground HVDC cable in Victoria. It also includes converter stations in Tasmania and Victoria, and approximately 240 kilometres of supporting High Voltage Alternating Current (HVAC) transmission developments in North West Tasmania.

It will involve the construction of at least one 750MW cable. The original plan for Marinus Link was the construction of two 750MW cables [6], but the project appears to now be predicated on one cable,

with the second cable subject to separate decision making processes[6]. The cable is scheduled for operation for July 2029.

Marinus seeks to provide electricity transmission capacity in addition to Basslink. The main driver for Marinus is the forecast significant increase the level of renewable generation and storage from the development of new wind in Tasmania and the "Battery of the Nation" projects being developed by Hydro Tasmania.

Both Basslink and Marinus are necessary for consumers to maximise the market benefits from these programs and projects. This is consistent with AEMO's ISP 2022 Step Change and Hydrogen Powerhouse scenarios.

As a result of increasing construction costs, the cost to construct Basslink in 2006 was lower than the cost to construct an equivalent asset would be now. In addition, the cost to customers for Basslink reflects the fact that large parts of the original construction costs will be half, or more, depreciated at the commencement of the first revenue period.

[6] *The Hon Chris Bowen,* "Joint media release: Investing in the future of Tasmanian energy with Marinus Link," 3 September 2023. Available at: https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-investing-future-tasmanian-energy-marinus-link

This Revenue Proposal

Chapter 4 - This Revenue Proposal

As Basslink Pty Ltd put together this proposal three key themes emerged that supported the nature of our revenue proposal for the period financial years 2026 to 2030.

Reliability

Basslink is a critical piece of infrastructure in the NEM. It is vital that its capacity to transport electricity is available when it is needed most. It must be reliable, and this reliability must be a focus of the operating and capital expenditure plans.

We are placing this focus on reliability for three reasons:

Stakeholder Engagement

The importance of Basslink's reliability was reinforced to APA by feedback from stakeholders.

- In the Quantitative surveys 84% of participants rated having greater reliability for the future as something they strongly support (rated at least a 7 out of 10).
- Consumers at the workshops wanted to ensure that there were timely repairs to Basslink's subsea cable should a failure occur in the future.
- Tasmanian consumers particularly referenced the need to avoid a repeat of the impacts of the unavailability of Basslink in 2016.

Energy Security

The 2016 Tasmanian energy crisis was an ongoing energy storage situation in Tasmania. Two years of high volumes of energy exported to Victoria via Basslink, followed by low rainfall, and a fault which rendered the cable inoperable, resulted in record low storage levels in Tasmania's hydro-electric system. This resulted in a number of contingency plans to be enacted by Hydro Tasmania and the Hodgman Government.

Actions taken to minimise the consumption of water from Hydro Tasmania's storages included:

1. Recommissioning of the gas-fired Tamar Valley Power Station

2. Striking agreements with three major industrial customers to reduce their load by a combined 180 MW

3. Deploying up to 200 MW of portable diesel generators

4. Bringing Hydro Tasmania's cloud seeding program, usually scheduled to start in May each year, forward by a month[7]

[7] Wikipedia, 17/06/23

This demonstrated the importance of Basslink reliability to Tasmanian energy reliability such that in certain circumstances the ability to supply customers is threatened if there is a Basslink outage.

Tasmanian Renewable Energy Target

In 2020, Tasmania legislated the TRET, requiring the State to reach 200% renewable energy production by 2040. Basslink enables this policy by providing the highway for this renewable energy to be shared with mainland Australia to support the nation's decarbonisation objectives. Sufficient interconnection between Tasmania and mainland Australia is required to unlock this opportunity and, as an existing asset, Basslink offers the lowest cost pathway.

Converting Basslink to a regulated interconnector and ensuring it is operated with a high degree of reliability ensures this existing capacity is fully maximised for the benefit of the market.

Affordability

Consumers highlighted that energy costs and affordability of electricity are key concerns for both residential and small business consumers, with 73% of survey respondents indicating they were very or extremely concerned about energy affordability.

Basslink's focus on customer affordability has two elements:

1. Efficient and Prudent

- Ensure that our procurement, execution and governance arrangements are such that our expenditure on Basslink is efficient and prudent.

2. Reliability

- The role of Basslink as a regulated interconnector in the National Electricity Market is to facilitate cross border flows of electricity at AEMO's direction to facilitate the reduction in wholesale spot prices in Victoria and Tasmania and ensure the efficient operation of the wider electricity network.
- Basslink's contribution to facilitating the execution of AEMO' s functions is to invest in and operate a network with a high level of reliability and maximise override capacity availability at key times when price differences emerge between Tasmania and Victoria.

Transition

Basslink is an asset that is in a state of transition. There are two key elements to that transition:

- Conversion to a regulated asset
- Integration into APA

There is an element of uncertainty as to the outcomes of these processes which need to be taken into account when assessing incentive regimes but some key elements of change can be identified and have been factored into Basslink's proposal.

Conversion to a regulated asset

The regulatory framework is different from a commercial market based transmission environment.

The broad regulatory arrangement, sometimes referred to in literature as the regulatory contract, is that a regulated business will have a lower rate of return but in order to continue to access finance to fund future operations this will require a reduction in risk to the business.

This has a number of effects on how the business operates:

- Once expenditure is deemed consistent with the Rules by the regulator, it is recovered from customers.
- This means that past and current efficient expenditure is recovered from customers even if there is a change in market circumstances.

Basslink Pty Ltd has already identified relevant impacts that this will have on a range of activities and expenses post conversion to a regulated asset in particular in relation to operating expenditure in relation to:

- Insurance arrangements
- Market fees and levies
- Performance standards.
- Administrative Costs

The effect of these changes are mixed, where some will result in a reduction in the expense others will increase.

Integration to APA

Basslink was acquired by APA in October 2022. The process of integrating Basslink into APA is ongoing. At a high level, this integration involves transitioning Basslink from using systems and processes of a stand alone business to using the systems and processes of APA.

Basslink Pty Ltd as a standalone entity was a much smaller business than APA. For example, Basslink Pty Ltd had around 20 employees compared to nearly 2,200 APA employees.

This inevitably means that APA has at its disposal a much higher level of in house expertise than was available to Basslink Pty Ltd. The absence of this in house capability meant that Basslink Pty Ltd was either not managing, or managing with a lower level of sophistication, material risks to the long term successful operation of the asset.

The APA expertise available to Basslink will support the provision of more sustainable, reliable and affordable services for customers. Some of the areas in which APA has deeper expertise than was available to Basslink are listed below. By providing these services from within house, APA can bring economies of scale that will allow the more efficient and reliable operation of the interconnector.

Framework and Approach for Revenue Proposal

In the *Commencement and Process Paper*,[8] the AER decided to omit the requirements for the AER to make a framework and approach paper and Basslink to inform the AER of its proposed expenditure forecasting methodologies. The AER decided to instead address these matters as part of its assessment of Basslink's revenue proposal. The key matters that would ordinarily be addressed at the framework and approach stage are addressed in this Revenue Proposal as follows:

- Basslink Pty Ltd's proposed approach to calculating depreciation for the purposes of the opening RAB is addressed in **Attachment 5**;
- Basslink's proposed methodologies for forecasting capital and operating expenditure are addressed in **Attachment 7 and 8** respectively; and
- Incentive schemes are addressed in **Attachment 10**.

[8] Decision | Australian Energy Regulator (aer.gov.au)

Stakeholder Engagement

Chapter 5 - Stakeholder Engagement

Our engagement process

Basslink Pty Ltd has approached this stakeholder engagement with the understanding that we play a critical role in the energy supply chain and our operations have a broad impact on consumers and the energy transition. We understand the importance of supporting the delivery of affordable and reliable energy to Tasmanian and Victorian consumers, as well as the important role Basslink plays in the energy transition through the supply of renewable energy to the NEM.

Basslink Pty Ltd's objectives for engagement for the Basslink revenue proposal were co-designed with the stakeholder RRG. Our objectives for stakeholder engagement during the regulatory process are to deliver a revenue proposal that:

'Brings the outside in' by directly responding to the needs and preferences of our customers.

Provides sustainable returns.

Delivers a reliable supply of electricity to Tasmanian and Victorian consumers.

Directly contributes to the green energy transition in Australia.

In undertaking our stakeholder engagement program, we were committed to fully consulting with consumers to understand their views and ensure their preferences were reflected in our Proposal.

Basslink Pty Ltd established a RRG in November 2022 to support the development of the Proposal. The RRG serves as an independent advisory group comprised of a cross-section of stakeholders representing residential, small business and large energy users in Tasmania and Victoria. The RRG members include:

- Gavin Dufty, St Vincent's de Paul Society Victoria
- Leigh Darcy, Tasmanian Minerals, Manufacturing and Energy Council
- Karina Dambergs/ Chris Griffin, Northern Tasmania Development Corporation[9]
- Robert Mallett, Tasmanian Small Business Council
- John Pauley, Council of the Ageing Tasmania

[9] Karina Dambergs left the Northern Tasmania Development Corporation in late June 2023. Chris Griffin attended the September 2023 RRG meeting.

The RRG's objective is to work collaboratively with Basslink Pty Ltd under a principle of co-design on the development and implementation of the regulatory engagement plan for Basslink, including the scope, timing, themes and engagement methodology. The RRG's input was instrumental in helping to improve our understanding of the needs and expectations of different consumer segments. RRG input was used to continually refine the engagement materials and methodology Basslink Pty Ltd used in consulting with consumers, industry and government stakeholders.

The RRG provided an independent report for the AER in August 2023 outlining their views on how Basslink Pty Ltd engaged with its customers and how it has met the requirements of the AER's Better Resets Handbook. The RRG considered that overall, Basslink Pty Ltd has met the Better Resets Handbook requirements and that Basslink Pty Ltd has engaged openly and collegially across all levels of the organisation.

The RRG also provided suggestions on how engagement can be broadened and deepened for the 2025-30 revenue proposal and beyond. Basslink Pty Ltd will continue to engage with the RRG as the AER assesses the Proposal. A copy of the RRG's independent report has been attached to this Proposal.

We used deep, broad and targeted engagement methods in the development of the Proposal with APA senior staff steering the engagement program and attending all engagement activities, including our CEO Adam Watson presenting to the consumer workshops.

Deep engagement methods	Broad engagement methods	Targeted engagement methods

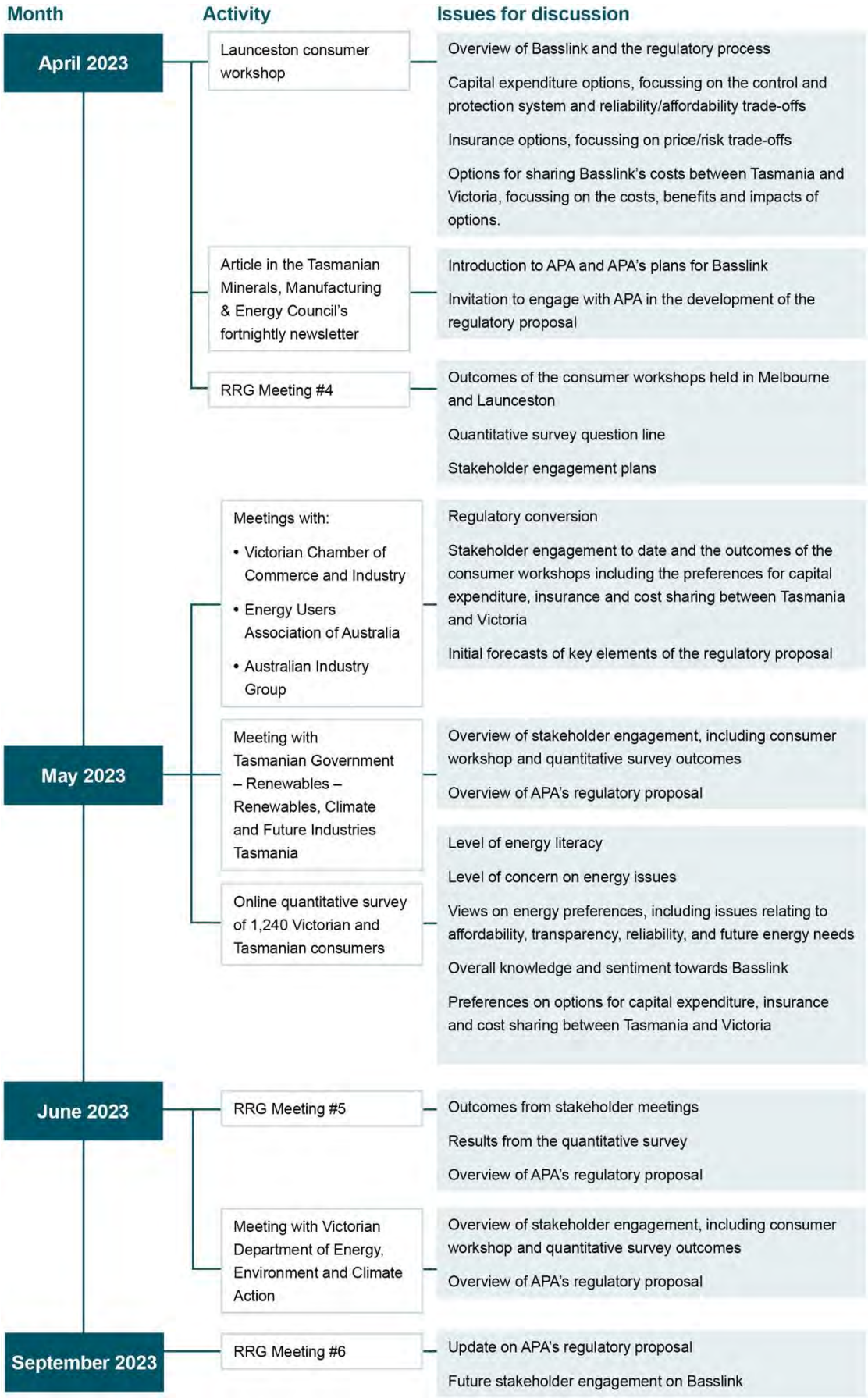
• **RRG engagement** through ongoing and regular meetings, with six meetings held over December 2022 to September 2023. RRG members also attended the two consumer workshops held.
• **Two online focus groups** with 7 Victorian and 8 Tasmanian residents and SMEs to test understanding of key elements of the regulatory proposal and seek indicative reactions to the proposed regulation of Basslink ahead of the consumer workshops.
• **Two 4-hour consumer workshops** held in Launceston and Melbourne with 93 residential and SME end-use consumers to undertake a deep-dive exploration of their preferences on key focus areas relating to the regulatory proposal. These workshops involved an extensive program of informing, discussion, and reflection. The workshops included a mix of presentations from key APA staff and their consultants, table breakout discussions, online polls, and open floor Q&As.
	• **Online quantitative survey** of 1,240 electricity consumers from Victoria and Tasmania to test and validate the outcomes from the consumer workshops and build breadth of understanding of general consumer preferences regarding key elements of the regulatory proposal and key trade-offs around issues like affordability, reliability and risk.
	• **Newsletter article** for the Tasmanian Minerals, Manufacturing and Energy Council outlining APA's plans for Basslink and to seek industry feedback.
		• **Presentations and meetings** on key elements of the regulatory proposal held with:
		  • Members of the Bell Bay Advanced Manufacturing Zone in Tasmania.
		  • Victorian Chamber of Commerce and Industry.
		  • Energy Users Association of Australia.
		  • Australian Industry Group.
		  • Tasmanian Government – Renewables, Climate and Future Industries Tasmania
		  • Victorian Government - Department of Energy, Environment and Climate Action

Further detail on our engagement process for the development of our proposal can be found in **Attachment 3** to this Proposal, **Attachment 3.1** and **Attachment 3.2**.

Timeline of stakeholder engagement

Our stakeholder engagement program to support the development of the Proposal ran from November 2022 to September 2023. Regular meetings were held with the RRG throughout the program to provide advice on each step of engagement and as key elements of the Proposal were being formulated.

Month	Activity	Issues for discussion
November 2022	Establishment of the RRG	Confirmation of participants and Terms of Reference
December 2022	RRG Co-creation workshop	APA's plans for Basslink Overview of proposed engagement Core issues and priorities for engagement, including mapping of key stakeholders and issues.
January 2023	RRG Meeting #1	Regulatory conversion process Overview of insurance issues Opening RAB Engagement timeline Overview of consumer workshops.
February 2023	RRG Meeting #2	Insurance options for Basslink Cost sharing between Tasmania and Victoria Materials for consumer workshops.
March 2023	Presentation to Bell Bay Advanced Manufacturing Zone	Introduction to APA and Basslink Plans for regulatory conversion Opportunities for engagement
	Online focus groups with Victorian and Tasmanian participants	Regulatory conversion Preferences on options for capital expenditure, insurance, and cost sharing
	RRG Meeting #3	Forecast capital expenditure Forecast operating expenditure Consumer workshop questions
	Melbourne consumer workshop	Overview of Basslink and the regulatory process Capital expenditure options, focussing on the control and protection system and reliability/affordability trade-offs Insurance options, focussing on price/risk trade-offs Options for sharing Basslink's costs between Tasmania and Victoria, focussing on the costs, benefits and impacts of options.


Month
Activity
Issues for discussion
April 2023
Launceston consumer workshop
Overview of Basslink and the regulatory process
Capital expenditure options, focussing on the control and protection system and reliability/affordability trade-offs
Insurance options, focussing on price/risk trade-offs
Options for sharing Basslink's costs between Tasmania and Victoria, focussing on the costs, benefits and impacts of options.
Article in the Tasmanian Minerals, Manufacturing & Energy Council's fortnightly newsletter
Introduction to APA and APA's plans for Basslink
Invitation to engage with APA in the development of the regulatory proposal
RRG Meeting #4
Outcomes of the consumer workshops held in Melbourne and Launceston
Quantitative survey question line
Stakeholder engagement plans
May 2023
Meetings with:
• Victorian Chamber of Commerce and Industry
• Energy Users Association of Australia
• Australian Industry Group
Regulatory conversion
Stakeholder engagement to date and the outcomes of the consumer workshops including the preferences for capital expenditure, insurance and cost sharing between Tasmania and Victoria
Initial forecasts of key elements of the regulatory proposal
Meeting with Tasmanian Government – Renewables – Renewables, Climate and Future Industries Tasmania
Overview of stakeholder engagement, including consumer workshop and quantitative survey outcomes
Overview of APA's regulatory proposal
Online quantitative survey of 1,240 Victorian and Tasmanian consumers
Level of energy literacy
Level of concern on energy issues
Views on energy preferences, including issues relating to affordability, transparency, reliability, and future energy needs
Overall knowledge and sentiment towards Basslink
Preferences on options for capital expenditure, insurance and cost sharing between Tasmania and Victoria
June 2023
RRG Meeting #5
Outcomes from stakeholder meetings
Results from the quantitative survey
Overview of APA's regulatory proposal
Meeting with Victorian Department of Energy, Environment and Climate Action
Overview of stakeholder engagement, including consumer workshop and quantitative survey outcomes
Overview of APA's regulatory proposal
September 2023
RRG Meeting #6
Update on APA's regulatory proposal
Future stakeholder engagement on Basslink

What we heard and how we have responded

We have focussed our stakeholder engagement on five priority issues based on issues identified by the RRG as key for Basslink's stakeholders and consumers. We have also considered issues where stakeholders and consumers can have the greatest impact on the Proposal, where their opinion would genuinely influence and guide the Proposal.

Priority Issue	What we heard	How we have responded
Reliability 	• Consumers and industry stakeholders both strongly supported a high level of reliability due to concerns about the potential for electricity outages if Basslink fails. • 84% of survey participants rated having greater reliability for the future as something they strongly support (rated at least a 7 out of 10). • Consumers at the workshops wanted to ensure that there were timely repairs to Basslink's subsea cable should a failure occur in the future. Tasmanian consumers particularly referenced the need to avoid a repeat of Basslink's 2015 damaging outage doesn't occur again.	• APA has clearly heard customers preference for a strong and reliable Basslink and is focussed on maintaining Basslink's high levels of reliability to ensure Basslink can continue to meet the energy needs of Tasmanian and Victorian consumers. • In addition to the replacement of the timely replacement of the control and protection system discussed below, we have proposed two key investments to further strengthen Basslink's reliability in response to stakeholder and consumer feedback: - $7.0m in capital expenditure to enable Basslink to operate at higher temperatures when customer demand for electricity is high. - $7.65m annual expenditure on emergency preparedness to reduce repair times and the time Basslink would be offline in the event of a major incident.
Affordability 	• Consumers highlighted that energy costs and affordability of electricity are key concerns for both residential and small business consumers, with 73% of survey respondents indicating they were very or extremely concerned about energy affordability. • Consumers at the workshops were also strongly focussed on the bill impact of the regulatory proposal, with several remarking that the whole conversation comes down to cost.	• Basslink Pty Ltd is conscious of consumer and stakeholder concerns around energy affordability and cost of living and is focussed on keeping Basslink's prices as low as possible while maintaining a high level of reliability to reduce wholesale electricity costs for customers. • Consistent with consumer concerns around energy affordability, APA is proposing to adopt the lowest initial Regulatory Asset Base forecast, which is

Priority Issue	What we heard	How we have responded
	• Some industry stakeholders indicated a preference for price stability, while others noted the importance of ensuring any cost savings following the regulation of Basslink are passed through to consumers.	based on the Depreciated Actual Cost method. • The Proposal, if approved by the AER, would result in a relatively low bill impact of $11 a year for the average Victorian residential customer and $8 a year for the average Tasmanian residential customer. These bill impacts are based on the adoption of a market size approach to sharing the costs of Basslink between Victorian and Tasmanian energy consumers, which was the preference from our consumer engagement as it was considered the fairest approach. This approach results in the most comparable bill impacts between Victorian and Tasmanian consumers of the alternative cost sharing approaches we considered and engaged on. • Basslink's cost are expected to have minor real cost declines year on year for the revenue period. • Ensuring that the capacity of Basslink is available to the market will help minimise electricity prices in Tasmania and Victoria.
Capital expenditure 	• Our engagement with consumers and stakeholders on capital expenditure focussed on the replacement of Basslink's control and protection system due to the significant cost of the replacement system. In particular, views were sought on whether the system should be replaced in the upcoming 2025 to 2030 revenue period or the following revenue period post 2030. • There was strong support from consumers for replacing the control and protection system in the 2025 to 2030 revenue period, with 73% of all workshop participants and	• Basslink Pty Ltd recognises the strong and consistent preference for the earlier replacement of the control and protection system from consumers and stakeholders. We also note this preference is consistent with the high importance placed on reliability. • We have adopted the preference of consumers and stakeholders and included the replacement of the control and protection system in the capital expenditure plans of our regulatory proposal for 2025 to 2030.

Priority Issue	What we heard	How we have responded
	70% of all survey participants supporting the earlier investment. • The main reasons cited by consumers for supporting earlier investment were based on an aversion to risk, with concerns around the risks of outages and the associated impacts on consumers. The potential for cost savings from earlier investment were also noted by survey participants. • The Victorian Chamber of Commerce and Industry (VCCI) also indicated support for the earlier replacement of the control and protection system to avoid the risk of an outage.	
Insurance 	• Our engagement with consumers and stakeholders on insurance focussed on whether APA should adopt a low insurance premium with higher risks should an insurance event occur, or a high insurance premium with lower risks should an insurance event occur. • Consumers indicated mixed views on insurance, with 72% of all workshop participants preferring the low insurance premium option and 55% of all survey participants preferring the high insurance premium option. • The preferences of workshop participants towards the low insurance premium option were largely driven by Launceston participants, with 81% preferring this option (compared to 60% in Melbourne). Many Launceston participants preferred the low premium option as they thought the risk of damage was low and this option would be cheaper overall. • In contrast, survey participants preferred the high insurance premium option as they considered it would help to manage reliability	• There was not a clear and consistent view from consumers on their preferences and level of risk on insurance. This may reflect the complex choices involved in this issue and differences in how consumers considered the risks of damage to Basslink. Consumers are also likely to have differences in their tolerance for risk. • On balance after carefully considering this feedback, we have decided to adopt insurance arrangements that preference a lower level of risk to customers in the long term but includes a higher level of premium. • This approach will help to meet consumer preferences for a 'no surprises' approach because the alternative could lead to an unexpected increase in costs, should repairs be required. • We understand there are also high levels of concern around energy affordability. However, we note the bill differences between the high and low premium approaches are relatively low and a high premium approach will also help to avoid bill

Priority Issue	What we heard	How we have responded
	risks and would provide greater certainty about costs. • Industry stakeholders did not indicate an insurance preference.	shock for consumers should damage occur.
Cost sharing 	• Our engagement with consumers and stakeholders on cost sharing focussed on how Basslink's costs should be shared between Tasmanian and Victorian consumers. Three cost sharing options that are allowed under the Rules were discussed, including options based on the geographic split of Basslink's assets, energy flows between Tasmania and Victoria, and the market size of Tasmania and Victoria based on the number of electricity connections in each State. • Consumers indicated a preference for the market size approach to cost sharing, with 75% of all workshop participants and 44% of all survey participants selecting this option. • Participants across both the workshops and the survey selected the market size option as it was considered the fairest. Tasmanian participants were especially supportive of this option and also noted it was fairer as Tasmanians are more likely to have lower incomes than Victorians. • Victorian survey respondents demonstrated a very slight preference for the energy flows approach, with 36% supporting this option. However, this was very closely followed by a preference for the market size approach at 31%. Additionally, Victorian workshop participants displayed a preference for the market size approach at 53% - when considering these different pillars of evidence it is clear there is strong support for the	• Consumers expressed a consistent preference for the market size approach to sharing the costs of Basslink, largely as it was considered the fairest approach. • We note this approach results in the most comparable bill impacts for Victorian and Tasmanian consumers. • Although we understand a market size approach to sharing the costs of an interconnector has not previously been applied by the AER, we have adopted the market size approach in our regulatory proposal due to the preferences expressed by consumers. • We intend to undertake further stakeholder consultation on the market size approach over the coming months as the AER assesses our proposal.

Priority Issue	What we heard	How we have responded
	market size approach across the Victorian population. • An industry stakeholder noted a preference for either the market size or energy flow options, with another stakeholder noting costs should be allocated based on who benefits from Basslink.	

Market Benefits

Chapter 6 - Market Benefits

The Rules operate to require Basslink Pty Ltd to provide to the AER an assessment of the Net Market Benefits of Basslink. The purpose of this test is to check that customers do not pay more for the services of Basslink than the market benefits they are expected to receive from this service.

Net Market Benefits are determined by:

- Modelling the total market benefits of Basslink having regard to a number of alternative and credible market scenarios. This is the modelled quantification of the benefits to the market as a whole that the operation of Basslink delivers;
- The 'Net Market Benefits' are then determined by deducting the long term operating costs from the market benefits. The long terms costs are the operating costs and the forecast capital expenditure over the life of the asset.
- The Net Market Benefits under each of these scenarios are then compared the proposed initial Regulated Asset Base – with the concept being that if the Net Market Benefits do not exceed the Initial RAB, then the RAB should be adjusted so as to ensure customers do not pay more than the market benefits of the asset.

In this proposal the Net Market Benefits under the credible market scenarios are significantly higher than the Initial Regulatory Asset Base proposed by Basslink Pty Ltd. This can be seen in Table 1 below.

Table 1 – Net Market Benefits ($m FY25)

Method	Result
Market benefits less long-term costs of operation – Step change/single stage scenario	$3,748 million
Market benefits less long-term costs of operation – Progressive change/single stage scenario	$4,190 million
Market benefits less long-term costs of operation – Hydrogen Superpower/single stage scenario	$3,102 million
DAC	$831 million
DORC	$1,079 million
Proposed RAB	**$831 million**

Net Market Benefits Assessment

For the purpose of complying with the regulatory test outlined in the Rules, Basslink Pty Ltd is providing the AER with a detailed assessment of market benefits. Basslink Pty Ltd has commissioned EY to perform the independent assessment, with EY's report on market benefits being provided at **Attachment 2.1**.

The process adopted by Basslink Pty Ltd in assessing the market benefits and comparing those benefits with the long term costs is as follows:

- Basslink Pty Ltd commissioned EY to perform an independent study assessing the market benefits attributable to the operation of Basslink in the NEM. Basslink Pty Ltd requested EY to adopt a modelling methodology that largely follows the RIT-T guidelines published by the AER1 with some adjustments to account for the fact that Basslink is an existing asset, rather than one that is being proposed for development and construction (detailed below).
- As required by the Rules, the EY modelling quantifies the market benefits attributable to Basslink under a number of different credible scenarios. The model is designed to deliver the least-cost dispatch and capacity development plan for the NEM under the specified scenarios.
- The scenarios selected by Basslink Pty Ltd to be modelled by EY are largely aligned with those that are used by AEMO is its 2022 Integrated System Plan (ISP), which are referred to as the 'Step Change', 'Progressive Change' and 'Hydrogen Superpower' scenarios (referred to collectively as ISP scenarios). Basslink also requested that EY model the impact of different Marinus Link (Marinus) capacities and operational timings under those ISP scenarios.
- The long term costs are then deducted from the market benefits achieved under these scenarios, with those costs being comprised of:
    - the long term costs based on forecast capex from the asset lifecycle management plan
    - and opex from the forecast operating model.
- This is then compared to the initial Regulatory Base as proposed by Basslink Pty Ltd (for more detail, see **Attachment 5**).

Additional Modelling

The AER requested Basslink Pty Ltd to delay its proposal to take into account the information that AEMO released in its Inputs, Assumptions and Scenario's report released on 28 July 2023. We agreed to do this, noting that the market benefit modelling was complex, and a significant change to the assumptions post-July would potentially impact our ability to submit the full scope of modelling we intended to provide.

This task was further complicated when the Federal and Tasmanian governments announced on 3 September 2023 that the structure of the Marinus project was now focussed on the development and construction of the one 750MW cable rather than two 750MW cables[10]. The relevant Governments announced changes to the structure of the Marinus Link project. This means that there has only been time to model a limited number of methods and a small range of credible scenarios in the time to submission. We have elected to prioritise those scenarios most people are familiar with from the ISP.

We will be providing additional methods and credible scenarios to both Stakeholders and the AER when they become available.

[10] *The Hon Chris Bowen,* "Joint media release: Investing in the future of Tasmanian energy with Marinus Link," 3 September 2023. Available at: https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-investing-future-tasmanian-energy-marinus-link

Revenue

Chapter 7 - Revenue

Building Blocks Revenue

The building Blocks Revenue is the minimum revenue that Basslink Pty Ltd needs in order to be able to maintain a reliable transmission link between Victoria and Tasmania.

Each element of the building block revenue is discussed in more detail in this overview but a summary of the forecast values of each of these is set out in Table 2 below.

Table 2 – Building Block Revenue ($m nominal)

Building Block Revenue	FY26	FY27	FY28	FY29	FY30	Total
Return on Capital	45.5	45.2	44.3	43.0	42.0	219.9
Return of Capital (regulatory depreciation)	24.9	26.6	28.7	30.9	29.4	140.6
Operating Expenditure	36.2	38.0	39.0	36.2	33.2	182.7
Revenue Adjustments	-	-	-	-	-	-
Net Tax Allowance	3.3	3.4	3.6	3.8	3.5	17.6
Annual Building Block Revenue Requirement (unsmoothed)	**109.9**	**113.2**	**115.6**	**113.9**	**108.1**	**560.8**

Smoothed Revenue and X factor

As can be seen in Table 2, the building block revenue moves up and down as the individual components change year on year.

The purpose of the smoothed revenue is, as the name suggests, to smooth out the year on year change across the revenue period.

The smoothed revenue is a forecast of the revenue expected to be earned by Basslink for the revenue determination period. The calculation is made by the AER's Post Tax Revenue Model.

The results of the calculation is set out in Table 3 below.

Table 3 – Smoothed Revenue ($m nominal)

Smoothed Revenue	FY26	FY27	FY28	FY29	FY30	Total
Maximum Allowed Revenue (smoothed)	109.8	111.0	112.2	113.4	114.6	561.1

The actual revenue to be recovered will vary against this forecast in the period due to the difference between forecast inflation and actual inflation experienced throughout the period. Further, the update for cost of debt throughout the period (discussed more in

The real year on year change (X-factor) for the period is set out in Table 4 below.

Table 4 – X factors

X Factors	FY27	FY28	FY29	FY30
X factors	1.6%	1.6%	1.6%	1.6%

These values are derived in the AER's Post Tax Revenue Model using the Building Blocks revenue set out below.

Cost Sharing

Once the AER determines the revenue Basslink Pty Ltd can recover, it must determine Basslink's Pricing Methodology. This means that the AER will determine the recipient and amount of Basslink's invoices for its transmission services and in what proportion.

As part of its Proposal, Basslink Pty Ltd is required to propose a pricing methodology setting out how the revenue is to be recovered for the AER's consideration. No methodology will alter the total amount of revenue that Basslink is allowed to collect.

Therefore, Basslink Pty Ltd does not have a commercial preference for any particular method for recovering the revenue. Our requirements for the method we put forward is that it be consistent with the Rules (and therefore capable of acceptance by the AER) and it can demonstrate customer support.

National Electricity Rules

The Rules sets out some restrictions for the AER on its decision on the Pricing Methodology.

- The Rules are very restrictive on who Basslink can invoice. As an interconnector with no directly connected customers there are only two potential recipients of Basslink's invoices. They are the Co-ordinating Network Service Providers for Victoria and Tasmania – i.e. AEMO and TasNetworks.
- The Co-ordinating Network Service Providers will then recover the cost of Basslink from their customers consistent with their AER approved pricing methodology.
- Given the recovery is from the Co-ordinating Network Service Provider in each state the pricing methodology will determine the split of Basslink costs between customers in Victoria and Tasmania.

Allocation based on 'use'

The other main restriction imposed by the Rules goes to the nature of the methodology that the AER must set. The methodology has to satisfy the requirement that the allocation is based on 'use'.

There is no requirement for a specific methodology to be used in allocating Basslink's revenue. While the definition of use is broad it does rule out certain approaches - revenue can't be arbitrary or unrelated to consumption of electricity. However, the requirement is not so narrow as to only permit an allocation based on KWh electricity flows.

Stakeholder Engagement

Basslink Pty Ltd undertook a large amount of stakeholder engagement specifically on the revenue split between Tasmania and Victoria. We consulted on three different methods for allocating the cost of Basslink between Victorian and Tasmanian customers.

We described them as the Geographic Method, Energy Flows and Market Size. On the balance of results, the preference expressed by our stakeholder engagement is to favour the Market Size approach.

- **Geographic Method**

  This is the approach that the AER adopted for Murraylink and Directlink. The revenue split is based on the value of the interconnector assets located in each region. Because there is more underground and overhead cable in Victoria than in Tasmania this results 55% of Basslink's cost being allocated to Victoria and 45% to Tasmania.

  This would result in a bill outcome for residential and small business customers similar to Table 5 below.

Table 5 – Bill outcome (Geographic Method) ($ FY25 per year)

	Tas	Vic
 Residential	35	7
 Small business	68	21

- **Energy Flows**

  This approach is based on energy flows across Basslink. The average across the 5 years until FY 2022 results in revenue being allocated 50% to Victoria and 50% to Tasmania.

  This would result in a bill outcome for residential and small business customers similar to Table 6 below.

Table 6 – Bill outcome (Energy Flows) ($ FY25 per year)

	Tas	Vic
 Residential	39	6
 Small business	76	19

- **Market Size**

  This approach is based on the number of connections in each jurisdiction. Given the significantly greater number of connections between the number of customers in Victoria and Tasmania this results in revenue being allocated 90% to Victoria and 10% to Tasmania.

  This would result in a bill outcome for residential and small business customers similar Table 7 below.

Table 7 – Bill outcome (Market Size) ($ FY25 per year)

	Tas	Vic
Residential	8	11
Small business	15	35

We undertook extensive public consultation to ascertain stakeholders support for the different alternatives. On balance, stakeholders preferred the Market Size approach to revenue allocation. This preference was very strong in Tasmania. The workshop in Melbourne had a preference for the Market Size over the Energy Flows but there was a mild preference for Energy Flows over the Market Size in the Victoria responses to the quantitative survey.

On the balance of results the preference expressed by our stakeholder engagement is to favour the Market Size approach.

Therefore, Basslink Pty Ltd is proposing a pricing method based on Market Size, but notes this is subject to further consultation.

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Regulatory Asset Base

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Chapter 8 - Regulatory Asset Base

One of the most important elements behind the building blocks revenue model is the Regulatory Asset Base (RAB). The RAB consists of the adjusted total value of all regulated assets and is used in determining the allowance for depreciation and for a return on capital invested. The real value of the assets is adjusted in the RAB meet core regulatory and economic principles.

The value of the Regulatory Asset Base is required to be forecast to the commencement of the regulated revenue period (1 July 2025).

There are two methods that are thought to be accepted under the Rules:

Depreciated Actual Cost	Depreciated Optimised Replacement Cost

The Depreciated Actual Cost and Depreciate Optimised Replacement Cost are internationally accepted techniques for valuing the capital base for regulatory purposes. The Recovered Capital Method has recently been set out by policy makers as a way of calculating the asset base for Gas Market information disclosure.

Basslink Pty Ltd is proposing to use the Depreciated Actual Cost to calculate the initial RAB. In addition to meeting the requirements of the Rules, this recognises the affordability concerns raised by stakeholders and adopts a method that provides a lower overall cost of Basslink to customers.

Depreciated Actual Cost

For most regulatory applications, the RAB is calculated using the Depreciated Actual Cost method. The Depreciated Actual Cost method aims to establish the current value of the regulated assets based on the depreciated historical cost of construction or purchase of the assets.

To calculate Basslink's RAB using the Depreciated Actual Cost method, we gather the records of the initial construction costs of the asset or of further capital expenditures Basslink has invested into the regulated service. These assets are grouped into asset categories and will share the same regulatory asset life and weighted average remaining asset life as the asset category. The categories' regulatory asset lives are determined by considering regulatory precedent and assessing the real physical lives of each asset. The weighted average remaining asset life is then calculated by comparing the purchase date of each asset with the category's asset life and the regulatory asset life of each asset and weighting them according to the assets' value.

We forecast using the AER's Roll Forward Model that Basslink's initial RAB under the Depreciated Actual Cost method to be $831 million.

Depreciated Optimised Replacement Cost

The Depreciated Optimised Replacement Cost method protects customers from paying for an asset that incurred excessive construction costs or not fit-for-purpose. This method begins by considering a scenario where Basslink does not exist and asks: What is the most cost-efficient option for constructing a replacement asset that fulfils the same purpose as Basslink?

Various options for the replacement asset are considered, including different designs incorporating the newest technology, updated construction practices, current input costs, and the optimal capacity of the interconnector. Each option is evaluated and costed by independent engineers, and the most cost-efficient option that fulfils the same purpose as Basslink is considered the 'optimised replacement cost'.

To make a fair comparison between the optimised replacement cost and the Depreciated Actual Cost, we assume the optimised replacement asset has been operating for the same duration as Basslink and accordingly depreciate its RAB value according to accepted assumptions of regulatory asset lives. If the Depreciated Optimised Replacement Cost method calculates a value lower than the Depreciated Actual Cost method, this suggests that the investment was not cost-efficient, and customers should not be obligated to pay the difference.

Our independent experts, Amplitude, costed the optimised replacement as $1,646 million, resulting in a Depreciated Optimised Replacement Cost of $1,079 million. This is notably higher than the Depreciated Actual Cost method as there have only been marginal decreases in cost from technological improvements, while raw materials and labour costs have increased significantly since Basslink was built.

We propose using DAC to establish the initial RAB

Basslink Pty Ltd proposes to have Basslink's RAB be determined by the DAC method, as this represents the best value option for consumers and meets the relevant regulatory tests. Under this approach the RAB at the beginning of the 2025-2030 revenue period would be $831 million.

Recovered Capital Method

The Recovered Capital Method has recently been set out by policy makers as a way of calculating the asset base for Gas Market information disclosure. We have included it here to provide stakeholders comfort that this approach would not have delivered a lower RAB than the options permitted under the Rules.

This method examines the historical return on investment for the asset and compares it to the return on investment that an asset owner would have achieved if the asset had been regulated from the beginning.

This information allows us to estimate the capital that has already been recovered compared to a theoretical allowed return. The recovered capital is then adjusted to account for inflation and the weighted average cost of capital. By subtracting the adjusted recovered capital from the original investment, we calculate the remaining unrecovered capital. This unrecovered capital represents the portion of the investment that has not yet been fully recovered from customers and would be recovered as part of the RAB.

Given Basslink Pty Ltd's history of financial challenges, culminating in the appointment of external administrators in 2021, it is highly unlikely that Basslink Pty Ltd has recovered more capital than it would have if it had operated as a regulated business. Our preliminary calculations using the Recovered Capital Method indicate an estimated RAB of approximately $2,488 million.

Forecast Capital Expenditure

Chapter 9 - Forecast Capital Expenditure

Capital expenditure, often referred to as capex, covers the investments needed to ensure that Basslink can continue to operate safely, securely, and reliably.

Basslink's investment requirements are driven by its operating context as well as its specialised components which need to be refreshed over time.

The importance of Basslink's reliability drives our investment decisions. We need to ensure that Basslink is capable of transferring energy at times of peak demand and can quickly recover from faults to prevent Tasmania from being 'islanded' from the national electricity market for an extended period. We are conscious that Basslink's cable outage in 2015/16, combined with low rainfall, led to one of the most significant energy security challenges in Tasmania's history.

Basslink Pty Ltd has a governance process that is used to identify, assess and rank projects that are important to the safe, secure and reliable operation of the interconnector. This process ensures only projects that result in benefits to customers are undertaken and that the most important projects are ranked and undertaken when they should be.

This process has identified capital expenditure projects to be undertaken over the regulatory control period as set out in Table 8 below.

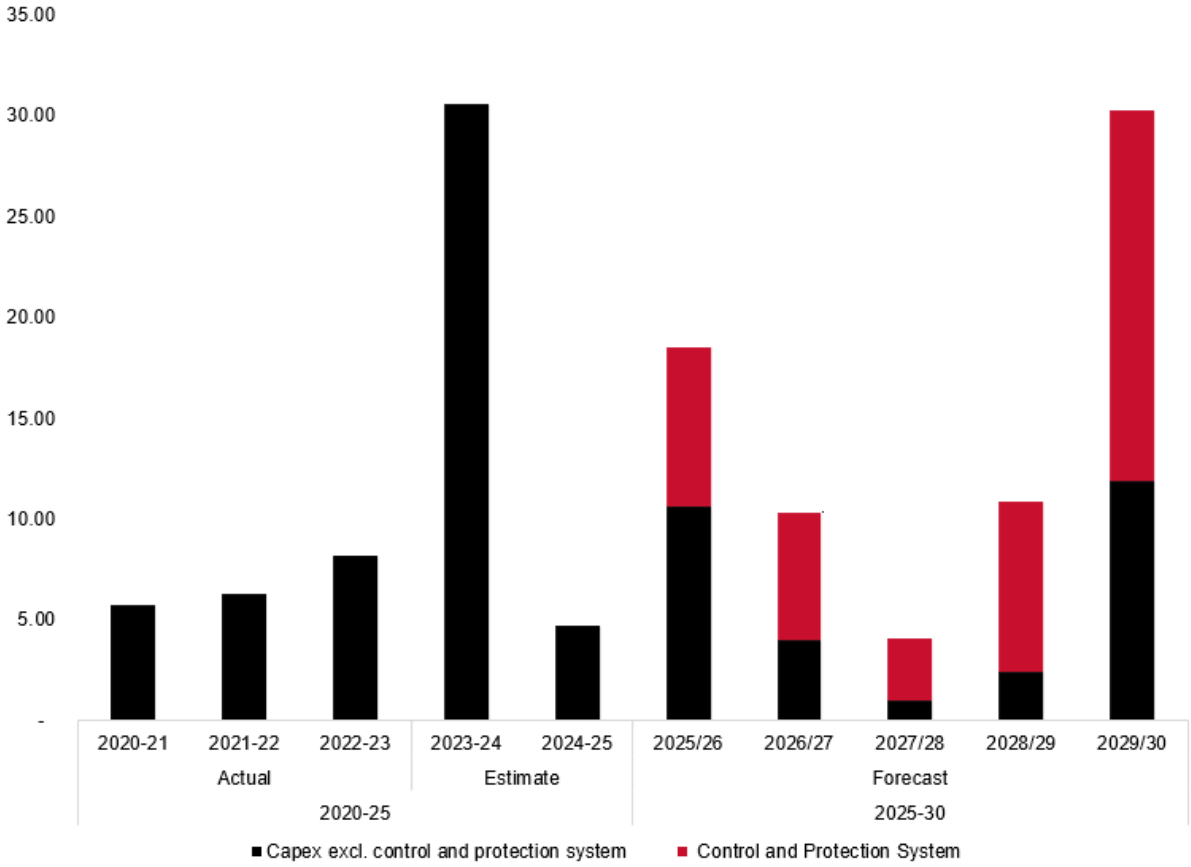
Table 8 – Forecast Capital Expenditure ($m FY25)

Forecast Capital Expenditure	FY26	FY27	FY28	FY29	FY30	Total
Total	18.5	10.3	4.1	10.9	30.3	74.1

While Basslink shares similar technologies with other infrastructure (such as overhead lines) it has specialised components such as 290km of subsea cable and 'thyristor valves' which convert electricity from alternating current (AC) to direct current (DC).

The nature of an electricity transmission interconnector like Basslink is that it is made up of a relatively small number of large technically sophisticated assets and while there is a minor amount of ongoing expenditure that will be similar from period to period the majority of the capital expenditure is made up of large stand-alone projects that resolve specific operational issues. In most cases this is the obsolescence of a piece of equipment. This leads to a lumpy profile for capital expenditure as can be seen in the figure below.

Figure 5: Capital Expenditure ($FY25)



As this graph highlights, the bulk of the forecast capital expenditure in the forecast is associated with the replacement of a sophisticated 'super-computer' – the control and protection system.

The control and protection system ensures the safe and reliable operation and seamless integration between the Tasmanian and Victorian electricity grids. This system has a design life of 15-20 years and will need to be refreshed over the 2025-30 period.

Outside of the control and protection system, ongoing capex is required to refresh Information Technology and Operational Technology systems, meet the requirements of *Security of Critical Infrastructure Act 2018* (Cth) (SoCI Act), fit-out cable repair vessels (to reduce the length of outages in the event of cable damage) and undertake ongoing refurbishment and replacement of key components.

Excluding the control and protection system mid-life refresh, 2025-30 capex is $29.9 million ($FY25), lower than the $53.3 million projected to be incurred over the preceding 5 years.

Given the importance of the Control and Protection system to the operation of Basslink and its relative significance in the cost of the forecast capital expenditure, Basslink has focused heavily on the need and timing of its replacement in the stakeholder engagement prior to submission of our revenue proposal.

Control and protection system

While many of Basslink's main components and sub-systems, such as the subsea cable and thyristor valves, are designed to operate for 40 years, the control and protection system is designed to be replaced halfway through its design life.

This is because, as with all computer systems, the technology underpinning the hardware and software of the control and protection system will be obsolete well before the end of the overall Basslink's design life. This obsolescence occurs as improvements in technology, design, hardware, and software, as well as changes in system requirements (such as cybersecurity), lead vendors to withdraw support and cease spare parts production in favour of new products and platforms.

Operating an obsolete control and protection system beyond its design life escalates the risk of component failure, brings challenges around spare part availability, and risks prolonged outages. Accordingly, mid-life replacement around the 15 – 20-year mark is recommended by CIGRÉ (the International Council on Large Electric Systems), the manufacturer (Siemens) and is consistent with global benchmark replacement timeframes.

However, given the materiality of this project and the difficulty in quantifying the risk (most control and protection systems are proactively replaced given their criticality), we sought customers views on whether we should replace the system in the 2025-30 or 2030-35 periods. Most customers – between 68% and 77% depending on customer location – told us through multiple channels that they supported replacement of the system in 2025-30 to avoid the potential negative impacts of increased unreliability.

Given consumer feedback, the availability of next generation technologies, reliability risks and overall costs we propose to refresh the control and protection system in 2025-30 at a cost of $44.2 million.

Regulatory Depreciation

apa

Chapter 10 - Regulatory Depreciation

Regulatory Depreciation recovers the outstanding cost of previous investments that Basslink Pty Ltd has made to ensure ongoing reliable operation.

Basslink Pty Ltd is required to propose asset classes in order to facilitate the calculation of depreciation (return of assets).

Once asset lives and asset classes have been established the calculation of depreciation, and there for the regulatory depreciation allowance is a mechanical process.

Asset classes are assets that that have a common factor that makes them related. Under the Rules, the asset life is the economic life for that asset.

Asset Classes

Basslink Pty Ltd is proposing asset classes consistent with those used in its fixed asset register created in 2006 for financial reporting purposes. This approach means that there is no scope for Basslink Pty Ltd to be selecting asset lives in order to maximise the initial capital base for the revenue determination or to maximise the regulatory depreciation building block revenue from 1 July 2025.

Asset Lives

Each asset class is assigned an asset life to enable the calculation of depreciation. Depreciation is calculated by dividing the outstanding value of the asset by the remaining asset life.

For most asset classes we adopted the standard depreciation lives from the fixed asset register set in 2006. There is one exception to this approach related to overhead cable. We have reviewed the asset lives being used by different TNSPs. It was clear that the asset life we have for this asset class is materially different from the asset lives that the AER has been approving for other Transmission businesses, so we have adjusted the expected life to be 55 years which is the same as ElectraNet, longer than for Transgrid (50 years) and Powerlink (50 Years) and shorter than for TasNetworks (60 years) and AusNet (60 years).

Asset lives are also a key input into the calculation of the initial capital base under the Depreciated Actual Cost Method, the standard asset life is used to determine how much of the historic capital expenditure is depreciated as at 1 July 2025.

Regulatory Depreciation

The regulatory depreciation is calculated by deducting the asset indexation from the straight line depreciation using the remaining asset lives based on the standard asset lives.

Table 9 – Forecast Regulatory Depreciation ($m nominal)

	FY26	FY27	FY28	FY29	FY30	Total
Depreciation	47.7	49.2	50.8	52.4	50.4	250.4
Indexation	-22.7	-22.6	-22.1	-21.5	-21.0	-109.8
Regulatory Depreciation	24.9	26.6	28.7	30.9	29.4	140.6

Tax Lives

Tax Asset Lives are used to calculate the amount of tax depreciation to be deducted from tax revenue used when calculating the regulatory taxation allowance.

The Tax Asset lives are based on the tax asset life taken from the Taxation Ruling TR 2022/1 for the largest by value asset that is in each asset class.

Return on Capital and Taxation

Chapter 11 - Return on Capital and Taxation

Both of these are formulaic outputs of the AER's PTRM and inputs that are clearly articulated by the relevant regulatory body.

Rate of Return Instrument

Basslink Pty Ltd has used the AER's Rate of Return Instrument 2022 to calculate the Rate of Return used in the PTRM.

Based on the available data, the estimated nominal Weighted Average Cost of Capital (WACC) for the financial year 2025-26 is 5.5%.

Basslink has been forced to make some modifications to the estimation utilised in the Rate of Return Instrument 2022 (RoRI2022) as published by the AER as APA does not have access to the Refinitiv data service (required for cost of debt calculations).

The nomination of the averaging periods for the WACC estimation was conducted in accordance with the guidelines provided in the RoRI2022.

Table 10 – Forecast Return on Assets ($m nominal)

Forecast Return on Assets	FY26	FY27	FY28	FY29	FY30	Total
Return	45.5	45.2	44.3	43.0	42.0	219.9

Taxation allowance

Taxation is calculated in the Post Tax Revenue Model based of Forecast revenue, operating expenditure tax depreciation and tax rates.

Table 11 – Forecast Taxation Allowance

Forecast Taxation Allowance	FY26	FY27	FY28	FY29	FY30	Total
Tax Allowance	3.3	3.4	3.6	3.8	3.5	17.6

Forecast Operating Expenditure

Chapter 12 - Forecast Operating Expenditure

As part of the building-block model, Basslink Pty Ltd is allowed to recover the costs of operating the asset. These costs must be forecast at the start of the revenue period and Basslink Pty Ltd will only recover what has been forecast. Below, we describe the process for forecasting our opex over the upcoming revenue period spanning from FY2025-26 to FY2029-30.

Basslink Pty Ltd's forecast operating activities are focused on delivering safety, security and reliability for the interconnector.

Basslink Pty Ltd is going to see significant change to its operating environment as a result of integration with APA and the improved process and risk management that will result from becoming part of a larger more operationally sophisticated business.

The act of converting to a regulated asset will also impact on Basslink Pty Ltd and how it operates which will affect the cost structures of the business. While every effort has been made to identify where these changes are incurring and their effect on the level of expenditure, it is likely that there will be material differences between the operating expenditure as forecast and the actual operating expenditure when incurred.

We have adopted the AER's preferred method for forecasting operating expenditure the "Base, Step Trend" method. We note, however, that these forecasts are forecasts, and there will always be uncertainty as to the actual spend required,

Approach to Forecasting Opex

In future revenue periods, the forecast opex will be determined using an escalation factor relative to the previous revenue period. However, in Basslink's initial revenue period, we must rely on Basslink Pty Ltd's historical costs and adjust them to establish an acceptable base-year value according to regulatory standards.

The base-year value is subsequently modified to create a forecast for the revenue period. The amendments we make include a standard regulatory cost escalation and the addition of step changes for new operational procedures.

Base Year

We draw on Basslink Pty Ltd's accounting records of operating costs for the last full financial year for which Basslink Pty Ltd has accounts: FY22.

The reason we have adopted this approach is this has demonstrated a level of expenditure that is consistent with the successful short term ongoing technical engineering operation of the interconnector. This financial year was also entirely before APA acquired Basslink Pty Ltd removing any issues with potential inflation of the cost of the operating expenditure in that year to maximise regulatory revenue.

However, during that year there were a number of exceptional circumstances for which Basslink Pty Ltd incurred costs that can be expected to not be incurred again. These costs—including those related to Basslink Pty Ltd's previous litigation, AEMO fees and the cost related to Basslink Pty Ltd's administration and sale—are removed from the base year values.

We also assigned a portion of specific cost items such as staff amenities, office rental, and contract employees to Basslink Telecoms Pty Ltd (BTPL), which is a part of the business that will not become

revenue regulated. The proportion of costs allocated was based on the relative wages cost between Basslink Pty Ltd and BTPL.

Corporate Costs

Basslink Pty Ltd incurred corporate costs in FY22. APA allocates corporate costs to all assets under the cost allocation methodology that has been approved for its other regulated assets.

In order to prevent duplication of expenses or the possibility of customers paying more we have used the previous Basslink Pty Ltd FY22 costs to forecast those costs where they relate to the same or similar service/expense – for example, the costs associated with relevant executives (Chief Executive Officer, Chief Financial Officer and Chief) and corporate services such as tax advisory.

However, there are a number of activities that are supported within APA that were not replicated in Basslink Pty Ltd's small business structure. These activities are necessary for the long term reliable operation of any business that is going to operate a significant infrastructure asset.

The incorporation of these costs into Basslink Pty Ltd reflects the necessary transition of Basslink Pty Ltd into part of a sophisticated asset management organisation like APA.

APA provides the following services to Basslink which it had not previously undertaken internally:

The total cost allocation for these activities are $2.9m ($FY25) this is far below the standalone cost, the cost Basslink would have incurred as a separate business to procure these services internally.

The absence of these internal skills would expose Basslink to a variety of cyber, legal and other threats that could harm the ongoing reliability of the operation of the business and the interconnector.

Real Cost Escalation

To account for cost inflation over the next 5 years, we must escalate the opex forecasts from the base year calculations. Basslink Pty Ltd ued Australian Bureau of Statistics forecasts of inflation for non-labour escalation values, and we engaged an independent economics firm to forecast inflation in labour costs specific to Victoria and Tasmania.

By multiplying the base year values with the determined escalation values, we derive base opex forecasts for each year spanning from 2025 to 2030. This ensures that our forecasts accurately reflect the anticipated cost increases over the specified period.

Step Changes and Category Specific Forecasts

After calculating the base year opex, adjustments are made to account for any significant changes to Basslink Pty Ltd's operating environment. These include an updated insurance program, an improved sub-sea cable repair strategy, and the potential inclusion of system protection scheme costs.

Information Technology and Operational Technology

A review of Basslink Information Technology and Operational Technology revealed the need for renewal of capabilities and that integration into APA systems would result in benefits to Basslink Pty Ltd operations. At its simplest, the Information Technology and Operational Technology Plan for Basslink Pty Ltd is to:

- Undertake ongoing renewal of recurrent programs to align with APA standards and policies
- Integrate Basslink Pty Ltd Information Technology and Operational Technology into APA Information Technology and Operational Technology systems.

The Information Technology and Operational Technology (IOT) Plan will bring Basslink Pty Ltd capabilities up to enable efficient operations that will benefit energy consumers.

The IOT Plan includes recurrent and non-recurrent programs and projects.

New Insurance Program

The historical insurance contracts for Basslink Pty Ltd reflect a number of factors that make them not fit for purpose. These:

- The smaller business and higher risk profile of Basslink Pty Ltd as a business compared to APA
- The higher volatility of revenues as a result of Basslink Pty Ltd being a MNSP
- Insurance arrangements that reflect undertakings by Basslink Pty Ltd's large customer.

As such, previous insurance costs cannot serve as a reliable basis from which to forecast future costs.

Instead, Basslink Pty Ltd has engaged insurance experts to develop alternative insurance options for Basslink and forecast their costs.

Given the materiality of these costs to ongoing operating expenditure (about 1/3 of operating costs before step changes) and the subjective nature of risk tolerance subsea cable property insurance was one of the issues that Basslink undertook substantial stakeholder engagement.

Two main insurance options were developed following feedback from the RRG: a low-premium option (where total annual premiums would be approximately $5 million in FY2025-26), and a high-premium option (where total annual premiums would be approximately $8 million). These options were shared with consumers during the workshops and surveys—where we discussed the full context for the insurance options, explained how insurance affects customers, and presented the appropriate bill impacts of the premiums and possible excesses.

The results of our post-workshop questionnaires and surveys indicate that consumers both felt they had enough information to make an informed choice and they understood that there was a clear link between the premium paid and the risk of higher costs in the event of a subsequent claim.

Consumers indicated mixed views on insurance, with 72% of all workshop participants preferring the low insurance premium option and 55% of all survey participants preferring the high insurance premium option.

On balance after carefully considering this feedback, we have decided to adopt insurance arrangements that preference a lower level of risk to customers in the long term but includes a higher level of premium.

This approach will help to meet consumer preferences for a ‘no surprises’ approach because the alternative could lead to an unexpected increase in costs, should repairs be required.

We understand there are also high levels of concern around energy affordability. However, we note the bill differences between the high and low premium approaches are relatively low and a high premium approach will also help to avoid bill shock for consumers should damage occur.

Sub-Sea Cable Repair Strategy

During our consultation processes, consumers also indicated that they consider the reliability of Basslink is a critical issue going forward.

In response, Basslink Pty Ltd is considering an updated sub sea cable repair strategy to reduce the time Basslink would be offline in the event of a fault, and reduce the cost and electricity security impacts on consumers.

Our Proposal involves contracting a second response vessel and specialised cable-repair team to increase the speed of a response and repair process for a cable failure. These new contracts would cost Basslink Pty Ltd approximately $7.65 million annually.

We have engaged an independent economic consultancy firm to assess the market benefits from the sub sea cable repair strategy. The results of their analysis adjusted for the probability of a cable outage based on CIGRE data support the contracting for a second response vessel until the commissioning of the Marinus Link, currently forecast 1 January 2029.

System Protection Scheme

Basslink represents a significant proportion of Tasmania’s electricity delivery capacity, and in order to address the risks associated with this, the Basslink project included the construction of a specialised System Protection Scheme (SPS) to safeguard the Tasmanian grid. The SPS is owned and operated by TasNetworks and is designed to react instantaneously to protect frequency and key infrastructure

in the event of a fault across Basslink. This operates in a manner similar to arrangements that are in place for other large connections in other states. At this stage in the conversion process, it remains unclear whether a regulated Basslink will pay for the operation of this system and pass that cost onto customers through the opex allowance, or whether some other cost recovery model is more optimal. We will update the revenue application and keep stakeholders continually informed of the progress of this clarification.

Forecast Operating Expenditure

Our overall operating expenditure forecasts for the upcoming revenue period are:

Table 12 – Forecast Operating Expenditure ($m nominal)

Forecast Operating Expenditure	FY26	FY27	FY28	FY29	FY30	Total
Operating Expenditure	36.2	38.0	39.0	36.2	33.2	182.7

Incentive Arrangements

Chapter 13 - Incentive arrangements

STPIS

The Service Target Performance Incentive Scheme (STPIS) provides incentives for TNSPs to improve or maintain service levels.

Basslink Pty Ltd's Proposal is to have the implementation of the STPIS consistent with the implementation of the STPIS on other transmission networks.

The approach adopted previously is to apply the STPIS in two stages. The first stage is for Basslink Pty Ltd to provide the AER with the information on a basis consistent with the requirements for data in STPIS version 5.

Then at the next revenue control period the AER would set targets for Basslink Pty Ltd and Basslink Pty Ltd would be rewarded and penalised for their performance against those targets in the subsequent regulatory control period.

The AER currently applies the STPIS in a specific manner for interconnectors, Murraylink and Directlink.

This approach reflects the specific characteristics of the interconnectors. Unlike the major TNSPs they are not a mesh network - they are point to point. Their role is to transfer electricity between regions rather than deliver it to distribution networks and large direct connect customers.

It is appropriate that the STPIS should operate on Basslink Pty Ltd as it does for other interconnectors.

CESS

The Capital Expenditure Sharing Scheme (CESS) provides a TNSP with incentives to improve capital expenditure efficiency. Basslink Pty Ltd is proposing the application of the CESS version 2.

EBSS

The Efficiency Benefit Sharing Scheme (EBSS) provides a TNSP with incentives to improve operating expenditure efficiency. Basslink Pty Ltd proposes not applying the EBSS to the first revenue period, with the EBSS to apply in subsequent revenue periods.

This is because the application of the EBSS will produce uncertain outcomes rather than incentives on the business. The AER states the purpose of the EBSS is:

> *The EBSS aims to provide a continuous incentive for NSPs (Network Service Providers) to pursue efficiency improvements in opex and to share efficiency gains between NSPs and network users*

Basslink Pty Ltd is undergoing significant change in its operating environment. The two most significant are:

- It is moving from a market operation to a regulated asset with the change in reliability obligations that brings with it
- It is moving from stand alone business to being an integrated part of APA.

This means that operating expenditure is very difficult to forecast. While every effort has made to forecast expenditure as well as it can be done. There is significant uncertainty as to what future operating expenditure will be for Basslink Pty Ltd.

Regulated Status

In particular, it has been 17 years since the last electricity transmission interconnector became a regulated asset and there has been significant changes to the regulatory environment since that time. There is significant uncertainty as to the cost effect of the different operating model.

Basslink Pty Ltd has identified changes in:

- Insurance expense
- Financial reporting costs
- AEMO fees
- Economic Regulation Costs.

It is likely there are other impacts from the change to a regulated network will have that are not identified currently.

Integration

APA is still undertaking the integration workstreams for incorporating Basslink Pty Ltd into APA's operating environment. This project is expected to run for the next year. The full implications of integration in lowering costs and more successfully meeting the obligations of a reliable operator have yet to be worked through and there remains a lot of uncertainty around the full implications of this process.

Significant aspects of Basslink Pty Ltd's business are being changed and incorporated in APA structures and processes. This is major reform to how Basslink Pty Ltd operates.

Basslink Pty Ltd has not completed a full financial year since it was acquired by APA.

Incentives

The potential variance is much more significant than could be experienced by other regulated businesses.

It is not consistent with the NEO or the purpose of the EBSS to reward or penalise a business for variance that does not reflect the efficiency or inefficiency of the business. Rather, this reflects the significant changes to the structure and operating environment of the business.

The AER states:

> ***There are two potential incentive problems with this forecasting approach when an EBSS is not in place**:*
>
> *1. A NSP has an incentive to increase opex in the expected 'base year' to increase its forecast opex allowance for the following regulatory control period.*
>
> *2. A NSP's incentive to make sustainable change to its practices, and reduce its recurrent opex, declines as the regulatory control period progresses. It then increases again after the base year used to forecast opex for the following regulatory control period. By deferring these ongoing efficiency gains until after the base year the NSP can retain the benefits of doing so for longer because they won't be reflected in the opex forecasts for the following period.*

In relation to 1 above, there is no requirement that the AER commence the subsequent forecast using a particular year if there is evidence that the operating expenditure in that year was inflated.

In relation to 2, there are two relevant considerations as to why this should not be the ultimate arbiter of whether to apply the EBSS for the first period. The first is that after the first revenue period the EBSS will apply so the changing nature of the incentives will only be for a short period of time. The second is the cost of a completely random reward or penalty will produce much more perverse incentives than a declining efficiency incentive as the revenue period progresses.

Difference between Capex and Opex as it impacts on incentive arrangements

Capital expenditure and operating expenditure are very different. This directly affects the level of uncertainty in the forecast when a business is changing to a regulated business and being integrated into a larger business.

For an electricity transmission interconnector, a well governed capital expenditure program does not involve a lot of repeat activities unlike what an electricity distribution network would experience for example.

The forecast capital expenditure program will be comprised of a relatively few discrete projects. The forecast capital expenditure for Basslink for the next revenue period comprises 21 projects and programs. Only two of which are expected to have expenditure in every year of the revenue period.

This means the cost of execution of the Asset Management Plan for Basslink Pty Ltd will largely be the same regardless of whether it is integrated within APA. This is because the activities will be undertaken in largely the same way for both businesses.

Operating expenditure involves a large number of repeat or ongoing activities. The Governance framework for these activities is very different between a small organisation like the former Basslink Pty Ltd and APA. There will be economies of scale that will drive down the cost of some activities and there will be a higher level of risk management. There is much greater uncertainty as to whether future operating expenditure will be higher or lower and it will vary from activity to activity and year to year.

This is why Basslink Pty Ltd is proposing the CESS apply to capital expenditure and the EBSS not apply to operating expenditure.

Demand Management Innovation Allowance Mechanism

The Demand Management Innovation Allowance Mechanism (DMIAM) provides a TNSP with research and development funding to trial demand management solutions. Basslink Pty Ltd is not proposing to apply the DMIAM due to the limited demand management opportunities available to Basslink. The circumstances for Basslink Pty Ltd are the same for Directlink and Murraylink.

In its draft determination for the Murraylink Transmission Determination the AER stated:

> *"Under the current operational framework, we consider that there will be very limited utility to energy users were Murraylink to invest in researching demand management opportunities through the DMIAM.*
>
> *Demand management is typically achieved through load shifting, increasing the level of embedded generation sources, and to a lesser extent minimising energy losses. Murraylink is a point-to-point interconnector between South Australia and Victoria. The power flowing through this link is determined by the price differential between the two regions and other network constraint factors at the time of generation dispatch by AEMO.*
>
> *There is no scope for Murraylink to manage the power flow volume by load shifting or to connect new embedded generators. Nor can it reduce losses within the link without some sort of capital investment. Given the DMIAM does not allow capex expenditure under the mechanism, 7 the scope for loss reduction under the DMIAM is limited.*
>
> *Therefore it is not appropriate to apply a DMIS."*

This is equally true for Basslink Pty Ltd. Demand Management would have to be achieved at the regional level. There is no scheme that Basslink Pty Ltd could identify that would achieve that outcome in a way that is proportionate to the benefit or would not require significant capital expenditure.

Cost Pass throughs

Chapter 14 - Cost Pass throughs

The Rules provide an avenue to pass through costs incurred by a Network Service Provider (NSP) in prescribed or approved events beyond our control. This regulatory framework recognises that there are unpredictable events which may incur high costs to the NSP. Customers are protected from paying these high costs beyond our control in our allowances.

As informed by the current insurance market, we propose nominating the following pass-through events for the 2025-30 period:

Insurance coverage event

Insurer's credit risk event

Natural disaster event

Terrorism event

Asset protection studies (related to the co-location of other infrastructure, both on-shore and offshore, such as offshore wind farm infrastructure)

The above pass-through events have also been informed by stakeholder engagement conducted with our customers where we consulted on the rising insurance costs and the risk of cost pass throughs.

When preparing our proposal for the above pass-through events, we have been guided, among other things, nominated pass through event considerations provided by the Rules.

Each of the above pass-through events have been nominated with the aim of promoting prudent and efficient risk mitigation so that we can safely, reliably and securely supply to our customers as far as practicably possible.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Attachments

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Attachment 1: Conversion

1.1 Introduction

Basslink Pty Ltd applies for a determination from the AER under cl 11.6.20(c) of the Rules that, from 1 July 2025, if the Basslink network service ceases to be classified as a market network service, it will instead be classified as a prescribed transmission service.

Basslink Pty Ltd considers that classifying the Basslink network service as a prescribed service, and having this service regulated by the AER, would promote the national electricity objective (NEO).

This attachment considers the costs and benefits of classifying the Basslink network service as a prescribed service such that it can be regulated by the AER under a transmission determination. Such conversion would be justified because its benefits outweigh its costs.

1.2 Legal Framework for Conversion

The governing law regarding conversion to a TNSP providing prescribed Transmission Services is set out in the Law and the Rules.

The Rules allow a network service provider to classify a service as a market network service, provided that certain criteria are satisfied.[11] Notably, these criteria include that the relevant service has never been the subject of a transmission determination – meaning that the ability to classify services as market network services is not open to regulated TNSPs. In practice, the option to classify a network service as a market network service is only open to existing MNSPs. However an MNSP may elect to cease classifying a network service as a market network service, and seek a determination from the AER that it will instead be classified as a prescribed service.

Where an existing network service ceases to be classified as a market network service, the AER may at its discretion determine the service to be a prescribed transmission service. This is the determination that Basslink Pty Ltd is seeking from the AER – that the Basslink network service will be classified as a prescribed service if it ceases to be classified as a market network service.

The Rules do not prescribe any criteria for the AER's decision on whether to classify the Basslink service as a prescribed service. However we understand that the AER will seek to give effect to the NEO and may also have regard to the revenue and pricing principles.[12]

[11] NER, cl 2.5.2(a).
[12] NEL, s 16.

National Electricity Objective

To the extent that the test for conversion has a nexus with the NEO, there are a number of key elements expressed in the NEO that should be considered in this context.

The NEO is to:[13]

> *"promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:*
>
> - *price, quality, safety and reliability and security of supply of electricity*
> - *the reliability, safety and security of the national electricity system."*

In order to promote efficiency in the provision of electricity services, the AER must make a decision that provides the most benefits relative to costs of the two possible decisions:

(i) Basslink not being classified as a prescribed service, and therefore not subject to revenue regulation (the counterfactual); and
(ii) Basslink being classified as a prescribed service, and therefore subject to revenue regulation.

In conducting this comparison, the AER must take into careful consideration the incentives created in each scenario. As further articulated below, the classification of Basslink services as prescribed services will ensure that it operates in the most efficient and reliable manner, thereby exerting downward pressure on prices for consumers in both Victoria and Tasmania and providing a higher level of transmission of renewable energy from Tasmania to Victoria.

1.3 The Counterfactual

The counterfactual is the forecast of the likely future state of the world if Basslink services are not classified as prescribed services. It does not represent the continuation of the previous set of circumstances. This is a particularly important distinction when considering the future operation of Basslink if it is not converted into a TNSP, because the way Basslink has been operated in the past is not a reliable indicator of how it would be operated in the future.

Operation of MNSPs in the NEM

In the NEM, interconnector MNSPs are dispatched in a similar way as generators: they participate in central dispatch under the market rules by submitting network dispatch offers (similar to the generation dispatch offers submitted by a scheduled generator).[14] These network dispatch offers can contain up to a maximum of ten price bands for each direction of power flow for the scheduled network service.[15] Just like any generator, a MNSP has the freedom to decide how much capacity it bids into the market and can offer blocks of capacity at different prices.

Where the MNSP's scheduled network services are dispatched by AEMO (depending on the MNSP's dispatch offers and the supply / demand balance), this permits power flow between the two regions

[13] National Electricity (South Australia) Act 1996,
[14] NER, cl 3.8.2.
[15] NER, cl 3.8.6A.

up to the dispatched capacity. In the region from which the power flows, the interconnector acts as load. In the importing region, it effectively acts as a source of generation. As a result, the interconnector effectively pays the Regional Reference Price in the region from which it transports energy and receives the Regional Reference Price in the region into which it transports.

A MNSP derives its revenue from the existence of price differentials between regions of the NEM. Under the Rules, the net revenue that an MNSP expects to receive is based on the amount of energy transferred by the scheduled network services and the price differential between the relevant connection points (based on the applicable regional reference node price and loss factors).[16]

The ACCC has previously noted that the revenue model for MNSPs under the Rules, as described above, may lead to some curtailment of the benefits that would otherwise accrue from interconnection of NEM regions.

In 2001, the ACCC made a determination in respect of an application for authorisation for amendments to the National Electricity Code (as it then was) which included proposed arrangements to permit MNSPs to participate in the NEM. In describing the operation of an MNSP, the ACCC noted that[17]:

[The] arrangements provide for investments in market network services to be supported by the revenue stream generated by trading electricity between the two interconnected regions. The parties to the investment will bear the risks associated with arbitraging electricity prices between the two regions. The MNSP can manage the risks by earning revenue in the following ways:

- *acting as an electricity merchant - buying electricity in the low price region and selling it in the high price region. The price differential multiplied by the volume of electricity traded provides the MNSP with the revenue needed to support the investment; or*
- *underwriting the investment by selling the rights to the revenue generated by trading electricity across the interconnector. Purchasers of such rights include electricity retailers, traders and generators; or*
- *selling a physical trading product, that is the right to bid the capacity into the market; or*
- *entering into contracts with NEMMCO for provision of ancillary services or reserve trader services.*

[16] NER, cl 3.8.6A(g).
[17] https://www.accc.gov.au/system/files/public-registers/documents/D01%2B43022.pdf

In making its decision to permit the proposed amendments to support participation of MNSP's, the ACCC stated that (at page 131):

> *In this context the Commission does not consider that the introduction of MNSPs to the NEM will result in a public detriment due to a lessening of competition. However, in some situations the Commission is aware that the operation of a market network service may detract from the public benefits that could otherwise be expected. The Commission recognises that the incentive placed on the proponents of a market network service may be to preserve price differentials between regions. Interested parties claim that MNSPs will have an incentive to either construct a link of smaller than socially optimal capacity and/or restrict flows between the regions. As such the expected public benefits that could arise from the introduction of market network services may not be fully realised. An MNSP may bid its capacity into the NEM at high prices, though such strategies will be constrained by the bid prices of competing generators and interconnectors. As such the MNSP will possess a degree of market power or may enhance the existing market power of other NEM participants and may be able to influence spot prices, especially by withdrawing capacity from the spot market. The Commission believes that when an MNSP has an incentive to limit the capacity of a link to preserve inter-regional price differentials, this is similar to that of a new generator who would not want to over invest in capacity leading to a collapse in its regional spot price. In this context, the Commission notes that new generators avoid this risk by writing long term supply contracts to get a secure income stream and hedge against the risk of a decline in prices. Similar contracting arrangements are also open to MNSPs, who could sell the rights to inter-regional revenues to generators that want to export electricity to another region.*

These incentive properties of the MNSP revenue model, as noted by the ACCC, are simply a function of the market rules.

Previous operation of Basslink

For most of its life to date,[18] Basslink Pty Ltd has been under a service agreement with Hydro Tasmania which requires it to dispatch the full capacity of the interconnector, in almost all cases, at a price of zero[19]. In the NEM, bidding at zero means that a generator or a MNSP is willing to accept any (non-negative) price, and effectively will provide its full capacity regardless of the market outcome.

As a result of the above factors, Basslink has (with the exception of a short period in 2022 when Basslink was under administration) operated in a manner designed to make its full capacity available to the market whenever such physical capacity is technically possible and is needed. This operation as an 'open link' interconnector reflects the manner in which a TNSP would have operated over the same period.

[18] Except for a short period of time between February 2022 and October 2022 when Basslink Pty Ltd was subject to external administration and was operating as a 'pure' merchant interconnector.
[19] There are some limited circumstances in which Basslink may be required to bid at a price other than zero

Credible counterfactual

As outlined by the ACCC (cited above), if Basslink is to remain a MNSP, it has a number of options available, and would need to consider the potential revenues and risks of each option. While Basslink Pty Ltd has not sought to quantify in any detail these potential revenues and risks as this time, it notes the following in respect of these options:

- A MNSP of Basslink's capacity operating without any hedging contracts is likely to have incentives under the Rules to legitimately bid the asset in a manner designed to optimise the level and incidence of price differential between Victoria and Tasmania. This will almost certainly result in a reduction of transmission capacity being bid, lower levels of renewable energy being transferred from Tasmania to Victoria, and higher wholesale prices in both Victoria and Tasmania – compared to a world in which the Basslink services are regulated as prescribed services.
- Basslink Pty Ltd acknowledges that the opportunities to earn significant revenue for price differentials reduces as additional generation in both Tasmania and Victoria increases, and as transmission capacity connecting Tasmania and Victoria is developed and becomes operational. However, Basslink Pty Ltd anticipates that in the period prior to the operation of additional generation and/or transmission capacity there will be significant periods in which the Rules framework will create incentives for legitimate bidding of MNSP capacity in a way that would produce significant price differentials.
- APA has not traditionally operated in a manner that requires exposure to market risk, and if it chose to 'contract out' of the market risk associated with Basslink as an MNSP, it would have the option of either entering into a 'hedge' contract, or to sell the dispatch rights to the capacity of Basslink.
- There are likely to be generators and/or other market participants operating in Victoria and other mainland NEM jurisdictions that would have significant commercial incentives to contract the dispatch rights of Basslink.
- A contract with Hydro Tasmania would conceptually be an option available to Basslink Pty Ltd. We note in this respect that:
    - The current agreement between Basslink Pty Ltd and Hydro Tasmania is a transitional arrangement only, intended to cover the period until the regulatory conversion process is completed. It cannot be assumed that in the event that the AER decides against regulatory conversion that commercial arrangements similar to those currently on foot will continue.
    - The value of the dispatch rights of Basslink may be valued more highly by other market participants than Hydro Tasmania.
- A more traditional hedging contract is also an option, but again we note that the value of dispatch rights of Basslink or the operation of Basslink as a stand-along MNSP may be assessed to be higher than those achieved by way of a hedging agreement.

At this stage Basslink Pty Ltd has not fully explored all of the potential options that may be available in the event that Basslink services are not classified as prescribed services. However, our preliminary view is that the most credible counterfactual is that Basslink Pty Ltd will operate either as a MNSP on a merchant basis, or will contract for the dispatch of its capacity with another mainland NEM participant. Basslink Pty Ltd, or the contracting 'owner' of the capacity, will then operate the MNSP in

accordance with the market rules and the market design – i.e. bidding in a manner designed to derive revenue from the price differential between regions. This will almost certainly result in lower levels of transmission capacity being provided, higher incidents of price disparity, and less hydro generation being exported from Tasmania to Victoria for a significant period of time.

We also note in this context that as a regulated TNSP, AEMO will be able to sell SRAs to the market. The availability of these products as a risk management tool should be considered an additional benefit of the conversion – for the reasons noted above, it cannot be assumed that these or similar risk management products would be available if Basslink were to operate as a MNSP.

Investment incentives as an MNSP

Basslink Pty Ltd has commissioned an asset condition report by Amplitude Consultants, a consultancy with specialist knowledge of HVDC transmission. This report confirms that at present Basslink is in good condition and is capable of delivering its rates transfer capacity. However, as with any long-lived transmission asset, Basslink will require on-going renewal investment to minimise risk of outages. In short, the decisions that would need to be made to ensure or extend the life of the asset will be more difficult to make for a MNSP than a TNSP.

Basslink Pty Ltd is of the view that classifying the services as prescribed services would provide a more robust environment for renewal investment than would likely occur if Basslink were to operate as an MNSP. A regulated environment would provide the certainty required for confident, long term investment for reasons that include:

- A business will only proceed with future investment and re-investment if it can reasonably expect to earn appropriate return on that investment.
- The market risk facing an MNSP will likely operate as a disincentive to long-term investment in the asset. As noted by the ACCC, an ‘uncontracted’ MNSP would be conscious of the impact additional transmission capacity would have on its ability to derive revenue from the price differential between regions, and would need to be careful not to ‘over invest’ if the asset were to face a reduction in profitability in the future. The timing and capacity of additional generation and transmission, and therefore its impact on the revenue available to an MNSP, will be difficult to assess over the long term.
- The incentive to invest in a revenue producing asset is clear and will generally act as a countervailing force to the disincentive outlined above. However, the following circumstances need to be considered in assessing the balance of those incentives for a MNSP:
    - The nexus between a reduction in transmission capacity available and revenue available for a MNSP is not necessarily linear - a stand-alone MNSP does not necessarily benefit financially from having all capacity available at all times. A MNSP may be incentivised to balance maintenance costs commensurate with the capacity it optimally offers into the market.
    - This non-linear relationship between capacity and revenue becomes more pronounced over time, as the opportunities to earn revenue from price disparity become fewer.
- Where an investment would create net benefits to market participants that are not captured in the revenue of a MNSP, it is unlikely that those investments would be made.

- These issues are not necessarily addressed under the counterfactual where Basslink dispatch capacity is contracted to a NEM participant. It cannot be assumed that there would be a single contract that would extend for the life of the asset but rather that there would be a series of contracts, with the contracting of the asset becoming harder to procure as the opportunity to derive revenue from the price differentials reduce in line with the increase in generation and/or transmission capacity. That is to say, the certainty of the revenue available to Basslink to underpin long term investment decisions will not be significantly ameliorated by contracting the capacity, as long term ability to contract will be subject to the same uncertainty as the long term ability to derive revenue from spot price differentials.

The public benefit is best served by Basslink operating as an 'open link', offering a reliable and efficient service to transport energy between Tasmania and Victoria for the 40 year life of the asset – with the regulatory framework ensuring a reasonable opportunity to recover efficient renewal investment.

Relationship with Market Benefit analysis

In **Attachment 2** and **Attachment 2.1** we present an estimate of the market benefits of Basslink. This is designed to demonstrate the market benefits attributable to Basslink as an existing transmission asset, and is not designed to demonstrate the benefit of Basslink being a regulated asset as opposed to an unregulated asset. However, it should be noted that:

- this estimate is derived on the assumption of Basslink being available to its full capacity and of efficient investment to ensure that it meets the reliability standards expected of a regulated transmission service.

- there is a relationship with the size of the market benefit modelled and the proportion of Basslink's capacity which is reliably available (although not necessarily linear). However, the market benefit analysis does not inform the impact of reduced capacity from Basslink on wholesale prices in Tasmania or Victoria.

This indicates that it is likely that Basslink as a regulated asset will deliver greater benefits than as an unregulated asset.

1.4 Cost of Regulatory Conversion

The most significant counterpoint to an argument in favour of regulatory conversion is that in relation to the transfer of the investment risk from the investor to the users. For regulated transmission infrastructure, once investment has been deemed efficient by the AER and has occurred, users are obligated to pay enough to ensure return on and of the investment. Both the return on investment and the depreciation profile are set by the AER. For MNSPs, there are no regulated constraints on the rate of return or how quickly the capital is paid back. However, there is also no guarantee of repayment. If the asset is not needed by the market and is not able to earn sufficient revenue, the risk is entirely with the investor.

In principle, a MNSP will keep operating as long as its revenue at least covers its variable costs. In other words, even with substantial reduction in revenue, a MNSP may continue providing services, such that customers continue receiving the benefit in circumstances where a MNSP is not recovering a contribution to its fixed costs. This would not occur where the asset is a TNSP – customers will always pay both the variable and fixed costs of the asset. Further, the cost of future investment is born by consumers, and this includes the costs associate with unexpected failure. In these

circumstances, the difference being paid by consumers could be considered the cost of regulatory conversion.

It cannot be assumed that Basslink as an MNSP would not be able to recover the same level of revenue over a shorter period of time, namely in the period before additional generation and transmission capacity reduces the incidences of significant price disparity between Victoria and Tasmania. However, it should be assumed that the MNSP would seek to recover those costs over a significantly shorter period than if the asset were a TNSP. As noted above, this will impact the incentives for a MNSP to make long term investments.

Basslink Pty Ltd further notes that while there will always be some risk of unexpected failures, Basslink Pty Ltd has received a report from Amplitude which notes that the asset is in good condition and is capable of delivering its transfer capacity.

1.5 Comparison of Factual and Counterfactual

Basslink will continue to deliver some degree of market benefit for so long as it continues to provide interconnection between Victoria and Tasmania. However these benefits will be greater if Basslink services are classified as prescribed services. The reasons for this are outlined above, and include:

- If Basslink continues to operate as an MNSP, the benefits of interconnection will naturally be constrained due to the incentives created under the market rules. The ACCC has previously noted that the revenue model for MNSPs under the Rules may lead to some curtailment of the benefits that would otherwise accrue from interconnection of NEM regions. As a regulated TNSP, Basslink Pty Ltd would have the incentive and the financial certainty to make its full capacity available to the market
- Basslink Pty Ltd as a TNSP will have the incentive to undertake the necessary efficient reinvestment to maintain and enhance the capabilities of the interconnector cable. A MNSP in a changing market will have an incentive to reduce future investment, both because of the risk to the economic life of the asset, and the non-linear relationship between capacity and profitability.
- Basslink Pty Ltd as a TNSP will be a source of Interregional Settlement Residue Auctions, and market participants on both sides of the link will gain access to these risk management products.

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September 15, 2023

Attachment 2:
Net Market Benefits

2.1 Executive Summary

The Rules operate to require Basslink Pty Ltd to provide to the AER an assessment of the Net Market Benefits of Basslink. The purpose of this test is to check that customers do not pay more for the services of Basslink than the market benefits they are expected to receive from this service.

Net Market Benefits are determined by:

- Modelling the total market benefits of Basslink having regard to a number of alternative and credible market scenarios. This is the modelled quantification of the benefits to the market as a whole that the operation of Basslink delivers;
- The 'Net Market Benefits' are then determined by deducting the long term operating costs from the market benefits. The long terms costs are the operating costs and the forecast capital expenditure over the life of the asset.
- The Net Market Benefits under each of these scenarios are then compared the proposed initial Regulated Asset Base – with the concept being that if the Net Market Benefits do not exceed the Initial RAB, then the RAB should be adjusted so as to ensure customers do not pay more than the market benefits of the asset.

In this proposal the Net Market Benefits under the credible market scenarios are significantly higher than the Initial Regulatory Asset Base proposed by Basslink Pty Ltd. This can be seen in the table below.

Table 2.1 – Net Market Benefits

Scenario	Market benefits less long term costs (2025$m)
Step change	3,748
Progressive change	4,190
Hydrogen superpower	3,102

Net Market Benefits Assessment

For the purpose of complying with the regulatory test outlined in the Rules, Basslink Pty Ltd is providing the AER with a detailed assessment of market benefits. Basslink Pty Ltd has commissioned EY to perform the independent assessment, with EY's report on market benefits being provided at **Attachment 2.1**.

The process adopted by Basslink Pty Ltd in assessing the market benefits and comparing those benefits with the long term costs is as follows:

- Basslink Pty Ltd commissioned EY to perform an independent study assessing the market benefits attributable to the operation of Basslink in the NEM. Basslink Pty Ltd requested EY to adopt a modelling methodology that largely follows the RIT-T guidelines published by the AER[1] with some adjustments to account for the fact that Basslink is an existing asset, rather than one that is being proposed for development and construction (detailed below).

- As required by the Rules, the EY modelling quantifies the market benefits attributable to Basslink under a number of different credible scenarios. The model is designed to deliver the least-cost dispatch and capacity development plan for the NEM under the specified scenarios.
- The scenarios selected by Basslink Pty Ltd to be modelled by EY are largely aligned with those that are used by AEMO is its 2022 Integrated System Plan (ISP), which are referred to as the 'Step Change', 'Progressive Change' and 'Hydrogen Superpower' scenarios (referred to collectively as **ISP scenarios**). Basslink Pty Ltd also requested that EY model the impact of different Marinus Link (**Marinus**) capacities and operational timings under those ISP scenarios.
- The long term costs are then deducted from the market benefits achieved under these scenarios, with those costs being comprised of:
    - the long term costs based on forecast capex from the asset lifecycle management plan
    - and opex from the forecast operating model.
- This is then compared to the initial Regulatory Base as proposed by Basslink (for more detail see **Attachment 5**).

Additional Modelling

The AER requested Basslink Pty Ltd delay its proposal to take into account the information that AEMO released in its Inputs, Assumptions and Scenario's report released on 28 July. We agreed to do this, noting that the market benefit modelling was complex, and a significant change to the assumptions post-July would potentially impact our ability to submit the full scope of modelling we intended to provide. This task was further complicated when the Federal and Tasmanian governments announced on 3 September 2023 that the structure of the Marinus project was now focussed on the development and construction of the one 750MW cable rather than two 750MW cables[20]. We have therefore not been in a position to provide to the AER at this time the full range of scenarios that we believe will be of assistance to the AER in considering the range of credible scenarios.

We will be providing additional scenarios to both Stakeholders and the AER when they become available.

2.2 Requirement to apply the 'previous regulatory approach

The Rules contains transitional provisions which apply in event that Basslink services cease to be classified as market network services (i.e. in the event of conversion). These include rules that must be followed in determining the RAB for Basslink for the purposes of revenue regulation under Chapter 6A.

[20] *The Hon Chris Bowen,* "Joint media release: Investing in the future of Tasmanian energy with Marinus Link," 3 September 2023. Available at: https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-investing-future-tasmanian-energy-marinus-link

The relevant parts of the transition rule (NER clause 11.6.20(e)) are as follows (emphasis added):

> *(e) Subject to paragraph (f), the AER must determine the value of the regulatory asset base for the Basslink transmission system for the purposes of paragraph (d) by applying the previous regulatory approach to the circumstances of that transmission system.*
>
> *(f) In the event of an inconsistency between the previous regulatory approach adopted in each of the previous regulatory determinations, the approach adopted in a decision of the AER regarding the Directlink transmission system prevails over the approach adopted in the decision of the ACCC regarding the Murraylink transmission system to the extent of the inconsistency.*

For the purposes of this transitional rule:

- the 'previous regulatory approach' means "the methodologies, objectives and principles for determination of a regulatory asset base applied in the previous regulatory determinations"; and
- the 'previous regulatory determinations' are the decisions of the ACCC and AER respectively in relation to conversion of Murraylink (1 October 2003) and Directlink (3 March 2006), including the reasons for decision in each case.

This transitional provision was included as part of the rule change that inserted the transmission revenue and pricing rules (Chapter 6A). It was inserted at the request of the Tasmanian Government, who had expressed concern around the proposed new rules for setting the RAB for converting MNSPs (specifically cl S6A.2.1(e)).

The Tasmanian Government submission noted that:[21]

> *"The regulatory determinations allowing entrepreneurial investments to become regulated investments [i.e. Murraylink and Directlink] have relied upon the Regulatory Test established by the ACCC pursuant to section 5.6.5A of the NER."*

The Tasmanian Government noted that the proposed new rules for determining the RAB upon conversion (cl S6A.2.1(e)) represented a departure from this previous approach, and could therefore undermine the basis for investments made in merchant interconnectors (specifically Basslink):

[21] Tasmanian Government submission on the Draft National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006, 11 September 2006.

> *"Schedule 6A.2.1(e) with respect to FMNS [former market network services], inappropriately seek to limit the market benefits allowable in the calculation of the regulated asset base (RAB) of a converting market transmission service to a subset of those that were taken into account by the ACCC and AER in the conversion of Murraylink and Directlink, and indeed to a subset of those that would be taken into account in establishing the regulated asset base of a prescribed service...*
>
> *The draft Schedule breaches the clearly expressed policy of the Ministerial Council on Energy (MCE), in its December 2003 Report on Reform of Energy Markets, that code changes in this area should "…recognise and protect the rights of existing investors in market transmission services".*

The AEMC accepted the need for a transitional provision for Basslink, recognising that the original investment was made on the basis of regulatory settings as they were prior to the rule change. The AEMC's final rule determination states:[22]

> *"The Commission… recognises that the existing investment in Basslink was made with a recognition of the previous ACCC treatment of conversion. On that basis, the Commission considers that the most appropriate application of the Revenue Rule in relation to MNSP conversion should be as a signal to new investment rather than to existing MNSPs."*

Thus, the transitional rule (cl 11.6.20(e)) requires the Basslink RAB to be determined using the approach, principles and methods applied to Murraylink and Directlink.

2.3 The framework for assessment of market benefits under the 'previous regulatory approach'

The *'methodologies, objectives and principles'* applied in the previous regulatory determinations relevantly included application of the ACCC's 1999 '*regulatory test*' (**1999 Regulatory Test**).[23] The rationale for applying the 1999 Regulatory Test in determining the RAB value was expressed as follows:[24]

[22] AEMC, Rule Determination: National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006, 16 November 2016, p 78.
[23] AER, Directlink Joint Venture Application for Conversion and Revenue Cap Draft Decision, 8 November 2005 (**Directlink Draft Decision**), p 31.
[24] Directlink Draft Decision, p 38.

The ACCC [in the Murraylink decision] considered that applying the regulatory test ensured an MNSP seeking conversion was treated in the same manner as a proponent seeking approval to construct a new large network asset for the provision of prescribed services.

It was also noted that use of the 1999 Regulatory Test was consistent with the requirements of Chapter 6 of the code (as it then applied) and relevant COAG policy directives.[25]

The 1999 Regulatory Test was used to identify the 'optimal asset' configuration, and then establish a RAB value on that basis. Provided that the market benefits associated with the optimal asset exceeded the efficient cost of its construction, the RAB was set to reflect that efficient cost. In the case of Murraylink, the efficient cost of the optimal project was used to set the RAB. In the case of Directlink, neither Directlink nor any alternative project maximised net present market benefits – and as a result the RAB was set equal to gross market benefits.

As noted by the AER noted in the Directlink decision, the 1999 Regulatory Test provided detail around the methodology and approach to:[26]

- the estimation of market benefits; and
- the selection of market development scenarios.

The AER noted that the 1999 Regulatory Test "prescribes the modelling of a range of reasonable alternative market development scenarios", incorporating:[27]

- demand growth at relevant load centres;
- alternative project commissioning dates;
- potential generator investments and 'realistic operating regimes'; and
- projects at different stages, including:
    - projects that have commenced construction and are expected to be commissioned within three years (referring to in the regulatory test as 'committed projects');
    - projects at an advanced stage of planning that are expected to be commissioned within five years ('anticipated projects'); and
    - projects that are likely to be commissioned in response to growing demand or as substitutes for existing generation ('modelled projects').

Under the 1999 Regulatory Test, the optimal project is the one that maximises the net market benefit in most (although not all) *credible* scenarios. For example in the Directlink decision, the AER's assessment included 40 market development scenarios, of which six scenarios were considered to be 'credible'.[28]

[25] Directlink Draft Decision, p 39.
[26] Directlink Draft Decision, p 32.
[27] Directlink Draft Decision, p 33.
[28] Directlink Draft Decision, p 122.

The 1999 Regulatory Test expressed the relevant principle as follows:[29]

> *A new interconnector or an augmentation option satisfies this test if it maximises the net present value of the market benefit having regard to a number of alternative projects, timings and market development scenarios.*

The notes on the methodology to be applied under the 1999 Regulatory Test included the following:[30]

> *In determining the market benefit, the analysis should include modelling a range of reasonable alternative market development scenarios, incorporating varying levels of demand growth at relevant load centres (reflecting demand side options), alternative project commissioning dates and various potential generator investments and realistic operating regimes. These scenarios may include alternative construction timetables as nominated by the proponent. These scenarios should include projects undertaken to ensure that relevant reliability standards are met..*

It was this methodology and approach – as prescribed in the 1999 Regulatory Test – that was applied in both the Murraylink and Directlink decisions. It is therefore the approach that must be applied in determining the Basslink RAB under the transitional rule.

2.4 Regulatory Test Methodology

This section will discuss the approach taken to calculate the market benefits of the Basslink interconnector. As recommended by the regulatory test process, we will begin by identifying the market need for an interconnector between Victoria and Tasmania. Following this, we will describe the process for calculating the market benefits that would arise from fulfilling that need. Lastly, we will discuss the results of the assessment.

Methodology for Market Benefits Modelling

Basslink Pty Ltd engaged Ernst and Young (EY) to provide an independent analysis of Basslink's market benefits. EY operates an in-house electricity market model that forecasts the costs associated with the energy market in each hourly period using least cost linear programming optimisation. The model forecasts short-term changes such as dispatch and transmission decisions, as well as forecasting long-term decision making such as investment decisions. Following a set of input assumptions, the model will find the least-cost modelling path taking into account constraints such as maximum and minimum loads for each generator in the NEM, transmission and distribution losses, inter-regional transfer capacity, carbon budgets and renewable energy targets. The model tracks the following types of costs:

- New capital expenditure

[29] 1999 Regulatory Test, referred to in the Directlink Draft Decision at p 165.
[30] 1999 Regulatory Test, referred to in the Directlink Draft Decision at p 167.

- Fixed operations and maintenance costs
- Variable operations and maintenance costs
- Fuel costs
- REZ development costs
- Voluntary and involuntary demand curtailment

EY uses this model to calculate market benefits according to the standard market benefits modelling approach used as part of the Regulatory Test, and now used in the RIT-T. As part of each scenario test, the marginal market benefits of a project are calculated on a 'with/without' basis. This means that EY undertakes two model runs for each scenario: one run not including the test subject (in this case Basslink), and one including the test subject. By subtracting the total cost of the NEM under the 'with' scenario from the total cost under the 'without' scenario, EY can calculate the marginal cost reduction (marginal benefit) of the test subject.

In each scenario, EY ran the model from 1 July 2025 (Basslink's proposed conversion date) and 1 July 2046. Many of the key Basslink assets including the undersea cable will come to 'end of life' in an accounting sense in July 2046. While Basslink Pty Ltd considers there to be a strong case could be made given the ongoing assets and the market benefits that a capex program could extend the life of relevant assets, this is speculative at this stage. We have adopted a conservative stance, and have elected to align the modelling with the 2046 end of life.

Other specific assumptions and scenarios tested by EY are discussed in Section 2.5.

Recognising Basslink as an existing asset

Basslink Pty Ltd has applied the Regulatory Test in the manner it has been applied in other processes, and under this approach Basslink delivers significant Net Market Benefits. However, Basslink Pty Ltd notes that if the test were applied in a manner more appropriate for an existing asset, these Net Market Benefits would be even higher.

The approach currently taken, and the one that has formed the basis of the Net Market Benefits outlined in this Proposal, have been calculated on the basis of comparing the market benefits under a particular set of scenarios where Basslink effectively 'ceases' operation on 1 July 2025, with those same scenarios where Basslink continues to operate. In both the 'with' and 'without' scenarios, Marinus provides additional interconnection between Tasmania and Victoria (albeit with some variations on timing and capacity under some specific scenarios).

This standard 'with and without' approach is however designed to consider whether a new asset should be constructed and what is the optimal form that asset should take. Basslink is an existing asset. The methodology that needs to be applied in these circumstances needs to be adjusted to take proper account of the fact Basslink is already in operation – this is particularly important when the modelling is treating Marinus as a 'locked in' project. Unless the modelling is appropriately adjusted, the 'without Basslink' modelling which is designed to set 'base' from which the benefits are calculated, includes Marinus. This means that when the 'with Basslink' case is assessed and compared with the 'without Basslink' base, the standard approach effectively:

- assigns all the benefits of any level of interconnection across the Bass Strait to Marinus, up to a theoretical maximum benefit that Marinus would be able to provide (ie the maximum capacity of Marinus);

- only if there is any residual market benefit once the first portion is assigned, then it is assigned to Basslink. Some variations are expected due to differences in transmission losses, but these are slight and do not materially affect the use of this conception;
- in periods where there is enough transmission required to fully occupy both interconnectors, this has no impact on Basslink's market benefits. This is because each interconnector is maximising the benefits they are able to provide the NEM.
- when there is less demand for transmission between Tasmania and Victoria than available capacity, the market benefits could be distributed between the interconnectors in a way that favours Marinus Link.

This clearly has the potential to lead to a perverse outcome – Basslink is an existing asset that is currently operating, with capex costs that are largely sunk and already producing market benefits today. Any proposed assets should be assessed in the context of existing assets without drawing on the modelled benefits of an already constructed interconnector. The standard test is designed to identify the marginal benefits of a new asset, and this becomes an inappropriate approach when considering an existing asset which is being modelled on the basis a prospective asset already forms part of the status quo.

We are intending to provide to the AER further modelling that we believe addresses this issue and is more reflective of the actual market benefits of Basslink. This market modelling will be aimed at identifying the benefit of Basslink, with Marinus benefits being properly accounted for as those marginal to Basslink benefits.

2.5 Assumptions and scenarios

This section sets out the most important assumptions used in the model and explains the differences between the different scenarios tested. EY's independent report included in this submission provides more detail on the assumptions and scenarios.

General assumptions

The key assumption and data sets that form the basis of the modelling performed by EY are:

- The 2023 AEMO Input assumptions and Scenarios Report (IASR) - this provides much of the data, forecasts, and scenario assumptions for EY's modelling. However, as the ISP process is still ongoing, some inputs and scenarios were taken from the previous ISP.
- The carbon budgets and renewable energy targets announced by State and Federal Governments – these are assumed to be hard constraints on the lowest-cost modelling. To reach these targets, the model uses a linear growth path for renewables and decarbonisation towards the relevant targets. This is consistent with the methodology used as part of the ISP modelling.
- The value of unserved energy is set according to the 2022 ISP's 'Value of Customer Reliability'.

For a full explanation of assumptions and processes, see the EY independent report (**Attachment 2.1**).

ISP scenarios

We have used AEMO's ISP scenarios to guide our initial assessment of market benefits under different scenarios. The 2022 ISP[1] outlines four possible future NEM scenarios: Step Change, Progressive Change, Hydrogen Superpower, and Slow Change. Basslink Pty Ltd instructed EY to model the market benefits under all scenarios apart from the Slow Change scenario – under the Slow change scenario, growth in demand is muted and there is little investment in renewables, which leads to a failure to meet the net zero emissions goals.

Step Change

In the Step Change scenario, the net zero goals are achieved faster, with the bulk of reductions being achieved between 2025 and 2035. This is led by an increase in demand following consumer shifts toward full electrification. Some key assumptions as part of this scenario include:

- NEM carbon budget set at 681 MT CO2e;
- HumeLink commissioned on July 2028;
- VNI West commissioned in July 2031.

Progressive change

In the Progressive Change scenario, the net zero emissions goals are achieved, but over a longer period of time, with the bulk of emissions reductions occurring in the 2040's. Some key assumptions as part of this scenario include:

- NEM carbon budget set at 1,203 MT CO2e;
- HumeLink commissioned on July 2035;
- VNI West commissioned in July 2038.

Hydrogen superpower

In the Hydrogen Superpower scenario, a large hydrogen export industry leads to a quadrupling of energy demand and large-scale investments in renewable energy.

Some key assumptions as part of this scenario include:

- NEM green energy export target: 357 MT CO2e;
- HumeLink commissioned on July 2027;
- VNI West commissioned in July 2030.

Marinus Link scenarios

The timing and capacity of Marinus has a significant impact on the market benefits for Basslink. For this reason, we have commissioned EY to consider various Marinus scenarios. As noted above, due to the timing of announcement in relation to the new project structure of Marinus on 3 September 2023, EY have not had time to model the full set of scenarios that consider the new Marinus project structure of a single cable of 750MW (Marinus Link Single Stage) as the 'base case' assumption. EY did have time to run the Marinus Link Single Stage scenario (detailed below), but most of the scenarios were still predicated on the basis that Marinus would be two cables of 750MW.

In the current set of modelling, EY has calculated the market benefits of Basslink on the basis of three different Marinus scenarios:

- the 'Single Stage' scenario, which was done to reflect the new Marinus project structure. We assumed the same timings are followed for the first 750MW stage as per the ISP Timing scenario above, but no second stage is commissioned.
- the 'ISP Timing' scenario, using those assumptions in relation to Marinus published in the 2022 ISP. The ISP timing assumptions differ according to whether the Step Change, Progressive Change or Hydrogen Superpower scenario is assumed. Under the Step Change and Hydrogen Superpower scenarios, the first 750MW stage of Marinus is commissioned in FY 2030 and the second 750MW stage is commissioned in FY 2032. Under the Progressive Change scenario, the first stage is commissioned in FY 2031 and the second in FY 2033.
- the 'Delay' scenario, which assumes the two cables, with the first stage commissioned in FY 2034 and the second stage in 2036 in all ISP scenario variations.

Basslink Pty Ltd considers the 'Marinus Link Single Stage' scenario to the be the 'base case' scenario, in which Marinus is operational by 1 July 2029 in alignment with the assumptions in the ISP. However, we are of the view that consideration needs to be given to scenarios in which the operation of Marinus is subject to a moderate delay to the early 2030s. We note in this context that:

- This is a complex project – in a development, delivery, and operation sense, and as one that is of significant public interest to communities in both Tasmania and Victoria
- Complex projects of this nature are very often subject to significant delay. We note in this context the global competition for materials and labour to support the development and construction of a project of this size. The recent Infrastructure Australia report into national infrastructure demand and the capacity to deliver discusses the impact of labour shortages and cost of construction materials. The report observes that[31]:

  > *The pressure the industry is experiencing to supply labour and materials in step with demand creates unprecedented uncertainty on project outcomes, and the opportunities to adapt and pivot will take time to realise. As such, it is no longer a question of if a project will slip, but more likely when, by how long and at what cost*

- Aurora Energy Research (Australia) has released in August 2023 its Australian Power and Renewables Market Forecast in which in its Central scenario has assumed that (what was then the first cable) Marinus is delayed until FY2033.

We will submit modelled scenarios that consider the impacts of a delay to the single cable in due course.

2.6 Results – 'with and without' Basslink Market Benefits

The results of the EY 'with and without' modelling are shown in the tables below. All values are shown in both July 2023 and July 2025 dollars. All values have been discounted to July 2025 using a 7% real pre-tax WACC, which is consistent with the Assumptions associated with the 2023 IASR.

[31] Infrastructure Australia, *Infrastructure Market Capacity 2022 Report,* April 2023, p7

The results for the Marinus Link 'Single Stage' scenario are shown below. Basslink Pty Ltd considers this table to present the most likely market scenarios.

Table 2.6.1 - Marinus Link 'Single Stage' Scenarios

Description	Scenario	Marinus Link single stage ($ July 2023)	Marinus Link single stage ($ July 2025)
Step Change	AEMO 2022 ISP Step Change Scenario with changes from 2023 IASR Step Change scenario	$3,846 million	$4,298 million
Progressive Change	AEMO 2022 ISP Progressive Change Scenario with changes from 2023 IASR Progressive Change scenario	$4,241 million	$4,740 million
Hydrogen Superpower	AEMO 2022 ISP Hydrogen Superpower Scenario with changes from 2023 IASR Green Energy Export scenario	$3,268 million	$3,652 million

The following table shows the results of the Marinus Link 'ISP Timing' and 'Delay' scenarios. Following the announcement in relation to the new Marinus' project structure, these are no longer considered the most credible scenarios, however we have included them as we believe they do provide useful context in which to consider the Basslink market benefits.

Table 2.6.2 - Marinus Link 'ISP Timing' and 'Delay' scenarios

Description	Scenario	Marinus Link ISP Timing ($ July 2023)	Marinus Link ISP Timing ($ July 2025)	Marinus Link delay ($ July 2023)	Marinus Link delay ($ July 2025)
Step Change	AEMO 2022 ISP Step Change Scenario with changes from 2023 IASR Step Change scenario	$2,323 million	$2,596 million	$3,823 million	$4,273 million
Progressive Change	AEMO 2022 ISP Progressive Change Scenario with changes from 2023 IASR Progressive Change scenario	$2,872 million	$3,210 million	$3,579 million	$4,000 million
Hydrogen Superpower	AEMO 2022 ISP Hydrogen Superpower Scenario with changes from 2023 IASR Green Energy Export scenario	$2,634 million	$2,944 million	$3,268 million	$3,652 million

2.7 Long Term Costs of Basslink

As covered in **Attachment 5**, the calculation of Net Market Benefits under the Regulatory Test process also requires the assessment of the long-term costs that Basslink will incur in continuing the operation of Basslink. Through the building blocks model, these costs will be on-charged to consumers and as such they must be considered as part of the assessment of consumer benefits. In this section, we consider the precedents set during the Murraylink and Directlink conversions, the process we've used in this application, and the results.

Precedents in the Murraylink and Directlink conversions

In the Murraylink process, the long-term operations and maintenance costs of the Murraylink asset was calculated in the same process and methodology as the calculation of the long-term costs for the

alternative assets under the Regulatory Test. Murraylink contracted an independent contractor to assess the long term costs of the 'alternatives', and it is not clear as to whether Murraylink or the engineering firm conducted the relevant assessment of the actual Murraylink asset. However, as the asset had not yet begun operating when the application was being prepared, we consider it reasonable to presume that this estimate was based on engineering forecasts rather than data from the company.

In the Directlink process, it was made clear that an independent engineering firm to conduct all of the life-cycle operating and maintenance cost calculations.

Basslink's revised approach

Basslink has been in operation for almost 20 years. While Basslink Pty Ltd could have contracted an independent engineering firm to conduct an assessment of the long-term costs, we believe that the historical data available to us provides us with a more robust basis on which to assess the future operating and maintenance costs. We consider this change to provide a clearer assessment of the investment cost borne by consumers. This option was not available to Murraylink, and we note Directlink was converted four years after commissioning.

We have assessed the long-term costs of operation and maintenance for the period between July 2025 and July 2046, to align with the timeframes used in modelling the market benefits. We forecast the expected operating costs and the expected capex to July 2046 as long-term cost of operation. The process we adopted is as follows:

- We used as the starting point the opex and capex values proposed in our Regulated Revenue proposal as part of this submission. Both of these values take into consideration historical costs of Basslink and the expect future step-changes required once Basslink becomes a prescribed service. We consider these values to be as robust as can be reasonably achieved in a forecast of this nature.
- For capex post FY30, our forecasts were developed by APA/Basslink Pty Ltd internal asset management engineers who have assessed the likely required capex over all years to FY 2046. This forecast is consistent with from APA's internal corporate asset forecasting process and represents the most robust estimate of capex forecasts that can be reasonably achieved.
- For opex costs post FY30, we take the forecast for the last year of the regulatory period FY 2030, and apply a CPI and a productivity gains adjustment factor to the values in each year.

We then apply the same discount rate as is used in the modelling of market benefits to arrive at the discounted long-term costs for the operation of Basslink.

Results

The long-term costs of operating Basslink are included in the table below. All values are in July 2025 dollars and are discounted to July 2025.

Table 2.4 - Basslink Long-term costs

Type	Long-term cost
Opex	$375 million
Capex	$213 million
Total	**$589 million**

2.8 Alternative Basslink capacities

As discussed further in **Attachment 5,** Basslink Pty Ltd has also calculated the market benefits of Basslink if it had lower transfer capacities. While this is not required as part of the Regulatory Test, we have included this calculation to test whether consumers would have received more net market benefits from a lower capacity interconnector.

EY's modelling at the lower capacities followed the same process as for the other scenarios. Considering the time and cost required to run the modelling, EY tested the market benefits under one ISP scenario and we then assessed the results. The Step Change scenario was chosen as this was given the highest weighting in the 2022 ISP. In reviewing the results, it became clear that it was highly unlikely that a lower capacity would provide higher Net Market Benefits.

The following table shows the market benefits of the 300MW and 150MW scenarios under the Step Change ISP scenario and the Singe Stage Marinus Link scenario. The values are displayed in both July 2023 and July 2025 dollars and are both discounted to July 2025 according to the discounting rate discussed above.

Table 2.5 - Market benefits of 300MW and 150 MW under Step Change scenarios

Description	Scenario	Marinus Link single stage ($ July 2023)	Marinus Link single stage timing ($ July 2025)
Step Change – 350 MW	AEMO 2022 ISP Step Change Scenario with changes from 2023 IASR Step Change scenario	$3,131 million	$3,499 million
Step Change – 150 MW	AEMO 2022 ISP Step Change Scenario with changes from 2023 IASR Step Change scenario	$1,558 million	$1,741 million

The following table shows the market benefits of the 300MW and 150MW scenarios under the 'Step Change' ISP scenario and the 'ISP timing' and 'Delay' Marinus Link scenarios. As discussed in Section 2.6, we question whether these remain credible options, but we have included them to provide a full picture of the market benefits. The values are displayed in both July 2023 and July 2025 dollars and are both discounted to July 2025 according to the discounting rate discussed above.

Table 2.6 - Market benefits of 300MW and 150 MW under Step Change scenarios

Description	Scenario	Marinus Link ISP timing ($ July 2023)	Marinus Link ISP timing ($ July 2025)	Marinus Link delay ($ July 2023)	Marinus Link delay ($ July 2025)
Step Change – 350 MW	AEMO 2022 ISP Step Change Scenario with changes from 2023 IASR Step Change scenario	$1,883 million	$2,105 million	$3,121 million	$3,488 million
Step Change – 150 MW	AEMO 2022 ISP Step Change Scenario with changes from 2023 IASR Step Change scenario	$938 million	$1,048 million	$1,499 million	$1,675 million

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Attachment 3: Stakeholder Engagement

3.1 Customer and stakeholder engagement

Basslink Pty Ltd has approached this stakeholder engagement with the understanding that we play a critical role in the energy supply chain and our operations have a broad impact on consumers and the energy transition. We understand the importance of supporting the delivery of affordable and reliable energy to Tasmanian and Victorian consumers, as well as the important role Basslink plays in the energy transition through the supply of renewable energy to the National Electricity Market.

Basslink Pty Ltd's objectives for engagement for the Basslink regulatory proposal were co-designed with the stakeholder Regulatory Reference Group for Basslink. Basslink Pty Ltd's objectives for stakeholder engagement during the regulatory process are to deliver a Proposal that:

- **'Brings the outside in'** by directly responding to the needs and preferences of our customers.
- **Provides sustainable returns.**
- **Delivers a reliable supply of electricity** to Tasmanian and Victorian consumers.
- **Directly contributes to the green energy transition** in Australia.

In undertaking our stakeholder engagement program, we were committed to fully consulting with consumers to understand their views and ensure their preferences were reflected in our Proposal.

Our engagement principles

Early engagement

Be inclusive

Be honest and act with integrity

Be responsive

Be community minded

Engagement was central to the development of this Proposal

Basslink Pty Ltd established a RRG in November 2022 to support the development of the Proposal. The RRG serves as an independent advisory group comprised of a cross-section of stakeholders representing residential, small business and large energy users in Tasmania and Victoria. The RRG members include:

St Vincent de Paul Society good works	Gavin Dufty, St Vincent's de Paul Society Victoria
TMEC Tasmanian Minerals, Manufacturing & Energy Council	Leigh Darcy, Tasmanian Minerals, Manufacturing and Energy Council
NTDC Northern Tasmania Development Corporation Ltd	Karina Dambergs, Chris Griffin Northern Tasmania Development Corporation
Tasmanian Small Business Council Uniting Small Business	Robert Mallett, Tasmanian Small Business Council
COTA Tasmania	John Pauley, Council of the Ageing Tasmania

The RRG's objective is to work collaboratively with Basslink Pty Ltd under a principle of co-design on the development and implementation of Basslink Pty Ltd's regulatory engagement plan for Basslink, including the scope, timing, themes and engagement methodology. The RRG's input was instrumental in helping to improve Basslink Pty Ltd's understanding of the needs and expectations of different consumer segments. RRG input was used to continually refine the engagement materials and methodology Basslink Pty Ltd used in consulting with consumers, industry and government stakeholders.

We sincerely thank the RRG for their commitment, active participation and thoughtful insights, feedback and challenge throughout Basslink engagement activities. The engagement outcomes have enriched our understanding and has led to meaningful outcomes as discussed below.

Engagement methods were deep, broad and targeted

We used deep, broad and targeted engagement methods in the development of our regulatory proposal, with APA senior staff steering the engagement program and attending all engagement activities including our CEO Adam Watson presenting to the consumer workshops.

Deep engagement methods

- ✓ **RRG engagement** through ongoing and regular meetings, with six meetings held over December 2022 to September 2023. RRG members also attended the two consumer workshops held.
- ✓ **Two online focus groups** with 7 Victorian and 8 Tasmanian residents and SMEs to test understanding of key elements of the regulatory proposal and seek indicative reactions to the proposed regulation of Basslink ahead of the consumer workshops.
- ✓ **Two 4-hour consumer workshops** held in Launceston and Melbourne with 93 residential and SME end-use consumers to undertake a deep-dive exploration of their preferences on key focus areas relating to the regulatory proposal. These workshops involved an extensive program of informing, discussion, and reflection. The workshops included a mix of presentations from key APA staff and their consultants, table breakout discussions, online polls, and open floor Q&As.

Broad engagement methods

- ✓ **Online quantitative survey** of 1,240 electricity consumers from Victoria and Tasmania to test and validate the outcomes from the consumer workshops and build breadth of understanding of general consumer preferences regarding key elements of the regulatory proposal and key trade-offs around issues like affordability, reliability and risk.
- ✓ **Newsletter article** for the Tasmanian Minerals, Manufacturing and Energy Council outlining our plans for Basslink and to seek industry feedback.

Targeted engagement methods

- ✓ **Presentations and meetings** on key elements of the regulatory proposal held with:
  - Members of the Bell Bay Advanced Manufacturing Zone in Tasmania.
  - Victorian Chamber of Commerce and Industry.
  - Energy Users Association of Australia.
  - Australian Industry Group.
  - Tasmanian Government – Renewables, Climate and Future Industries Tasmania
  - Victorian Government - Department of Energy, Environment and Climate Action

Timeline of stakeholder engagement

Our stakeholder engagement program to support the development of the Proposal ran from November 2022 to September 2023. Regular meetings were held with the RRG throughout the program to provide advice on each step of engagement and as key elements of the proposal were being formulated.

	Activity	Issues for discussion
November 2022	**Establishment of the RRG**	☒ Confirmation of participants and Terms of Reference
December 2022	**RRG Co-creation workshop**	☒ Our plans for Basslink ☒ Overview of proposed engagement ☒ Core issues and priorities for engagement, including mapping of key stakeholders and issues
January 2023	**RRG Meeting #1**	☒ Regulatory conversion process ☒ Overview of insurance issues ☒ Opening RAB ☒ Engagement timeline ☒ Overview of consumer workshops.
February 2023	**RRG Meeting #2**	☒ Insurance options for Basslink ☒ Cost sharing between Tasmania and Victoria ☒ Materials for consumer workshops
March 2023	**Presentation to Bell Bay Advanced Manufacturing Zone**	☒ Introduction to APA and Basslink ☒ Plans for regulatory conversion ☒ Opportunities for engagement
	Online focus groups with Victorian and Tasmanian participants	☒ Regulatory conversion ☒ Preferences on options for capital expenditure, insurance, and cost sharing
	RRG Meeting #3	☒ Forecast capital expenditure ☒ Forecast operating expenditure ☒ Consumer workshop questions

	Activity	Issues for discussion
	Melbourne consumer workshop	☒ Overview of Basslink and the regulatory process ☒ Capital expenditure options, focussing on the control and protection system and reliability/affordability trade-offs ☒ Insurance options, focussing on price/risk trade-offs ☒ Options for sharing Basslink's costs between Tasmania and Victoria, focussing on the costs, benefits and impacts of options.
April 2023	**Launceston consumer workshop**	☒ Overview of Basslink and the regulatory process ☒ Capital expenditure options, focussing on the control and protection system and reliability/affordability trade-offs ☒ Insurance options, focussing on price/risk trade-offs ☒ Options for sharing Basslink's costs between Tasmania and Victoria, focussing on the costs, benefits and impacts of options.
	Article in the Tasmanian Minerals, Manufacturing & Energy Council's fortnightly newsletter	☒ Introduction to APA and plans for Basslink ☒ Invitation to engage with Basslink Pty Ltd/APA n the development of the regulatory proposal
	RRG Meeting #4	☒ Outcomes of the consumer workshops held in Melbourne and Launceston ☒ Quantitative survey question line ☒ Stakeholder engagement plans
May 2023	**Meetings with:** • **Victorian Chamber of Commerce and Industry** • **Energy Users Association of Australia** • **Australian Industry Group**	☒ Regulatory conversion ☒ Stakeholder engagement to date and the outcomes of the consumer workshops including the preferences for capital expenditure, insurance and cost sharing between Tasmania and Victoria ☒ Initial forecasts of key elements of the regulatory proposal
	Meeting with Tasmanian Government – Renewables – Renewables, Climate and Future Industries Tasmania	☒ Overview of stakeholder engagement, including consumer workshop and quantitative survey outcomes ☒ Overview of Basslink Pty Ltd's Proposal

	Activity	Issues for discussion
	Online quantitative survey of 1,240 Victorian and Tasmanian consumers	☒ Level of energy literacy ☒ Level of concern on energy issues ☒ Views on energy preferences, including issues relating to affordability, transparency, reliability, and future energy needs ☒ Overall knowledge and sentiment towards Basslink ☒ Preferences on options for capital expenditure, insurance and cost sharing between Tasmania and Victoria
June 2023	**RRG Meeting #5**	☒ Outcomes from stakeholder meetings ☒ Results from the quantitative survey ☒ Overview of Basslink Pty Ltd's Proposal
	Meeting with Victorian Department of Energy, Environment and Climate Action	☒ Overview of stakeholder engagement, including consumer workshop and quantitative survey outcomes ☒ Overview of Basslink Pty Ltd's Proposal
September 2023	**RRG Meeting #6**	☒ Update on Basslink Pty Ltd's Proposal ☒ Further stakeholder engagement on Basslink

What we heard and how we have responded

We have focussed our stakeholder engagement on five priority issues based on issues identified by the RRG as key for Basslink's stakeholders and consumers. We have also considered issues where stakeholders and consumers can have the greatest impact on the regulatory proposal, where their opinion would genuinely influence and guide our Proposal.

Reliability

What we heard	How we have responded
Consumers and industry stakeholders both strongly supported a high level of reliability due to concerns about the potential for electricity outages if Basslink fails. 84% of survey participants rated having greater reliability for the future as something they strongly support (rated at least a 7 out of 10). Consumers at the workshops wanted to ensure that there were timely repairs to Basslink's subsea cable should a failure occur in the future. Tasmanian consumers particularly referenced the need to avoid a repeat of Basslink's 2015 damaging outage doesn't occur again.	We have clearly heard customers preference for a strong and reliable Basslink and is focussed on maintaining high levels of reliability to ensure Basslink can continue to meet the energy needs of Tasmanian and Victorian consumers. In addition to the timely replacement of the control and protection system, we have proposed two key investments to further strengthen Basslink's reliability in response to stakeholder and consumer feedback: - $7.0m in capital expenditure to enable Basslink to operate at higher temperatures when customer demand for electricity is high. - $7.65m annual expenditure on emergency preparedness to reduce repair times in the event of a major incident.

Affordability

What we heard	How we responded
Our engagement with consumers and stakeholders on capital expenditure focussed on the replacement of Basslink's control and protection system due to the significant replacement cost system. In particular, views were sought on whether the system should be replaced in the upcoming 2025 to 2030 revenue period or the following revenue period post 2030. There was strong support from consumers for replacing the control and protection system in the 2025 to 2030 revenue period, with 73% of all workshop participants and 70% of all survey participants supporting the earlier investment. The main reasons cited by consumers for supporting earlier investment were based on an aversion to risk, with concerns around the risks of outages and the associated impacts on consumers. The potential for cost savings from earlier investment were also noted by survey participants. VCCI also indicated support for the earlier replacement of the control and protection system to avoid the risk of an outage	We are conscious of consumer and stakeholder concerns around energy affordability and cost of living and is focussed on keeping Basslink's prices as low as possible while maintaining a high level of reliability to reduce wholesale electricity costs for customers. Consistent with consumer concerns around energy affordability, We are proposing to adopt the lowest initial Regulatory Asset Base forecast, which is based on the Depreciated Actual Cost method. Our Proposal, if approved by the AER, would result in a relatively low bill impact of $11 a year for the average Victorian residential customer and $8 a year for the average Tasmanian residential customer. These bill impacts are based on the adoption of a market size approach to sharing the costs of Basslink between Victorian and Tasmanian energy consumers, which was the preference from our consumer engagement as it was considered the fairest approach. This approach results in the most comparable bill impacts between Victorian and Tasmanian consumers of the alternative cost sharing approaches we considered and engaged on. Basslink's cost are expected to have minor real cost declines year on year for the revenue period. Ensuring that the capacity of Basslink is available to the market will help minimise electricity prices in Tasmania and Victoria.

Insurance

What we heard	How we have responded
Our engagement with consumers and stakeholders on insurance focussed on whether APA should adopt a low insurance premium with higher risks should an insurance event occur, or a high insurance premium with lower risks should an insurance event occur. Consumers indicated mixed views on insurance, with 72% of all workshop participants preferring the low insurance premium option and 55% of all survey participants preferring the high insurance premium option. The preferences of workshop participants towards the low insurance premium option were largely driven by Launceston participants, with 81% preferring this option (compared to 60% in Melbourne). Many Launceston participants preferred the low premium option as they thought the risk of damage was low and this option would be cheaper overall. In contrast, survey participants preferred the high insurance premium option as they considered it would help to manage reliability risks and would provide greater certainty about costs. Industry stakeholders did not indicate an insurance preference.	There was not a clear and consistent view from consumers on their preferences and level of risk on insurance. This may reflect the complex choices involved in this issue and differences in how consumers considered the risks of damage to Basslink. Consumers are also likely to have differences in their tolerance for risk. On balance after carefully considering this feedback, we have decided to adopt insurance arrangements that preference a lower level of risk to customers in the long term but includes a higher level of premium. This approach will help to meet consumer preferences for a 'no surprises' approach because the alternative could lead to an unexpected increase in costs, should repairs be required. We understand there are also high levels of concern around energy affordability. However, we note the bill differences between the high and low premium approaches are relatively low and a high premium approach will also help to avoid bill shock for consumers should damage occur.

Capital Expenditure

What we heard	How we have responded
Our engagement with consumers and stakeholders on capital expenditure focussed on the replacement of Basslink's control and protection system due to the significant cost of the replacement system. In particular, views were sought on whether the system should be replaced in the upcoming 2025 to 2030 revenue period or the following revenue period post 2030. There was strong support from consumers for replacing the control and protection system in the 2025 to 2030 revenue period, with 73% of all workshop participants and 70% of all survey participants supporting the earlier investment. The main reasons cited by consumers for supporting earlier investment were based on an aversion to risk, with concerns around the risks of outages and the associated impacts on consumers. The potential for cost savings from earlier investment were also noted by survey participants. VCCI also indicated support for the earlier replacement of the control and protection system to avoid the risk of an outage.	We recognise the strong and consistent preference for the earlier replacement of the control and protection system from consumers and stakeholders. We also note this preference is consistent with the high importance placed on reliability. We have adopted the preference of consumers and stakeholders and included the replacement of the control and protection system in the capital expenditure plans of our Proposal for 2025 to 2030.

Cost Sharing

What we heard	How we have responded
Our engagement with consumers and stakeholders on cost sharing focussed on how Basslink's costs should be shared between Tasmanian and Victorian consumers. Three cost sharing options that are allowed under the National Electricity Rules were discussed, including options based on the geographic split of Basslink's assets, energy flows between Tasmania and Victoria, and the market size of Tasmania and Victoria based on the number of electricity connections in each State. Consumers indicated a preference for the market size approach to cost sharing, with 75% of all workshop participants and 44% of all survey participants selecting this option. Participants across both the workshops and the survey selected the market size option as it was considered the fairest. Tasmanian participants were especially supportive of this option and also noted it was fairer as Tasmanians are more likely to have lower incomes than Victorians. Victorian survey respondents demonstrated a very slight preference for the energy flows approach, with 36% supporting this option. However, this was very closely followed by a preference for the market size approach at 31%. Additionally, Victorian workshop participants displayed a preference for the market size approach at 53% - when considering these different pillars of evidence it is clear there is strong support for the market size approach across the Victorian population. An industry stakeholder noted a preference for either the market size or energy flow options, with another stakeholder noting costs should be allocated based on who benefits from Basslink.	We note consumers expressed a consistent preference for the market size approach to sharing the costs of Basslink, largely as it was considered the fairest approach. We note this approach results in the most comparable bill impacts for Victorian and Tasmanian consumers. Although we understand a market size approach to sharing the costs of an interconnector has not previously been applied by the AER, we have adopted the market size approach in our regulatory proposal due to the clear preference expressed by consumers. We intend to undertake further stakeholder consultation on the market size approach over the coming months as the AER assesses our proposal.

Further detail on our engagement process for the development of our proposal can be found in **Attachment 3.1** - Engagement Summary report and **Attachment 3.2** – Consumer Engagement consolidated report.

Independent consumer perspective

As part of the engagement process, we engaged Elisabeth Ross Consulting Pty Ltd, to assist the RRG in drafting an independent report to the AER. **Attachment 3.3** contains the RRG's views on how Basslink Pty Ltd engaged with its customers and how it has met the requirements of the AER's Better Resets Handbook.

The RRG considers that Basslink Pty Ltd has met the requirements of the AER's Better Resets Handbook and has also provided suggestions on how engagement can be broadened and deepened for the 2025-30 revenue proposal and beyond. Our response to the suggestions made by the RRG are below:

For the 2025-30 revenue proposal

Continue to engage with the RRG, including on complex topics

The RRG would like to build on the progress made so far during the preparation of the 2025-30 regulatory proposal and has expressed a keen desire to engage further leading up to the revised proposal.

Our commitment *– Basslink Pty Ltd agrees and is committed to ongoing engagement with the RRG as the AER assesses the regulatory proposal.*

Clearly articulate the risks being transferred to end-use customers

The RRG would like to see a clearer articulation of the risks associated with Basslink and how they are proposed to be allocated between the end use customer and Basslink Pty Ltd.

Our commitment *– Basslink Pty Ltd acknowledges the comments made by the RRG. In response, we have included a plain English representation of the change in risk in our overview document. Basslink Pty Ltd will also continue to work on this leading up to the revised proposal and will continue to engage with the RRG on this issue.*

Increase accountability to end-use customers and other stakeholders

The RRG has recommended that Basslink Pty Ltd make itself accountable to end-use customers by looping back to engagement participants on how their input has helped shape this proposal.

Our commitment *– Basslink Pty Ltd has prepared a fact sheet and overview document summarising the engagement outcomes and how customer and stakeholder feedback has helped shape this proposal. These documents will be shared with engagement participants.*

Beyond the 2025-30 revenue proposal

Customer engagement as BAU

The RRG recommends that Basslink Pty Ltd consider establishing an ongoing consumer reference group to build consumer capability and partner with consumers on an on-going basis.

Our commitment *– Basslink Pty Ltd is reinvigorating its customer and stakeholder engagement framework, of which, a key element will be, re-establishing its stakeholder advisory panel in early 2024.*

Ongoing accountability to end-use customers

The RRG recommends that Basslink Pty Ltd clearly identify and track the commitments made to customers in its regulatory proposal.

Our commitment *– Basslink Pty Ltd will establish annual forums to provide updates on how Basslink Pty Ltd is performing against its customer commitments. This will also include updates on our website.*

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Attachment 4: Revenue and Pricing Methodology

4.1 Executive Summary

For the purposes pricing, Basslink Pty Ltd needs to determine an amount of revenue attributable to use of its transmission system in each of Victoria and Tasmania.

Basslink Pty Ltd recognises that the allocation of Basslink revenue between TasNetworks and AEMO is an issue of significant interest to stakeholders. In preparing this Proposal, Basslink Pty Ltd has considered a number of possible methods for determining this allocation and undertaken consultation with stakeholders. However we recognise that this will be the subject of further consultation and consideration by Basslink Pty Ltd, the AER and many interested stakeholders.

The Rules require that the maximum allowed revenue allocation for a TNSP that isn't a co-ordinating TNSP, like Basslink Pty Ltd, is based on "use". Basslink Pty Ltd notes that this requirement appears to permit a wide range of methodologies for the allocation. While Basslink Pty Ltd's role is to propose a methodology that accords with the Rules, and the AER's role is to make a determination as to whether that methodology accords with the Rules, Basslink Pty Ltd is very cognisant that there is a high level of stakeholder interest in the allocation methodology. This level of interest was clear throughout our stakeholder engagement process (discussed in **Attachment 3**).

As a result of the stakeholder engagement process and feedback, we are proposing for the purpose of this initial submission a pricing methodology based on relative market size. This is calculated using the total number of connections in Tasmania and the number of connections in Victoria. The number of connections reflect a regulated Basslink's role in:

- transferring power between Victoria and Tasmania and vice versa to lower the wholesale market costs to electricity consumers; and
- providing access to additional generation at times of peak demand or other times to avoid shortages of generation resulting in black outs.

We are proposing that the revenue allocation between Victoria and Tasmania will be an issue subject to the ongoing stakeholder engagement that Basslink Pty Ltd is conducting throughout this process recognising that a number of stakeholders are likely to wish to make submissions on this matter.

4.2 Ongoing Stakeholder Engagement

Basslink Pty Ltd will be conducting ongoing stakeholder engagement with respect to the revenue allocation. We will continue to discuss the appropriate method for allocating revenue between Victoria and Tasmania with stakeholders including:

- Governments
- Basslink Regulatory Reference Group
- Representatives of Consumers; and
- The Australian Energy Regulator.

We acknowledge that this stakeholder feedback could influence the nature of the revenue allocation that is included in the AER's draft determination, Basslink Pty Ltd's revised proposal or the AER's Final Determination.

4.3 Pricing Methodology

Legal Obligations

Upon conversion, Basslink Pty Ltd will become a provider of prescribed services in Victoria and Tasmania. In each of these regions, it will be one of several providers of prescribed services.

Where prescribed services within a region are provided by more than one TNSP, there must be a 'Co-ordinating Network Service Provider' (CNSP) appointed by those TNSPs. The role of the CNSP includes:

- the aggregation and allocation of all relevant Aggregate Annual Revenue Requirement (AARR) within the region for the purposes of transmission pricing in the relevant region, based on its pricing methodology;[32]
- collection of AARR on behalf of each TNSP in the region through transmission prices; and
- arranging for payment of TNSPs in the relevant region, reflecting the AARR collected on their behalf.

AEMO is the CNSP for Victoria.[33] It is intended that TasNetworks will be appointed the CNSP for Tasmania.

Each TNSP providing prescribed services within a relevant region must prepare and submit to the AER a pricing methodology which complies with the Pricing Principles for Prescribed Transmission Services (cl 6A.23) and the AER's pricing methodology guidelines.[34] However where a TNSP has appointed a CNSP, its pricing methodology should nominate the CNSP and identify the parts of its proposed pricing methodology which will be dealt with by the CNSP.[35]

For example, Murraylink's approved pricing methodology specifies the parts that are dealt with in the pricing methodologies of ElectraNet and AEMO (the CNSPs in SA and Victoria respectively), which include:

- the calculation of the Annual Service Revenue Requirement (ASRR) for the Victorian and South Australian regions, in accordance with clause 6A.22.2 of the Rules;
- the calculation of attributable cost shares, in accordance with clause 6A.22.3 of the Rules;
- the principles for the allocation of the AARR to categories of prescribed transmission services, in accordance with clause 6A.23.2 of the Rules;
- the principles for the allocation of the ASRR to transmission network connection points, in accordance with clause 6A.23.3 of the Rules; and
- pricing structure principles, in accordance with clause 6A.23.4 of the Rules.

The Murraylink pricing methodology also specifies the portion of its AARR that is recovered by each of ElectraNet and AEMO.

[32] NER cl 6A.29.1(a) and (c).
[33] NER, cl S6A.4.2(k)(5).
[34] NER, cl 6A.10.1(a) and (e).
[35] AER Pricing Methodology Guidelines, cl 2.1(b).

Basslink Pty Ltd's proposed pricing methodology (**Attachment 4.1**) similarly identifies a number of matters that it is intended will be dealt with in the pricing methodologies of AEMO and TasNetworks, as CNSPs for Victoria and Tasmania respectively. Basslink Pty Ltd is continuing to engage with AEMO and TasNetworks regarding CNSP arrangements and how these will be addressed in their respective pricing methodologies.

To facilitate these arrangements between TNSPs in the same region, cl 6A.29.1(b) provides that:

> *Each Transmission Network Service Provider must determine the AARR for its own transmission system assets which are used to provide prescribed transmission services within each region*.

This rule is intended to reflect a 'beneficiary pays' principle.[36] The revenue requirement for a transmission system serving multiple regions is to be allocated between those regions based on the extent to which they benefit from use of the system.

In the case of Basslink, this means that Basslink Pty Ltd needs to determine the AARR for its assets that are used to provide prescribed services in each of Victoria and Tasmania.

Meaning of "Use"

The term "Use" is not actually defined in the Rules. However, the relevant secondary materials indicate that it is intended to reflect a "beneficiary pays" principle to the recovery of revenue requirements.

The extent to which a transmission system is "used" in each region that it serves may not necessarily reflect the location of assets comprising that system. A transmission system may be used to a greater extent in one region (or benefit that region to a greater extent) even if the assets aren't located in that region to the same extent.

The AEMC has noted that, in the case of interconnectors, it may be difficult to precisely identify relative use or benefit, as between the different regions that they serve. This is because interconnectors have certain 'public good' characteristics, delivering a range of benefits broadly across the connected regions. The AEMC has noted:[37]

[36] AEMC, Rule Determination, National Electricity Amendment (Inter-regional transmission charging) Rule 2013, 28 February 2013.

[37] AEMC, Discussion Paper: National Electricity Amendment (Inter-regional transmission charging) Rule 2011, 25 August 2011, p 37.

It is important to note that allocative and dynamic efficiencies can only be achieved if costs are appropriately allocated to causers or beneficiaries of network investment. As the Commission has discussed above, the public good characteristics of transmission means that it may be difficult to isolate the causers of, or beneficiaries from, transmission investment in the shared network. Thus charges set solely on the basis of causation may be problematic because the causal link between individual users' decisions and the incurring of transmission costs may not be clear.

This issue may be particularly relevant for inter-regional transmission assets, which due to their size tend to be subject to significant economies of scale and network externalities, which means the benefit will fall broadly across regions. These benefits may include maintaining reliability and reserve sharing between regions, lowering congestion (in turn leading to reduced trading risks between regions) and enhanced competition. Importantly, these benefits apply regardless of direction of energy flows between regions. Thus, applying cost reflectivity in charging for transmission assets with significant public good characteristics implies that such a charge should be spread broadly across users.

Recognising this, Basslink Pty Ltd has considered a range of different measures (or proxies for) the relative use or benefit obtained from Basslink in each of Victoria and Tasmania.

The AEMC's comments cited above accurately reflect the characteristics of a regulated Basslink in so far as it provides broader 'uses' than purely the transfer of electricity – providing services that improve reliability and reserve sharing between regions, lowering congestion (in turn leading to reduced trading risks between regions) and enhanced competition. In addition, Basslink will be used to control voltage and frequency of electricity transfers to provide network support to the transmission networks of Victoria and Tasmania. We are of the view that his means that the term 'use' should not be restrictively interpreted to mean that the revenue must be allocated on the basis of electricity flows between Tasmania and Victoria.

The AER has interpreted the definition of 'use' more broadly in the past. The AER's approved pricing methodologies for Directlink and Murraylink have revenue allocations based on the physical location of the assets.:

- Notwithstanding that Directlink acts as an interconnector between New South Wales and Queensland, due to the geographic location of the asset (all the network for Directlink is located in New South Wales) the full cost of Directlink is charged to Transgrid.
- Murraylink is physically located in both Victoria and South Australia. The revenue split between South Australia and Victoria is based on the portion of assets located in each state based on asset value.

It is worth noting that for Basslink, Directlink and Murraylink all assets are used in the transfer of power regardless of their physical location.

Considerations for a pricing methodology

Beyond the requirements specifically outlined in the Rules our proposal seeks to contribute to the achievement of the NEO.

The NEO is:

> *to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:*
>
> - *price, quality, safety and reliability and security of supply of electricity*
> - *the reliability, safety and security of the national electricity system*

Some relevant practical considerations when determining an appropriate revenue allocation to encourage the efficient use of Basslink consistent with the NEO are:

- Materiality/Cost significance
- Incentive properties
- Transparency/simplicity

The materiality of the cost of an asset to consumers is directly related to how likely the revenue methodology is to influence the behaviour of customers. The higher the revenue the more consideration that needs to be given to the incentive properties that a particular revenue allocation methodology is creating. Basslink is an asset where there is relatively little impact on demand attributable to the price for its services, and therefore the revenue methodology is unlikely to have any impact on customer choices.

It is important that the customers who ultimately pay for an asset can understand how its revenue recovery works. This requires transparency and for the method to be as easily comprehensible as possible.

Basslink revenue methodology to be considered independently of other projects

As noted above, the rules require that the Maximum Allowed Revenue for an interconnector to be allocated based on use. We further note there is no definitive measure of use for a High Voltage Direct Current interconnector give the different ways they provide value to customers.

The revenue allocation for each interconnector should be expected to consider the circumstances of that interconnector when selecting a revenue allocation methodology that fit within the scope of the National Electricity Rules.

The appropriate methodology for Basslink will not necessarily be the appropriate methodology for other assets. The circumstances of Murraylink and Directlink are not those of Basslink, and it should not be assumed that Basslink will need to have the same revenue methodology. Similarly, the circumstances of Basslink will not be the same as any other project, including any other interconnection asset connecting Tasmania and Victoria. Basslink Pty Ltd notes in this context that it is anticipated that Marinus will have a significantly higher revenue requirement than any of these other interconnector assets previously considered, and these assets would not serve as a precedent for the matters that will be under consideration in respect of Marinus.

The appropriate revenue allocation methodology should reflect the facts relevant to each interconnector, including matters such as impact on customers bills, technical capabilities and services provided to the market.

The Methodologies Considered

Basslink Pty Ltd identified a large number of potential revenue allocation methods that were consistent with the requirements of the Rules that could be considered potentially applicable to Basslink. We discussed the potential methodologies with our RRG. The RRG observed that in seeking to discuss too many methodologies we would not be able to obtain useful stakeholder feedback, and that a number of the options were very similar. The RRG recommended that we reduce the number of methodologies to 2 or 3 (we ultimately selected 3) and make the ones we put forward for stakeholder feedback reflect a genuine choice between alternatives that are materially different to each other in approach.

For the purposes of providing clarity to consumers we described the revenue allocation as required under the rules as "cost sharing", reflecting consumers understanding that electricity is a cost to them. We then consulted on three different cost sharing options with stakeholders, namely:

- Geographic Method – the cost split would be based on the value of the interconnector assets geographically located in each region. This is the approach the AER took in Murraylink and Directlink,
- Energy Flows – the cost would be split on the basis of energy flows across Basslink in both directions, measured in MWh
- Market Size – the allocation would be based on the number of electricity connections in each jurisdiction.

The cost allocation that results from the application of each of these methodologies is set out in the Tables below.

Table 4.1 – The different methodologies consulted on.

Methodology	Revenue Split Tasmania	Revenue Split Victoria
Geographic split	**45%**	**55%**
Energy Flows	**50%**	**50%**
Market size	**10%**	**90%**

The bill components for residential and small business customers are set out below.

Table 4.2 – Geographic Split Bill Component ($ pa)

Methodology	Tas	Vic
Residential	**35**	**7**
Small Business	**68**	**21**

Table 4.3 – Energy Flows Bill Component ($ pa)

Methodology	Tas	Vic
Residential	**39**	**6**
Small Business	**76**	**19**

Table 4.4 – Market Size Bill Component ($ pa)

Methodology	Tas	Vic
Residential	**8**	**11**
Small Business	**15**	**35**

Our engagement with consumers and stakeholders on cost sharing focussed on how Basslink's costs should be shared between Tasmanian and Victorian consumers.

Consumers indicated a preference for the market size approach to cost sharing, with 75% of all workshop participants and 44% of all survey participants selecting this option:

- Participants across both the workshops and the survey selected the market size option as it was considered the fairest.
- Tasmanian participants were especially supportive of this option and also noted it was fairer as Tasmanians are more likely to have lower incomes than Victorians.

Victorian workshop participants displayed a preference for the market size approach at 53% Victorian survey respondents demonstrated a very slight preference for the energy flows approach, with 36% supporting this option. However, this was very closely followed by a preference for the market size approach at 31%. Additionally, The results of our stakeholder engagement therefore suggest there is strong support for the market size approach across the Victorian and Tasmanian population.

Basslink also consulted with a number of industry stakeholders outside the RRG, and we note in this context that:

- One industry stakeholder noted a preference for either the market size or energy flow options
- another stakeholder noted costs should be allocated based on 'who benefits' from Basslink.

System Protection Scheme

In the forecast operating expenditure chapter (**Attachment 8**) we have discussed the System Protection Scheme that operates in Tasmania. These are arrangements to preserve system

strength, primarily frequency control, of the Tasmania Transmission Network. If it is determined that the costs are to be allocated to Basslink, this may require changes to the pricing methodology to remain consistent with the Rules.

4.5 Proposed Revenue Allocation Methodology in detail

The market size methodology shares the cost of Basslink in proportion to the total customer connections in each state. The underlying premise is that—due to the difficulty in precisely determining relative "use" of (or benefit from) Basslink capacity—it is reasonable and appropriate to use a proxy for relative use. A simple and clear methodology is to assume that each customer connection point, be it in Victoria or Tasmania will use and benefit equally on aggregate over the long term. As such, the methodology requires only to count the number of connection points in Victoria compared to Tasmania to obtain a split.

As the relative proportion of customer connections are likely to change slowly due to differences in population growth rates between the two states, we propose to assess and set a fixed percentage cost split at the start of each regulatory period.

Data on the number of customer connections is not made regularly publicly available by AEMO, so the best source of reliable and regularly available data is the annual reports of the distribution networks. There is only one distribution network in Tasmania (TasNetworks) and five in Victoria (AusNet Services, CitiPower, Jemena, Powercor, and United Energy). In their annual reports for FY2022, TasNetworks reported 295,000 customer connections, compared to the Victorian network's [3.1 million]. This results in a split of 9% of costs being allocated to Tasmania, and 91% to Victoria. We note that if AEMO were to start regularly publishing data on customer connections, we would propose to move to that data for our calculations.

4.6 Bill Component

It is difficult to assess the impact of Basslink becoming a TNSP, as opposed to its current cost impacts on Victorian and Tasmanian consumers. Under the current arrangements, Basslink charges Hydro Tasmania for it services. We assume Hydro Tasmania then recovers the cost of Basslink's services through the price it sets for electricity generation, which it sells to the NEM.

There is no publicly available information, or information available to Basslink Pty Ltd, that indicates how Basslink's costs are recovered by Hydro Tasmania in particular how much is recovered from Tasmania or Victorian consumers. Further, how Hydro Tasmania reflects the reduction inn charges to it is a matter for it and its owner the Government of Tasmania.

However, we can provide an estimate of the component of Basslink Pty Ltd's revenue that will be in a typical customers electricity bill, but we cannot assess how this differs from what consumers currently pay.

Table 4.5 – Bill Component in Tasmania and Victoria ($pa)

State	Victoria	Tasmania
Residential Bill Component	11	8
Small Business Bill Component	35	15

It is difficult for Basslink Pty Ltd to estimate a bill impact for large consumers. This is because of the significant load and relatively few number of customers. A simple c/kWh methodology is unlikely to be a close approximation of the actual Bill impact that will be felt by these customers. Due to their charges being a product of the cost reflective network pricing methodology required to be used by TNSPs which means costs are not evenly distributed across the entire Transmission network.

Bill Impact Methodology

The methodology for calculating the bill impact is to take the Maximum Allowed Revenue as per the proposal set out in Section 4.6 and allocate it between TasNetworks and AEMO in with line the revenue allocation methodology as set out in Section 4.5.

$$Revenue\ allocation\ to\ AEMO\ = Maximum\ Allowed\ Revenue\ x\ AEMO\ revenue\ allocation\ \%$$

Or

$$Revenue\ allocation\ to\ TasNetworks = Maximum\ Allowed\ Revenue\ x\ TasNetworks\ revenue\ allocation\ \%$$

Then we divided the revenue allocations by the total kWh per annum

$$price\ per\ kWh\ Vic\ = \frac{Revenue\ allocation\ to\ AEMO}{Total\ consumption\ Victoria\ (kWh)}$$

Or

$$price\ per\ kWh\ Tas\ = \frac{Revenue\ allocation\ to\ TasNetworks}{Total\ consumption\ Tasmania\ (kWh)}$$

We then multiple that by the typical consumption for a household or small business

$$Bill\ Component\ Vic\ = price\ per\ kWH\ Vic\ \times Typical\ Consumption$$

Or

$$Bill\ Component\ Tas\ = price\ per\ kWH\ Tas\ \times Typical\ Consumption$$

4.6 Building Block Revenue

Smoothed Revenue

Basslink Pty Ltd's smoothed revenue proposal is calculated based on the AER's Post Tax Revenue Model which smooths the revenue based on the present value of the building block revenue discounted using the Weighted Average Cost of Capital calculated using the AER' Rate of Return Instrument.

Table 4.6 – Basslink's smoothed revenue ($m nominal)

	2025/26	2026/27	2027/28	2028/29	2029/30	Total
Smoothed Revenue	109.9	111.1	112.3	113.5	114.7	561.5

Building Block Revenue

Building Block revenue is calculated using the AER's Post Tax revenue based on the inputs contained in the building blocks discussed in more detail in the other chapters of this proposal.

Table 4.7 – Basslink's building block revenue ($m nominal)

	2025/26	2026/27	2027/28	2028/29	2029/30	Total
Return on Capital	45.5	45.2	44.3	43.0	42.0	219.9
Return of Capital (regulatory depreciation)	24.9	26.6	28.7	30.9	29.4	140.6
Operating Expenditure	36.2	38.0	39.0	36.2	33.2	182.7
Revenue Adjustments	-	-	-	-	-	-
Net Tax Allowance	3.3	3.4	3.6	3.8	3.5	17.6
Building Block Revenue	109.9	113.2	115.6	113.9	108.1	560.8

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September 15, 2023

Attachment 5: Regulatory Asset Base

5.1 Introduction

The RAB is the total regulatory value of all the assets used to provide the prescribed transmission service. Through the building block approach of revenue regulation, Basslink Pty Ltd will be able to recover the full amount invested in the RAB through the depreciation allowance, as well as an appropriate return on that investment.

To determine the appropriate RAB, Basslink Pty Ltd will follow the process set out in the ACCC and AER's decisions on the regulatory conversion of Murraylink and Directlink. Both these decisions accepted a two-phase process: (1) the application of the Regulatory Test for transmission investment, and (2) the calculation of RAB according to the results of the Regulatory Test.

As such, the first portion of this chapter will cover the Regulatory Test, and the second will cover the determination of the RAB. In this chapter:

- Section 5.2 will cover the precedents set by the Murraylink and Directlink determinations.
- Section 5.3 will draw on the information in Section 1 to synthesise a fit-for-purpose methodology for the calculation of the RAB.
- Sections 5.4 and 5.5 will present our RAB calculations, covering the Depreciated Actual Cost method and the Depreciated Optimised Replacement Cost method, respectively.
- Section 5.6 will present the proposed RAB according to the calculations of the Regulatory Test.
- Section 5.7 will assess the RAB result against the potential efficiencies of alternative capacity levels and under the Recovered Capital Method test.

5.2 Precedent and Rules Regarding Regulatory Conversion

In calculating Basslink Pty Ltd's initial RAB, we have followed the processes used in the precedents for regulatory conversion. The Basslink Transitional Provisions[38] in the Rules (Rule 11.6.20(e)) provide that:

- Basslink's RAB must be determined in accordance with the methodologies, objectives and principles applied in the Murraylink and Directlink conversion decisions;
- where an inconsistency is observed between the approaches in these cases, the decision made in the Directlink conversion is to prevail for the purposes of the Basslink conversion - ithout limiting [11.6.20(e)], the AER"[39] must also "*have regard to the prudent and efficient value of the assets*."[40]

We consider that the process set out in this Proposal—being based on the Murraylink and Directlink precedents—does present the most prudent and efficient RAB for NEM participants. Further, we do not consider there to be any incongruities between the application of this process and the requirements under the Rules or the objectives in the NEO.

[38] The National Electricity Rules, Clause 11.6.20
[39] The National Electricity Rules, Clause 11.6.20(g)
[40] Ibid.

Precedent set by the Murraylink conversion

Murraylink is a 220 MW HVDC interconnector between the Victorian and South Australian grids. The transmission line spans approximately 180 kilometres between Red Cliffs in Victoria and Berri in South Australia. It was designed and built by a private developer who originally planned to operate Murraylink as a Market Network Service Provider (MNSP). However, the developer ultimately applied for regulatory conversion in October 2002—the same month it was commissioned. In October 2003, the ACCC approved its conversion to a prescribed service.

The methodology for calculating Murraylink's opening RAB as a prescribed service was based on the processes and principles applied to proposed new transmission assets at the time of conversion. One of the ACCC's primary concerns was maintaining a consistent approach between the consideration of proposed new investments in prescribed services, and the conversion of existing assets into prescribed services. As such, Murraylink's RAB was set according to the principles of the Regulatory Test for new transmission assets set out in the National Electricity Code (NEC).

For proposed new assets, the Regulatory Test required that the proposal presented the best option for consumers. Specifically, a project would only pass the Regulatory Test if it maximised "the net present value of the market benefit having regard to a number of alternative projects, timings, and market development scenarios."[41] Thus, for a new project to receive approval to be constructed to become a prescribed service:

- Its estimated cost would have to be lower or equal to the gross market benefits created by the project (i.e, it would provide a net market benefit); and
- It would have to be determined to be the best possible option for consumers.

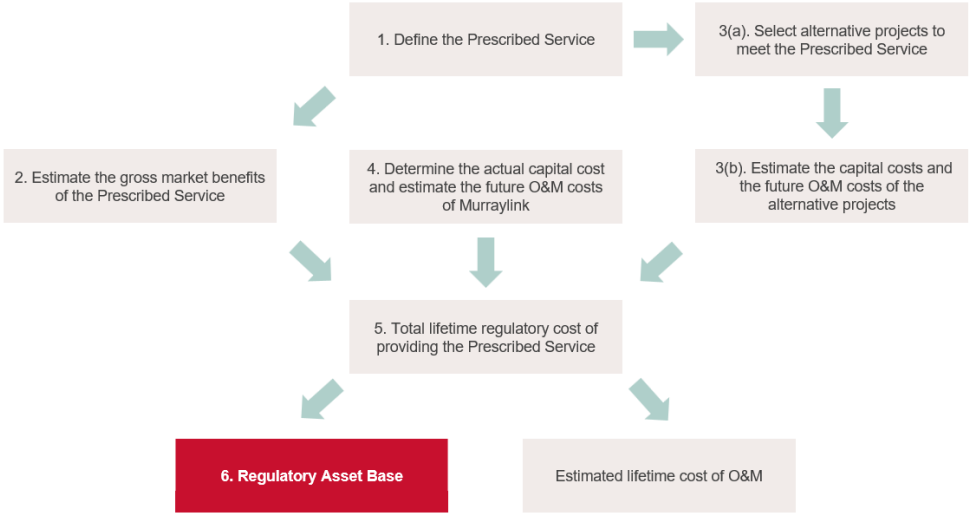
However, Murraylink was already constructed at the time of its application. While the AER was unable to ensure that the actual asset represented a net market benefit and the best possible option, it could regulate the cost to consumers as if the optimal scenario had been achieved. As such, the same process was followed. Several projects (including the already constructed Murraylink) were evaluated and the best possible project was tested to see if it delivered a net market benefit. If the project passed the Regulatory Test, a RAB would be set according to the efficient costs of that project.

Even if the best possible project did not pass the Regulatory Test, it would not make economic sense to simply abandon the existing asset. Instead, the ACCC would set the RAB as equal to the gross market benefits. That way, the asset would be able to operate, and the market would receive benefits commensurate with the amount paid to the asset owner.

To conduct this calculation, the process described below was developed. A flow chart for this process is also shown below.

[41] *Australian Competition and Consumer Commission,* "Decision: Murraylink Transmission Company Application for Conversion and Maximum Allowed Revenue," 1 October 2003.

Figure 5.1: Method for Regulatory Valuation



Step 1: define the prescribed service. The service was defined according to the technical specifications of the interconnector and the forecast operational plan. For Murraylink, the prescribed service was to provide the NEM with:

- Access to a transfer capacity of 220MW between the South Australian and Victorian NEM regions with a high degree of control over transfers;
- The ability to better regulate voltage in Victoria and Tasmania;
- The ability to avoid a total shutdown of the interconnector in the event of a trip in either region;
- Increased transmission capacity specifically to the Riverland region of South Australia and the Malee region of Victoria.

Step 2: estimate the gross market benefits of providing such a service. Murraylink hired independent consultants to estimate the value of the gross market benefits. The process used to determine the gross market benefits is discussed in **Attachment 2** – Net Market Benefits.

Step 3: evaluate possible alternative projects and determine their costs. Possible alternative projects were defined as projects that met the requirements of the prescribed service and had similar net market benefits to Murraylink.[42] Murraylink hired an independent consultant to design and cost six alternatives. These included four alternative technical designs for interconnectors with the same transfer capacity but different technologies and locations, a project to increase generation in the Riverland region, and a demand-side management system. Each alternative project's capex and long term costs of operation were costed by the independent consultant.

Step 4: calculate the actual cost. As Murraylink applied for conversion in the same month it was fully commissioned, the actual capex cost was simply the costs incurred during construction. The independent consultants estimated the present value of the future operating and maintenance costs.

[42] *MURRAYLINK Transmission Company,* "Application for Conversion to a Prescribed Service and a Maximum Allowable Revenue for 2003-2012," 18 October 2002.

Step 5: Determine which option had the lowest cost and test against the Regulatory Test. Of the seven possible options (the actual project and the six alternatives), Murraylink and the ACCC determined that one of the alternative technical designs for an interconnector was the best option. Murraylink and the ACCC found that this option passed the Regulatory Test.

Step 6: Calculate the RAB according to that option. Murraylink then calculated the opening RAB that would have been in place had the best option been constructed. We discuss the methodology for this later in this chapter.

Precedent set by the Directlink conversion

Directlink is a 180MW HVDC interconnector spanning 63 kilometres and connects the New South Wales and Queensland NEM regions. Directlink was commissioned by a private developer in July 2000 and operated as a MNSP until May 2004 when it applied to become a prescribed service. Directlink's application for conversion and the determination of the RAB broadly followed the same process set by the Murraylink conversion.

While the underlying concepts remained largely unchanged, the AER formalised some key methodological descriptions used in the Murraylink proposal. The methodologies put forward by the AER had to account for the fact that Directlink had already been operational for several years. Specifically, the AER introduced two concepts to the regulatory conversion process which are relevant to our application:

- Depreciated Optimised Replacement Cost (**DORC**) — This method is broadly equivalent to the requirement to determine the best project option. According to the standard application of the DORC method, one begins by evaluating the optimal design option for an asset that provides an equivalent service potential to the actual asset. The design option considers modern technologies, processes, and input costs. The calculated cost of this asset is then depreciated such that the remaining asset life of the optimal asset matches that of the actual asset. This method takes into account the previous operation of an asset and protects consumers from paying for outdated equipment designs and construction methods.

  However, the DORC as traditionally conceived is not necessarily equivalent to the requirements of the Regulatory Test. The ACCC considered that the Regulatory Test required consideration of a wider range of alternatives than what is typically considered in a DORC calculation. Specifically, the test required consideration of alternative capacities and alternative solutions to address the identified need, including for example, demand-side management.

  In our application, we consider the methodological basis of the DORC calculation to be the most theoretically robust and widely accepted option for identifying the optimal project design, but also acknowledge the ACCC's reservations. For simplicity, in the remainder of this proposal, we will assume the DORC methodology follows the same process as the standard application, but has the same requirements in selecting alternatives as the Regulatory Test. In undertaking the DORC assessment in this case, several different design and technology options are considered, and the DORC reflects the optimal (lowest cost) option to deliver the relevant service capability.

- Optimal Deprival Value (**ODV**)—was defined as the lesser of the DORC value as we have defined it and the gross market benefit. Where the DORC does not pass the Regulatory Test (i.e., the DORC value is greater than the gross market benefit) the gross market benefit becomes the binding RAB value.

The AER found that no project options considered passed the Regulatory Test and thus set the RAB according to the ODV, that is, the value of the gross market benefit.

5.3 Methodology

In this section, we will distil the concepts and requirements set out in Section 5.2 into a simpler test to determine the RAB value. As we will demonstrate, there are only three calculations needed to determine the appropriate RAB. The Regulatory Test and RAB determination can be simultaneously solved by taking the lesser of:

- Present value of the total gross market benefits, less the net present value of the long-term costs of operation;
- Depreciated Actual Cost method;
- The Depreciated Optimised Replacement Cost method.

We can simplify the processes set out in Section 5.1 from two phases to one phase because of the nature of the Basslink asset. In the precedents discussed above, there is a two-phase process: the optimal project is tested against the Regulatory Test, and then the RAB is derived from the optimal project. This is necessary as the alternative projects may have different long-term costs of operation. When testing the alternatives against each other in the first phase, the differences in the long-term costs of operation may impact the choice of the optimal project and the subsequent test against the net market benefits. The RAB is then determined by removing the long-term costs of operation from the previous values in the second phase.

However, the nature of the Basslink asset means that the long-term costs of operation will be immaterially different between the alternative projects. As discussed further in Section 5.6, there is realistically no other option to fulfil the identified need other than via an undersea cable in much the same way as Basslink is already configured. There is no non-interconnector alternative that would provide the same net market benefits, and the route for interconnectors must be similar to that of the current Basslink asset because of regulatory and environmental constraints. While there are some updates to the underlying technology for the cable, the operating cost of any transmission line in similar circumstances are immaterially different.

As such, we can assume the long-term costs of operation for each alternative project are identical to the costs expected for the actual asset. Thus, long-term costs of operation will no longer determine the rank of possible projects during the Regulatory Test. By subtracting the long-term costs of operation from the gross market benefits and taking the lesser of the three options, we can in effect conduct the Regulatory Test and the RAB determination in a single phase.

The other difference we will apply is the separation of the Depreciated Actual Cost method from the Depreciated Optimised Replacement Cost. In the Murraylink and Directlink precedents, the actual project was included in the comparison and calculation of the Depreciated Optimised Replacement Cost method. In those cases an estimate of efficient cost was required for a relatively new asset, meaning that there was unlikely to be a significant difference between actual and optimised replacement costs. In the case of Basslink, there is more likely to be some divergence between actual cost and optimised replacement cost. For older assets, replacement cost may potentially be lower to the extent that technology improvements have facilitated a lower-cost design, or higher to the extent that input costs have increased.

We consider that taking the lesser of actual cost, optimised replacement cost and gross market benefit is a conservative approach to determining the RAB. It is a somewhat broader assessment

than was undertaken in the Directlink and Murraylink determinations – those determinations focusing principally on market benefits and DORC-based estimates of efficient cost for the optimal project. However we have taken this approach to ensure that consumers pay no more than the efficient cost of Basslink or the market benefits that it delivers.

Because of the data and estimation differences between the calculation of the alternative scenarios and the actual cost, we have elected to cover these in separate sections. However, the same fundamental processes will still apply—the cost of the actual project will still be compared to the alternatives, albeit at the same time as being compared to the other RAB calculation methods as well.

5.4 Depreciated Actual Cost Method

The Depreciated Actual Cost (**DAC**) method is a widely used approach in economic regulation for valuing assets. In essence, the DAC method considers what Basslink's RAB would have been if it had been calculated in the AER's RAB roll forward Model from its commissioning. Thus, the DAC considers the actual costs incurred in the construction of Basslink and any further capex and applies the same regulatory principles used for regulated entities to calculate depreciation, inflation and other factors.

Methodology

As per the building block model of regulation described in **Attachment 4** – Revenue and Pricing Methodology, the RAB at the end of any given year (RAB_e) can be calculated in relation to the RAB at the beginning of that year (RAB_b) according to the formula:

$$\boldsymbol{RAB_e = RAB_b + Capex - Disposals - Depreciation + Inflation\ adjustment}$$

To calculate the RAB as at the time of conversion, this formula is iterated for each year from the commissioning of the asset to 1 July 2025. The first RAB_b is the cost of the asset at the time of commissioning, and each subsequent RAB_b is equal to the previous year's RAB_e. The cost of the asset at the time of commissioning includes the total value of construction, construction finance costs (debt and equity), and equity raising costs. For each following year, capex and disposals in each year are taken from historical accounts and the forecast capex plan set out in **Attachment 7** – Capital Expenditure. The details of the material methodological decisions made in calculating the RAB under the DAC method are included below.

Capex

The capex values are adjusted in the year they are incurred to include a half-year WACC to match the timing adjustments in this proposal. This adjustment is standard for similar RAB cases, including recently the AER's determination for ElectraNet's revenue proposal.[43] As Basslink was a commercial service at the time and would have required capital at commercial rates, it is reasonable to consider the appropriate WACC to be a commercial WACC. As such, the half year adjustment is made using the same commercial WACC described in the Section 7.2.

[43] *Australian Energy Regulator*, "Final Decision: ElectraNet Transmission Determination 1 July 2023 to 30 June 2028," 28 April 2023.

Depreciation

As is the requirement by the AER's Post Tax Revenue Model,[44] depreciation is calculated for an asset class—a group of assets with similar features. Assets must be classed so as to increase "the accuracy or administrative convenience of asset calculations."[45] Straight line depreciation is the standard depreciation approach for similar regulated entities and will be employed in this proposal.

The total asset lives and remaining asset lives for each asset category will be determined according to the assessments of accounting asset lives made for each asset within the asset category. We understand that setting asset lives can bring in a certain amount of judgement and could potentially be gamed to the benefit of an asset owner. To avoid any of these issues and to remain as empirical as is possible, we have elected to maintain the initial accounting assessments for each asset. These assessments were made before any plans were developed to convert Basslink to a prescribed service, and as such are free from gaming and likely reflect the assets' lives accurately. More information on this is available in **Attachment 6**.

Inflation

Once the values for the above categories are settled, an inflation adjustment is added to ensure that the asset holder is properly compensated for its investment in real terms. Our inflation methodology is identical as the one set out in the PTRM. That is, annual inflation is applied to the starting WACC, and a half-year inflation is added to any capex from that year.

Available data on assets

As Basslink Pty Ltd has operated for over 17 years as a private business, the record keeping process was like any standard private business—that is to say, not according to the requirements of a regulated asset. In this section, we explain the data available to Basslink Pty Ltd and demonstrate that, where choices were required, the most conservative option was chosen in the interest of consumers.

Historic data is available from the following sources: a fixed asset register, general ledgers, and annual statutory accounts. We also rely on data from the capex plan put forward in **Attachment 7** – Capital Expenditure.

Basslink Pty Ltd maintained a fixed asset register for the purposes of financial reporting and determining its depreciation for tax purposes. For each asset listed in the fixed asset register, most had the following types of data relevant to the calculation of DAC:

- Acquisition date
- Asset accounting category and sub-category—the major categories are: 'Land', 'Easement', 'Interconnector', 'Plant and equipment', 'Spares, Vehicles', 'Leasehold improvements', 'Furniture, Fixtures, and Fittings', 'IT equipment', 'Computers', and 'Software'.
- Asset description
- Asset cost
- Asset accounting life

[44] *Australian Energy Regulator,* "Final Decision (Amendment): Electricity Transmission Network Services Providers Post-tax Revenue Model Handbook," April 2019.
[45] Ibid.

The asset register also records disposals or revaluations of assets[46]. In this case a separate entry has been created, with a negative asset cost and a description of the disposal or the revaluation.

There are a number of revaluations of assets relating to changes in accounting requirements. For example, since construction, some assets' lives, including the subsea cable, were revalued as part of Basslink Pty Ltd's corporate accounting. Predicting the asset life of a unique asset like Basslink's subsea cable includes significant uncertainty. The original design life of the Interconnector at the date of commissioning in April 2006 was determined to be 40 years however subsequently in April 2012, Basslink Pty Ltd management revised the useful life to be 65 years.

The expected asset life was reassessed for accounting, tax and insurance purposes upon acquisition by APA. APA engaged ValQuip Consulting Pty Ltd (Valquip), a fixed asset valuation specialist, to provide a valuation report of the acquired fixed assets. The valuation adopted a maximum life for assets of 40 years supported by the following:

- The original design life of the Basslink System is 40 years;
- Reference was made to a Hatch Assessment Report (as at January 2020) which outlines that significant capital expenditure would be required in order for the interconnector to achieve a life of 65 years;
- There are currently no undersea HVDC systems in the world that have reached a 65-year life.

Basslink Pty Ltd has consequently chosen to reflect a maximum life for assets of 40-years which is aligned to the original design life and Valquip's 2022 valuation. This reduces the overall costs to consumers as this assumes that more depreciation is already recorded on the asset than under the 65-year scenario and aligns with our decision to use the initial accounting lives to remove any potential gaming of the regulatory submission[47]. Following these principles, we have removed all effects of revaluations.

One key issue with the dataset of the fixed asset register is that the assets acquired during construction are generally grouped into broad categories that are not fit for purpose. For example, the largest asset in the fixed asset register is recorded as 'Basslink Cables, Converter, and Transition Station.' This is clearly not detailed enough for a regulated asset. To correct for this, we used the second key data source: Basslink's general ledgers. We analysed Basslink's general ledgers from during the construction period to identify more specific asset types within these broad categories, their purchase dates and their costs. In doing so, we were able to minimise this issue to a degree where we consider it would have minimal impacts on the final results.

Because this proposal assumes Basslink will become a prescribed service on 1 July 2025, we must also consider the assets which will be purchased between now and that date. This proposal describes in detail the plan for the capex initiatives and costs for between now and FY30 in **Attachment 7** – Capital expenditure.

[46] Within the set of disposals and revaluations we noted some inconsistencies, but only for minor items with asset lives that end before 1 July 2025 and thus don't affect the current DAC valuation.
[47] With the exception of overhead lines. See **Attachment 6**.

Calculated asset values

To the list of recorded assets, we must add construction financing and equity raising costs. These were legitimate costs incurred by Basslink Pty Ltd during the construction of the asset and must be returned to the asset holder to return these costs as part of the efficient return of capital.

To determine these costs, we calculate them according to hypothetical efficient cost rather than any recorded actual costs for two reasons. Firstly, the ownership structure during the construction of Basslink means that the details and data of the construction financing and equity raising costs are unavailable to APA. Secondly, calculating these according to a hypothetical efficient cost ensures that consumers are not charged any inefficient amounts of construction financing or equity raising costs.

The efficient construction financing is calculated by finding the construction profile of the asset and applying to that profile an efficient WACC. As Basslink Pty Ltd was a commercial entity at the time of construction, it is logical to apply a commercial WACC that Basslink Pty Ltd would have faced at that time. The commercial WACC values are the same as are used in the discussion of the Recovered Capital Method in Section 5.6 of this attachment. We generate a construction profile using Basslink's statutory annual reports provided to ASIC in each year of construction, which records the cash capex payments incurred during construction. The construction profile is shown in the table below. In each year, we apply the full WACC rate to the cumulative construction capex at the start of the year and a half-year discounted rate to the new capex being incurred in that year. The total construction financing entered into the RAB is the sum of the construction financing calculations for each year from the commencement of construction to Basslink's commissioning.

Table 5.1 - Construction Profile

Year	FY01	FY02	FY03	FY04	FY05	FY06
Physical asset value added per year	$8m	$17m	$128m	$132m	$335m	$159m
Percentage	**1.0%**	**2.2%**	**16.4%**	**17.0%**	**42.9%**	**20.4%**

Total equity raising costs are calculated by multiplying the efficient amount of equity raised by the efficient cost of raising equity. The efficient amount of equity raised is calculated as the total financing requirement during the construction process, multiplied by the equity portion of the efficient capital structure.[48] For the rate of equity raising costs, we take the equity raising costs rate accepted by the AER in the 2007 Powerlink determination – the closest accepted rate to the commissioning of Basslink.[49]

Determining asset lives and depreciation

Calculating Depreciation

Using asset lives, we calculate depreciation for each category for each year between Basslink's commissioning to FY2025. For each asset category, we disaggregated the total value into a list of annual capex made for that category for each year from Basslink's commissioning to FY25. To do this, we used the data from Basslink's Fixed Asset Register. Next, we calculate an annual

[48] See **Attachment 9**: Forecast Rate of Return

[49] *Australian Energy Regulator*, "Decision: Powerlink Queensland Transmission Network Revenue Cap 2007-08 to 2011-12," 14 June 2007.

depreciation value for the capex made in each year using the category's standard asset life. The resulting depreciation schedule for each asset category is summed to arrive at a value for total depreciation for the year, which is subtracted from the starting RAB.

Regulatory inflation

The final step is adding regulatory inflation. The assets of regulated entities are inflated according to CPI to ensure that shareholders receive their full return on and of capital in real terms. For each year, the starting RAB has depreciation removed and is then inflated according to the historical CPI index.

Results

By iterating the DAC calculation formula for each year between Basslink's commissioning to 2025, the resulting RAB is $831 million in July 2025 dollars.

5.5 Depreciated Optimised Replacement Cost

The Depreciated Optimised Replacement Cost (DORC) method calculates the depreciated construction cost of the best alternative to Basslink. The theory is identical to that of the DAC method in that it assesses what the RAB would have been had an asset been regulated from the beginning. However, it considers the RAB of an alternative 'optimised' asset with the same amount of depreciated life as the actual asset.

To calculate the DORC value, we follow the process set by the Murraylink and Directlink precedents, and the rules set under the Regulatory Test process. As discussed in Section 5.2, to align the DORC method with the principles under the Regulatory Test, we will expand the definition of alternatives to align with the definition of alternatives under the NER and the Regulatory Test. Basslink Pty Ltd engaged independent engineering experts, Amplitude Consultants, to estimate the appropriate alternative projects and cost them. Their independent report is attached to this submission.

In this section, we first discuss the selection of appropriate alternative project and assess their relative costs and benefits. We then explain the method for costing the alternatives that are most likely to provide net market benefits greater than the existing Basslink asset. We then present the results of the estimated construction cost of that alternative and depreciate that value to arrive at a final DORC value.

Alternative projects

The selection of alternatives is the most complex and judgement-based part of the DORC calculations. Projects must be deemed sufficiently similar to Basslink in terms of their ability to address service needs. Projects must also include enough diversity to present a material test. There are infinite variations for each possible alternative, but testing alternatives takes resources that may not be proportional to the information gained. We believe that the fully costed alternatives are likely both diverse enough to present a reasonable test and are the alternatives that are most likely to meaningfully impact the resulting DORC value.

Regulatory requirements for alternative projects

We have followed the definitions and requirements for alternative projects set out in the AER's Directlink decisions. As recorded in the AER's draft decision on the Directlink conversion, in applying the Regulatory Test, proponents are required to consider[50]:

> *"'reasonable network and non-network alternatives' that include (but are not limited to) interconnectors generation options, demand-side options, market network service options and options involving other transmission and distribution networks."*

Directlink's application provides a useful schema for considering alternatives. It states that "the alternative projects:

- are to be relevantly substitutable for Directlink but not necessarily equivalent;
- should attempt to address in part some of the existing and emerging local network constraints identified by the TNSPs;
- should make use of commercially available current technology
- are to have real power transfer capabilities consistent with the limitations of the surrounding network infrastructure and are not necessarily the same as Directlink;
- reactive power transfer capability necessary to make each alternative technically feasible;
- use enhanced control schemes to an extent where the benefits exceed the cost of the control scheme and are technically acceptable; and
- shall cost-effectively address environmentally sensitive areas to the minimum extent necessary to gain environment and planning approval."[51]

Non-interconnector alternatives

We consider it highly unlikely that any non-interconnector project would both fulfil the identified and provide similar net market benefits as the existing asset. Addressing the same identified need without building an interconnector would require a significant cost and a package of investments in Victoria and Tasmania including new generation plants, energy storage options, and ancillary services.

To derive similar benefits to Tasmanian grid reliability as is currently provided by Basslink, an investment in a commensurate amount of firm generation capacity would likely be required. While Tasmania has already a significant amount of firm capacity from hydro plants, this is dependent on hydrological conditions. In the event of a drought, alternative firm capacity would be required. Moreover, Tasmania would lose the opportunity to make a significant amount of revenue on the considerable excess variable renewable generation in its grid if it is not able to send that to the other NEM states.

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[50] *Australian Energy Regulator,* "Directlink Joint Venture Application for Conversion and Revenue Cap – Draft Decision," 8 November 2005. p. 36.

[51] *Directlink Joint Venture,* "Application for Conversion to a Prescribed Service and a Maximum Allowable Revenue for 2005-2014," 6 May 2004.

To achieve the same low per kWh costs of electricity in Victoria as is currently being provided by Tasmanian generators across Basslink, new renewable generation and associated firming storage would likely be required. This would come at a large capital cost. Basslink also provides a significant amount of frequency control services, especially in Victoria. Without Basslink, new plants and ancillary services would have to be commissioned.

Our initial calculations found even when only considering the provision of a similar amount of firm renewable capacity for both states, costs were more than double the actual cost of the interconnector. This doesn't include any of the other important benefits provided by Basslink. Considering this initial result, we consider the development of a full package of non-interconnector investments is highly unlikely to be the best option and the cost of providing a full costing of this package would not be commensurate with this probability.

Route

We consider the route taken by Basslink to be the only applicable route to consider, both because of construction constraints and how regulatory precedent has been set.

Previously, the ACCC determined that the transmission constraints of specific areas containing connection points should be considered as part of the identified need. In its Murraylink determination, the ACCC held that the proponent need not consider alternatives that did not provide both interregional power flows and transmission capacity to the Riverland and Malee regions in which it operated. Similarly, all Directlink alternatives had to simultaneously connect New South Wales and Queensland and provide benefits for the Gold Coast and Tweed regions. Basslink's location in the Gippsland region and its central position on the Tasmanian North Coast provide several specific benefits for each region. The connection to the large generation capacity in the Gippsland region allows for more opportunities for these generators to sell electricity when constraints occur on the westward transmission lines. It also allows a direct line to the reliable firm capacity Tasmania benefits from in times of hydrological stress. In the other direction, its position at Georgetown allows for equally direct access to both the renewable generation capacity to the west and the load centres to the east of Tasma. As such, we will only consider alternatives that travel between Basslink's current starting and ending regions.

When developing the plans for Basslink, the route was carefully negotiated and was optimised around several constraints. The project's designers had to take into account the extensive environmental considerations set out by the Victorian, Tasmanian, and Federal governments. These included regulations on passing through residential and agricultural communities, protected areas such as Wilsons Promontory, coastal and sea floor habitats. While we are not ruling out the possibility that alternative routes were available, it is impossible to say today what other routes may have passed these strict tests when it was being planned, or would pass the tests of today. As such, we will assume for simplicity that all alternative interconnectors pass through the same route.

Technology – HVDC

Amplitude conducted an in-depth study of the most recent transmission technology and have detailed them in their attached expert report. A summary of the findings are included below.

Converter stations

Amplitude found that the two current technology options for converter stations were Line Commutated Converters (LLC) and Modular Multi-level Voltage Source Converters (MMC VSC). LLCs are an older technology and provide some benefits over MMC VSC, but it is vulnerable to low system strengths and cannot provide voltage control on its own. As such, it requires the construction

of synchronous converters on either end of the line. While LCC technology is cheaper than MMC VSC station on its own, the requirement for synchronous condensers means that that MMC VSC technology is expected to be the cheapest alternative overall. Amplitude costed both a MMC VSC option and a LCC option.

Cable technology

Amplitude found that the two current technology options for the HVDC cable were Mass Impregnated cables (MI) and polymeric cables. The difference between these two types is the insulating medium between the metallic core and the protective shielding. Polymeric cables are cheaper, faster to install, can operate at higher temperatures, and pose less of an environmental risk than MI cables. One drawback is that polymeric cables cannot operate with LLC converter stations. However, considering MMC VSC technology is the preferred option anyway, we will consider polymeric cables to be the best option and will be included in our alternative.

Amplitude has estimated the physical capabilities of the cable cores to calculate the minimum cost option that would satisfy the parameters on capacity and flexibility. A discussion of the processes used are included in Amplitude's report. In summary, Amplitude considers a 800 mm^2 Aluminium core to be suitable as the modern alternative technology.

HVDC system configurations

A number of different cable and converter configurations are possible over a HVDC transmission line. The table below shows the pros and cons of each option. Diagrams of the system configurations are available in Amplitude's expert report.

Configuration	Pros	Cons
Asymmetric monopole	• Lowest cost	• No redundancy built into the system
Bipole with metallic return	• Minimum of 50% redundancy • Minimal current in the metallic return during balanced operation	• More expensive than a Monopole system
Symmetric monopole	• Smaller cables required for the same voltage levels, reducing costs • Can use more standard converter technologies.	• No redundancy built into the system
Double symmetric monopole	• Smaller cables required for the same voltage levels, reducing costs • Can use more standard converter technologies. • Minimum of 50% redundancy	• Requires double the number of cables as the symmetric monopole, increasing cost
Rigid bipole	• Minimum of 50% redundancy in the event of a converter fault • No metallic or earth return required	• No redundancy in the event of a cable fault • More costly than the monopole options

On balance, Amplitude considered the symmetric monopole option to be the most cost effective and appropriate configuration to meet the needs of the prescribed service and has proceeded to cost this option as the alternative option.

Technology - HVAC

Amplitude also costed an option for a HVAC cable at a capacity of 500MW. Amplitude noted that a submarine HVAC cable would have lower functionality than a HVDC cable. A HVDC cable is able to provide directional power transfer control, a feature not provided by HVAC. HVAC will also have higher power losses than an HVDC system over this distance of submarine cable.

Furthermore, the complexity and cost of a HVAC system is likely to far exceed that of a HVDC system. The HVAC system that Amplitude decided would be most appropriate includes the need for four separate HVAC cable circuits. Additionally, an HVAC system would require an offshore platform housing a reactive compensation equipment built at the interconnector's midpoint in the Bass Strait. This additional infrastructure adds significant cost as well as complexity and risk to the project.

Costing approach

Amplitude used a number of different costing approaches depending on the availability of cost data. Most costings were estimated by analysing publicly available Engineer, Procure, and Construct (EPC) contracts for similar components on different projects. For each component, Amplitude gathered data from a multitude of EPC contracts, adjusted the costs according to the capacities of the EPC contract. Amplitude then converted these to Australian dollars where relevant and inflated each cost to present day using an appropriate inflator, and then took an average of the available options.

Inflators were chosen that were most relevant to the component in question. For example, many HVDC components are designed and manufactured in Europe. As such, the components generally manufactured in Europe have inflation according to Eurostat's inflation indexes for "Manufacture of electric motors, generators transformers, and electricity distribution and control apparatus" or "Manufacture of other electronic and electric wires and cables". Australian construction wages were set according the Wage Price Index set by the Australian Bureau of Statistics.

Apart from EPC costs, there are a number of other costs involved in building an interconnector. Below we list the categories added to the EPC costs and their calculation process:

- Land costs—are taken from Basslink's recorded land costs, and inflated according to CPI.
- Easement and environmental damage mitigation costs—is calculated by Amplitude according to the most recent recorded Australian easement and environmental damage mitigation costs for transmission projects.
- Risk adjustments—Amplitude determined the appropriate risk adjustment multipliers according to published AEMO cost database for each asset type.[52]
- Non-interconnector PPE—is taken from Basslink's recorded capex during construction costs, and inflated according to CPI. This includes on-site office and shed construction, IT equipment, and equipment spares.
- Interest during construction—is calculated as for the DAC method, using the EPC costings and the additional asset categories above. The work-in-progress assets are multiplied by the efficient WACC in each year to determine an interest during construction value. We have assumed the construction profile is the same as calculated in the DAC method, as the construction characteristics modelled by Amplitude are similar to that of the actual Basslink construction characteristics.
- Equity raising costs—are calculated as for the DAC method, using the EPC costings and the additional asset categories above. The amount of equity needed to be raised is calculated by multiplying the efficient equity-to-asset ratio by the total asset value for each alternative scenario. Then, that equity is multiplied by the efficient equity raising cost rate as per the DAC method.

[52] *Australian Electricity Market Operator,* "AEMO Cost Estimation Tool," 28 April 2023.

Alternative Project Cost Results

A summary of the results for the total replacement cost of the optimal alternative is shown in the table below.

Table 5.2 - Total replacement cost of optimal alternative

Scenario	EPC only	Total
HVDC MMC VSC	$1,581 million	$1,701 million
HVDC LLC	$1,672 million	$1,795 million
HVAC	$5,025 million	$5,259 million
Basslink actual	$1,355 million	$1,467 million

** All values are in July 2023 dollars*

As is clear from these results, the actual Basslink asset was constructed for more than $200 million less than the current replacement cost of optimised alternatives, in real terms. The increase in cost of similar assets is driven by the steep inflation of the materials required to build it and the labour required to manufacture and install it.

Depreciating the ORC Results

Once the ORC results are calculated, we must depreciate all depreciable assets in the alternative options to match the current depreciation of the Basslink asset.

To do so, we must assume asset lives for the asset in the alternative options and depreciate the assets accordingly. We have aligned the specific asset categories calculated by Amplitude with the asset categories set out in **Attachment 6** – Asset Classes, Asset Lives and Depreciation. We consider there to not be any significant changes in the assumed regulatory asset lives of much of the standard electrical equipment required for any of the alternative options. Moreover, assuming an increased average asset lives for the alternative options would increase the overall DORC RAB and thus, in the interest of maintaining a conservative stance, we have elected to keep the asset lives as per our DAC calculation.

Using these asset lives, we calculate a percentage of their useful lives already depreciated. Between the commissioning in April 2006 and the proposed conversion in July 2025, there will have been 230 months, or 19.2 years. For a 40-year total asset life, this leaves 250 months remaining, or 52.1% of the full asset life. By multiplying this percentage by the cost of the depreciable assets, we determine the depreciated value of the alternative assets for each asset category.

Lastly, we inflate all July 2023 values by our CPI inflation forecast to arrive at a value of assets as of July 2025.

The results from the DORC calculations are shown in the table below.

Table 5.3 - DORC calculation results

Scenario	DORC in 2025 dollars
HVDC MMC VSC	$1,079 million
HVDC LLC	$1,138 million
HVAC	$3,331 million
DORC valuation	**$1,079 million**

5.6 Results

According to the Murraylink and Directlink precedents, and in accordance with the transitional provisions, Basslink's RAB is to be determined as the lesser of gross market benefits and the efficient cost of the optimal project required to deliver those benefits. Arguably, this could be satisfied by simply comparing gross market benefits to a DORC value for the optimally designed asset. However in this proposal Basslink Pty Ltd has taken a conservative approach by also considering a DAC value for the existing asset.

Thus, the proposed RAB value is the lesser of:

- Present value of the total gross market benefits, less the net present value of Basslink's long-term costs of operation;
- The RAB as calculated under the Depreciated Actual Cost method;
- The RAB as calculated under the Depreciated Optimised Replacement Cost method.

The following table presents the results of each methodology:

Table 5.4 - RAB methodology results

Method	Result
Market benefits less long-term costs of operation – Step change/single stage scenario	$3,748 million
Market benefits less long-term costs of operation – Progressive change/single stage scenario	$4,190 million
Market benefits less long-term costs of operation – Hydrogen Superpower/single stage scenario	$3,102 million
DAC	$831 million
DORC	$1,079 million
Proposed RAB	**$831 million**

As the lowest RAB is calculated under the DAC method, we propose that Basslink's RAB be set as $831 million.

5.7 Further calculations for information

In addition to completing the calculations as allowed by the Rules,[53] Basslink Pty Ltd has conducted additional calculations for information relating to other approaches to calculating Regulatory Asset Bases for stakeholder information.

We have conducted two calculations: a market benefits calculation for lower asset capacities (Section 7.1), and a Recovered Capital calculation (Section 7.2).

Net market benefits of lower capacity assets.

The framework for determining the RAB (following the Murraylink and Directlink precedents) requires an assessment of the costs and market benefits of options capable of delivering an equivalent service potential to the existing asset. The existing assets provides a capacity of approximately 500MW, and if regulatory conversion occurs, the prescribed service will reflect this service capability. Accordingly, the analysis of market benefits and costs outlined above reflects this capability.

For stakeholder information, we have also considered the market benefits and costs associated with lower capacity links. This does not form part of the RAB assessment. However it demonstrates that not only does the existing Basslink deliver a net market benefit, it also delivers a *greater* market benefit than hypothetical lower capacity options.

While our capacity analysis does not form part of the legally applicable Regulatory Test, we have calculated the net market benefits of different transfer capacities for stakeholder information.

In our comparison, we have assessed the net market benefits of the lowest cost asset options for different transfer capacities. The lowest cost option for the 500MW version of the asset is the actual asset calculated using the DAC methodology, as shown in Section 6. We have chosen to test the net market benefits of systems at 350MW and 150MW of capacity. We consider testing these capacities provides an appropriate balance between assessing a spread of capacity values, and the significant cost and time required to run the analysis of net market benefits for each capacity scenario.

Costs

We asked Amplitude to forecast the cost for an interconnector in the same route as Basslink, but at the alternative transfer capacities. Amplitude costed VSC-HVDC interconnector options as they were far more likely to provide higher net market benefits than HVAC or LCC-HVDC options.

Amplitude assessed the construction cost using the same process as for the DORC valuation method for the 500MW alternative (see Section 5.2). We then applied the same calculations to convert Amplitude's construction cost forecast to a DORC value as for the 500MW alternative (see Section 5.2). Their results are shown in the table below.

[53] The National Electricity Rules, Clause 11.6.20

Table 5.5F - Construction cost forecast DORC valuation

	Construction cost in 2023 dollars		DORC valuation in 2025 dollars
	EPC only	Total	Total
HVDC – 350 MW	$1,260 million	$1,369 million	$868 million
HVDC – 150 MW	$855 million	$950 million	$603 million
DAC method	**$1,137 million**	**$1,401 million**	**$831 million**

Despite a reduction in capacity of 30% in the 350MW scenario and 70% in the 150MW scenario, the total DORC construction costs only decline 20% and 45% respectively. This is due to the fact that the construction of an interconnector will incur some costs that are largely fixed no matter the capacity of the interconnector. This includes costs such as land, easements, and cable laying campaigns.

Net market benefits

We then compared the costs against the market benefits of the different interconnection capacities. As discussed in **Attachment 2** – Net market benefits, EY conducted the same market modelling for the 350MW and 150MW levels as it used in the assessment of the market benefits of the 500MW asset. The comparable market benefits for the 350W and 150MW capacities were only assessed under the ISP Step-Change scenario. As such, the comparable market benefits for the actual asset in the table below is also for the Step-Change scenario to maintain a comparison on a like-for-like basis. We have chosen to show the results of the modelling assuming Marinus' commissioning meets the ISP's schedule, but the net market benefits for the DAC method exceed the net market benefits under the alternative capacities regardless of Marinus' timing.

Table 5.6 - Comparable market benefits

	A. Asset valuation	B. Market benefits	(B – A) Net market benefits
HVDC – 350 MW	$869 million	$3,443 million	$1,986 million
HVDC – 150 MW	$603 million	$1,713 million	$521 million
Basslink actual	**$831 million**	**$3,640 million**	**$2,810 million**

** All values are in July 2025 dollars.*

These results show that the 500MW capacity option provides the highest net market benefits. This is logically consistent with the Marinuslink modelling showing net market benefits for the project. If additional transfer capacity above 500MWs provides positive benefits, it must follow that lower transfer capacities are not maximising the market benefits.

Recovered capital test

The second additional calculation we undertook for stakeholder information was a calculation of the RAB under the Recovered Capital method (RCM). The RCM has been used by the AER since 2017 as one of two methods for calculating the asset values of non-scheme gas pipelines.

The RCM focuses on the historical capital recovered by the asset owner and calculates a RAB that ensures that the regulated entity will recover the efficient return of and on capital over the life of the asset. The RCM corrects for historical deviations from efficient recovery by increasing the RAB if the

asset owner under-recovered its efficient return, and reduces the RAB if the asset owner over-recovered.

If the RAB as calculated by the RCM is lower than the RAB under the DAC method, the asset owner historically recovered more than the efficient market recovery. If the RAB were then set according to the DAC method, the asset owner would benefit from locking in that over-recovery and this could be considered a windfall gain. Therefore, in this test we are making sure that Basslink has not historically over-recovered from consumers and is not locking in a windfall gain.

We find that the RCM RAB is higher than the DAC method RAB—suggesting Basslink Pty Ltd historically under-recovered compared to the efficient level of recovery. This is consistent with the history of Basslink Pty Ltd as a single asset business that has been placed in administration.

Methodology

To calculate the RC method RAB value, the RAB as per a usual Roll Forward model is calculated as per the DAC calculation. However, this standard RAC in each year includes some Recovery Adjustment Factor (RAF). This factor will adjust the RAB higher or lower depending on if the asset owner over- or under-recovered. The RAF is the difference between the efficient recovery amount and the actual recovery amount. That is:

$$\boldsymbol{RAF = R_e - R_a = W_e - (I_a - O_a - T_a)}$$

Where:

- R_e is the efficient recovery amount.
- R_a is the actual recovered amount.
- W_e is the efficient allowance for a return on capital invested (the WACC allowance) for that period.
- I_a is the income Basslink received for the period
- O_a is the actual operating costs for the period
- T_a is the tax cost incurred by Basslink for the period.

The following sections discuss the elements of this equation in greater detail.

Income

Income is taken from Basslink Pty Ltd's annual record of accounts, with some adjustments made. For the period over which the BSA was active, revenue was generated principally through fees and charges to Hydro Tasmania (HT). This included the facility fees as well as several risk-sharing and incentive mechanisms. Since the dissolution of the BSA, these fees have continued under the BOA, but these will cease once Basslink becomes a prescribed service. Other income categories included interest income, consulting income, and net currency gains. We did not include the revenue generated by Basslink Telecom as that asset will not become part of the prescribed service. We also removed interest income as this is covered by the capital allowances.

Revenue data was collected from Basslink Pty Ltd's record of accounts submitted to ASIC. These accounts span from 1 April 2000 to 30 June 2022.[54] These annual reports detail revenues and costs across over more than 10 categories. We consider the data to be of high quality and at a sufficient level of detail to conduct this calculation.

[54] In 2005, Basslink changed its start of financial year from 1 April to 1 July. We reconstituted all pre-2005 reports using Basslink's general ledger to match the 1 July start of the financial year.

We must also forecast income for the period between the submission of this application and the expected conversion date. Our income forecasts are based on a commercial estimation of Basslink's potential revenues under the BOA. APA's finance team began with the set facility fee and predicted the effects of the risk sharing mechanisms by applying APA's firm-wide medium-term macroeconomic forecasts.

Operating and tax costs

To determine the historical operating and tax costs, we used the data from Basslink Pty Ltd's record of accounts submitted to ASIC. These accounts span from 1 April 2000 to 30 June 2022.[55] These annual reports detail revenues and costs across over 200 categories. We consider the data to be of high quality and at a sufficient level of detail to conduct this calculation.

However, we removed a number of cost categories from Basslink's recorded opex statements to align it with the principles of the RCM:

- Costs associated with Basslink Telecom—as this asset will not become part of the prescribed service. We applied the same approach to differentiate these costs as is discussed in **Attachment 8** – Forecast Operating Expenditure.
- Finance expenses, loan forgiveness, and currency hedging costs—as these are all explicitly or implicitly part of the overall cost of debt and are thus covered by the capital allowances.
- Depreciation—as this does not apply to regulatory operating costs.

We also note that over the period Basslink Pty Ltd has been part of the APA Group, some operating costs have been and will continue to be incurred at a divisional or corporate level. These include the costs such as insurance, engineering, and management overheads. The allocation of these costs are conducted according to Clause 6a.19.4 of the NER.

We also forecast the operating costs of Basslink Pty Ltd between the submission of this proposal and the proposed conversion date. These were conducted differently depending on whether they were employee costs or other costs. For employee costs, we scaled these according the number of employees it forecast to require over the next two years to deliver the same service levels. This included a forecast of staff directly related to Basslink, but also a portion of overhead staff costs to be allocated according to APA's cost allocation methodology.

For all other costs, the FY2024 values are determined according to APA's internal budget for Basslink and overhead costs. The budget levels were determined across over 20 cost categories by discussing with relevant technical experts what their expectations are across the company. These are the same figures used in APA's financial forecasts and are used to inform shareholders. Accordingly, a significant amount of effort is put into making sure these values are detailed and as accurate as possible. The FY2025 costs are determined by inflating the FY2024 budget values by APA's corporate CPI forecast.

Return on capital

The efficient return on capital is calculated by multiplying the asset base with the efficient weighted average cost of capital (WACC), as per the DAC method.

[55] In 2005, Basslink changed its start of financial year from 1 April to 1 July. We reconstituted all pre-2005 reports using Basslink's general ledger to match the 1 July start of the financial year.

Since Basslink has operated on a commercial basis from its inception and will continue to do so until it becomes a regulated NSP, it is appropriate to consider the applicable WACC to be that of an efficient commercial entity. We maintain consistency by using the same methodology for calculating WACC for past years as we do for our forward-looking WACC allowance, but we apply commercial debt and equity rates to the formula. While we consider a commercial WACC to be most appropriate, APA's initial modelling suggests that the findings of this test do not change materially if a regulated WACC is applied. In this calculation, capital expenditure generates a half-year return in the year it's incurred.

In order to estimate the return on capital for RCM calculations, it's necessary to assume a specific level of debt and equity capitalization for the funding of new assets. This is not derived from the statutory financial statements, even in the case of a single asset service provider. Instead, we assume an efficient capital structure as assumed in the assessment of the WACC calculations.[56] While we consider capex to be funded in line with the efficient capital structure, it's worth noting that the capital structure can change under this approach. In cases where the RCM asset valuation indicates a revenue shortfall, we model this shortfall to be covered by additional contributions from equity holders rather than additional borrowing. This approach aligns with the well-accepted principle that lenders won't finance losses. In any given year, the combined amounts of debt and equity should sum up to the running total opening capital base calculated up to that point under the RCM, plus the current year's capital expenditure.

Return on debt

A market interest rate was determined by an expert firm in the financial services sector, reflecting the opportunities for a business such as the service provider to raise capital. This analysis allowed a market return on debt to be estimated, having regard to the observed spread above a well-reported swap rate and a premium applied for smaller size and single-asset businesses. The expert firm has calculated a cost of debt for all years included in the RCM analysis.

Return on equity

The return on equity has been estimated using the Capital Asset Pricing Model (CAPM):

$Re = Rf + \beta (Rm - Rf)$

Where:

- Re is the Return on equity in the relevant year;
- Rf is the Risk Free Rate in the relevant year;
- β is Beta, a measure of the risk of the asset relative to the market; and
- (Rm-Rf) is the "Market Risk Premium".

The data set used to estimate the Rf component for historical years is that developed by Brailsford, Handley and Maheswaran (2012)[57] as updated to the reporting date.

The service provider adopts a beta value of 1.0, reflecting the risks the service provider faces in providing services as a single-asset unregulated business, subject to the market and the market of its customers.

[56] As discussed in **Attachment 9** – Rate of Return, this is assessed as a 60% debt, 40% equity split.
[57] Tim Brailsford, John C. Handley, and Krishnan Maheswaran. (2012) "The historical equity risk premium in Australia: Post-GFC and 128 years of data" Accounting and Finance, 52 (1), 237-247

A market risk premium of 6.5% has been applied in the Capital Asset Pricing Model as described above. This is consistent with the standard market accepted risk premium over the reporting period.

The calculated return on equity is applied to the "running total" opening RCM capital base multiplied by the equity ratio (as discussed under "capital structure" above).

Net tax liabilities

In order to estimate a net tax liability, we have adopted a post-tax approach with net tax liabilities modelled explicitly, by undertaking an abbreviated tax calculation:

1. starting with revenue as reported above;
2. less operating expenditure as reported above;
3. interest expense was taken to match that used in the Return on Capital calculation as discussed above;
4. tax depreciation was calculated based on accumulated capital expenditure as reported above, with tax depreciation calculated on a straight line basis over a 20 year life, commencing in the year after expenditure; and
5. tax liability was calculated as this taxable income, multiplied by the prevailing tax rate for the relevant year. Where tax losses are generated through this calculation, they are accumulated and preserved, and used to offset against future net tax liabilities as they arise.

Results

The RAB under the RCM is $2,488 million. As this is higher than the DAC method valuation, this means that Basslink failed to meet its historical operating costs and provide an appropriate return on capital to investors. This aligns with the fact that Basslink Pty Ltd historically faced solvency issues and has previously been under administration.

Method	
RCM	$2,488 million
DAC method	**$831 million**

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September 15, 2023

Attachment 6: Asset Class Asset Lives and Depreciation

6.1 Executive Summary

Basslink Pty Ltd has adopted a simple approach to Asset Classes that is consistent with the requirements of the Rules.

We have continued to use the asset classes and asset lives that were originally derived by Basslink at the time it created its Fixed Asset Register.

We have adjusted the asset lives on the fixed asset register to be consistent with the AER's determinations on overhead lines for the other TNSPs.

The asset classes, asset lives and tax asset lives are set out in the tables below.

6.2 Regulatory Requirements

National Electricity Rules

The Rules require that TNSP, as part of their revenue determination[58]

> *The NER require that a revenue determination for a TNSP for a regulatory control period specifies "the annual building block revenue requirement for each regulatory year of the regulatory control period."*

Part of the annual building block revenue requirement is the depreciation for each regulatory year of the regulatory control period. This must be calculated in accordance with Rule 6A.6.3, using depreciation schedules that are set out in the TNSP's revenue proposal.[59]

Rule 6A.6.3(b)(1) relevantly requires that the depreciation schedules:

> *except as provided in paragraph [6A.6.3](c), must depreciate using a profile that reflects the nature of the assets or category of assets over the economic life of that asset or category of assets.*

While it is possible to depreciate each asset individually, this provides for significant complexity and creates little benefit in terms of accuracy and has no incentive effect on the incentive of the business to operate the network in accordance with the requirements of the Rules.[60] We have accordingly elected to depreciate based on categories of asset.

While it is possible to estimate the economic life of some assets in a direct way from the amount of use of that asset, this is not the case for electricity transmission assets. So the AER and TNSPs use

[58] NER 6A.4.2(a)(2).
[59] NER 6A.5.4(b)(3).
[60] NER 6A.6.3(b)(2).

a depreciation profile that recovers the cost of the asset over its estimated economic life. In most cases this is a straight-line profile. These models contain the depreciation schedules.

AER's regulatory models

TNSPs are required to use the AER's Regulatory Asset Base Roll Forward Model (RAB RFM) and Post Tax Revenue Model (PTRM). These models calculate historic depreciation for the determination of the value of the regulatory asset base (RAB RFM) and forecast regulatory depreciation for the purpose of calculating the building block revenue.

The mechanics of this calculation in the AER's models are straight forward. There are two inputs relevant to the calculation of depreciation (both historic and forecast):

- Standard Asset Life; and
- Weighted Average Remaining Life.

The Standard Asset Life is the depreciation life of a new asset in that asset class. It is the time period over which the cost of a new asset will be completely recovered[61].

The Weighted Average Remaining Life is in effect a simplification to the calculation of depreciation in subsequent regulatory periods that does not require the monitoring of each year's capital additions to the RAB separately without changing the revenue outcome. It does this by taking a value weighted average of new capex and existing assets. The remaining life of existing assets is reduced by one year and the new capex is added at the standard asset life.

The remaining life is calculated and presented in the Roll Forward Model (**Attachment 5.1**)

Requirements for the Revenue Proposal

The Rules require that a Revenue Proposal include the depreciation schedules proposed by the TNSP, together with:

- details of all amounts, values and other inputs used by the TNSP to compile those depreciation schedules (including an explanation of their calculation); and
- a demonstration that the depreciation schedules conform with the requirements set out in clause 6A.6.3(b).

In order to meet the requirements of the Rules, Basslink proposes:

- categories of assets (regulatory asset classes) and
- their economic life (regulatory asset lives).

These are the inputs and assumptions used to derive Basslink's proposed depreciation schedules using the RAB RFM and PTRM. The proposed depreciation schedules can be found in these models, at **Attachment 5.1 and 4.2**.

The remainder of this attachment explains how the key inputs and assumptions underlying the depreciation schedules have been derived, and how they comply with the applicable NER requirements.

[61] Due to the operation of indexation of the regulatory asset base the asset cost is recovered in real terms.

6.3 Categories of Asset (Regulatory Asset Classes)

Under the Rules a TNSP is required to specify the depreciation schedule by asset or categories of asset and is required to categorise the forecast capital expenditure and depreciation into asset classes[62] which are then used to create forecast depreciation.

The AER and all other TNSPs resolve this difference in terminology in the rules between categories of assets and asset classes by treating the terms interchangeably. For example, see the AER's Regulatory Asset Base Role Forward Model. For consistency Basslink Pty Ltd will use the term asset class to refer to both the Asset Class and Category of Asset.

The terms category of asset and asset class are undefined terms in the Rules. There is no direction in the Law or Rules as to the composition of criteria for creating an asset class.

The function of the asset class is to group assets for the purpose of creating a group with a single standard asset life to simplify the calculation of depreciation. Logically, this means that the necessary condition for creating an asset class is that assigning a single standard asset life is appropriate for the assets that are grouped in that asset class.

For accounting purposes assets are classified into classes[63]:

> *PP&E [Property, Plant and Equipment] items are commonly grouped into classes, which are groups of assets having a similar nature and use. Examples of PP&E classes are buildings, furniture and fixtures, land, machinery, and motor vehicles. Items grouped within a class are typically depreciated using a common depreciation calculation.*

Basslink Pty Ltd has adopted the accounting asset classes in the Basslink Fixed Asset Register given that the driver for creating these classes is the same as the purpose of determining asset classes for regulatory purposes.

This has the additional benefit of allowing Basslink Pty Ltd's capital expenditure dating back to 2002 to be categorised into transparent and simple asset classes that have already been used for accounting purposes.

There are two exceptions to the use of the Basslink Financial Accounting Asset Classes. These are Building Installation and In-house software which have been identified by the AER as having different depreciation treatment for taxation purposes and have been added to the list of asset classes by Basslink for the purpose of catching these types of capital expenditure going forward.

[62] NER
[63] https://www.accountingtools.com/articles/property-plant-and-equipment#:~:text=Classifications%20of%20Property%2C%20Plant%2C%20and%20Equipment&text=Examples%20of%20PP%26E%20classes%20are,using%20a%20common%20depreciation%20calculation.

The proposed asset classes are set out in the table below:

Table 6.1 – Proposed Asset Classes

Asset Classes
AC FILTERS
AC SWITCHYARD
AUXILIARY SYSTEMS
BUILDING INSTALLATION
CABLE
CONTROL SYSTEM
CONVERTER TRANSFORMER
DC FILTER
DC SWITCHYARD
EASEMENT
FREEHOLD LAND
IN-HOUSE SOFTWARE
MEASURING DEVICES
MOTOR VEHICLES
OTHER
OVERHEAD LINES
SMOOTHING REACTOR
STATION POWER SUPPLY
SWITCHYARD COMPONENTS
VALVE COOLING
VALVE HALL

6.4 Economic Life (Regulatory Asset Lives)

The Rules require the depreciation schedules for each asset or category of assets nominated in Basslink's Revenue Proposal specify the economic life of the asset classes.[64]

Economic life is not a defined term in the Rules. However it implies that the life of the asset should be the lesser of the commercial or technical life of the asset.

AASB 116 Property Plant and Equipment defines the asset life for accounting purposes as

[64] NER 6A.6.3(b)(2)

The useful life of an asset is defined in terms of the asset's expected utility to the entity. The asset management policy of the entity may involve the disposal of assets after a specified time or after consumption of a specified proportion of the future economic benefits embodied in the asset. Therefore, the useful life of an asset may be shorter than its economic life. The estimation of the useful life of the asset is a matter of judgement based on the experience of the entity with similar assets.

With the exception of where the Asset Management Policy of the Entity is to dispose of the asset after a specified time or after consumption of a specified proportion of the future economic benefits embodied in the asset, both the regulatory and accounting standards require the same assessment. Basslink has no policies to dispose of assets after a specified time or when a specified portion of the economic value has been consumed.

This means that the asset lives in the Basslink fixed asset register are based on the economic life of the asset class. Therefore we are proposing to use, as a starting point, the accounting asset lives for the asset classes as contained in the fixed asset register.

Table 6.2 – Basslink Accounting Asset Lives

Asset Class	Accounting Asset Life
AC FILTERS	10
AC SWITCHYARD	40
AUXILIARY SYSTEMS	30
CABLE	40
CONTROL SYSTEM	20
CONVERTER TRANSFORMER	25
DC FILTER	10
DC SWITCHYARD	40
EASEMENT	n/a
FREEHOLD LAND	n/a
MEASURING DEVICES	10
MOTOR VEHICLES	5
OTHER	5
OVERHEAD LINES	40
SMOOTHING REACTOR	35
STATION POWER SUPPLY	13
SWITCHYARD COMPONENTS	40
VALVE COOLING	13
VALVE HALL	40

We have adjusted the asset life of the Overhead Lines asset class so that it better aligns with that of the other TNSPs (see below table). Basslink Pty Ltd is proposing the mid-point (55 years) of the regulated standard asset lives for overhead cables as part of its proposal.

Table 6.3 – TNSP comparison of asset lives

TNSP	Asset Class	Life
ElectraNet	Transmission lines - Overhead	55
Directlink	Transmission lines - Overhead	50
Transgrid	Transmission lines (2018-2023)	50
TasNetworks	Transmission Lines and Cables	60
Powerlink	Transmission Lines - Overhead	50
AusNet	Towers and Conductor	60

As noted in Section 6.3 above, we have also included the two asset classes identified by the AER as having different tax treatment for regulatory purposes. These are set out in the table below.

Table 6.4 – Basslink AER Asset Classes and Asset Lives

Asset Class	Asset Life
Building Installation	40
In house Software	5

Asset Lives

Basslink Pty Ltd is therefore proposing the following regulated standard asset lives.

Table 6.5 – Asset Classes and Asset lives

Asset Class	Accounting Asset Life
AC FILTERS	10
AC SWITCHYARD	40
AUXILIARY SYSTEMS	30
BUILDINGS	40
CABLE	40
CONTROL SYSTEM	20
CONVERTER TRANSFORMER	25
DC FILTER	10

Asset Class	Accounting Asset Life
DC SWITCHYARD	40
EASEMENT	n/a
FREEHOLD LAND	n/a
IN HOUSE SOFTWARE	5
MEASURING DEVICES	10
MOTOR VEHICLES	5
OTHER	5
OVERHEAD LINES	55
SMOOTHING REACTOR	35
STATION POWER SUPPLY	13
SWITCHYARD COMPONENTS	40
VALVE COOLING	13
VALVE HALL	40

6.5 Actual or Forecast Inflation

The Rules requires that a revenue determination for a TNSP must[65]

> *"specify whether depreciation for establishing the regulatory asset base as at the commencement of the following regulatory control period is to be based on actual or forecast capital expenditure."*

Basslink Pty Ltd proposes, that similar to other APA assets, the regulatory asset base for the following regulatory control period should be based on forecast capital expenditure.

6.6 Tax Asset Lives

We have set the Regulatory Tax Asset lives based on Public Taxation Ruling TR 2022/1. This public ruling is the Australian Taxation Office's.

We identified the most significant, by value, asset within each asset class. We then identified the relevant asset type in TR 2022/1 and assigned the taxation life to the asset class. This is set out in table 6.6 below.

[65] NER 6A.4.2(a1)

Table 6.6 – Taxation Class and Taxation life

Asset Class	Relevant Asset Type	Taxation life
AC FILTERS	Filters	15
AC SWITCHYARD	On site switchyards with conventional outdoor switchgear	40
AUXILIARY SYSTEMS	Station and auxiliary electrical systems within power stations	40
BUILDINGS	Power Station Buildings	40
CABLE	Customer Service mains or cable	40
CONTROL SYSTEM	Control and monitoring system	15
CONVERTER TRANSFORMER	General Transformers and unit transformers	25
DC FILTER	Filters	15
DC SWITCHYARD	On site switchyards with conventional outdoor switchgear	40
EASEMENT	n/a	n/a
FREEHOLD LAND	n/a	n/a
IN-HOUSE SOFTWARE	In-house software	5
MEASURING DEVICES	Measuring and monitoring devices	15
MOTOR VEHICLES	APA Group Tax Policy	8
OTHER	Other	15
OVERHEAD LINES	Customer service mains or cable above ground	40
SMOOTHING REACTOR	Reactor	25
STATION POWER SUPPLY	Station and auxiliary electrical systems within the power station	40
SWITCHYARD COMPONENTS	On site switchyards with conventional outdoor switchgear	40
VALVE COOLING	Piping and valves	15
VALVE HALL	Power station civil and Structural work	30

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Attachment 7: Capital Expenditure

7.1 Summary

Capital expenditure (capex) covers the investments needed to ensure that Basslink can continue to operate safely, securely, and reliably.

Basslink Pty Ltd's investment requirements reflect the unique role it plays in the Australian energy system, being the only subsea HVDC interconnector in operation.

While Basslink shares similar technologies with other infrastructure (such as overhead lines) it has several special components. These include 290km of subsea cable, converter stations which use thyristor valves to convert electricity from alternating current (AC) to direct current (DC), and the control and protection system, a sophisticated super-computer, which ensures the safe, reliable, and seamless integration between the Tasmanian and Victorian electricity grids.

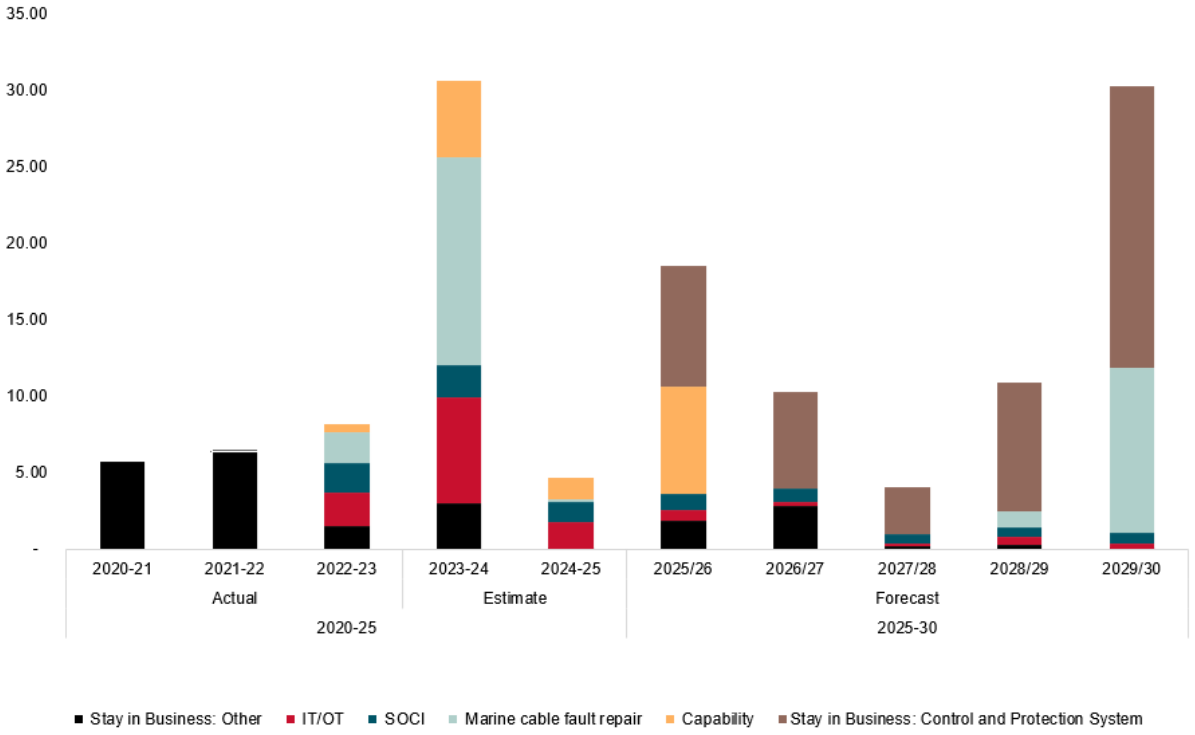
Basslink is a critical element of the Australian energy system. It is currently the only link between Tasmania and Victoria. Basslink has a vital role in protecting Tasmania against the risk of drought related energy shortages while providing Victoria with secure renewable energy at peak times.

Basslink's operating context guides our investment decisions. In terms of reliability, this means ensuring capacity at times of peak demand as well as the ability to recover from faults to prevent Tasmania from being 'islanded' from the national electricity market for an extended period. Basslink's cable outage in 2015/16 combined with low rainfall led to one of the most significant energy security challenges in Tasmania's history. This is consistent with feedback from consumers where 84% were supportive, in principle, of greater energy reliability for the future.

Basslink was first commissioned in 2006 and will soon reach 20 years of age. Consistent with Good Electricity Industry Practice, a replacement of the Control and Protection System (which generally have an economic life of 15-20 years) will be required over the course of the 2025-30 regulatory period.

As shown in Figure 7.1, this investment results in a lumpy expenditure profile (typical of transmission assets).

Figure 7.1:Actual and forecast capital Expenditure ($FY25)[66]



In addition to replacing the Control and Protection System, ongoing capex is required to:

- prepare equipment for cable repair vessels
- meet the requirements of the Security of Critical Infrastructure Act 2018 (the SoCI Act),
- refresh Information Technology and Operational Technology Systems (IT/OT) and
- replace or refurbish key components as they reach end of life (Stay in Business – discussed further below).

We are also forecasting a capability project to increase the ambient temperature limits which apply to Basslink. Increasing these limits will ensure that Basslink can maintain transfer capacity on hot days when the electricity system is under the greatest pressure.

[66] Note we have not split out capex incurred prior to APA's acquisition of Basslink.

Table 7.1 below shows that:

- excluding the Control and Protection System replacement, forecast capex for the 2025-30 regulatory period is $29.9 million. This is 54% lower than the $53.3 million estimated to be incurred over the preceding 5 years.
- Including the Control and Protection System replacement, forecast capex for 2025-30 is $74.1 million.

Table 7.1 – Capex by category 2020-25 and 2025-30 ($2024/25)

Category	2020-25	2025-30
Stay in business	16.6	49.4
Control and Protection System	0.0	44.2
Other	16.6	5.2
Marine cable repair vessel	15.7	11.8
SOCI	5.4	3.8
IT/OT	10.9	2.1
Capability	7.0	7.0
Total	**53.3**	**74.1**

Further supporting information can be found at:

- **Attachment 7.1** Lifecycle Management Plan
- **Attachment 7.2** to **7.6** Business cases

1. Key Assumptions

Basslink will be converted to a TNSP on 1 July 2025.

No increase in the maximum capacity of the Basslink Interconnectors is being undertaken in the period 1 July 2025 to 30 June 2030.

The forecasts are based on current legislative and regulatory obligations and that those obligations will not materially change prior to 30 June 2030.

7.2 Asset Planning and Execution

Operational Requirements

Basslink's operational requirements are set out in the Basslink Operations Agreement (BOA) between Basslink Pty Ltd and the Tasmanian Government. This differs from most other energy assets which typically have obligations set out in regulation, legislation, or licences. The BOA requires compliance with an adjusted meaning of Good Electricity Industry Practice:

> *Good Electricity Industry Practice has the meaning given in the NER, provided that where the practice concerns the operation of an interconnection under conditions comparable to Basslink, the reference in the NER definition to a significant proportion of operators shall be taken to be a reference to a significant proportion of operators in OECD nations exercising that degree of skill, diligence, prudence and foresight that reasonably would be expected from an operator of an interconnection under conditions comparable to those applicable to Basslink (taking into account factors such as, but not limited to, the relative size, duty, age and technological status of the relevant interconnection, the thermal limits of the Basslink HVDC cable, the applicable Approvals and Legislative Requirements and the applicable standards (including, but not limited to, ISO 55000, IEC Standards and CIGRE papers)).*

Notably, this definition emphasises the nature of Basslink (being an interconnector), global best practice of interconnector operators and best practice standards. CIGRE is the International Council on Large Electric Systems – a non-profit association promoting collaboration with experts from around the world. The IEC is the International Electrotechnical Commission a not-for-profit membership organisation which publishes international standards.

The BOA also sets out technical performance standards which must be met including:

- Annual availability of at least 97% of trading intervals, this includes both planned and unplanned interruptions.
- A maximum repair time of four months in the event of a cable failure (although this can be extended subject to suitable weather conditions).
- Maximum number of unplanned interruptions of five per annum.
- The ability to accommodate short circuits within the Tasmanian and Victorian power systems, to the extent and manner required by Connection Agreements.

These technical performance standards are contractual obligations, which are equivalent to the regulatory obligations that applied to other energy assets at the time the BOA was entered into. Non-compliance with the BOA can lead to penalties including cessation of operations and transfer of Basslink to the Tasmanian Government.

Basslink Pty Ltd's service obligations and performance standards under the BOA are akin to regulatory obligations under the NEL.

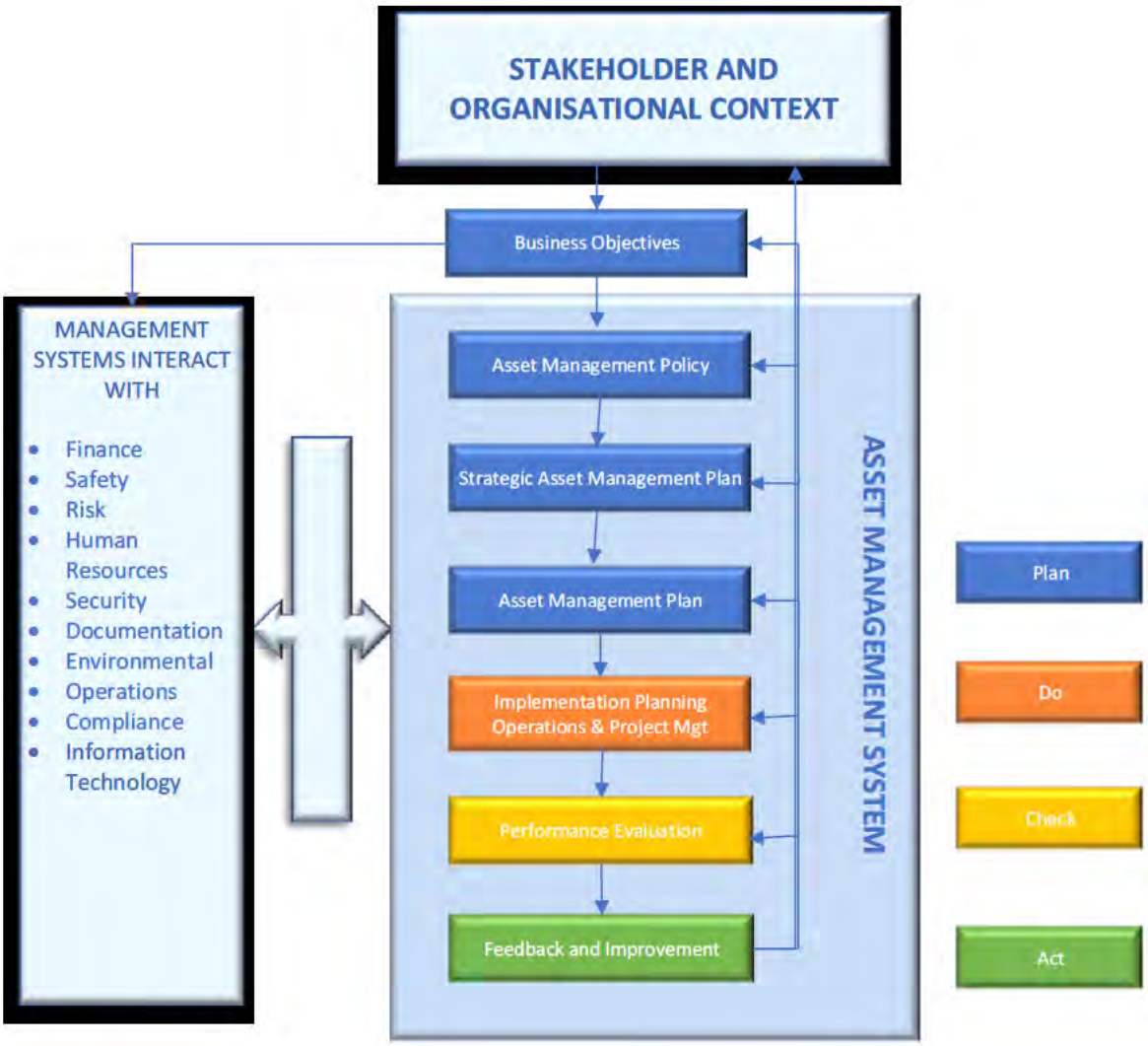
Even if they are not characterised as "regulatory obligations" in a strict sense, they are standards of performance and reliability which Basslink is currently required to meet. Accordingly, any expenditure required to meet those contractual obligations is also necessary to maintain quality, reliability and security of supply.

Asset Management System

The operational requirements set out in the BOA together with other relevant legislative and regulatory obligations flow through Basslink's Asset Management System aligned to ISO55001 (AMS). These requirements form part of the stakeholder and organisational context and flow through the AMS as shown in

Figure 7.2.

Figure 7.2 Basslink's Asset Management System



Basslink Pty Ltd's AMS is currently being integrated into APA's AMS. While this will require changes to reflect the change in organisational context, it will not result in any fundamental change to the forecast projects to be undertaken in the period FY26 to FY30. Basslink will continue to be operated in accordance with Good Electricity Industry Practice to achieve the technical performance standards set out in the BOA.

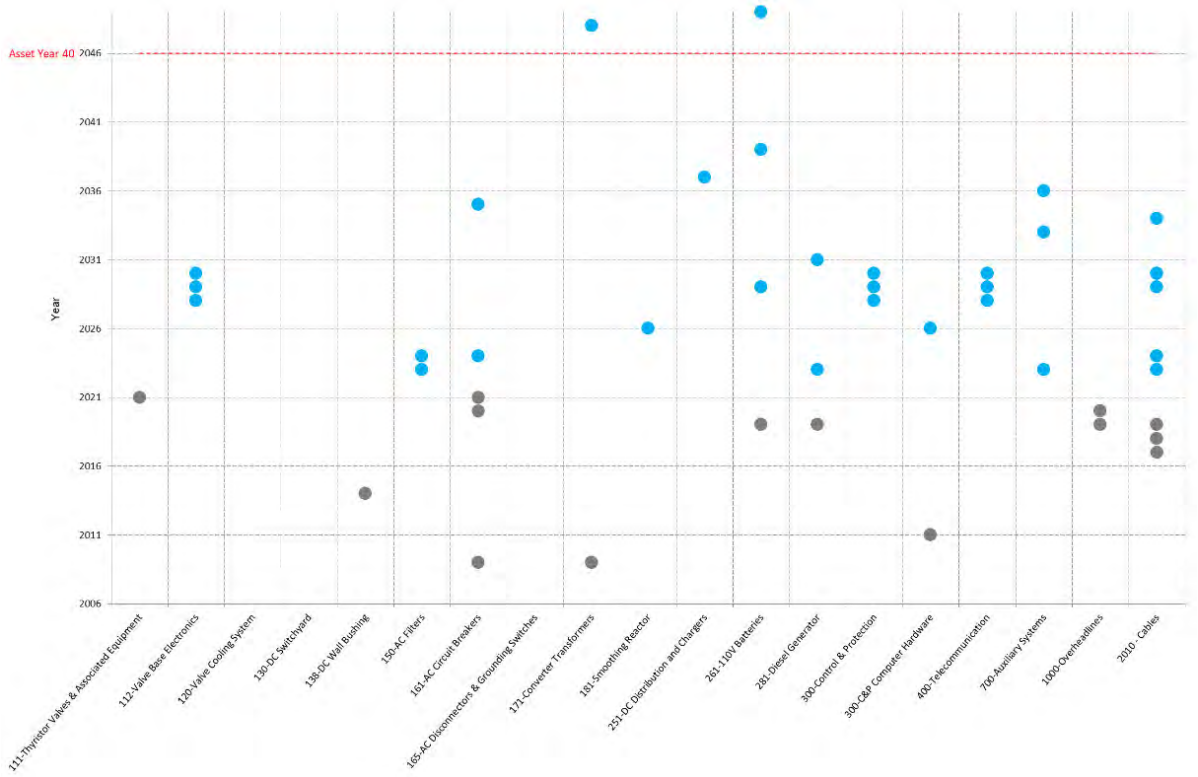
Lifecycle Management Plan

A key artefact of the Asset Management System is the Lifecycle Management Plan (see **Attachment 7.1**). This Plan reflects the ISO 50001 operating principle of 'plan-do-check-act'.

The purpose of the Plan is to identify the optimal investment requirements to maintain ongoing performance in line with the BOA. To do this, the Lifecycle Management Plan applies a systematic sub-system by sub-system approach which:

- Considers the individual components and equipment which makes up each individual sub-system, recent replacement/refurbishment, historical performance and failure rates, design life, manufacturer recommendations, CIGRE recommendations and performance and experience from other operators.
- Adopts a risk-based approach to identify the consequence of failure (including the risk of a trip) and the control measures in place.

Figure 7.3 Lifecycle Management Plan forecast capex by sub-system



Note: Blue dots represent forecast capex, grey historic capex.

This approach is consistent with *Good Electricity Industry Practice* (as set out in the BOA) and the approach taken or recommended by other interconnector operators in the OECD. For instance, CIGRE recommends the following approach is adopted when considering the life extension of a converter station:[67]

1. Review the past performance of major HVDC equipment and systems.
2. Identify the future performance issues with ageing of special HVDC components.
3. Determine economic life of various components for making replacement and extension decisions.
4. Consider the usable life of a refurbishment (15 – 20 years) relative to a greenfield solution (35 to 40 years).

CIGRE considers that this assessment needs to take into account replacement costs and the importance of equipment and components, including age, technology, service experience, future performance, individual failure rates.

The optimal investment requirements identified in the lifecycle Management Plan form the basis for forecast capex over the 2025-30 regulatory period.

Stay in Business

Stay in Business capex relates to ongoing investment, typically to refresh key systems and components, to ensure that Basslink can continue to operate safely, reliably and efficiently. As a result, we consider our proposed capex for each of the proposed Stay in Business projects is required in order to achieve the capital expenditure objectives:

- to meet or manage the expected demand (NER, clause 6A.6.7(a)(1)) as required to ensure the ongoing reliable operation of the interconnector;
- maintain the quality, reliability, and security of supply of transmission services and the reliability and security of the transmission system (NER clause 6A.6.7(a)(3)); and
- to maintain the safety of the transmission systems through the supply of prescribed transmission services (NER clause 6A.6.7(a)(4).

This capex is essentially required to maintain service quality, reliability and security of supply, in line with Basslink Pty Ltd's existing obligations under the BOA (including the obligation to comply with Good Electricity Industry Practice). As noted above, Basslink Pty Ltd's service obligations and performance standards under the BOA are akin to regulatory obligations under the NEL. However even if they are not characterised as "regulatory obligations" in a strict sense, they are standards of performance and reliability which Basslink is currently required to meet. Accordingly, any expenditure required to meet those contractual obligations is also necessary to maintain quality, reliability and security of supply.

Control and Protection System

While many of Basslink's main components and sub-systems, such as the subsea cable and thyristor values, are designed to operate for 40 years or more, the Control and Protection System is designed to be replaced earlier.

As with all computer systems, the technology underpinning the hardware and software of the control and protection system will be obsolete well before some of the other components with longer lives.

[67] CIGRE 2006, *Guidelines for life extension of existing HVDC Systems*, p.7

This obsolescence occurs as improvements in technology, design, hardware, and software, as well as changes in system requirements (such as cybersecurity), lead vendors to withdraw supporcease spare parts production in favour of new replacement products and platforms.

Table 7.2 – Forecast control and protection system capex (Real $2024/25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Capital Expenditure	7.9	6.4	3.1	8.5	18.4	44.2

Operating an obsolete Control and Protection System beyond its design life escalates the risk of component failure, brings challenges around spare part availability, and risks prolonged outages. Accordingly, replacement between 15 to 20 years is recommended by the manufacturer (Siemens), CIGRÉ (the International Council on Large Electric Systems) and is consistent with global benchmark replacement timeframes.

However, given the materiality of this project and the difficulty in quantifying the risk cost (most control and protection systems are replaced in advance of failure given their criticality to electricity grids around the world), we sought customers views on whether we should replace the system in the 2025-30 period or delay to the 2030-35 period.

Most customers – between 68% and 77% depending on customer location – told us through multiple channels that they supported replacement of the system in 2025-30 to avoid the potential negative impacts of a Basslink failure. About 25% considered that we should wait to ensure access to newer technology while a smaller proportion supported delaying investment due to current cost-of-living pressures. Further details on our customer engagement program are provided in **Attachment 3.**

In terms of the optimal timing of the project we also considered:

- How to balance maximising the economic value of the existing and subsequent control systems against the benefits of delaying a replacement to the beginning of a new product life cycle.
- Increasing market pressures from an upcoming bow-wave of control and protection system replacements and new HVDC projects – and the risks this would have in terms of price and availability.
- The reliability risk incurred in running the Control and Protection System beyond its design life.

Given these factors, we identified that replacing the Control and Protection System by 2030 (rather than 2025 or 2035) is the preferred approach as it:

1. is consistent with *Good Electricity Industry Practice* as required by the BOA and NER.
2. is consistent with majority consumer preferences to replace system in the 2025-30 period to reduce reliability risks.
3. enables the transition to the next generation of control and protection systems (also consistent with feedback from consumers).
4. reduces the difference in economic life between first and second control and protection system.
5. has the lowest cost when reliability risks are taken into account.

We consider the Control and Protection System project is required to achieve the capital expenditure objectives. Further details are provided in the Control and Protection System Business Case (**Attachment 7.2**).

Other Stay in Business projects

Aside from the Control and Protection System, other Stay in Business projects include Physical Security, DC smoothing reactor refurbishment, spares and minor capital works on plant and equipment.[68]

Table 7.3 – Forecast stay in business (other) capex (Real $2024/25)

Category	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Physical Security and Natural Hazards	1.7	1.7	-	-	-	3.5
Reactor DC Refurbishment	-	0.8	-	-	-	0.8
Spares	0.1	0.2	0.1	0.3	-	0.7
Minor Plant and Equipment	0.1	0.1	0.1	0.1	0.1	0.3
Total	**1.9**	**2.8**	**0.2**	**0.3**	**0.1**	**5.2**

Physical security

Unauthorised and undetected access to Basslink sites increase the risk of major operational capability disruptions and loss of supply, injuries and/or fatalities to personnel, damage to property/assets, theft or compromise of assets, sensitive information or systems.

- Over the 2025-30 period, Basslink Pty Ltd will address several of these site-specific security risks[69] through:
    - Remediating site fencing by energising existing wire mesh fencing to prevent it being breached using wire cutters. In 2019 offenders were able to gain access and enter a maintenance storage facility at Basslink's Georgetown converter station.
    - Installing electronic access systems (EACS).
    - Upgrading closed-circuit television (CCTV) facilities.

The forecast capital expenditure for these projects over the five-year period is $3.50m. It is required to achieve the capital expenditure objectives – in particular the objective to main the safety of the transmission system through the supply of prescribed transmission services (Rule 6A.6.7(a)(4)).

Additional information is provided in **Attachment 7.4**.

DC Smoothing reactor refurbishment

The AC to DC conversion process creates "ripples" or fluctuations in DC voltage which interferes with the smooth transmission of power and can potentially cause damage to electrical equipment.

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[68] Required to achieve the capital expenditure objectives to comply with all applicable regulatory obligations or requirements (Rule 6A.6.7(a)(2)), specifically the requirement to comply with Good Electricity Industry Practice as defined in the BOA.

[69] This expenditure is required to achieve the capital expenditure objectives to comply with all applicable regulatory obligations or requirements (Rule 6A.6.7(a)(2)) specifically, the requirement to comply with Good Electricity Industry Practice as defined in the BOA, as well as to maintain the security of the transmission system.

Smoothing reactors in the DC circuit reduces these voltage fluctuations by using their inductive properties to resist sudden changes in current.

DC smoothing reactors:

- Reduce the probability of valve commutation failures.
- Prevent discontinuous current at low power levels.
- Allow the valves to remain in full control for a fault on the line side of the reactor.
- Reduce front of wave DC line surge, and
- Reduce the DC harmonic voltages seen by the DC filters.[70]

As a result, DC smoothing reactors prevent damage to equipment, ensure the smooth transfer of power to consumers and help ensure Basslink's reliability is within the technical performance standards set out in the BOA.

Basslink has air core DC reactors installed at both Loy Yang and George Town converter stations and spares adjacent to the in-service units located on site.

Figure 7.4 Basslink's smoothing reactors

DC smoothing reactors have a design life of between 35-40 years. However, known problems include:

- UV radiation and moisture leading to insulation failure and corrosion of the winding.
- Failure of the grout between the metal flange and porcelain of the support insulators.

- [70] CIGRE 2016, Guidelines for life extension of existing HVDC systems, p.20

- Deterioration of the outer coating.

To reduce the risk of these issues causing an unplanned outage refurbishment is typically undertaken before end of life. This involves mechanically and electrically testing the support insulators and coatings.

While failure is rare, it would lead to an outage of at least 48 hours (assuming all resources in place to put the spare in service). The market impacts could be significant, depending on when the outage occurs.

Basslink's DC smoothing reactors are enclosed in a fiberglass sound shield to reduce noise but also provides protection from UV rays. To minimise the risk of an in-service failure, costs and the overall number of outages, Basslink's lifecycle management plan includes two yearly inspections (consistent with manufacturer recommendations) and a refurbishment at the 20-year mark in 2026.

Delaying the refurbishment was considered but discounted as it risks an unplanned outage.

The forecast total cost for this work is $0.8m and involves simultaneously refurbishing the spare reactors at both Loy Yang and George Town, swapping the in-service and spare reactors and then refurbishing the previously in-service reactors. [71]

Spares

Overtime components fail due to wear and age. To ensure ongoing performance and reliability ongoing refurbishment and procurement of key components is required, especially given that many components have long-lead times to procure. Basslink Pty Ltd's maintenance plan identifies the key activities required including and beyond the 2025-30 period for each component.

[71] This expenditure is required to achieve the capital expenditure objectives, in particular the objective at Rule 6A.6.7(a)(3).

Table 7.4 – Lifecycle plan spares and refurbishment activities

Category	Component	Function and activity
Auxiliary Systems	Uninterruptible Power Supply (UPS) system and batteries and fans.	The UPS is an 110V emergency battery backup system used to provide emergency power to the control and protection system in the event of an outage or disruption to the main power supply. Over time the batteries become depleted or degraded and require replacement at 10 yearly intervals.
Valve Cooling	Pump and fan refurbishment	Valve cooling is the system which circulates deionised water from the thyristor valves to the external heat exchangers. The pump and fans require three yearly refurbishments.
Converter transformer	On-load tap changer refurbishment	The converter transformer (at each converter station) transforms the voltage of the 500kv or 220kv AC busbar to the required voltage. Refurbishment is required at 100,000 operations (about 7 years).
AC Filters / DC Filters	Spare Capacitors	AC and DC filters select and dump the non-sinusoidal components to ground, reducing harmonics. The capacitors have a limited life dependant on temperature and ripple magnitude. We expect two sets of additional spares as we approach 20 years since commissioning.

The basis for the cost forecast is set out in Table 7.5.

Table 7.5 – Forecast spares capex ($2024/25)

Category	Item	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Auxiliary Systems	Uninterruptible Power Supply (UPS) system and batteries and fans.	0.05	-	-	-	-	0.05
Valve Cooling	Pump and fan refurbishment	0.01	-	-	0.01	-	0.02
Converter transformer	On-load tap changer refurbishment	-	-	0.12	-	-	0.12
AC /DC Filters	Spare Capacitors	-	0.24	-	0.24	-	0.48
Total		**0.06**	**0.24**	**0.12**	**0.25**	-	**0.68**

Minor capital works

In addition to the planned activities, occasional unplanned capex is required. Examples range from replacement air-conditioners, replacement of failed sensors or uninterruptible power supply communication cards. It also includes replacing equipment (such as thermal imaging cameras and thyristor testers etc.). To forecast minor capital works we have taken the 4-year average of $50,000 ($2024-25) and rolled it forward over the 2025-30 period.

Repair vessel equipment

There is an ongoing risk of an outage caused by a cable failure caused by an electrical fault or mechanical damage caused by shipping anchors. For example, on 21 December 2015 a cable fault occurred which took until 13 June 2016 to restore.

To reduce the duration of any outage and ensure a rapid repair response, we contract with a cable repair vessel (or their agent) to ensure availability when a repair is required. As part of this we also need to procure vessel specific equipment to ensure that the vessel can perform the cut, cap and join/fuse procedures on our submarine cables. The equipment is prepared in advanced to lower costs and to reduce repair times. A project is currently underway to prepare equipment for the CS Lodbrog at a cost of $10.7 million ($2024/25).

Cable repair vessels are specialist vessels with specialist crews. There are only a limited number in the world and even fewer which are suitable. Further, given the much smaller number of cables in the South Pacific (relative to Europe and Asia) there are substantially less repair vessels operating in our region.

To ensure availability and reduce costs we participate in the South Pacific Marine Maintenance Agreement (SPMMA). This is a collective contract between 33 cable systems and a cable repair vessel. We contribute less than 1% of the total cost of the contract.

All other cable systems party to the contract are fibre optic cable systems. Submarine power cables are significantly different. While fibre cables are generally about 20mm in diameter, Basslink's submarine cables are 120 mm in diameter. As a result, we need to procure vessel specific equipment which fits the requirements of our heavier and larger cables.

Cable repair vessels are bespoke and have varying size and layout and configuration. Cable repair equipment needs to be custom designed to fit each vessel. General differences between each vessel include the cable route (requiring new or adjusted chutes and quadrants), whether the cable troughs are built into the deck (the latter requiring raised cable highways) and the location of storage and unmoveable parts of the vessels structure.

Figure 7.5 - A cable chute being fitted to the Ill De Rae

Because they are not electricity transmission businesses, other members of the SPMMA do not need to procure such extensive specialised equipment for each vessel.

The usual contract length under the SPMMA is 5 years with an option for a one or two year extension. Towards the end of each contract the SPMMA commences a new procurement process for the next period. Recently, as a result of this procurement process, we have seen the vessels change each contract. For the 2008 to 2017 period, it was the Ill De Rae, from 2017-23 the Reliance and from March 2023 it will be the CS Lodbrog.

Given this history we consider it highly likely that a different vessel will be required at the end of the current contract. While we will be able to reuse and refurbish some equipment, we will need to custom design new equipment to fit the new vessel. We are forecasting $11.8 million for new equipment.

We note that while changing vessels each contracting period is not ideal for Basslink, the cost of the new specialist equipment each period is more than offset by the savings and advantage from being part of the SPMMA.

As outlined in **Attachment 8**, we intend on contracting a response vessel to accelerate recovery times through faster response and concurrent operations across two vessels. This vessel will be able to cut and cap but will not have the capability to undertake join/fusing procedures. The capex for the equipment for the response vessel ($5.0M) will be incurred over the 2020-25 period. We have not included any forecast capex in the 2025-30 period for the response vessel.

Marine repair vessel equipment capex is required to facilitate compliance with the obligation in the BOA which includes a maximum repair time of four months in the event of a cable failure.[72] It will also enable a quicker response and recovery, providing value to customers, especially in times of higher load. Accordingly, we consider this expenditure is required to achieve the capital expenditure objectives, in particular the objective in Rule 6A.6.7(a)(3).

Table 7.6 – Forecast repair vessel equipment capex ($2024/25)

Category	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Subsea Cable Repair Strategy				1.0	10.8	11.8

Security of Critical Infrastructure

APA's enterprise-wide Protected Security program is driven by amendments to the *Security of Critical Infrastructure Act 2018* (the SoCI Act). We engaged a third-party expert (EY) to conduct a gap analysis of our ability to meet the revised SoCI Act obligations, identify uplift needs and assist in the design of an appropriate suite of security controls.

To comply with the SoCI Act, we are:[73]

- Working to achieve a defined maturity level as set out in the Australian Energy Sector Cyber Security Framework (AESCSF).[74]
- Amending personnel and supply chain standards and procedures from a security perspective, including the introduction of an AusCheck screening process for new and ongoing critical workers, employees or contractors, and supplier security risk assessments.
- Identifying and remediating material risks.

The SoCI program commenced in 2022-23 and will continue over the 2020-25 period. Forecast capex over the 2025-30 period ($3.8 million) to achieve compliance with our SoCI obligations is less than what is expected to be incurred over the 2020-25 period ($5.4 million).

These costs reflect our enterprise-wide approach where Basslink Pty Ltd is now accessing APA's specialist expertise and economies of scale. These benefits have translated into lower costs than what would otherwise be incurred in adopting a standalone solution (such as would be required prior to Basslink Pty Ltd's integration into the wider APA Group).

Additional information is provided in **Attachment 7.5**.

[72] This can be extended subject to suitable weather conditions.
[73] And achieve capex objective Rule 6A.6.7(a)(2).
[74] The AESCSF is the standard to be applied across the electricity and gas sectors to manage cyber security hazards.

Table 7.7 – Forecast Security of Critical Infrastructure capex ($2024/25)

Category	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Cyber Security	0.91	0.87	0.55	0.55	0.55	3.43
Program Management and Material Risk	0.04	-	-	-	-	0.04
Enterprise Security Governance	0.03	-	0.07	0.07	0.07	0.25
Supply Chain Security	0.03	-	-	-	-	0.03
Total	**1.02**	**0.87**	**0.62**	**0.62**	**0.62**	**3.76**

IT/OT

APA's enterprise-wide Information Technology (IT) portfolio enables core business information, communication, and operational technology to respond in an effective way to the energy sector shift to decarbonisation, decentralisation, and digitisation as well as protect APA against cyber security threats (separate to the SoCI program).

Information, communications, and operational technology is necessary to support everyday business functions and technical operations of assets. The shift to digitisation is playing a greater role in more aspects of the day-to-day operations in energy.

Table 7.8 – Forecast IT/OT capex ($2024/25)

Category	2025-26	2026-27	2027-28	2028-29	2029-30	Total
IT/OT	0.7	0.3	0.2	0.5	0.4	2.1

Forecast IT/OT ($2.1 million) is lower than IT/OT incurred over the 2020-25 period ($10.9 million). Investment over the 2020-25 period was focussed on investments to integrate Basslink into APA's Information, Communication and Operational Technology environment where this would result in cost effective benefits to Basslink through improvements to the ongoing reliability, safety and security of services. Further details are provided in **Attachment 7.6**.

This expenditure is required to facilitate the ongoing quality, reliability and security of supply of Basslink (consistent with capital expenditure objective in Rule 6A.6.7(3)(iii)).

Capability (Ambient Temperature Project)

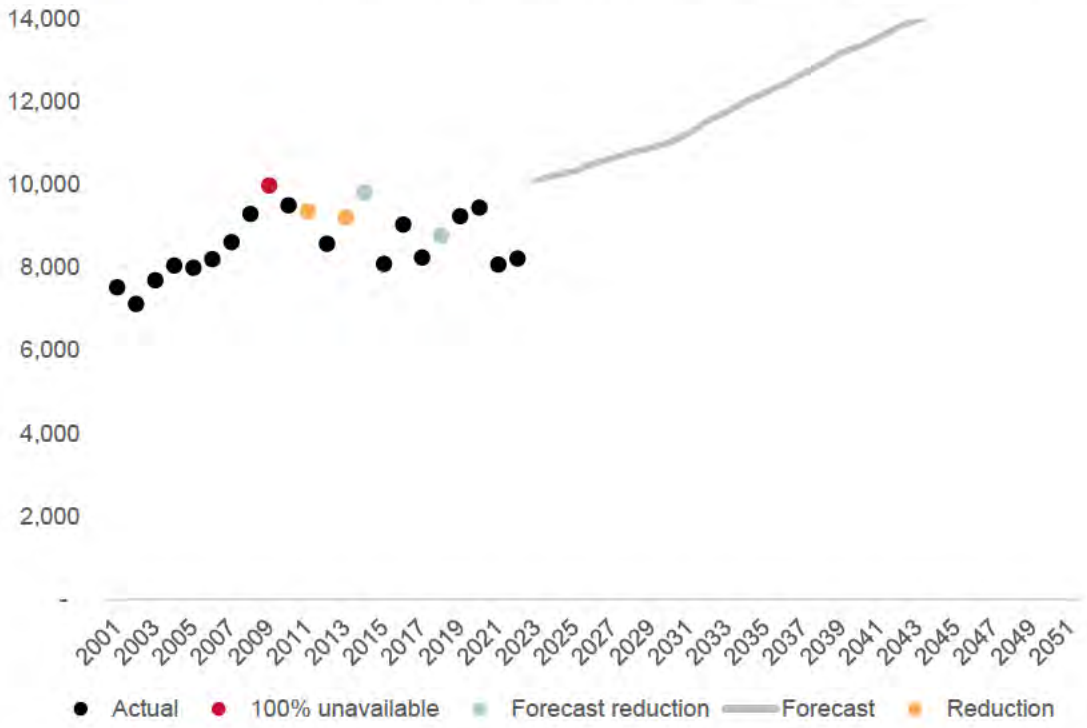
Peak demand in mainland NEM regions typically occur at the end of a hot summer day as buildings are actively cooled by air conditioners and distributed PV generation is low. However, these conditions also reduce or limit Basslink's capacity to transfer energy from Tasmania (which generally has spare generation capacity) to Victoria on peak demand days. This is because Basslink is rated to operate at a maximum ambient temperature of 30°C and 40°C at George Town and Loy Yang. If the ambient temperature exceeds these thresholds the control and protection system automatically reduces or blocks power transfer.

While there has only been a small number of ambient temperature limit events, they have arisen at key moments. In 7 out of 10 of the top Victorian peak demand days since Basslink was commissioned an ambient temperature event occurred. In the top 2 demand days Basslink was unavailable for several crucial hours. This included on 29 January 2009 when we saw record Victoria

demand and the interruption of 420 MW of load across Victorian and South Australia. On other peak demand days, the Basslink transfer capacity was reduced or forecast to be unavailable.

Figure Figure 7.6 presents Victorian maximum demand since Basslink's commissioning together with forecast maximum demand (10% POE) from the 2022 Electricity Statement of Opportunities (ESOO). The coloured dots represent when the peak day coincided with an ambient temperature limit event either when Basslink was 100% unavailable (red dots), transfer capacity was reduced (yellow dots) or was forecast to be unavailable but was available on the day (light blue dots).

Figure 7.6 Vic Maximum demand - actual and POE (10%) forecast (Central scenario)



We are proposing to undertake a project to increase these ambient temperature limits to avoid or reduce the transfer limitations which occur when the electricity system is under greatest pressure. This has the potential to reduce wholesale electricity prices (and in turn retail bills) as well as the risk of supply interruptions.[75]

Table 7.9 – Forecast Capability capex ($2024/25)

Category	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Ambient Temperature Project	7.0	-	-	-	-	7.0

We are currently assessing the feasibility of this project (which will inform our cost estimate) and are engaging with key stakeholders, including AEMO, Hydro Tasmania and the Tasmanian Government,

75 Achieving the capital expenditure objective to meet or to maintain the quality, reliability, and security of supply of transmission services as well as the transmission system consistent with Rule 6A.6.7(a)(3)(iii) and 6A.6.7(a)(3)(iv).

on the benefits of this project. The results of this work and consultation will feed into an updated business case which we will provide to the AER.

We also note that as the focus of this project is to improve the capability of the transmission system at times it is most needed. Accordingly, it would also be suitable to be included as part of the Network Capability Component of the Transmission Service Target Performance Incentive Scheme (STPIS) rather than forecast capex. We look forward to engaging the AER and other stakeholders on this project.

Additional information is provided in **Attachment 7.3**.

7.3 Capex by year

Table 7.10 – Capex by category over the 2025-30 regulatory period (Real $2024/25)

Category	2025-26	2026-27	2027-28	2028-29	2029-30
Stay in Business	9.7	9.2	3.2	8.8	18.5
Control and Protection System	7.9	6.4	3.1	8.5	18.4
Other Stay in Business projects	1.9	2.8	0.2	0.3	0.1
Marine cable repair vessel	0.0	0.0	0.0	1.0	10.8
SOCI	1.0	0.9	0.6	0.6	0.6
IT/OT	0.7	0.3	0.2	0.5	0.4
Capability	7.0	0.0	0.0	0.0	0.0
Total	**18.5**	**10.3**	**4.1**	**10.9**	**30.3**

Table 7.11 – Capex by asset class the 2025-30 regulatory period (Real $2024/25)

Category	2025-26	2026-27	2027-28	2028-29	2029-30
AC filters	-	-	-	-	-
AC switchyard	-	-	-	-	-
Auxiliary systems	-	-	-	-	-
Cable	-	-	-	1.0	10.8
Control System	7.9	6.4	3.1	8.5	18.4
Converter transformer	-	-	-	-	-
DC Filter	-	-	-	-	-
DC Switchyard	-	-	-	-	-
Easement	-	-	-	-	-
Freehold land	-	-	-	-	-
Measuring devices	-	-	-	-	-
Motor vehicles	-	-	-	-	-
Other	1.6	1.2	0.9	1.2	1.0
Overhead lines	-	-	-	-	-
Smoothing reactor	-	0.8	-	-	-
Station power supply	-	-	-	-	-
Switchyard components	7.1	0.2	0.1	0.3	-
Valve cooling	-	-	-	-	-
Valve hall	-	-	-	-	-
Building installation	1.7	1.7	-	-	-
In-house software	0.2	-	-	-	-
Total	**18.5**	**10.3**	**4.1**	**10.9**	**30.3**

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September 15, 2023

Attachment 8: Forecast Operating Expenditure

8.1 Introduction

As part of the building block approach to regulation, a prescribed service provider is entitled to recover the efficient operating expenditure ('opex') incurred as part of the provision of a prescribed service.[76] Basslink Pty Ltd must forecast the efficient operating costs for the whole of the regulatory period in this revenue proposal that Basslink Pty Ltd considers is required to achieve each of the operating expenditure objectives.[77] All operating expenditure is for the purposes of providing the prescribed transmission service.

This chapter discusses the process for creating the efficient opex forecast for the regulatory period. The structure is outlined below:

- **Section 8.2** discusses the regulatory requirements and economic principles that must be considered when generating a forecast.
- **Section 8.3** provides an assessment of the actual opex Basslink incurred in FY 2021/22, the year from which our forecast is based.
- **Section 8.4** describes the step changes that need to be made to the base year forecasts.
- **Section 8.5** presents the results.

Key Assumptions

Basslink will be converted to a TNSP on 1 July 2025.

No increase in the maximum capacity of the Basslink Interconnectors is being undertaken in the period 1 July 2025 to 30 June 2030.

The forecasts are based on current legislative and regulatory obligations and that those obligations will not materially change prior to 30 June 2030.

The best forecast of opex required to meet the opex objectives over the 2025-30 period will be current opex requirements, with adjustments to reflect changes in input costs, outputs delivered, productivity and step changes.

8.2 Principles of opex forecasting

To calculate our opex forecast we have employed the AER's preferred 'Base-Step-Trend' model. However, we have had to make a number of adjustments to the base year, reflecting the fact that in the base year, Basslink was not operating as a prescribed service. We discuss these adjustments in Section 8.3. The decisions on how to make these adjustments, were guided by the following regulations, precedents, and principles.

[76] National Electricity Rules, Clause 6A.5.7(a)(6)
[77] NER, clause 6A.6.6(a).

Principles and regulatory requirements

Efficiency of expenditure

The regulatory requirements and limitations for opex forecasts are set out in Clause 6A.6.6 of the Rules. It relevantly provides that the AER must accept the forecast of required opex included in a TNSP revenue proposal if the AER is satisfied that the total of the forecast opex for the regulatory control period reasonably reflects each of the following (the operating expenditure criteria)[78]:

> *(1) the efficient costs of achieving the operating expenditure objectives;*
>
> *(2) the costs that a prudent operator would require to achieve the operating expenditure objectives; and*
>
> *(3) a realistic expectation of the demand forecast and cost inputs required to achieve the operating expenditure objectives.*

These objectives can be summarised as:

- Meeting the demand for the prescribed services.
- Complying with all applicable regulatory requirements.
- To the extent there are no applicable regulatory obligations relating, quality, reliability or security of supply, maintaining the quality, reliability, and security of supply across the prescribed transmission system and, where relevant, the rest of the NEM transmission system.
- Maintaining the security of the transmission system.

In this proposal, Basslink Pty Ltd submits a number of opex step changes that we consider allow Basslink to better meet these objectives, and provide value for money in doing so.

Accuracy of forecasts

Forecasting efficient costs as accurately as possible is a key concern for both investors and consumers. Bar any changes in the underlying efficiency, when capex forecasts are higher than outturns, consumers are forced to pay more than is efficient, and when they are lower, businesses may be at risk of missing financing payments. However, forecasting the multitude of variables contained in opex over a 5-year period is not a simple task and can come at significant forecasting cost. In preparing this forecast, We considered it paramount to attain a high level of accuracy, despite certain data constraints relating to the age and nature of the Basslink business. Basslink Pty Ltd drew on all available data and consulted experts where practical.

Removing cross-subsidisation and duplication

APA is a large business providing many regulated and unregulated infrastructure services and can thus reach many efficiencies of scale with respect to operating costs. However, this also means that

[78] NER, clause 6A.6.6(c).

APA must be vigilant not to allow any duplication of costs or cross-subsidisation across its network of businesses.

APA applies a single cost allocation methodology across all businesses to make sure shared overheads are distributed according to what maximises economic efficiency. This methodology is set out in APA's Cost Allocation Method, which is attached to this proposal.

Opex forecasting during Murraylink and Directlink conversions

It is useful to consider the process followed in Murraylink and Directlink's initial revenue proposals. In these cases, it was determined that the most economically efficient amount of opex was not related to the costs of operating the actual asset in question, but rather the cost of operating an optimised ideal asset.

Murraylink initially proposed a forecast of opex that was determined using information on the actual opex costs being incurred at the time of application. However, the ACCC determined that as the RAB had been determined according to the costs of a theoretical alternative asset, the opex allowance would also be determined according to that alternative. The ACCC engaged consultants to forecast an opex cost for that alternative asset, and this cost was accepted by the ACCC.

In the Directlink decision, the AER also set the opex allowance according to the opex of the optimal alternative project. The alternative chosen was that which had the greatest net market benefit, despite that benefit being negative and the RAB being determined on the value of gross market benefits.

As discussed in **Attachment 5** – Regulatory Asset Base, Basslink considers it most appropriate to set the RAB according to the historical costs of the actual asset. Accordingly, it is most appropriate to forecast opex using the historical costs of the actual asset as a basis.

8.3 Base year forecast

To create an accurate forecast of Basslink's future opex, we draw on Basslink Pty Ltd's historical opex to calculate a basis from which to forecast. This involves calculating the efficient opex Basslink would have incurred in FY 2021/22 had Basslink been converted under the terms set out in this proposal. From this starting point, we can inflate the opex according to inflation and other considerations to forecast opex across the regulatory period.

To calculate the base year value, accounting data for FY 2021/22 is available through Basslink Pty Ltd's historical record of accounts. FY 2021/22 was chosen as the base year as this is the most recent full financial year for which audited opex reporting is available at the time of preparing this proposal. We consider it to be broadly representative of operating conditions.

While the projections are based on FY 2021/22 as a base year, we will expand our analysis to the five previous financial years. By conducting this analysis, we are able to compare the base year against past trends.

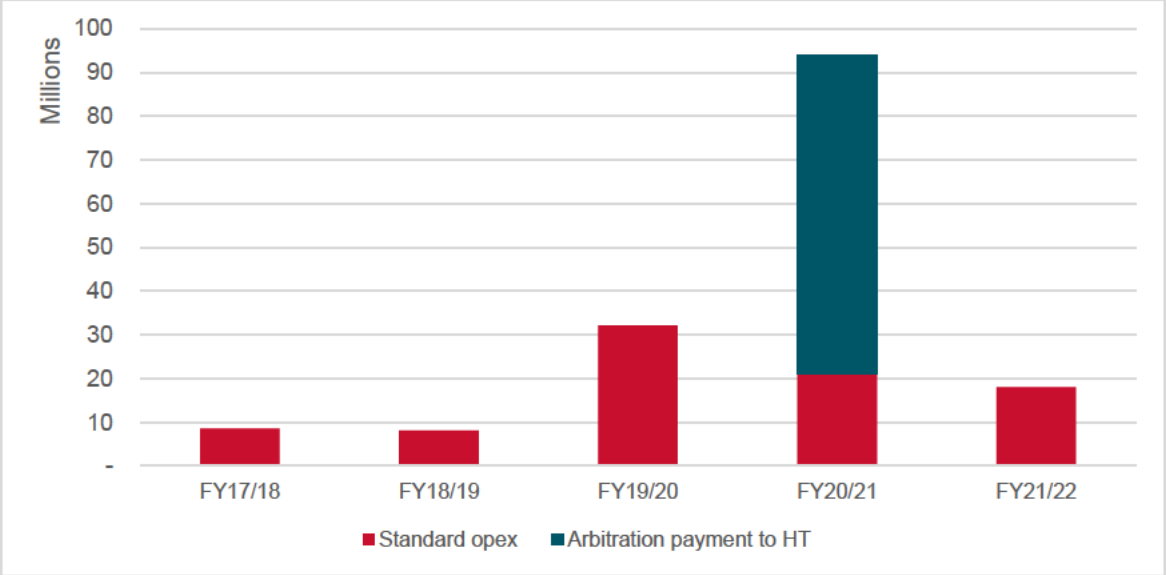
While we consider FY2021/22 to be broadly reflective of operating conditions, for some opex categories, the costs incurred in the FY 2021/22 period will not reflect what we expect the costs to be if Basslink were to become a prescribed asset. Thus, some adjustments must be made to provide an accurate basis for forecasting. We propose to remove some cost categories all together and forecast others by building up expected costs.

Overview of BPL's FY2022 opex as recorded

The base year calculation starts with Basslink Pty Ltd's records of accounts. These records include financial statements submitted to ASIC and Basslink Pty Ltd's full general ledger, for all years between its commissioning to FY 2022. These accounts provide sufficient detail to audit any particular issues according to individual costs and we consider these a reliable dataset from which we can make our forecast.

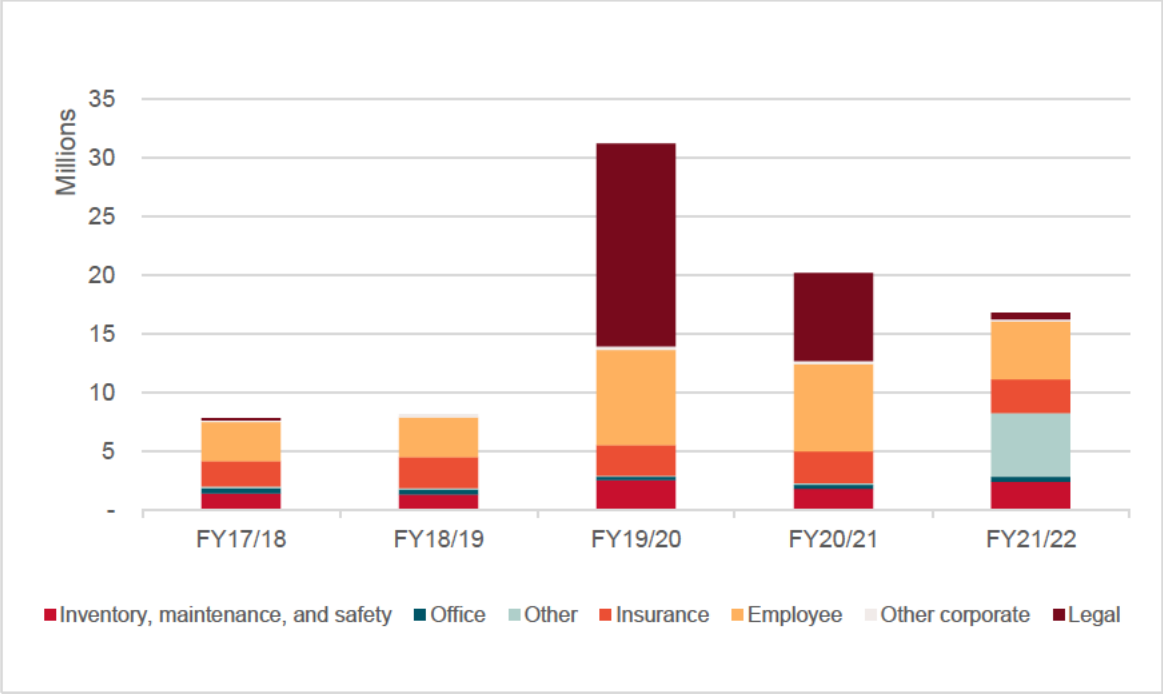
The graph below shows the total recorded opex values for Basslink in the previous 5 years. This graph shows that in in FY 2017/18 and FY2018/19, opex values were relatively low, coming in under $10 million. A significant increase was experienced in FY 2019/20—almost quadruple what was recorded over the FY 2018/19 period. In FY 2020/21, an even more significant increase was recorded, although much of that was the result of the award to Hydro Tasmania that arbitration proceedings determined Basslink Pty Ltd had to pay. The arbitration followed a dispute regarding which party should be made to pay for the 2015 cable outage. Removing this award, opex actually fell, a trend which was repeated again in FY2021/22.

Figure 8.1 Recorded Opex



When excluding the arbitration award, the opex can be further broken down, as shown in the graph below. As is clear from this graph many of the opex categories are in fact much more stable than the first graph would suggest. Almost all of the variability arises out of legal costs and, in FY2021/22, 'other' costs. The increase in legal costs was largely a result of the arbitration case with Hydro Tasmania, and the 'other' costs were primarily costs relating to Basslink Pty Ltd's receivership. As is discussed in the following sections, we remove any costs that relate to these one-time events from our base-year calculations.

Figure 8.2 Opex categories cost



Costs to be removed

In this section, we discuss how we removed the costs included in these records that will not be applicable if Basslink were to become a prescribed service. We describe why they must be removed, how we removed them, and the effect they had on the base year opex total.

One-off costs

Reason for removal

A number of costs incurred in the base year are expenditures that we expect not to incur in the future. However, one-time expenses are a common part of business operations, and removing all of these will create a likelihood that forecasts systematically predict lower values than what is realised. Instead, to create an accurate forecast, we must only remove the one-off expenses that prescribed services would not expect to incur, or those that are for a relevant reason materially different from normal business operations. In our analysis of the historical records, we have removed the costs relating to the following events:

- The arbitration with Hydro Tasmania. This includes the legal and consultant costs required to argue Basslink's case, as well as the amount awarded to Hydro Tasmania.
- The restructuring, refinancing, and administration of Basslink prior to its acquisition by APA.
- The repairs required following minor outages in 2018 and 2019.

Removal process

To identify these costs, we have gone through Basslink Pty Ltd's general ledger for the five years in question and removed the individual line items related to the above events. To identify which items related to the events, we used two resources. The first was the general ledger itself, where

comments, counterparties, and project codes aided us in identifying what each transaction was for. We also conducted this process with the assistance of Basslink Pty Ltd's longtime CFO, who was able to research, remember, or use their knowledge of the business and its accounting systems to assess whether the line items related to the events or not.

Basslink Pty Ltd's general ledger includes an option to assign each line item in to one of the following 'projects':

- Arbitration with HT and Tasmania
- 2018 minor outage
- 2019 minor outage
- Refinancing of Basslink during arbitration.
- 'Other' category covered other professional / legal fees considered not business-as-usual.

We removed all line items that included these projects. However, it was clear that the application of the project labels was inconsistent, and some relevant line items had not been labelled correctly. As such we identified which counterparties were involved with these projects and removed all related line items. Line items were also removed if their comments mentioned anything relevant to the projects.

We consider our assessment of Basslink Pty Ltd's general ledger to have determined with a high degree of certainty which line items related to the events, and which did not. The only exception is the treatment of legal fees from Basslink Pty Ltd's long-time legal advisor, DLA Piper. Before the arbitration proceedings, DLA Piper was Basslink's principal legal advisor—providing services as part of normal business operations such as providing advice on contracts, tax, and other matters. These were recorded in the general ledger as monthly invoices with no identification of the task undertaken that month. Once the arbitration started, DLA Piper took the lead role in providing advice on the case. In most circumstances, DLA Piper's fees are recorded against specified tasks and labelled with the arbitration label. These costs were removed. However, there were still monthly invoices received, that were notably higher than previous invoices. As we cannot split these invoices into arbitration and non-arbitration related portions, we have opted to take the conservative approach and remove all of these unspecified legal costs over the arbitration period.

For FY21-22, these removals sum to $6.3 million, leaving $11.8 million remaining in base-year OPEX. The total removals from this method are much lower in FY21-22 than in FY20-21 ($82 million) or FY19-20 ($20.7 million), but this is consistent with the history of the relevant legal proceedings. Most of the legal proceedings relating to the arbitration were finished by FY22, so most of the costs removed from FY22 related to the refinancing and administration of Basslink Pty Ltd.

Over the past five years we removed the following costs:

Table 8.1 – Costs removed

	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
Costs removed	$0.3 m	-$0.2 m	$20.7 m	$82.2 m	$6.3 m

In FY 2018/19, we recorded an increase in total costs. This was due to the fact that some legal costs had been shifted from FY 2018/19 to FY 2020/21 in the accounts, leading to a net credit in Basslink's legal fees account. By removing the effects of the shift, the credits were removed, and the underlying

balance returned to a net debit. We reiterate that the values for any year other than FY22 do not affect the opex forecast and are included purely to provide context.

Basslink Telecom

The Basslink cable also includes a fibre-optic cable alongside the interconnector that connects Victoria and Tasmania's telecommunication networks. The operation and commercialisation of this telecommunication service will not become part of Basslink's prescribed service, and Basslink will continue to operate it purely on a commercial basis. As such, any opex costs relating to the telecommunications part of the business must not be included in the base-year forecast of opex for the prescribed service.

Since the telecom business was started, it operated as a separate legal entity, 'Basslink Telecom', with its own accounts. Costs including maintenance, insurance, electricity, and most employment related costs were directly allocated to Basslink Telecom and thus do not need to be removed from the base-year calculations.

However, we have reviewed the accounts and consider there are some shared or overhead opex costs that are recorded in Basslink's accounts that should be shared with Basslink Telecom. These are mainly accounts relating to staff or office costs, including:

- Staff bonuses
- Staff Workcover
- Long service leave allowance
- Staff benefits
- Fringe benefits tax provision expense
- Employee Citylink costs
- Staff amenities
- Contract employees
- Office rental.

We consider and appropriate way to split these costs is according to the proportion of total 'Salaries and Wages' incurred by BPL and the proportion incurred by Basslink Telecoms directly.

Taking an average of the period between FY 2017/18 and FY 2021/22, 93.9% of total salaries and wages costs was assigned to Basslink Pty Ltd, and the remaining 6 percent was assigned to Basslink Telecom.

Removing Basslink Telecom's 6 percent portion of these accounting codes removes the following amounts from the base-year opex.

Table 8.2 – Costs removed from base-year opex

	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
Costs removed	$32,000	$32,000	$34,000	$75,000	$52,000

Costs to be replaced

Other cost categories may remain if Basslink were to become a regulated TNSP but will be treated materially differently, such that relying on Basslink's historical data for these categories would produce inaccurate forecasts of opex costs going forward if Basslink becomes a regulated TNSP.

We have built up these cost categories by making specific forecasts on the underlying elements of the cost categories. For each category, we discuss why the costs must be calculated separately, how we calculated them, and the effect they had on the base year opex total.

APA overheads

APA group owns and operates regulated and unregulated businesses across Australia including gas transmission and distribution assets, renewable energy generators, and the Murraylink and Directlink interconnectors. The APA's management team provide services to each asset and businesses it oversees. This includes providing tax accounting services, insurance coverage, risk management, IT and cyber security and other services. The costs for providing these services must be considered as opex for Basslink. A cost allocation methodology must thus be implemented to distribute the management and overhead costs across all of APA's businesses.

The rules and guidelines applicable to APA's businesses that set out the requirements of a cost allocation method are:

- Rule 6A.19 of the NER.
- Rule 103 of the National Gas Rules.
- The Electricity Transmission Network Service Providers Cost Allocation Guidelines (AER, 2007)

Included in this proposal for conversion is a proposal for a Cost Allocation Methodology (CAM) for Basslink in accordance with these rules. APA corporate costs will be allocated to Basslink consistent with the same principles and processes accepted by the AER in APA's most recent Cost Allocation Methodology submissions.[79]

Forecast Corporate Overheads

We have forecast corporate overheads based on the corporate overheads that Basslink incurred in FY 2022. These corporate overheads cover:

- Basslink executives (Chief Executive Officer, Chief Financial Officer)
- Tax Advisory
- Company Secretarial
- Sponsorships and donations

[79] Including:
- APA VTS, see: *APA VTS Australia*, "APA VTS – access Arrangement 2023-27 – RRIN Response Schedule 3 Appendix 2 – APA Cost Allocation Methodology – December 2021".
- Roma to Brisbane System, see: *APA*, "APA Cost Allocation Methodology," December 2020.

This is based on the regulatory principle that regulators should not dictate ownership structures to regulated businesses but customers should not fund different changes in ownership structures. Making Basslink corporate operating expenditure the basis for the forecast avoids doing this.

To avoid duplication Basslink Pty Ltd has removed the corporate cost categories identified above from the APA corporate cost allocation.

Due to its size Basslink Pty Ltd did not provide many of the necessary and commonplace corporate services that APA will bring to Basslink Pty Ltd. These include:

- Regulatory and policy management staff
- Risk management and insurance coordination
- Sophisticated IT management and Cyber Security

APA considers these services are justified, will provide long-term value to customers by allowing the Basslink asset to operate according to best practice standards and are required in order for Basslink to achieve each of the opex objectives.

Basslink has also removed corporate operating expenditure from the FY 2022 base year associated with those items from IT/OT that have a separate forecast such as opex associated with the Enterprise Resource Planning program.

According to Basslink Pty Ltd's proposed CAM, the corporate opex is allocated according to revenue. As such, Basslink's revenue was compared to the revenue of APA's other businesses. In FY22, Basslink would have represented 6.74% of APA's revenue.

The total corporate opex is $3.0m in annual operating expenditure. This is considerably lower than the amount Basslink Pty Ltd would pay to procure these services separately (ie as a standalone operator).

Insurance costs

Under the BSA, Basslink Pty Ltd was required to follow a specific insurance regime and was refunded for those insurance costs. The BSA set out that Basslink Pty Ltd was required to obtain all the insurance policies set out in the Insurance Concession Deed (ICD). The ICD specifies each type of required insurance in detail, including when it would come into effect, who would be indemnified, and the minimum limit of liability. While it was Basslink Pty Ltd's duty under the agreement to seek the best value insurance contracts given these requirements, Basslink Pty Ltd was unable to consider whether the insurance requirements provided the best value.

Under the arrangements detailed in the BOA, Basslink Pty Ltd is responsible for designing a portfolio of insurance contracts but must have that portfolio approved by the Tasmanian Government. Since the acquisition of Basslink Pty Ltd by APA and the signing of the BOA, Basslink has undergone a process of rationalising its insurance arrangements for the period between its receivership and the proposed conversion date.

One part of this rationalisation is joining APA's existing corporate insurance policies. The terms of these policies are more favourable than if Basslink Pty Ltd were standalone as APA is better able to reach economies of scale, can better manage and distribute risks, and have more negotiating power because of its relative size. The classes of insurance include workers' compensation, cyber, directors and officers, crime, motor vehicle, mobile plant and equipment, marine cargo, corporate travel, and employee benefits.

The other part of this rationalisation is bringing Basslink's insurance arrangements in line with global standards. Basslink Pty Ltd engaged a global insurance broking firm, Marsh, to assess the reasonableness of the insurance arrangements under the BSA. As a first step, Marsh conducted an estimated maximum loss assessment for Basslink. APA's and Marsh's estimation of the cost of an anchor drag that severed the cable—which is likely to be one of the most costly insurance events—would be approximately [redacted]

Further changes in insurance arrangements will follow if Basslink becomes a prescribed service. Under the BSA, Basslink Pty Ltd's insurance would also cover business interruptions and APA has maintained this feature (although has rationalised the costs). However, prescribed services continue to earn revenue during the reparation of damaged infrastructure, and thus there is no 'business interruption' that needs to be insured. Basslink Pty Ltd is liable to lose revenue under the incentive framework for failing to meet its capacity targets, but this is not considered relevant to the insurance opex for a regulated entity. As such, Basslink Pty Ltd's insurance cost is expected to fall further.

As a prescribed service under APA ownership, Basslink Pty Ltd would have to cover the following insurance classes on a stand-alone basis:

- Offshore property damage insurance
- Offshore sabotage and terrorism insurance
- Onshore property damage insurance
- Liability insurance

Offshore property damage and offshore sabotage and terrorism insurance

Basslink's offshore property damage insurance and offshore sabotage and terrorism insurance both cover damage to the undersea cable. [redacted]

Since APA's acquisition of Basslink Pty Ltd, both the premiums and deductibles have fallen. As discussed above, [redacted]

To create its forecast of offshore insurance for Basslink as a prescribed service, Marsh conducted two steps: (1) Marsh engaged insurers to determine the likely terms of the contract in FY 2025/26 and (2) indexed those values to the end of the regulatory period.

Marsh engaged with large lead insurers in London and Europe—where the market for undersea cable insurance resides—to discover what premiums the markets would require. Marsh is confident that the premiums offered in the proposal are standard for the market and present the best value for money for consumers. [redacted]

[redacted]). Marsh considers this deductible to be uncommonly high for similar assets. However, when exploring options for reducing the deductible, none represented value for money in Marsh's estimation.

Next, Marsh indexed this value according to its forecast of movements in the required premium rate and of CPI. Marsh considers the global insurance markets to be softening slowly after a prolonged period of growth in premiums. As such, it expects the offshore property insurance premium to rise modestly before plateauing. They also expect sabotage and terrorism insurance premiums to grow at a steady rate—although this will have less of an effect on prices considering the considerably lower starting premium.

Onshore property damage insurance

Basslink Pty Ltd's property insurance cost will join APA's group insurance program, which will generate significant cost savings. [redacted] The policy limit will be reduced once the indemnity for business interruption is removed, further reducing the premium.

Marsh expects a premium of $1.0 million in FY2025/26 and considers this to be prudent and efficient. Marsh's forecast of movements in onshore property premiums is similar to that of offshore premiums. It expects rates to continue to increase to FY2026/27, but by smaller amounts before stagnating and then falling in FY2029/30.

Liability insurance

Basslink's liability insurance covers legal liabilities for a number of risks including:

- Third party property damage from operations
- Bodily injury from operations
- Failure to supply electricity to third parties
- Professional indemnity
- Electromagnetic field liability

[redacted] As per the rest of the market, Marsh expect the premiums to continue to increase but by smaller amounts each year. However, the increase will be greater than any of the other insurance categories in the early years.

Stakeholder engagement

Considering insurance to be an important issue that will affect consumers materially, we took the decision to consumer groups in our quantitative analysis process. We conducted an online survey of more than 1,200 people across Victoria and Tasmania to elicit their preferences over a number of issues. In previous stakeholder engagements, we noted that the details of the insurance contracts

were difficult to comprehend in a short period of time, and thus in our surveys we simplified the choice to two main options[80]:

- Option 1: Paying less upfront insurance cover (higher risk of paying more for uncovered d s later); and
- Option 2: Paying more upfront insurance cover (lower risk of paying more for uncovered repairs later).

Of those choosing one of the main options, over two thirds chose Option 2. This was the case in both states—with Tasmania (72%) being slightly more in favour of higher insurance cover than Victoria (65%).

Results

The following table shows the result of Marsh's expected insurance premium costs for Basslink in its first regulatory period. Both Marsh and Basslink Pty Ltd consider this program to be the best value for consumers while also meeting consumers' cost reliability expectations.

[80] Two other options were presented alongside these: Option 3: A different approach, and Option 4: Don't know/Not sure.

Table 8.3 – Expected insurance premium costs

Premium category	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
General Liability (Bushfire) & Professional Indemnity	$0.57 m	$0.59 m	$0.62 m	$0.64 m	$0.64 m	**$3.07 m**	**$0.61 m**
Offshore Cable Insurance	$5.92 m	$6.23 m	$6.41 m	$6.58 m	$6.75 m	**$31.88 m**	**$6.38 m**
Onshore Property Insurance	$1.03 m	$1.08 m	$1.11 m	$1.14 m	$1.14 m	**$5.5 m**	**$1.1 m**
Offshore Terrorism and Sabotage Insurance	$0.04 m	$0.05 m	$0.05 m	$0.05 m	$0.05 m	**$0.24 m**	**$0.05 m**
Total	**$7.55 m**	**$7.95 m**	**$8.19 m**	**$8.41 m**	**$8.58 m**	**$40.68 m**	**$8.14 m**

Forecasts

To turn the remaining FY2021/22 base year values into forecasts over the regulatory period we adjusted the base year values according to a consumer price inflation index (CPI) and a wage price inflation index (WPI). We engaged BIS Oxford Economics to create WPI forecasts for the proposed regulatory period, which are provided in the table below. BIS Oxford Economics' report describing their index calculations is attached to this proposal.

We consider the WPI forecast for the electricity, gas, water, and waste services to be the most applicable index to Basslink's business given the nature of the asset and its employees. The 'all industries' and construction indexes demonstrate that there is not a significant difference depending on which index is chosen. While the table below shows the Australia-wide values, we used specific Victorian and Tasmanian WPI forecasts in our calculations. To calculate the real WPI, CPI is subtracted from the chosen WPI figure.

Table 8.4 – Consumer price inflation index (CPI) and wage price inflation index (WPI)

Index	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30
CPI	7.1%	4.4%	3.1%	2.6%	2.5%	2.5%	2.5%	2.5%
WPI - Electricity, gas, water, and waste services	3.6%	4.1%	4.1%	3.9%	3.6%	3.4%	3.7%	3.8%
Real WPI	-4.35	-0.4%	0.9%	1.3%	1.1%	1.0%	1.2%	1.3%
Reference: WPI - All industries	3.6%	4.0%	3.8%	3.6%	3.3%	3.2%	3.5%	3.7%
Reference: WPI – Construction	3.7%	4.2%	4.1%	3.9%	3.5%	3.4%	3.7%	3.9%

The total non-insurance base-year opex was split into labour and non-labour costs according to the proportion of labour or non-labour costs in FY 2022. The proportion of labour related costs was further broken down to Victorian labour costs and Tasmanian labour costs. This was achieved by calculating the percentage of Basslink staff working from Tasmania or Victoria. The costs in real terms were then adjusted to track the forecast changes in Tasmanian and Victorian wages.

8.4 Step changes

Subsea Cable Repair Strategy

Specialised equipment is needed to repair faults on the subsea cable. This involves contracting a vessel with certain characteristics that permit cable repair. This vessel is also used for telecoms and other cables. However, there is specialised equipment that must be installed on the vessel before it can locate and repair an electricity cable.

This vessel has already been contracted and the equipment will be constructed prior to the commencement of the transmission determination period. However, in the event of a fault this vessel will need to complete the work it is undertaking, sail to Australia, install the electricity cable fault location equipment, locate and identify the nature of the cable fault, return to port and install the repair equipment return to the fault location and repair the cable. The duration of the repair will be dependent on a range of factors including:

- The location and nature of the work the repair vessel is undertaking at the time of the Basslink fault;
- The nature and ease of location of the fault on the cable;
- Weather conditions in Bass Strait;
- The ease of repair, for example the depth of the cable.

A second vessel, a response vessel, can reduce the time it takes for a repair on the sub sea cable. Due to the factors identified in the list above the timing savings from a response vessel can not be determined in advance.

The response vessel assists with quicker repairs in a number of ways, for example:

- A smaller less specialised vessel can be contract that is located in Australian waters reducing the time for it to reach location.
- The response vessel can begin cable fault location work whilst the repair vessel is coming to Australia and being fitted out in port.

This means that for a fault the response vessel increases the probability that the cable will be repaired within a given time window. Basslink Pty Ltd engaged ACIL Allen to assess the customer benefits derived from contracting for a response vessel. The report is attached at **Attachment 8.3**.

We adjusted the ACILAllen results for the annual probability of a cable fault based on international CIGRE data (1 in 10). This analysis shows that the expected customer benefits from the response vessel are greater than the estimated cost of the response vessel (7.7m pa contract cost plus $4m capital expenditure for equipment construction) until Marinus Link is commissioned.

We have included operating expenditure associated with the response vessel in the forecast operating expenditure. This continues until the publicly announced commencement date for Marinus Link of 1 January 2029. The forecast operating expenditure associated with the response vessel step change is set out in the table below.

Table 8.5 – Response vessel operating expenditure

Operating Expenditure ($M FY25)	FY 2026	FY2027	FY2028	FY2029	FY2030
Response Vessel	7.65	7.65	7.65	3.83	0

Security of Critical Infrastructure

Over the upcoming reporting period, the provisions of the Security of Critical Infrastructure (SOCI) Act will apply to APA and its subsidiary businesses. As such, we must include a portion of the shared costs that will be incurred to make APA compliant with the SOCI Act requirements. The requirements under the SOCI Act are explained in detail in **Attachment 7.5**.

The costs outlined below include both the costs included in assessing APA's compliance with the SOCI Act requirements and the costs of implementing the required changes.

Table 8.6 – Security of Critical Infrastructure compliance costs

	FY2023 ($m)	FY2024 ($m)	FY2025 ($m)	FY2026 ($m)	FY2027 ($m)	FY2028 ($m)	FY2029 ($m)	FY2030 ($m)
Cyber Security	0.11	0.20	0.31	0.38	0.38	0.38	0.38	0.38
Technology Line Security governance (SoCI)	0.08	0.13	0.18	0.20	0.20	0.20	0.20	0.20
Program Management and Material Risk	0.02	0.02	0.09	0.11	0.11	0.11	0.11	0.11
Enterprise Security Governance	0.01	0.01	0.03	0.03	0.05	0.05	0.05	0.05
Personnel Security	-	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Supply Chain Security	-	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Total	**$0.22**	**$0.42**	**0.67**	**0.78**	**0.80**	**0.80**	**0.80**	**0.80**

Potential Further Step Change for System Protection Scheme

An allowance for costs associated with a System Protection Scheme (SPS) may also need to be added, depending on the outcome of a review that is underway regarding the future operation of the SPS.

A Tasmanian SPS was developed during the construction of Basslink to protect the Tasmanian network from an outage across Basslink. Basslink often represents a significant portion of load or generation in Tasmania and thus a trip or fault across Basslink could cause significant damage and blackouts across Tasmania's grid. There are two components to the SPS that act to mitigate this risk:

- Network Control SPS (NCSPS)—which allows for loading of corridors within TasNetworks' transmission network beyond their secure ratings, and fast disconnection or run-back following a corridor credible contingency event.
- Frequency Control SPS (FCSPS)—which allows Basslink to provide more electricity to the Tasmanian grid than would ordinarily be permitted under the Tasmanian Frequency Operating Standards and provides for either generator tripping or load interruption in the event of a sudden interruption to Basslink transfers.

TasNetworks owns and operates the hardware and software required to manage the SPS system. The generator tripping and load tripping services are provided by various third parties. Under current arrangements Basslink Pty Ltd does not have clear visibility of the procurement arrangements and costs associated with those generator and load tripping services. The arrangements in relation to SPS are currently under review. We note that TasNetworks have made a proposal for expenditure associated with new Tasmanian Integrated System Protection Scheme in its 2024-2029 regulatory proposal. In the event Basslink is required to bear some or all of the SPS costs, these will need to be

added to its forecast operating expenditure for the first regulatory control period as an additional step change. These costs do not form part of the base year costs, for reasons explained above.

Basslink Pty Ltd will keep the AER and stakeholders updated on this issue.

8.5 Results

Basslink Pty Ltd's opex forecast for the 2025-30 period is presented in the table below. We consider this total forecast opex is required in order to achieve each of the operating expenditure objectives (subject to resolution of the SPS issue, discussed above).

Table 8.7 – Opex forecast ($m FY25)

Category	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Opex, excluding category specific forecasts	17.6	17.7	17.8	14.0	10.3	77.4	15.5
Insurance	11.0	11.6	11.9	12.3	12.5	59.3	11.9
Corporate Opex	2.9	2.9	2.9	2.9	3.0	14.6	2.9
SOCI Cyber	0.9	1.1	0.8	0.8	0.8	4.3	0.9
IT and OT	2.4	2.3	2.1	2.1	2.1	11.0	2.2
Total	**34.8**	**35.5**	**35.5**	**32.1**	**28.6**	**166.5**	**33.3**

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September 15, 2023

Attachment 9: Forecast Rate of Return

9.1 Return on capital

Rule clause 6A.6.2 provides that:

> *The return on capital for a Transmission Network Service Provider for a regulatory year (RCt) is to be calculated using the following formula:*
>
> *RCt= $a_t \times v_t$*
>
> *where:*
>
> *a_t is the allowed rate of return for the Transmission Network Service Provider for the regulatory year; and*
>
> *v_t is the value, as at the beginning of the regulatory year, of the regulatory asset base for the transmission system owned, controlled or operated by the Transmission Network Service Provider (as established in accordance with clause 6A.6.1 and schedule 6A.2).*

Value of Regulatory Asset Base (RAB)

The return on capital is determined by applying the rate of return (discussed below) to the RAB value.

The RAB is the total regulatory value of all the assets used to provide the prescribed transmission service. The value of the RAB, and the methodology used to derive that value is discussed **Attachment 5**.

Weighted Average Cost of Capital

The rate of return is based on a Weighted Average Cost of Capital (WACC), as required by the AER's rate of return instrument.

Based on the available data, the estimated nominal WACC for the financial year 2025-26 is 5.47%.

The data specifically needed for estimating the WACC for financial year 2025-2026 is not yet available at the time of writing, and the most up-to-date data available for estimating the WACC is for the financial year 2023-24.

Given this limitation, the estimation of the WACC for the financial year 2025-26 was determined by:

- treating the financial year 2023-24 as though it is the financial year 2025-26;
- utilising the Rate of Return Instrument 2022 as published by the AER, and as amended in February 2023.

Nomination of the averaging periods for the WACC estimation was conducted in accordance with the guidelines provided in the Rate of Return Instrument 2022. The Rate of Return Instrument 2022 requires RBA, Blomberg and Refinitiv data to be used for estimating the cost of debt. As APA does not subscribe to the Refinitiv data service, our cost of debt was estimated using only the RBA and Bloomberg data.

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September 15, 2023

Attachment 10: Incentive arrangements

10.1 Incentive Arrangements

Four incentive schemes may apply to TNSPs under the Rules, specifically the:[81]

1. Efficiency Benefits Sharing Scheme (EBSS);
2. Capital Expenditure Sharing Scheme (CESS);
3. Service Target Performance Incentive Scheme (STPIS);
4. Demand Management Innovation Allowance Mechanism (DMIAM).[82]

In considering whether and how to apply these schemes we identified two issues.

- First, the schemes have been developed for TNSPs which have long been subject to economic regulation (as applied under the Rules) and have largely had no material change in role. This stability allows targets to be set based on historic performance and costs. However, Basslink is undergoing significant change. It is moving from a role of MNSP to a TNSP and is being integrated into a larger organisation. This means using historic data to set performance targets will result in rewards and penalties driven by changes in Basslink's role and operating environment rather than genuine efficiency or performance improvements. This poses an unnecessary risk to both consumers and Basslink.
- Second, the elements of these schemes presume that all TNSPs connect multiple generators with a series of demand centres. In contrast, Basslink is an interconnector operating between regions.

Clause S6A.1.3(2) of the NER provides that a TNSP's Revenue Proposal must contain:

> *the values the Transmission Network Service Provider proposes are to be attributed to the performance incentive scheme parameters for the purposes of the application to the Transmission Network Service Provider of any service target performance incentive scheme that has been specified in a framework and approach paper and that applies in respect of the relevant regulatory control period, and an explanation of how the values proposed to be attributed to those parameters comply with any requirements relating to them set out in that scheme;*

Similarly, the requirements relating to incentive schemes in NER clause SA.1.3(2)-(3C) are each tied to whether the relevant incentive scheme 'has been specified in a framework and approach paper'.

The AER's decision to commence a modified transmission determination process for Basslink omitted the requirement for the AER to make a framework and approach paper under clause 6A.10.1A of the NER. The AER's decision noted that given the limited available precedents, and the differences between Basslink and other transmission networks, the matters that would be dealt with

[81] Rule 6A.4.2(5)-(6A).
[82] The Rules also identify a small-scale incentive scheme but this has not been developed for transmission network service providers.

by a framework and approach paper for Basslink will need to be considered afresh and together with the AER's assessment of Basslink Pty Ltd's revenue proposal.[83]

Given these issues we have considered the application of each scheme and have developed our proposal on the basis that:

1. Schemes (or aspects of schemes) which rely on historic performance commence in the 2030-35 period, after 5-years of data is available from a more stable operating environment. While this results in a temporary delay to the application of the schemes, we believe any detriment is outweighed by the benefits of protecting consumers and Basslink from unnecessary risk from incorrectly calibrated targets;
2. Schemes which are not relevant to an interconnector are not applied; and
3. All other schemes (or aspects) are applied consistent with the AER's general approach.

In turn, we propose that the:

1. EBSS is not applied at all in the 2025-30 period and is applied from the 2030-35 period onward, due to the link between the efficiency targets with the base-step-trend forecasting approach and reliance on historic revealed costs.
2. CESS applies from 2025-30, as the CESS operates by comparing actual and forecast capital expenditure (which is not based on historic spend).
3. STPIS is partly applied in 2025-30 (Network Capability Component) and partly delayed to 2030-35 (Service Component and Market Impact Component) as these latter components rely on historic performance.
4. DMIAM is not applied at all as Basslink has limited scope to undertake demand management activities.
5. The small-scale incentive scheme is not applied at all in the 2025-30 period.

Further details on each scheme are provided below.

10.2 Efficiency Benefits Sharing Scheme

Basslink Pty Ltd proposes not applying the EBSS to the first revenue period, with the EBSS to apply in subsequent revenue periods.

This is because Basslink Pty Ltd considers the application of the EBSS would produce uncertain outcomes rather than incentives on the business. The AER states:

> *The EBSS aims to provide a continuous incentive for NSPs [Network Service Providers] to pursue efficiency improvements in opex and to share efficiency gains between NSPs and network users*

[83] *AER - Notice of decision and commencement and process paper - APA Group BassLink - July 2023*, pp 8-9.

Basslink is undergoing significant change in its operating environment. The two most significant are:

- it is moving from a market operation to a regulated asset with the change in reliability obligations that brings with it; and
- it is moving from operating as a stand alone business to being an integrated part of APA.

These changes mean that the past operating expenditure is not a reliable indicator of future operating expenditure, and so the necessary operating expenditure for the next five years is very difficult to forecast. While every effort has made to forecast this expenditure as robustly as possible, there is significant uncertainty as to what future the operating expenditure will be for Basslink.

The consequence of this uncertainty is that costs may change over time due to these operating environment factors rather than genuine efficiency savings (or losses). This could result in consumers paying more than necessary or Basslink being subject to penalties which are unrelated efficiency losses.

Integration

APA is still undertaking the integration workstreams for incorporating Basslink into APA's operating environment. This project is expected to run for the next year. The full implications of integration on costs and while successfully meeting the obligations of a reliable operator have yet to be worked through, and there remains a lot of uncertainty around the full implications of this process.

Significant aspects of Basslink Pty Ltd's business are being changed and incorporated in APA structures and processes. This is major reform to how Basslink operates. Basslink has not completed a full financial year.

Regulated Status

It has been 17 years since the last electricity transmission interconnector became a regulated asset. There has been significant changes to the regulatory environment since that time. There is significant uncertainty as to the cost effect of the different operating model.

Basslink has identified changes in insurance expense, financial reporting costs, AEMO fees and the costs of economic regulation. It is likely there are other impacts from the change to a regulated network which have not yet been identified.

Incentives

For the reasons outlined above the potential variance is much more significant than could be experienced by other regulated businesses. It is not consistent with the NEO or the purpose of the EBSS to reward or penalise a business for variance that does not reflect the efficiency or inefficiency of the business but rather reflect the significant changes to the structure and operating environment of the business.

The AER states:[84]

> *There are two potential incentive problems with this forecasting approach when an EBSS is not in place:*
>
> *1. A NSP has an incentive to increase opex in the expected 'base year' to increase its forecast opex allowance for the following regulatory control period.*
>
> *2. A NSP's incentive to make sustainable change to its practices, and reduce its recurrent opex, declines as the regulatory control period progresses. It then increases again after the base year used to forecast opex for the following regulatory control period. By deferring these ongoing efficiency gains until after the base year the NSP can retain the benefits of doing so for longer because they won't be reflected in the opex forecasts for the following period.*

We note that:

- In relation to 1, there is no requirement that the AER commence the subsequent forecast using a particular year if there is evidence that the operating expenditure in that year was inflated. Historic operating expenditure dating back to Financial Year 2006 will be reported to the AER so that an appropriate base year can be identified.
- In relation to 2, Basslink Pty Ltd would ask the AER to consider the following matters in determining the weight it would give to this concern:
    - Firstly, the proposal for the EBSS to apply after the first revenue period, which when considered over the life of the asset, represents a relatively short period of time. The EBSS will apply so the changing nature of the incentives will only be for a short period of time.
    - Secondly, if there was a strong representative opex baseline against which to forecast costs then it would be true that the incentive declines over the regulatory period without the EBSS. However, given it is highly likely to be cost differentials between the historic opex of an MNSP standalone Basslink in FY22 and the forecast TNSP part of APA the incentive parameters of the EBSS are weak to begin with.

Difference between Capex and Opex

Capital expenditure and operating expenditure are very different. This directly affects the level of uncertainty in the forecast when a business is changing to a regulated business and being integrated into a larger business.

The forecast capital expenditure program is a bottom-up forecast comprised of a relatively few discrete projects of which only two of which are expected to have expenditure in every year of the revenue period. For an electricity transmission interconnector, the capex program does not involve a lot of repeat activities unlike what an electricity distribution network would experience for example.

[84] 2013 AER, *Efficiency Benefit Sharing Scheme for Electricity Network Service Providers,* p.4

In contrast, operating expenditure involves a large number of repeat or ongoing activities with the forecast developed from a base year of historic spend. The Governance framework for these activities is very different between a small organisation like the former Basslink and APA. There will be economies of scale that will drive down the cost of some activities and there will be a higher level of risk management. There is much greater uncertainty as to whether future operating expenditure will be higher or lower and it will vary from activity to activity and year to year.

This is why Basslink Pty Ltd is proposing the CESS apply to capital expenditure and the EBSS not apply to operating expenditure.

10.3 Capital Expenditure Sharing Scheme

Basslink Pty Ltd is proposing the application of the CESS version 2 for the 2025-30 regulatory control period.

10.4 Service Target Performance Incentive Scheme

The electricity transmission STPIS (version 5) has three components:

- Service Component (SC) – which encourages TNSPs to reduce the number of unplanned network outages and to promptly restore the network in the event of unplanned outages.
- Market Impact Component (MIC) – which provides an incentive to minimise the impact of transmission outages that can affect wholesale market outcomes.
- Network Capability Component (NCC) – which encourages TNSPs to identify suitable low-cost one-off projects that improve the capability of the transmission network at times when it is most needed.

Service Component and Market Impact Component

We propose that the SC and MIC components commence in the 2030-35 period following data collection over the 2025-30 period.

This approach is consistent with the past approach for Directlink, where the STPIS was applied in its second regulatory control period (2015-20) but not the first period following conversion to a regulated interconnector (2006-15).

It is also consistent with the approach taken with the initial development of the STPIS and preceding Service Standards. The ACCC 'strongly suggested' networks to begin collecting 5 years of performance information on a range of measures in its January 2000 decision for the NSW and ACT Network Revenue Caps.[85] Similarly, the AER only introduced measures of congestion in the STPIS following a series of work together with NEMCO over 2003/04, 2004/05 and 2005/06[86] before being introduced in the STPIS in August 2007.[87]

[85] ACCC 2000, *NSW and ACT Transmission Network Revenue Caps 1999/00-2003/04,* Available here.
[86] As outlined here.
[87] AER 2007, *Final Decision, Electricity Transmission Network Service Providers, Service Target Performance Incentive Scheme.* Available here.

Over the 2025-30 period, Basslink Pty Ltd will provide the AER with the information on a basis consistent with the requirements for data in STPIS version 5 to enable their performance against those targets in the subsequent regulatory control period.

We also propose that the SC and MIC are applied in 2030-35 consistent with how these elements are applied for Murraylink and Directlink in version 5 of the STPIS. This adjustment is required to reflect that Basslink is an interconnector rather than a network with multiple generation and demand points.

Network Capability Component

The last component of the STPIS is the NCC. The purpose of the NCC is to facilitate improved capability of the transmission system in respect to spot prices and when users place the greatest value on system reliability.[88]

The NCC requires the submission of a Network Capability Incentive Parameter Action Plan (NCIPAP) which identifies the limits and a set of priority projects to improve these limits. TNSPs must consult with AEMO prior to submitting a NCIPAP as part of their revenue proposal and submit an annual compliance report.

This scheme is also applicable to interconnectors. While there are generally less circuits and injection points, interconnector limits have a material impact on the energy system, and in turn market and consumer outcomes.

In the case of Basslink, the key limit is the ambient temperatures at the Loy Yang and George Town converter stations. High ambient temperatures constrain power transfer in extreme weather conditions; however, it is these conditions which also lead to the wider energy system being under the most pressure.

In 7 out of the top 10 Victorian peak demand days since Basslink was commissioned ambient temperatures either limited or were forecast to limit power transfer. On the Victorian record demand day of 29 January 2009, when 420MW of customer load was curtailed across South Australia and Victoria, Basslink was unable to transfer energy from Tasmania to support the wider system for a short period.

Given that historic data is not required for the NCC to effectively operate and that the NCC can bring benefits to interconnectors we propose that it applies to Basslink in the 2025-30 period.

We have developed a NCIPAP (**Attachment 13**) and consulted with AEMO.[89] The NCIPAP outlines network limits and, at this stage, does not include any priority projects.

While no projects have been included, applying the NCC to Basslink would help facilitate mid-period future projects which would result in a material benefit. To add a project to the NCIPAP, Basslink is required to consult with AEMO[90] (and would consult other stakeholders as required) and request that the AER accept that the project be included.[91]

We note that the current STPIS states that the NCC does not apply to Directlink and Murraylink.[92] This does not prevent the NCC from applying to Basslink. We also note the risks of applying the scheme to Basslink are minimal (given the engagement requirements with AEMO together with AER

[88] STPIS clause 5.2
[89] A letter from AEMO on our proposed NCIPAP is provided in **attachment 13**
[90] STPIS clause 5.4(e)
[91] STPIS clause 5.4(b)
[92] STPIS Clause 2.2(d)

oversight to ensure that potential projects deliver material benefits). In contrast, not applying the NCC would prevent or delay projects which could deliver higher levels of reliability and lower spot times – at times of (increasingly) extreme weather.

10.5 Demand Management Innovation Allowance Mechanism

Basslink Pty Ltd is not proposing to apply the Demand Management Innovation Allowance Mechanism. The circumstances for Basslink are the same for Directlink and Murraylink.

In its draft determination for the Murraylink Transmission Determination the AER stated:[93]

> *Under the current operational framework, we consider that there will be very limited utility to energy users were Murraylink to invest in researching demand management opportunities through the DMIAM.*
>
> *Demand management is typically achieved through load shifting, increasing the level of embedded generation sources, and to a lesser extent minimising energy losses. Murraylink is a point-to-point interconnector between South Australia and Victoria. The power flowing through this link is determined by the price differential between the two regions and other network constraint factors at the time of generation dispatch by AEMO. There is no scope for Murraylink to manage the power flow volume by load shifting or to connect new embedded generators. Nor can it reduce losses within the link without some sort of capital investment. Given the DMIAM does not allow capex expenditure under the mechanism, the scope for loss reduction under the DMIAM is limited. Therefore it is not appropriate to apply a DMIS*

This is equally true for Basslink. Demand Management would have to be achieved at the regional level. There is no scheme that Basslink could identify that would achieve that outcome in a way that is proportionate to the benefit or would not require significant capital expenditure.

10.6 Small-scale incentive scheme

For completeness, Basslink Pty Ltd does not seek to propose any small-scale incentive scheme for the forthcoming regulatory control period.

[93] 2022 AER, *Draft Decision, Murraylink Transmission Determination 2023 to 2028,* p.14 Available here.

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Attachment 11:
Cost Pass Throughs

11.1 Executive Summary

The Rules provide an avenue to pass through costs incurred by a Network Service Provider (NSP) in connection with prescribed or approved events beyond our control. This regulatory framework recognises that there are unpredictable events which may impose high costs on the NSP. Customers are protected from paying these high costs for low probability events that are beyond a NSP's control.

We propose the following nominated pass through events for the 2025-30 period, which are discussed in turn at sections 3 to 8 below:

- Insurance coverage event
- Insurer credit risk event
- Natural disaster event
- Terrorism event
- REZ design report event
- Offshore project assessment event.

Each of these proposed nominated pass through events have been selected with the aim of promoting prudent and efficient risk mitigation so that we can safely, reliably and securely supply our customers. When preparing our proposal for the above nominated pass through events, we have been guided by:

- the nominated pass through event considerations outlined in the Rules, and
- stakeholder engagement sessions where we discussed, among other things, rising insurance premiums and high deductible levels, with particular reference to the offshore property (subsea cable) insurance.

11.2 NER Requirements

Clause 6A.7.3(a1) of the Rules provides that any of the following is a pass through event for a transmission determination:

> (1) a regulatory change event;
> (2) a service standard event;
> (3) a tax change event;
> (4) an insurance event;
> (5) any other event specified in a transmission determination as a pass through event for the determination; and
> (6) an inertia shortfall event.[94]

Clause 6A.6.9 provides that a Revenue Proposal may include a proposal as to the events that should be defined as 'pass through events' under clause 6A.7.3(a1)(5), having regard to the nominated pass through event considerations. The Rules provides that the nominated pass through event considerations are:

[94] Paragraph (6) does not apply in Victoria.

- Whether the event proposed is covered by a category of pass-through event specified in NER clause 6A.7.3(a1)(1)-(4);
- Whether the nature or type of event can be clearly identified at the time the determination is made for the NSP;
- Whether a prudent service provider could reasonably prevent an event of that nature or type from occurring or substantially mitigate the cost impact of such an event;
- Whether the relevant service provider could reasonably insure against the event or whether the event can be self-insured; and
- Any other matter the AER considers relevant and which the AER has notified NSPs as a nominated pass-through event consideration.

We have been guided by these considerations in preparing our nominated cost pass through event proposal for the 2025-30 regulatory control period.

11.3 Insurance coverage event

Including an insurance coverage event as a relevant event protects Basslink from losses if an insurer is not liable to pay all, or part, of a large or catastrophic event that could have a financially significant impact.

There is inherent volatility in the liability insurance market (particularly in respect of bushfire liability) and the offshore property market (particularly in respect of subsea cables). Including this category of event is intended to cover potential insurance gaps and the possibility of withdrawn capacity or uneconomic increases in premiums in the future.

Scope of proposed pass through event

Basslink Pty Ltd's proposed definition for our nominated 'insurance coverage event' is set out below and is consistent with the AER's recent determinations.[95] The definition is cognisant of the AER's preferred drafting and does not propose any deviations from recently approved definitions of an 'insurance coverage event'.

[95] AER, *ElectraNet transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 11– Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023).

An insurance coverage event occurs if:

1. *Basslink:*
    a. *makes a claim or claims and receives the benefit of a payment or payments under a relevant insurance policy or set of insurance policies; or*
    b. *would have been able to make a claim or claims under a relevant insurance policy or set of insurance policies but for changed circumstances; and*
2. *Basslink incurs costs:*
    a. *beyond a relevant policy limit for that policy or set of insurance policies; or*
    b. *that are unrecoverable under that policy or set of insurance policies due to changed circumstances; and*
3. *The costs referred to in paragraph 2 above materially increase the costs to Basslink in providing prescribed transmission services.*

For the purposes of this insurance coverage event:

'changed circumstances' means movements in the relevant insurance market since the acquisition of the insurance policy or set of insurance policies that applied during the majority of Basslink's base year and that are beyond the reasonable control of Basslink, where those movements result in it no longer being prudent or efficient for Basslink to take out with a reputable insurer:

i. *a relevant insurance policy; or*
ii. *in the case of a set of insurance policies, one or more layers of insurance within that set (or there are otherwise one or more gaps within the set), either at all or on commercial terms reasonable to Basslink.*

'costs' means the costs that would have been recovered under the insurance policy or set of insurance policies had:

i. *the limit not been exhausted;*

those costs not been unrecoverable due to changed circumstances.

A 'relevant insurance policy' or 'set of insurance policies' is an insurance policy or set of insurance policies held during the regulatory control period or a previous regulatory control period in which Basslink was regulated; and

i. *Basslink will be deemed to have made a claim on a relevant insurance policy or set of insurance policies if the claim is made by a related party of Basslink in relation to any aspect of Basslink's network or business; and*
ii. *Basslink will be deemed to have been able to make a claim on a relevant insurance policy or set of insurance policies if, but for changed circumstances, the claim could have been made by a related party of Basslink in relation to any aspect of Basslink's network or business.*

Note for the avoidance of doubt, in assessing an insurance coverage event through application under rule 6A.7.3(j), the AER will have regard to:

i. *the relevant insurance policy or set of insurance policies for the event;*
ii. *the level of insurance that an efficient and prudent Transmission Network Service Provider (TNSP) would obtain, or would have sought to obtain, in respect of the event;*
iii. *any information provided by Basslink to the AER about Basslink's actions and processes; and*
iv. *any guidance published by the AER on matters the AER will likely have regard to in assessing any insurance coverage event that occurs.*

Rationale

An insurance coverage event is a prudent and efficient way to mitigate the risk of Basslink incurring losses exceeding our insurance coverage or for gaps in the insurance coverage caused by withdrawn capacity or where the cost of coverage cannot be economically justified. We believe this is a pragmatic approach to balancing risks for the following reasons:

Basslink operates within the business' risk framework to reasonably withstand unpredictable events outside of our control. Our insurance limits are commensurate with risks associated with our operations and customers, as well as industry standards. In some instances, the cost of insurance to mitigate the risk is only available at a prohibitively high cost given the probability of the event occuring.

Furthermore, it may not be possible to take out an insurance policy at all for these types of improbable events, and/or on reasonable commercial terms over the 2025-30 regulatory period. This has been made more difficult in recent times given the volatility of the global and domestic insurance industry. This volatility has driven up the cost of insurance premiums and influences insurers to reassess the cover they are willing to provide. These factors are outside of our control and cannot reasonably be prevented by a TNSP.

Without a pass through provision, Basslink Pty Ltd will need to set aside additional annual insurance allowance to address these risks. In turn, this means our customers would bear additional costs irrespective of whether such an event actually occurs.

As part of our stakeholder engagement sessions, we discussed the risks and concerns around rising insurance premiums and high deductible levels (with particular reference to the offshore property (subsea cable) insurance.

An insurer coverage event is not already covered by any of the categories of pass through events specified in the NER.

We are therefore proposing an insurance coverage event to protect Basslink in the event that our insurer is not liable to pay all, or part of, a loss which materially impacts our costs. This pass through event will provide us with a reasonable opportunity to recover the efficient costs incurred as a result of unpredicted insurance market conditions, while not imposing costs on consumers for the sort of 'low probability, high cost to insure' events contemplated.

11.4 Insurer credit risk event

An insurance credit risk event mitigates the risk of an insurer becoming insolvent, and as a result forcing Basslink Pty Ltd to insure with another provider and incurring substantial additional costs beyond our control. Additional costs may include higher premiums, a lower claim payment or higher deductible.

Scope of pass through event

Our proposed definition for our nominated 'insurer credit risk event' is below and is consistent with the AER's recent determination.[96] The definition is cognisant of the AER's preferred drafting and does not propose any deviations from recently approved definitions of an 'insurer credit risk event'.

An insurer credit risk event occurs if an insurer of Basslink becomes insolvent, and as a result, in respect of an existing or potential claim for a risk that was insured by the insolvent insurer, Basslink:

a) is subject to a higher or lower claim limit or a higher or lower deductible than would have otherwise applied under the insolvent insurer's policy; or

b) incurs additional costs associated with funding an insurance claim, which would otherwise have been covered by the insolvent insurer.

Note: in assessing an insurer credit risk event pass through application, the AER will have regard to, amongst other things:

i. Basslink's attempts to mitigate and prevent the event from occurring by reviewing and considering the insurer's track record, size, credit rating and reputation; and

ii. *In the event that a claim would have been covered by the insolvent insurer's policy, whether Basslink had reasonable opportunity to insure the risk with a different provider.*

Rationale

An insurer credit risk pass through event is a prudent and efficient way to mitigate the risk with our customers, while providing us with a reasonable opportunity to recover the efficient costs incurred as a result of unpredicted insurance market conditions. This type of event cannot be reasonably insured against (in part, or at all) by an NSP on reasonable or commercial or economic terms. An insurer credit risk event is also not already covered by any of the categories of pass through events specified in the Rules.

Basslink Pty Ltd cannot reasonably prevent our insurer becoming insolvent or substantially mitigate the cost impact of such an unpredictable event. As an NSP, we have significant insurance coverage for Basslink. If, for reasons beyond our control, an insurer is unable to pay all, or a part of, a claim, this would significantly impact our ability to deliver services to our customers. The occurrence of increased insurance premiums from alternative insurers (where the original insurer becomes insolvent) is also beyond our control.

Basslink Pty Ltd minimises insurer credit risk by using an insurance broker to obtain our insurance coverage. Our broker has minimum financial guidelines for insurers which typically requires an interactive S&P rating of BBB or higher and the local currency equivalent of US$50 million in unencumbered policyholders' surplus. Typically, insurers for Basslink are rated S&P A- or higher and

[96] AER, *ElectraNet transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 11 – Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023).

Basslink Pty Ltd has access to a live portfolio view of all insurers and their respective financial security rating. In addition, Basslink Pty Ltd receives quarterly insurer portfolio listings and alerts when insurers in the portfolio are subject to a rating change.

11.5 Natural disaster event

A natural disaster event is a prudent and efficient way to mitigate the risk of unpredictable and extreme events that are undoubtedly beyond an NSP's control.

Scope of proposed pass through event

Our proposed definition for our nominated 'natural disaster event' is set out below and is consistent with the AER's recent regulatory decisions.[97] Our definition below is cognisant of the AER's preferred drafting and does not propose any deviations from approved definitions of a 'natural disaster event'.

Natural disaster event means any natural disaster including but not limited to cyclone, fire, flood or earthquake that occurs during the 2024-29 regulatory control period that changes the costs to Basslink in providing prescribed transmission services, provided the cyclone, fire, flood, earthquake or other event was:

a) a consequence of an act or omission that was necessary for Basslink to comply with a regulatory obligation or requirement or with an applicable regulatory instrument, or
b) not a consequence of any other act or omission of Basslink.

Note: In assessing a natural disaster event pass through application, the AER will have regard to, among other things:

i. whether Basslink has insurance against the event, and
ii. the level of insurance that an efficient and prudent Network Service Provider would obtain in respect of the event.

Rationale

A natural disaster event mitigates the risk of not being able to obtain insurance coverage for natural disaster events and materially increasing our efficient costs that are unable to be recovered by the NSP. Basslink Pty Ltd cannot prevent this type of event from occurring and cannot substantially mitigate the cost impacts of this type of event (both prior to and after the occurrence of the event). A natural disaster event is also not already covered by any of the categories of pass through events specified in the Rules.

As an NSP, we employ a wide array of strategies to manage Basslink's exposure to natural disasters and mitigate the consequences of this exposure. Our insurance broker has advised that most NSP's do not purchase coverage for assets such as poles and wires / towers and lines. This is due to a lack

[97] AER, *ElectraNet transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 11 – Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023).

of insurance market appetite for these types of assets as they are heavily exposed to natural disasters (such as windstorms, cyclones and bushfires). If insurance is available, it is typically on uneconomic terms.

Other assets which are insured are often subject to sub limits for flood and earthquake and these perils often carry higher policy deductibles. Somewhat uniquely, Basslink has managed to procure efficient coverage for its towers and lines by leveraging the scale of its parent company's property insurance program combined with the limited kilometres of towers and lines associated with Basslink. However, ongoing coverage for these assets is not guaranteed. Therefore, complete insurance cover for natural disaster events for assets like Basslink is potentially not available, or not available at an efficient cost. This means Basslink Pty Ltd cannot always obtain appropriate insurance on reasonable commercial terms covering the full range of costs that could potentially be incurred as a result of a natural disaster event.

The occurrence of a natural disaster event (as defined above) has a low probability of occurrence but a high consequence or magnitude. Accordingly, self-insurance would not be appropriate to obtain given the need to balance the long-term interests of customers against rising insurance premiums and likelihood of a natural disaster event occurring.

11.6 Terrorism event

A terrorism event mitigates the risk of liability arising from devastating and deliberate damage caused to our network which risks our ability to deliver prescribed transmission services to customers.

Scope of proposed pass through event

Our proposed definition for our nominated 'terrorism event' is below and is largely consistent with the AER's recent regulatory decisions.[98]

Terrorism event

Terrorism event means an act (including, but not limited to, the use of force or violence, or the threat of force or violence, or a malicious act to access and/or disrupt computer systems or other information communication technologies including operational technology systems) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which:

a) from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear); and
b) changes the costs to Basslink in providing prescribed transmission services.

Note: In assessing a terrorism event pass through application, the AER will have regard to, amongst other things:

i. whether Basslink has insurance against the event;
ii. the level of insurance that an efficient and prudent Network Service Provider would obtain in respect of the event; and
iii. whether a declaration has been made by a relevant government authority that a terrorism event has occurred.

Rationale

A terrorism event is also not already covered by any of the categories of pass through events specified in the Rules. The occurrence of a particular terrorism event (including a cyber-terrorism attack) has a low probability of occurrence but may have significant financial consequence or magnitude. In recent determination decisions, the AER has approved a terrorism cost pass through event for TNSPs in their preferred drafting.[99]

Basslink is subject to new obligations in relation to cyber security and critical infrastructure resilience over the 2025-30 regulatory period.[100] We have set out in **Attachments 7 and 8** expenditure required to meet our new regulatory obligations that aim to prevent and mitigate the risk of a cyber-terrorism event occurring.

We agree with the AER that a TNSP is best placed to manage the majority of the risks posed by cyber terrorism attacks. As much as practicably possible, Basslink Pty Ltd is committed to

[98] AER, *ElectraNet transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 11 – Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023).
[99] AER, *ElectraNet transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 11 – Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 11 – Pass through events (Final decision, 28 April 2023).
[100] *Security of Critical Infrastructure Act 2018* (Cth); AEMO, *Australian Energy Sector Cyber Security Framework* (December 2022).

maintaining robust and resilient network systems to mitigate the risk and cost impact of this type of event. Notwithstanding the new cyber security and protection measures taken to meet the above obligations and beyond, an act of cyber terrorism could still significantly impact Basslink's ability to deliver prescribed services. It is not possible to eliminate the entirety of the risks we face when it comes to a cyber terrorism attack. It would be neither prudent nor efficient to incur material costs to insure against this type of event, which would inevitably mean additional costs to our customers.

Additionally, our insurance broker has advised that the global insurance market landscape for cyber risk is rapidly evolving, where obtaining insurance for a cyber-terrorism attack is increasingly challenging for critical infrastructure assets like Basslink.

Terrorism event definitions recently approved by the AER only refer to physical acts such as 'the use of force or violence, or the threat of force or violence'. Remaining silent on non-physical terrorist events such as cyber-terrorism attacks raise uncertainty in interpreting this event. Providing certainty will also ensure Basslink can continue to meet its regulatory obligations without curtailing our ability to provide safe, reliable and affordable services to customers.

Accordingly, we propose a small amendment to the preferred drafting of this event to make clear that cyber terrorist attacks explicitly fall under this pass-through event. In the recent AusNet draft decision (and previous decisions for distribution businesses), we note the AER has suggested cyber-terrorism be included in a nominated terrorism pass through event[101]:

> *'…As noted in our previous decisions for distribution businesses, the nominated 'terrorism' pass through event could include cyber-terrorism. Given the likely impacts as set out above that a major cyber-attack usually involves, this intended inclusion should cover a high proportion of risks likely to be faced...'*

Considering the AER has previously contemplated such non-physical events may fall under this pass through event, we propose the AER accept our terrorism event definition which explicitly includes cyber attacks in a limited manner.

11.7 REZ design report event

Basslink Pty Ltd proposes a new pass through event for the 2025-30 regulatory period to enable Basslink to recover costs incurred in preparing a REZ design report.

[101] AER, *AusNet transmission determination 2022-27*, Attachment 11 – Pass through events (Draft decision, 30 June 2021).

Scope of proposed pass through event

Our proposed definition for our nominated 'REZ design report event' is below.

A REZ design report event occurs if:

a) *Basslink is required to commence preparation of one or more Renewable Energy Zone (REZ) design reports in accordance with clause 5.24.1(b) of the National Electricity Rules; and*
b) *Basslink will incur additional material costs in preparing for one or more offshore project assessment events, the recovery of which was not included in the maximum allowed revenue that Basslink may earn from the provision of prescribed transmission services during the 2024-2029 regulatory control period.*

Note: in assessing a REZ design report event pass through application, the AER will have regard to, amongst other things:

1. *the need to ensure that Basslink has a reasonable opportunity to recover the total efficient costs of an offshore project assessment event; and*

   the urgency of the request to complete the assessment and/or report(s).

Rationale

A REZ design report event will occur if AEMO requests Basslink Pty Ltd to prepare a design report for a REZ in Tasmania in the release of an Integrated System Plan (ISP) in the 2025-30 regulatory period. This type of event is not already covered by any of the categories of pass through events specified in the Rules and cannot be clearly identified.

REZs are subject to a special planning regime, which includes the preparation of REZ design reports by Jurisdictional Planning Bodies. Under this regime, an ISP may require a design report to be prepared for a REZ in Tasmania.

As the decision to prepare a REZ design report is the responsibility of AEMO, Basslink Pty Ltd has no control over whether one or more reports will be required during the 2025-30 regulatory period. Under these rules, AEMO may trigger a requirement for Basslink Pty Ltd to prepare a REZ design report that was not predicted at the time of the AER's determination decision.

Our proposal to include REZ design reports is also consistent with the Energy Security Board's recommendations on nominating a pass though event for the preparation of REZ design reports[102]:

The ESB recommends that the cost pass through mechanism applies in the event that the TNSP is required to prepare a REZ design report and the AER did not forecast the project in the TNSP's previous revenue determination

[102] Energy Security Board, *Renewable Energy Zones Planning, Final Recommendations* (February 2021).

While we cannot predict when this type of event will occur in the 2025-30 regulatory period, we have proposed this cost pass through event having regard to recent policy and industry developments. Governments and market bodies have indicated the following developments which may impact Basslink's operations and costs associated with delivering a REZ design report:

- Tasmanian Government's announcement to explore the north west of Tasmania as the first potential region to host the State's first REZ.[103]
- Tasmanian Government's proposed offshore wind energy zone for the Bass Strait region off Northern Tasmania by Federal Energy Minister Chris Bowen[104]
- ISPs are published by AEMO biennially. One ISP is due to be finalised in 2024 and two ISPs are due for release in 2026 and 2028 during Basslink's proposed regulatory period. AEMO's trigger may arise from any of these ISPs during the regulatory period.

Basslink Pty Ltd accepts the AER's position in its draft decision on ElectraNet's transmission determination for the 2023-2028 regulatory period that the NER's definition of a positive change event requires the application of the materiality threshold, and that this requirement may not be bypassed in the definition for a proposed nominated pass through event. We consider this event to bear genuine risks and therefore accept the AER's rationale to not waive the materiality threshold for our proposed definition.

Basslink Pty Ltd cannot prevent this type of event from occurring, nor can it substantially mitigate the cost impacts of this type of event (both prior to and after the occurrence of the event). The occurrence of a REZ design report event has a low probability of occurrence but a high consequence or magnitude. Obtaining appropriate insurances on reasonable commercial terms covering the full range of costs that could potentially be incurred for this type of event is also not possible, particularly given the inability to predict the magnitude, scope and frequency of the event.

11.8 Offshore project assessment event risking continued operation of Basslink

Basslink Pty Ltd proposes a new pass through event for the 2025-30 regulatory period to enable Basslink Pty Ltd to recover costs incurred in preparing offshore resource project assessments within a defined radius.

[103] Tasmanian Government, https://www.renewableenergyzones.tas.gov.au/about_rez
[104] Unlocking the power of offshore wind | Ministers (dcceew.gov.au)

Scope of proposed pass through event

Our proposed definition for our nominated 'offshore project assessment event' is below.

An offshore project assessment event occurs if:

a) Basslink is required to commence preparation of one or more assessment reports for an offshore resource project(s) within 2 nautical miles either side of Basslink (being 4 nautical miles in total); and
b) Basslink will incur additional material costs in preparing for one or more offshore project assessment events, the recovery of which was not included in the maximum allowed revenue that Basslink may earn from the provision of prescribed transmission services during the 2024-2029 regulatory control period.

Note: in assessing an offshore project assessment pass through application, the AER will have regard to, amongst other things:

a. the need to ensure that Basslink has a reasonable opportunity to recover the total efficient costs of an offshore project assessment event; and
a. the urgency of the request to complete the assessment and/or report(s).

Rationale

Continued operation of Basslink is critical to ensuring a reliable, affordable and secure supply to customers in Tasmania and the National Electricity Market (NEM). To protect Basslink and associated services we provide to customers, we must have a specific and appropriate 'protection zone' from the potentially significant impacts of future offshore resources projects.

Our proposed definition aims to minimise any material impact on costs for us and consumers across the NEM. Basslink provides Victoria, and the NEM more broadly, with access to Tasmania's cheaper hydropower and wind power at its peak periods or when dams are overfilled. Basslink also provides Tasmania with access to Victoria's cheaper renewable and baseload power when water levels are low in Tasmania. Being able to 'smooth out' power supply and demands between Victoria and Tasmania also reduces the extent of large price variations.

Basslink is recognised as critical infrastructure. Following advice from experts, Basslink Pty Ltd considers that works within 2 nautical miles either side of Basslink (being 4 nautical miles in total) are a risk to the continued operation of the asset. Basslink's current and potential augmented capacity will be impacted, where potential damage to the asset caused by works within this parameter may significantly risk Basslink's operations and ability to deliver services to customers.

The proposed 4 nautical mile radius is considered appropriate given:

- length of the repair vessel (150-200m)
- length of the cable repair
- a safe operating envelope of the vessel

- overlapping safety zones from other surrounding infrastructure required by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) (up to 500m).

Works within the zone can also impede the repair of the cable if it is damaged. The size of the zone has been determined in line with the length of the repair vessel, maritime safety zones (both for the vessel and in respect of NOPSEMA safety zones) and anticipated length of cable repairs.

Basslink Pty Ltd has previously proposed a number of principles to mitigate the potentially significant risks posed by offshore developments on Basslink, which include but are not limited to:

- no export cables should cross Basslink
- no other power cables should cross Basslink for safety, system security and operational reasons. If this is unavoidable, any cable crossings must be mechanically, thermally and electrically separated.
- electrical interaction can create dangerous and destruction outcomes to personnel and equipment. Cable crossing and/or in close proximity must be designed and installed to ensure no induction of electricity from another operator's cables to Basslink and vice-versa.
- design and construction of any cables crossing Basslink must also take into account and not impinge on or delay the repair of Basslink.

The proposed definition of an offshore project assessment event enables Basslink Pty Ltd to recover costs incurred which are beyond our control. The preparation and commencement of private offshore project assessments within the 2 natural miles either side of cannot be predicted prior to the AER's determination decision, nor do project proponents have any obligation to consult with Basslink on offshore project proposals unless specified otherwise.

While Basslink will make every reasonable attempt to recover the cost of the project from the proponent there are circumstances that Basslink will either have no basis under which it can require a project proponent to pay the costs or the cost of pursuing the cost from the project proponent are disproportionate to the cost of the offshore project assessment.

Basslink Pty Ltd cannot prevent this type of event from occurring, nor can it substantially mitigate the cost impacts of this type of event (both prior to and after the occurrence of the event). This type of event is not already covered by any of the categories of pass through events specified in the NER and cannot be clearly identified.

While we cannot predict when this type of event will occur, we have proposed this cost pass through event having regard to recent announcements and project developments.[105]

The occurrence of an offshore project assessment event has a low probability of occurrence but a high consequence or magnitude. Basslink Pty Ltd cannot obtain appropriate insurances on reasonable commercial terms covering the full range of costs that could potentially be incurred as a result of this type of event.

[105] Nexsphere and Equinor's planned Bass Offshore Wind Energy project for North-East Tasmania; BayWA r.e.'s application for Offshore Feasibility Licence

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Attachment 12: AER Data Worksheets

See attached AER Data Worksheets

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Attachment 13:
NCIPAP - Action Plan

13.1 Summary

As discussed in **Attachment 10** – Incentive Schemes, Basslink Pty Ltd proposes to apply the Network Capability Component (NCC) of the Electricity Transmission Service Target Performance Incentive Scheme (version 5) (STPIS) in the 2025-30 regulatory control period.[106]

The STPIS provides that TNSPs are required to submit a network capability incentive parameter action plan (NCIPAP) as part of their revenue proposals and TNSPs must consult AEMO in developing their NCIPAPs.[107]

A NCIPAP must identify network limits and proposed priority projects.

At this stage, we have not identified any priority projects for the 2025-25 regulatory period. As a result, this NCIPAP only identifies the network limits which apply and the areas in which future priority projects may be identified.

We note that we are currently investigating the merits of an Ambient Temperature Project which aims to increase the ambient temperature transfer capacity limits. We have included this project in forecast capex for the 2025-30 period; however, we note that it would also qualify as a priority project.

Throughout the 2025-30 period we will continue to engage AEMO and other stakeholders to identify and evaluate potential priority projects.

13.2 Network Capability Component

Objective

In 2012 the AER added the Network Capability Component (NCC) to the Transmission (STPIS). The objective of the scheme is to facilitate opex or minor capex which results in:[108]

1. improved capability of those elements of the transmission system most important to determining spot prices, or
2. improved capability of the transmission system at times when Transmission Network Users place greatest value on the reliability of the transmission system.

The NCC is a discrete component of the STPIS which has a different objective and mechanism than the Service and Market Impact components.

Action Plan Requirements

Under the NCC a TNSP must submit, in its revenue proposal, a network capability incentive parameter action plan (NCIPAP).

[106] For completeness, as discussed in **Attachment 10** – Incentive Schemes, Basslink proposes to apply the other two components of the STPIS – the Service Component and Market Impact Component – over the 2030-35 period when sufficient data will be available to design appropriate incentives.
[107] STPIS, cl 5.2(b).
[108] STPIS clause 5.2(a)

The NCIPAP must:[109]

- identify for every transmission circuit and injection point on its network, the basis and cause for the limit for each transmission circuit and injection point.
- propose priority projects to be undertaken in the regulatory control period to improve the limit of the transmission circuits and injection points.

Where priority projects are proposed the NCIPAP must include:[110]

i. the total operational and capital cost of each priority project

ii. the proposed value of the priority project improvement target in the limit for each priority project

iii. the current value of the limit for the transmission circuits and/or injection points which the priority project improvement target is seeking to improve

iv. the ranking of the priority projects in descending order based on the likely benefit of the priority project to customers or on wholesale market outcomes

v. for each priority project, how the achievement of the priority project improvement target would result in a material benefit being achieved, including an outline of the key assumptions on which this result is based

vi. in which the average total expenditure of the priority projects outlined in each regulatory year must not be greater than 1 per cent of the TNSP's average annual maximum allowed revenue proposed in its revenue proposal for the regulatory control period

Change in priority projects

Each year TNSPs are required to submit annual STPIS compliance reports. As part of these reports, priority projects can be proposed to be removed or added to the NCIPAP.

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13.3 Network Limits

Basslink is a bidirectional 400 kV direct current (DC) monopole electricity connector with a metallic return. It connects to AusNet's Transmission Network at Loy Yang and Tas Network's Transmission network at George Town.

Basslink is designed with a continuous rating of 500 MW in either direction.

In addition, Basslink is designed to operate with a dynamic rating transfer capacity from Tasmania to Victoria. This capacity can be within any 24 hour period:[111]

[109] STPIS clause 5.2(b)
[110] STPIS clause 5.2(b)(2)
[111] These are based on conservative operating assumptions these operating parameters will be updated with construction of the Cable Load Prediction System.

- 604MW for 10 hours, over which the remaining 14 hours is limited to 312MW in either direction.
- 630MW for 2 periods of 4 hours. These periods need to be separated by 2 hours and the remaining 16 hours has a transfer limited of 312MW in either direction.
- 630MW for 6 hours over a continuous period over which the remaining 18 hours is limited to 312 MW in either direction.

As an interim measure, dynamic rating transfer capacity is not currently available to ensure that thermal design limits are not exceeded. A project is currently underway to undertake the requisite engineering works and associated studies to ensure the thermal design limits are not exceeded and restore the dynamic rating transfer capacity functionality.

Transfer capacity is dependent on all redundant cooling being in service, AC system voltages and frequencies in normal range, operation below maximum ambient temperature limits as well as functional requirements and design conditions in place (e.g. maximum soil temperature on sea bottom etc.).

In practice, the primary limit which constrains Basslink's capacity is the maximum ambient temperature limits.

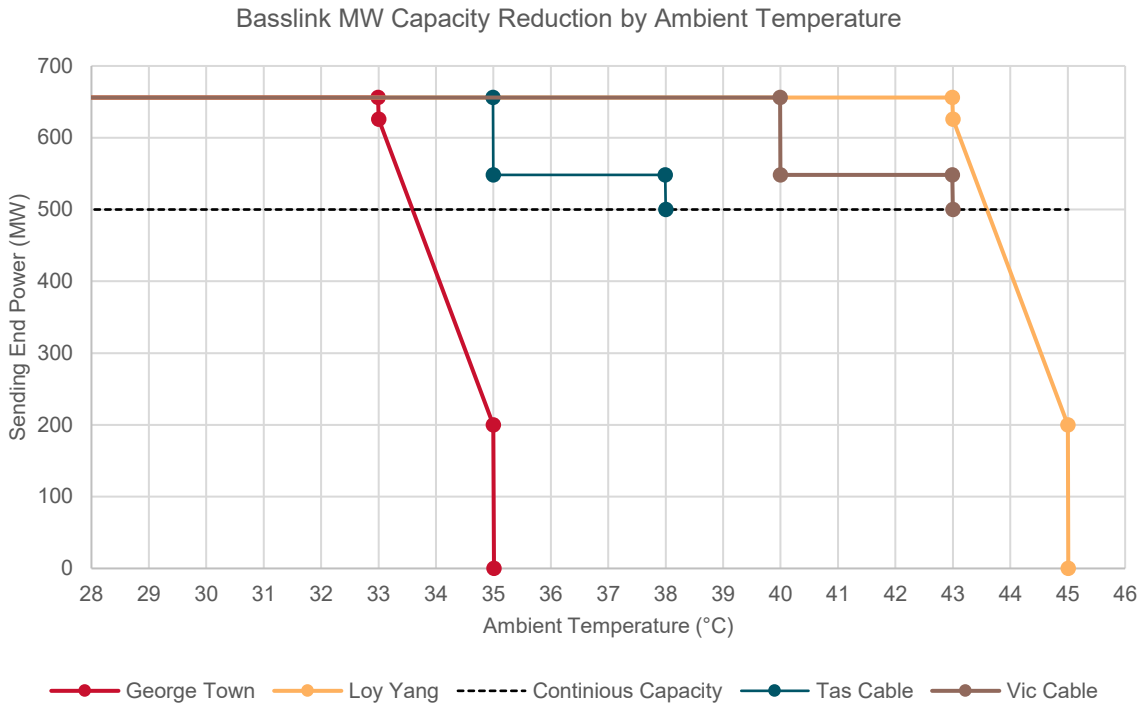
Ambient Temperature Limits

Basslink is rated to operate at a maximum dry bulb temperature of 30°C and 40°C at George Town and Loy Yang. If the ambient temperature exceeds these thresholds the control and protection system automatically reduces or blocks power transfer, as shown in Figure 3.1.

Since commissioning, Basslink has experienced two 100% loss of capacity events (average duration of 1.55 hours) and seven partial loss of capacity events (average duration of 2.82 hours).[112]

[112] Excluding an additional event caused by a temperature sensor being placed in an inappropriate location (which has been subsequently rectified).

Figure 13.1 Current Ambient Temperature Limitations



13.4 Priority Projects

Basslink Pty Ltd is not currently proposing to include any NCIPAP priority projects. We note that a project to address the Ambient Temperature Limit has been included in forecast capex.

We will continue to work with AEMO and other key stakeholders to identify opportunities for opex or minor capex to improve the capability of Basslink and deliver material benefits. If this occurs, as part of our annual compliance report to the AER, we will propose additional projects to be included.

Glossary

A	Amps (measurement of current)
AARR	Aggregate Annual Revenue Requirement
AC	Alternating Current
ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
ASIC	Australian Securities and Investment Commission
ASRR	Annual Service Revenue Requirement
AUD	Australian Dollar
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Basslink Pty Ltd	Basslink
BOA	Basslink Operations Agreement
Capex	Capital Expenditure
CAPM	Capital Asset Pricing Model
CCGT	Combined-Cycle Gas Turbine
CESS	Capital Expenditure Sharing Scheme
CO_2	Carbon Dioxide
COTA	Council of Aging Tasmania
CPI	Consumer Price Index
CRNP	Cost Reflective Network Pricing
DAC	Depreciated Actual Cost
DC	Direct Current
DMIAM	Demand Management Innovation Allowance Mechanism
DORC	Depreciated Optimised Replacement Cost
DSP	Demand side participation
EBSS	Efficiency Benefits Sharing Scheme
EPC	Engineer, Procure, and Construct
ESOO	Electricity Statement of Opportunities
ESOO	Electricity Statement of Opportunities
FACTS	Flexible AC Transmission Systems (includes SVCs and STATCOMs)
FCSPS	Frequency Control SPS
FEED	Front End Engineering and Design

FLLLF	Forward Looking Loss Factor
FOM	Fixed Operation and Maintenance
GW	Gigawatt
GW	Gigawatt
GWh	Gigawatt hours
GWh	Gigawatt-hour
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IASR	Inputs, Assumptions and Scenarios Report
IEC	International Electrotechnical Commission
IGBT	Insulated Gate Bipolar Transistor
ISAR	Inputs, Assumptions and Scenarios Report
ISP	Integrated System Plan
ISP	Integrated System Plan
kV	Kilovolt
LCC	Line Commutated Converter
MNSP	Market Network Service Provider
MCE	Ministerial Council on Energy
MI	Mass Impregnated
MIC	Market Impact Component
MMC VSC	Modular Multi-level Voltage Source Converters
MR	Metallic Return
Mt	Mega Ton
MVA	Mega-Volt-Ampere
MVAr	Mega-Volt-Ampere reactive
MW	Megawatt
MWh	Megawatt-hour
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER (Rules)	National Electricity Rules
NCC	Network Capability Component
NCIPAP	Network Capability Incentive Parameter Action Plan
NCSPS	Network Control SPS
NEM	National Electricity Market

NPV	Net Present Value
NPV	Net Present Value
NSP	Network Service Provider
NSW	New South Wales
NTDC	Northern Tasmanian Development Council
OCGT	Open-Cycle Gas Turbine
ODV	Optimal Deprival Value
OHTL	Overhead Transmission Line
Opex	Operational Expenditure
ORC	Optimised Replacement Cost
PACR	Project Assessment Conclusion Report
PHES	Pumped Hydro Energy Storage
PPI	Producer Price Index
PSL	Prudent Storage level
PTRM	Post Tax Revenue model
PV	Photovoltaic
QLD	Queensland
QNI	Queensland-New South Wales interconnector
QNI Connect 1	NSW to QLD Interconnector Upgrade
QRET	Queensland Renewable Energy Target
RAB	Regulatory Asset Base
RAB RFM	Asset Base Roll Forward Model
RBA	Reserve Bank of Australia
REZ	Renewable Energy Zones
RIT - T	Regulatory Investment Test Transmission
SA	South Australia
SAT	Single Axis Tracking
SC	Service Component
SPS	System Protection Scheme
SRMC	Short Run Marginal Cost
STATCOM	Static Compensator
STPIS	Service Target Performance Incentive Scheme
SVC	Static Var Compensator
TAS	Tasmania
TAS	Tasmania

TMEC	Tasmanian Mineral, Manufacturing and Energy Council
TNSP	Transmission Network Service Provider
TRET	Tasmanian Renewable Energy Target
TRET	Tasmanian Renewable Energy Target
TSIRP	Time-sequential integrated resource planner
TUOS	Transmission Use of System
TWh	Terawatt hours
USE	Unserved Energy
VCR	Value of Customer Reliability
VIC	Victoria
VNI	Victoria-New South Wales Interconnector
VOM	Variable Operation and Maintenance
VPP	Virtual Power Plant
VRET	Victoria Renewable Energy Target
WACC	Weighted Average Cost of Capital