



Issues Paper

AusNet Services Electricity transmission revenue proposal

1 July 2017 to 30 June 2022

December 2015

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Request for submissions

Energy consumers and other interested parties are invited to make submissions on the AusNet Services electricity transmission revenue proposal by **Thursday 4 February 2016**. The proposal is available on the AER's website www.aer.gov.au

We will consider and respond to submissions in our draft determination in mid-2016.

We prefer that all submissions are in Microsoft Word or another text readable document format. Submissions should be sent to:

AusNetTransmission2017@ aer.gov.au

Alternatively, submissions can be sent to:

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

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

- clearly identify the information that is the subject of the confidentiality claim
- provide a non-confidential version of the submission in a form suitable for publication.

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

If interested parties have any enquires about this Issues Paper, or about lodging submissions, please send an email to: AusNetTransmission2017@ aer.gov.au

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Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
capex	capital expenditure
EBSS	efficiency benefit sharing scheme
kW	kilowatt
MAR	maximum allowed revenue
MW	megawatt
MWh	megawatt hour
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
opex	operating expenditure
RAB	regulatory asset base
RPPs	Revenue and pricing principles
STPIS	service target performance incentive scheme
TUoS	transmission use of system
VCR	Value of Customer Reliability
WACC	weighted average cost of capital

1 Introduction

Victorian households and businesses consume electricity, which is supplied through a network of 'poles and wires'. The electricity network in Victoria is commonly divided into two parts:

- a transmission network, which carries electricity from the large generators to the major load centres
- a distribution network, which carries electricity from the points of connection with the transmission network to virtually every building, house and apartment in Victoria.

The transmission and distribution networks charge their customers for transmitting electricity across their networks. These 'network charges' do not appear directly on most customers' electricity bills, which are sent by the retail businesses. Nevertheless, the network charges are important as they account for a significant component of each customer's final bill.

AusNet Services (formerly SP AusNet) owns and operates Victoria's shared electricity transmission network.¹ On 30 October 2015 AusNet Services submitted its electricity transmission revenue proposal for its regulatory control period from 1 April 2017 to 31 March 2022 (2017–22 regulatory control period). This revenue proposal sets out how much AusNet Services proposes to charge its customers over the five year period.

We, the Australian Energy Regulator (AER), regulate the revenues of the network businesses by setting the annual revenues they may recover from customers. For electricity transmission businesses, this annual revenue is called the maximum allowed revenue, and directly impacts the network charges AusNet Services can recover from customers as part of their electricity bills.

Although our decision influences the total revenue AusNet Services can recover from its transmission customers (such as the Victorian distributors and large customers connected directly to the transmission network), the AER does not set transmission charges for each customer or the retail prices that end consumers pay. Retail prices include the costs associated with transmission, distribution, generation, and the costs incurred by retailers in selling the electricity.

We are just starting the process of reviewing AusNet Services' revenue proposal for the 2017–22 regulatory control period. This involves examining AusNet Services' proposal to ensure that consumers pay no more than necessary for the safe and reliable delivery of electricity.

We determine an overall revenue allowance based on a forecast of the efficient costs required by AusNet Services to prudently provide transmission services and fulfil its obligations. The regime provides incentives for AusNet Services to outperform our forecast,

¹ The relevant licenced entity is AusNet Services Transmission Group Pty Ltd (ABN 78 079 798 173).

while delivering safe, reliable and secure services to its customers. If AusNet Services incurs costs that are greater than what we deem to be efficient, AusNet Services bears those costs.

The purpose of this issues paper is to help consumers and other stakeholders understand AusNet Services' proposal. This issues paper will be followed by a draft decision in mid-2016 and a final decision before the end of January 2017.

Table 1 lists the key dates of the review.

Table 1 Key dates for the AusNet Services transmission pricing review

Step	Date
AER published Framework & Approach paper for AusNet Services	31 March 2015
AusNet Services submitted revenue proposal to AER	31 October 2015
AER publishes issues paper	December 2015
AER to hold public forum on issues paper	17 December 2015
Submissions on revenue proposal close	4 February 2016
AER to publish draft transmission determination	Mid-2016
AER to hold public forum on draft transmission determination	Mid-2016
AusNet Services to submit revised revenue proposal to AER	September 2016 *
Submissions on revised revenue proposal and draft determination close	October 2016 *
AER to publish final transmission determination	31 January 2017

Source: NER, chapter 6A, Part E

* Expected timeframe

Under the NER, consumer engagement is a factor we can consider when making our revenue determinations.² Consumers can get involved in our review process in a number of ways. We will host public forums during which consumers can ask us and AusNet Services questions. Consumers can make submissions on AusNet Services' proposal, this issues paper, and our draft determination.

As part of our 'Better Regulation Program' and to ensure that consumers have a say in our decision making process, we established the Consumer Challenge Panel (CCP). The purpose of the CCP is to assist us in making better regulatory decisions by advising us on issues that are important to consumers. Panel members will present their views and analysis at our public forums, which will help consumers understand the issues and be better able to have a say.

² NER, cl. 6A.6.6(e)(5A), cl. 6A.6.7(e)(5A).

Submissions

Submissions on AusNet Services' proposal and this issues paper are due by Thursday 4 February 2016.

Your submission will be of greater value to us if it is supported by evidence and analysis. Submissions that address specific issues, supported by evidence and analysis, can be very useful.

If you consider a certain aspect of the revenue proposal is not justified, you should state why you consider it is not justified. You should also state what further information you consider AusNet Services should provide to justify that aspect of its proposal. Likewise, if you consider a certain aspect of the proposal is justified, you should state why.

When considering the questions on which we would like feedback, it is useful to keep in mind that our jurisdiction in reviewing the proposal is set out in the National Electricity Law (NEL) and National Electricity Rules (NER). The objective of the regulatory framework is to promote the efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity. Under the NER, we assess the business' proposed expenditure forecasts to determine whether they are required to meet this objective.

We are most interested in receiving submissions on AusNet Services' proposed approach to customer engagement, opex, capex, depreciation and the expected rate of return. However, we welcome submissions on all aspects of the proposal.

2 Our initial observations

This section sets out our initial observations on AusNet Services' revenue proposal.

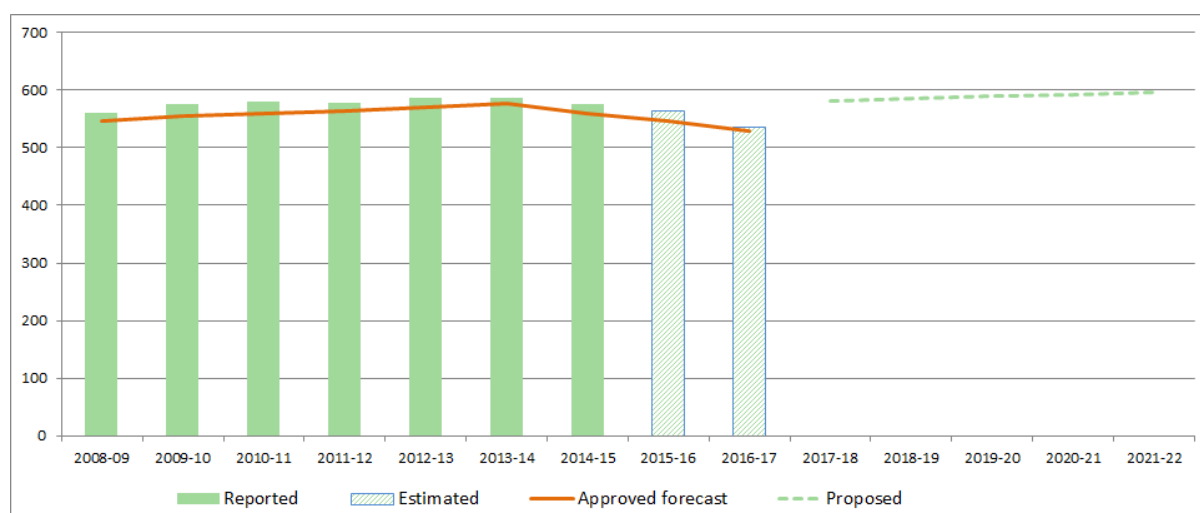
2.1 Total revenue

AusNet Services' revenue proposal covers many issues relevant to our responsibilities as an economic regulator. Primarily though, the revenue proposal sets out the revenue that AusNet Services proposes to recover from consumers over the next regulatory control period. This section discusses AusNet Services' revenue proposal in total.

AusNet Services has proposed a total revenue requirement of \$2945.3 million (smoothed, real 2016–17) over the 2017–22 regulatory period.³ This represents an 8 per cent increase compared to the average revenue AusNet Services was allowed to recover from customers over the 2014–17 regulatory period.⁴

AusNet Services actual, expected and forecast revenue is outlined in Figure 1 below.

Figure 1 AusNet Services total revenue requirement (\$m, real 2016–17)



Source: AER, Final decision PTRM for SP AusNet 2014–17; AER, Final decision PTRM for SP AusNet 2008-14; AusNet Services, Proposed PTRM, October 2015; AusNet Services (SP AusNet, SPI PowerNet) Regulatory accounts (2008-09 to 2014-15), AER analysis.

³ Revenues are smoothed to reduce revenue fluctuations between years. To calculate the smoothed revenues, the annual building block revenue requirements (the sum of the various building block costs) for all five years are smoothed across the regulatory control period. The smoothed and unsmoothed revenues across this period are equal in net present value terms.

⁴ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 320–325.

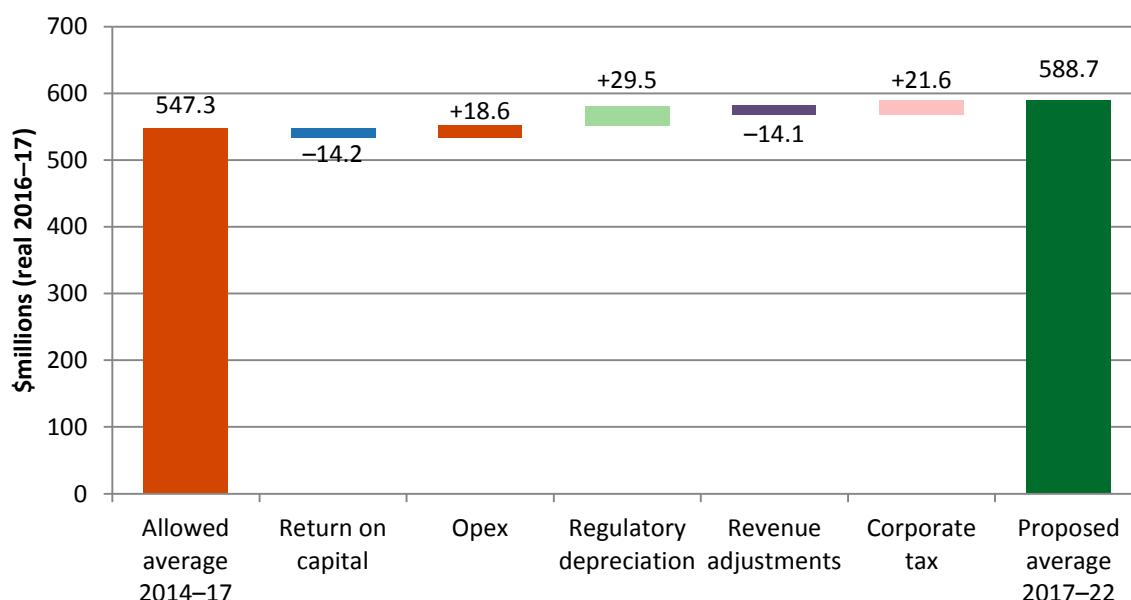
Revenue impact by building block revenue component

To assist consumers to understand the drivers of the increase in AusNet Services' proposed total revenue requirement we have separated AusNet Services' proposed changes in revenue into the various building block elements.

In the figure below we show the impact of these changes as if they were to all occur in the first year. By doing so, we can see more clearly the key drivers of AusNet Services' proposed revenue increase.

Figure 2 shows that the regulatory depreciation, corporate tax and opex building blocks are the key drivers of the proposed increase in revenues in the 2017–22 regulatory control period.

Figure 2 AusNet Services – change in 2014–17 average revenue to proposed average revenue for 2017–22 – by revenue component



Source: AusNet Services, *Regulatory proposal 2017–22*, October 2015; AER analysis.

Impact on transmission prices

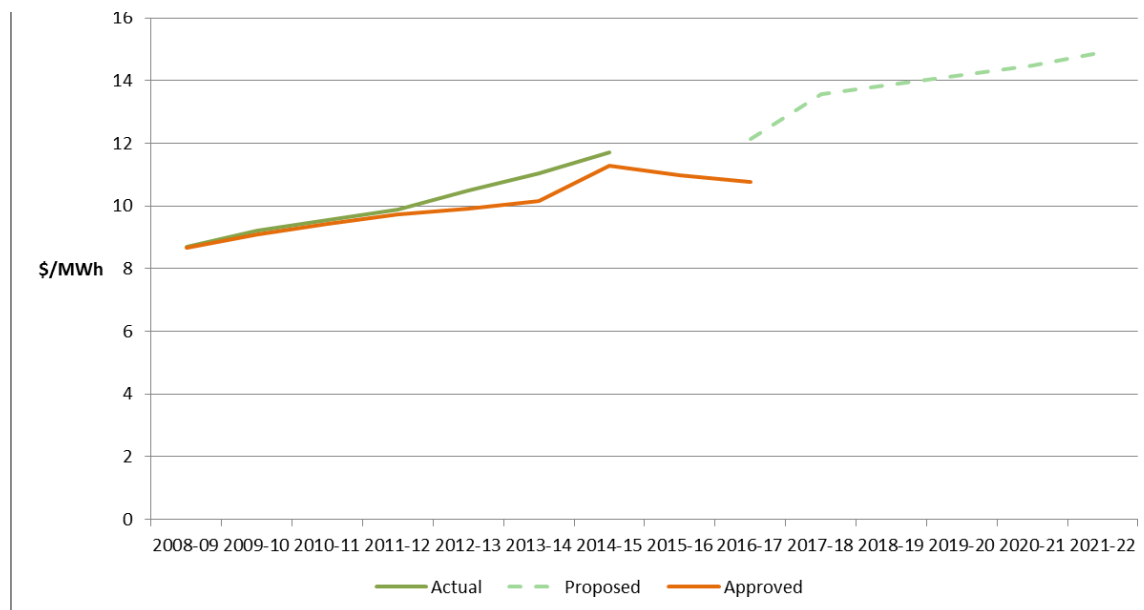
AusNet Services' proposed revenue, if accepted, would translate to annual transmission price increases for Victorian consumers of 1.8 per cent above the rate of inflation.

Figure 3 shows the expected price path derived from AusNet Services' revenue proposal. The solid lines represent actual average price changes and the dotted line represents the price path proposed by AusNet Services over the next regulatory control period. From 2011–12 to 2014–15, AusNet Services' actual price path (showed by the green line) has been higher than approved as a result of lower than forecast energy consumption in Victoria.

As reflected in Figure 3, in the current regulatory control period prices have increased from 2014 to 2015 and are expected to decrease slightly from 2015 to 2017.

AusNet Services' proposal is for increases in the average price path over the 2017–22 regulatory control period.

Figure 3 AusNet Services – indicative transmission price path from 2008–09 to 2017–22 (\$/MWh, nominal)



Source: AER, Final decision PTRM for SP AusNet 2014–17; AER, Final decision PTRM for SP AusNet 2008-14; AusNet Services, Proposed PTRM, October 2015; AusNet Services (SP AusNet, SPI PowerNet) Regulatory accounts (2008-09 to 2014-15), AER, Wholesale market data, Energy consumption Victoria; AER analysis.

2.2 Depreciation

Depreciation is the amount that the service provider recovers to pay for the original cost of the asset over time—typically reflecting the useful life of the asset. AusNet Services proposed to change the depreciation method for all new assets being acquired in the 2017–22 regulatory control period. It proposed using a diminishing value (DV) depreciation method for new assets, while maintaining a straight-line (SL) depreciation method for existing assets.⁵

The DV method results in higher depreciation in the early years of an asset's life and lower depreciation in the latter years. That is, network customers pay off a higher proportion of the initial cost of the asset in the early years compared to the typical straight-line depreciation method. AusNet Services submitted that faster depreciation in the early years may be more appropriate because recent electricity market trends have created uncertainty about future use of electricity networks. For example, AusNet Services pointed to the uptake of solar technology and reductions in the cost of power storage as factors that may impact future use of the network.

⁵ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 177-178.

AusNet Services noted the proposed change increases the forecast total depreciation allowance⁶ and revenues by about 11 per cent and 2 per cent respectively, compared to the current SL method, over the 2017–22 regulatory control period.⁷

See section 4 of this paper for a more detailed discussion of AusNet Services' depreciation proposal.

2.3 Capital expenditure

AusNet Services has proposed forecast capex of \$745.6 million (real \$2016–17) over the forthcoming regulatory period. This represents an average reduction of approximately 8 per cent compared to actual and expected expenditure over the current period.⁸

AusNet Services submitted that most of the capex forecast is related to network capex (\$634.1 million, or 85 per cent) compared to non-network (\$111.5 million, or 15 per cent). A significant part of the forecast (42 per cent) is for major stations projects. AusNet Services' capex forecast only relates to the replacement of shared transmission network assets and transmission connection assets, and excludes any expenditure to augment the transmission system.⁹

See section 5 of this paper for further details.

2.4 Operating expenditure

AusNet Services proposed total operating expenditure of \$1101.7 million (\$2016–17) for the 2017–22 regulatory control period. This is approximately 9 per cent more than AusNet Services' actual and estimated opex for the 2014–17 regulatory control period on an average annual basis.¹⁰

See section 6 of this paper for further details.

2.5 Rate of return

AusNet Services' rate of return proposal is largely the same as the AusNet Services distribution proposal submitted to the AER in April 2015. The AER released a preliminary decision on that proposal on 29 October 2015.¹¹

In its transmission revenue proposal, AusNet Services proposed a rate of return of 7.22 per cent. This comprises:

⁶ The total forecast depreciation allowance includes both new and existing assets. The increase in terms of forecast depreciation on new assets alone is much larger, almost double than if the SL method was continued to be used for new assets.

⁷ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p.186. The impact in subsequent regulatory control periods will be greater as the existing assets depreciate and further new assets acquired.

⁸ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 56.

⁹ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 56.

¹⁰ Opex for 2014–15 is actual, opex for 2015–16 and 2016–17 is estimated because actual data is not available yet.

¹¹ AusNet Services, *Regulatory proposal 2016–20*, April 2015; AER, *Preliminary decision: AusNet distribution determination 2016–20*, October 2015.

- 10.0 per cent return on equity;
- 5.37 per cent return on debt; and
- 60 per cent gearing.

See section 7 of this paper for further details.

3 Background to our assessment

This section provides information about the AER and AusNet Services. If you are familiar with the AER's pricing review process, then refer straight to section 4.

The NEL and NER set out the regulatory framework for the National Electricity Market (NEM). Chapter 6A of the NER contains timelines and processes for the regulation of transmission businesses. It provides that regulated transmission businesses must periodically apply to us to assess their revenue requirements. Typically, this happens every five years. The revenue proposal as submitted by each business starts a process often referred to as a pricing review or 'revenue reset'.

3.1 The Australian Energy Regulator

The AER is Australia's national energy market regulator and an independent statutory authority. Our functions are set out in national energy market legislation and rules, and mostly relate to energy markets in eastern and southern Australia. These functions include:

- setting the charges for using energy networks (electricity poles and wires and gas pipelines) to transport energy to customers
- monitoring wholesale electricity and gas markets so suppliers comply with the legislation and rules, and taking enforcement action where necessary
- publishing information on energy markets, including the annual State of the Energy Market report and more detailed market and compliance reporting, to assist participants and the wider community
- assisting the Australian Competition and Consumer Commission with energy-related issues arising under the Competition and Consumer Act, including enforcement, mergers and authorisations.

The NEL and NER set out the regulatory framework under which we operate.

We exercise our functions in a manner that will advance the National Electricity Objective (NEO). The NEO in turn is supported through the revenue and pricing principles and the various objectives, criteria and elements within the rules. 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—

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system.

Energy Ministers have provided us with a substantial body of explanatory material that guides our understanding of the NEO.¹² The long term interests of consumers are not

¹² Hansard, *SA House of Assembly*, 9 February 2005 pp. 1451–1460.
Hansard, *SA House of Assembly*, 27 September 2007 pp. 963–972.
Hansard, *SA House of Assembly*, 26 September 2013 pp. 7171–7176.

delivered by any one of the NEO's factors in isolation, but rather by balancing them in reaching a regulatory decision.¹³

In general, we consider that we will achieve this balance and, therefore, contribute to the achievement of the NEO, where consumers are provided a reasonable level of safe and reliable service that they value at least cost in the long run.¹⁴ In most industries, competition creates this outcome. Competition drives suppliers to develop their offerings to attract customers. Where a supplier's offering is not attractive it risks being displaced by other suppliers.

However, in the energy networks industry the usual competitive disciplines do not apply. Electricity transmission businesses such as AusNet Services are largely natural monopolies.¹⁵ In addition, many of the products they offer are essential services for most consumers. Consequently, in an uncompetitive environment, consumers have little choice but to accept the quality, reliability and prices the network service provider offers.

The NEL and NER aim to remedy the absence of competition by providing that we, as the regulator, make decisions that are in the long term interests of consumers. For example, we might require a transmission business to offer its services at a different cost than they would choose themselves. By its nature, this process will involve exercising regulatory judgement to balance the NEO's various factors.

It is important to recognise that there are a number of plausible outcomes that may contribute to the achievement of the NEO. The nature of decisions under the NER is such that there may be a range of economically efficient decisions, with different implications for the long term interests of consumers.¹⁶ At the same time, however, there are a range of outcomes that are unlikely to advance the NEO to a satisfactory extent. For example, we do not consider that the NEO would be advanced if allowed revenues encouraged overinvestment and resulted in prices so high that consumers are unwilling or unable to efficiently use the network.¹⁷ This could have significant longer term cost implications for those consumers who continue to use network services.

Equally, we do not consider the NEO would be advanced if the revenue recoverable from customers results in prices so low that investors are unwilling to invest as required to adequately maintain the appropriate quality and level of service, and where customers make more use of the network than is sustainable. This could create longer term problems and have adverse consequences for safety, security and reliability of the network.¹⁸

¹³ Hansard, *SA House of Assembly*, 26 September 2013 p. 7173.

¹⁴ Hansard, *SA House of Assembly*, 9 February 2005 p. 1452.

¹⁵ A natural monopoly is a distinct type of monopoly that may arise when there are extremely high fixed costs of distribution, such as exist when large-scale infrastructure is required to ensure supply. Examples of infrastructure include cables and grids for electricity supply, pipelines for gas and water supply.

¹⁶ Re Michael: Ex parte Epic Energy [2002] WASCA 231 at [143].

Energy Ministers also accept this view – see Hansard, *SA House of Assembly*, 26 September 2013 p. 7172.

AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006* No. 18, p. 50

¹⁷ NEL, s. 7A(7).

¹⁸ NEL, s. 7A(6).

3.2 Who is AusNet Services and what does it do?

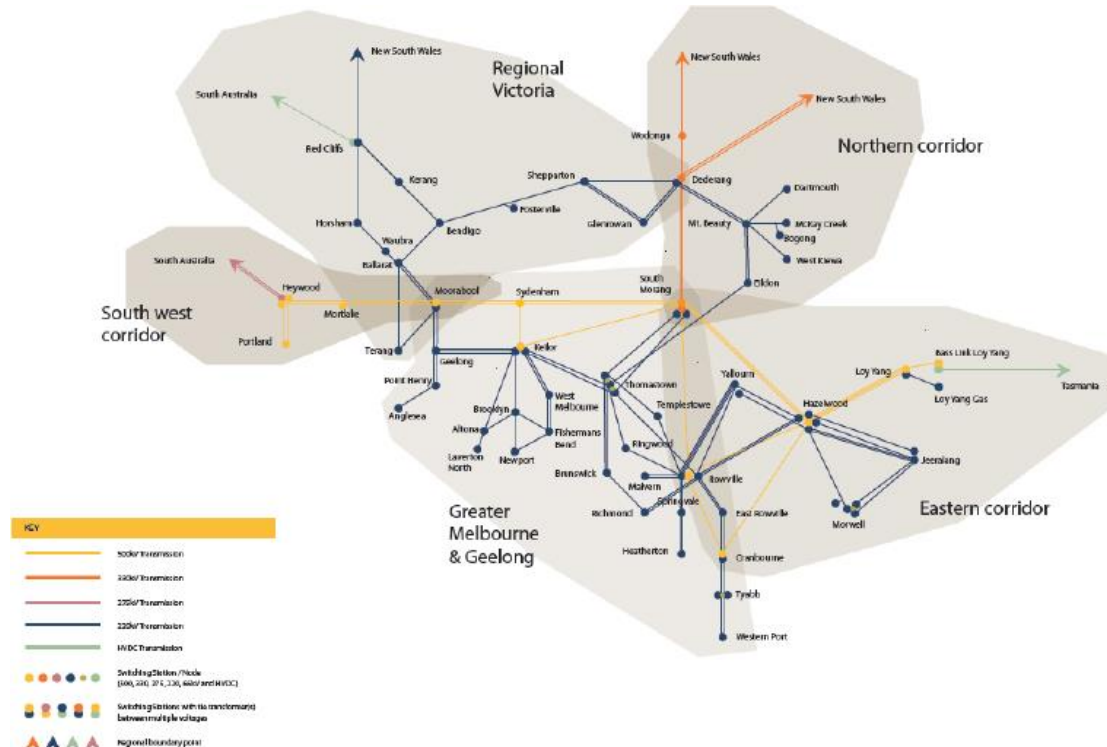
AusNet Services is a major energy network business that owns and operates key regulated electricity transmission and electricity and gas distribution assets located in Victoria, Australia. These assets include:

- a 6,574 kilometre electricity transmission network that services all electricity consumers across Victoria;
- an electricity distribution network delivering electricity to approximately 680,000 customer connection points in an area of more than 80,000 square kilometres of eastern Victoria;
- a gas distribution network delivering gas to approximately 572,000 customer supply points in an area of more than 60,000 square kilometres in central and western Victoria.

AusNet Services' transmission network operates at 500 kV, 330 kV, 275 kV, 220 kV and 66 kV, and generally includes those assets between the 'point of connection' with generators and distribution companies.

The transmission network is centrally located among Australia's five eastern states that form the NEM, and provides key connections between South Australia, New South Wales and Tasmania's electricity transmission networks. The NEM interconnections on AusNet Services' transmission network are outlined in its revenue proposal.¹⁹ The transmission system location, configuration and voltages are illustrated in Figure 4 below.

Figure 4 Victorian electricity transmission system



Source: AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 26.

¹⁹ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 2, 24–25.

3.3 Regulatory framework

3.3.1 Applicable version of the National Electricity Rules

Version 74 of the NER guides our assessment of AusNet Services' revenue proposal.²⁰ This version of the NER includes the result of significant changes made by the AEMC in November 2012. During our 2013 Better Regulation program we developed, through an extensive consultation process, a number of guidelines. The result was a suite of guidelines that accommodated changes to the NEL and NER and set out approaches we consider are most likely to advance the NEO.

3.3.2 AER Guidelines

We developed the following guidelines under our Better Regulation program. These guidelines are available on our website and include:²¹

- **Expenditure forecast assessment guideline**

This guideline sets out how we go about in assessing the operating and capital expenditure proposals from businesses.

- **Rate of return guideline**

This guideline sets out how we go about determining the allowed rate of return businesses earn on their investments.

- **Expenditure incentives guideline**

We have a number of schemes which are to create the right incentives to encourage efficient spending by businesses. These schemes are explained in this guideline.

- **Consumer engagement guideline for network service providers**

This guideline looks at our expectations of what the businesses should consider in implementing consumer engagement strategies that are effective for all stakeholders.

- **Shared asset guideline**

This guideline explains how revenue the networks earn from shared assets is shared with consumers.

- **Confidentiality guideline**

This guideline sets out how we manage confidential information claims within the regulatory determination process.

We consulted extensively in developing these guidelines. This consultation process was very important for testing our views and hearing from a range of interested parties. In particular,

²⁰ The National Electricity Rules can be viewed on the Australian Energy Market Commission's website:
<http://www.aemc.gov.au>

²¹ <http://www.aer.gov.au/Better-regulation-reform-program>

we made a special effort to engage consumers in the process through our Consumer Reference Group. The guidelines provide a solid foundation for our decision making and provide predictability in how we will exercise our discretion. Predictability provides confidence to both investors and consumers.

3.4 Our framework and approach paper

We released our Framework and Approach (F&A) paper for AusNet Services on 31 March 2015. The framework and approach (F&A) paper is the first step in the regulatory process and determines the broad nature of any regulatory arrangements that will apply in this process. It also facilitates early public consultation and assists network service providers to prepare revenue proposals.

The F&A is not binding on AusNet Services or us.²² This means it is open to AusNet Services or us to propose a different approach to that set out in our F&A for the regulatory control period.

3.5 Maximum allowed revenue to be recovered from consumers

A transmission business recovers revenue from its customers via network charges. A pricing methodology prescribes the way the business recovers this revenue. To determine the transmission business' revenue for the next regulatory control period, we assess the total revenue required to provide prescribed transmission services for each year of the period.

In accordance with the NER, we use the building block approach to determine the total revenue required by the business. That revenue requirement is determined by estimating the efficient costs that the business is likely to incur in providing prescribed transmission services. The underlying cost elements include:

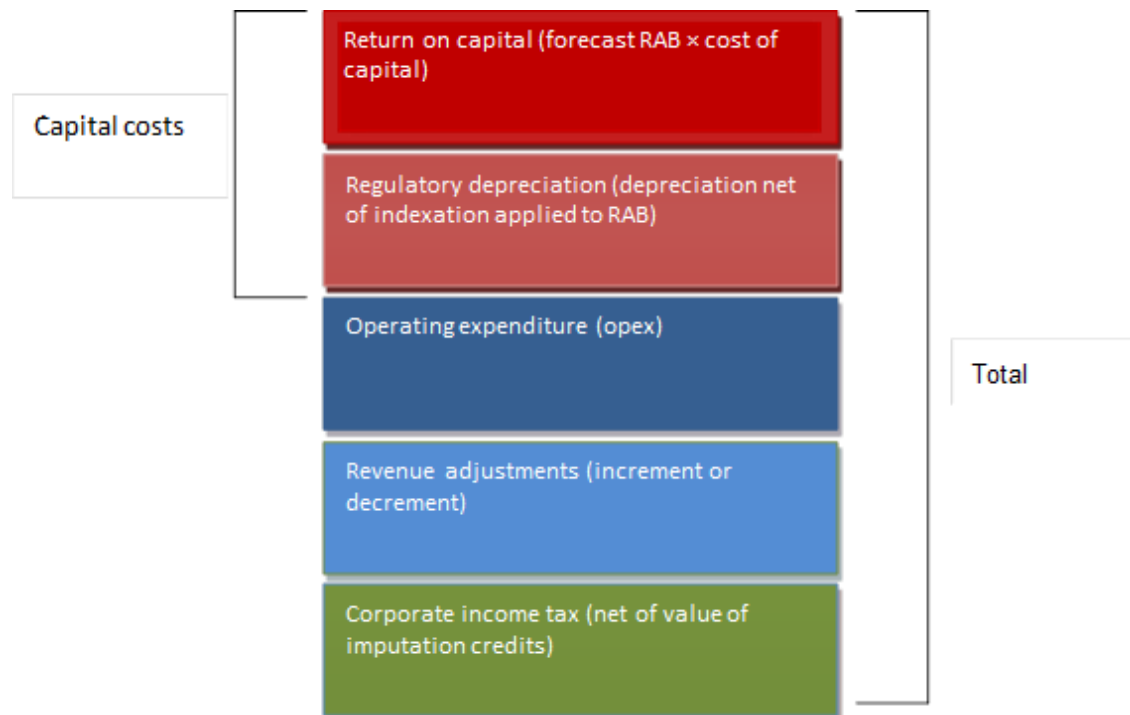
- a return on the regulatory asset base (RAB) (return on capital)
- depreciation of the regulatory asset base (return of capital)
- forecast operating expenditure (opex)
- increments or decrements resulting from the application of incentive schemes
- the estimated cost of corporate income tax.

Our assessment of capex directly affects the size of the RAB and therefore the return on capital and return of capital building blocks.

Our assessment of AusNet Services' proposal will consider each of the building blocks shown in Figure 5. However, we must decide AusNet Services' revenue as a whole and describe how the component parts of the decision relate to each other.

²² NER, cl. 6A.10.1A(f).

Figure 5 The building block approach to determining maximum allowed revenue



The key drivers of these cost elements in the revenue proposal are discussed in sections 4 to 7 of this paper.

4 Depreciation

Regulated service providers own assets such as towers, poles, transformers and substation equipment to transmit electricity across their networks. The value of these assets declines over time as funds are recovered for their use.

Depreciation is the amount that the service provider recovers to pay for the original cost of the asset over time—typically reflecting the useful life of the asset. The service providers are able to recover this depreciation amount in their regulated revenues. Depreciation, or 'return of capital', is one of the building blocks used to calculate AusNet Services' maximum allowed revenue. We must assess the depreciation approach to be used in making this calculation.

AusNet Services proposed two changes in relation to depreciation. It proposed:

- a new asset class for assets to be subject to accelerated depreciation over the 2017–22 regulatory control period
- a change of depreciation method for new assets.

Each is discussed in turn below.

4.1 Accelerated depreciation of the remaining value of assets expected to be removed from service

AusNet Services proposed that a new asset class be created for assets expected to be removed from service. Assets would be transferred into this new class if they no longer provided services to transmission customers. The remaining value of these assets would then be subject to accelerated depreciation and fully depreciated in 5 years.²³ AusNet Services provided information on why certain assets had been removed from service (or are expected to be removed from service over the 2017–22 regulatory control period).²⁴

We consider there may be merit in considering accelerated depreciation of specific assets where these assets are no longer utilised. This is a targeted approach compared to changing the depreciation method. However, we note that it is not always clear when an asset ceases to provide services. For example, assets might be unused for a time, but then may be reused in the future. We will review the information on the specific assets identified by AusNet Services as being removed from service (or expected to be removed from service) over the 2017–22 regulatory control period.

AusNet Services submitted that accelerated depreciation of decommissioned assets is justified so that future generations of customers do not pay for assets that are no longer providing transmission services. In the absence of accelerated depreciation, assets that are no longer in use would remain in the RAB and would continue to earn a rate of return until they are fully depreciated. The assets would continue to depreciate in line with their expected life when they were first included in the RAB.

²³ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 178 and Proposed PTRM.

²⁴ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 178, 189-190.

In the past, we have adopted the type of approach proposed by AusNet Services in a few limited circumstances. For example, when Cyclone Larry destroyed some of Ergon Energy's assets in 2006, we agreed that the remaining value of these destroyed assets would be subject to accelerated depreciation.

Question

1. Do you consider that AusNet Services has sufficiently justified its proposal for accelerating depreciation of assets removed from service?

4.2 Change of depreciation method for new assets

AusNet Services proposed to change the depreciation method for all new assets being acquired in the 2017–22 regulatory control period. It proposed using a diminishing value (DV) depreciation method for new assets,²⁵ while maintaining a straight-line (SL) depreciation method for existing assets.²⁶

Applying the DV depreciation method for new assets will accelerate the depreciation of these assets compared to the SL method. The DV method will therefore increase the depreciation allowance in the 2017–22 regulatory control period, compared to the SL method. AusNet Services noted the proposed change increases the forecast total depreciation allowance²⁷ and revenues by about 11 per cent and 2 per cent respectively, compared to the current SL method, over the 2017–22 regulatory control period.²⁸

AusNet Services stated that it proposed the DV method for new assets because this approach addresses the risk of lower utilisation in the future and better aligns cost recovery with the expected utilisation of the new assets. These issues are discussed further in the sub-sections below.

Applying the DV depreciation method to new assets does not impact the total amount of depreciation recovered from customers over the life of an asset, just the timing of this recovery. If approved, this would be the first time a DV method has been applied to a service provider regulated by the AER.

In the following sections we:

- describe the difference between DV and SL depreciation
- discuss the definition of utilisation and highlight the Australian Energy Market Operator's (AEMO) recent forecasts
- summarise AusNet Services' rationale for applying the DV depreciation method to new assets

²⁵ The diminishing value method is also known as the declining balance approach.

²⁶ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 177-178.

²⁷ The total forecast depreciation allowance includes both new and existing assets. The increase in terms of forecast depreciation on new assets alone is much larger, almost double than if the SL method were continued to be used for new assets.

²⁸ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p.186. The impact in subsequent regulatory control periods will be greater as the existing assets depreciate and further new assets acquired.

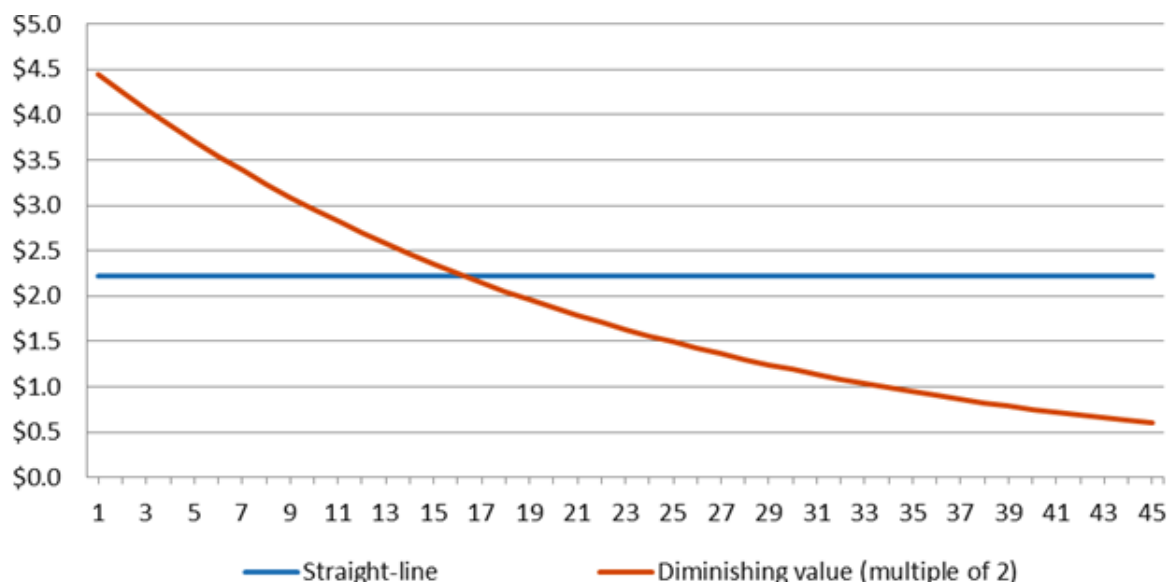
- describe AusNet Services' response to its stakeholder consultation
- outline AusNet Services' application of the DV method of depreciation; and
- examine future implications of AusNet Services' proposal.

DV compared to SL depreciation

SL depreciation is calculated by dividing the asset value by the number of years it is still expected to be in service. This means that there is an even recovery of depreciation, in real terms, over the life of the asset.

The DV method, on the other hand, depreciates an asset's remaining value by a given percentage each year.²⁹ Regardless of the percentage chosen, DV results in the depreciation amount diminishing (reducing) each year as the percentage is applied to a decreasing asset value. This difference is reflected in the Figure 6 below for an asset with an expected standard asset life of 45 years and a \$100 starting value.³⁰

Figure 6 Depreciation allowance under different depreciation methods (\$ real)



Source: AER analysis.

Figure 6 above shows that under the DV method more depreciation is being recovered from customers early in the asset's life. Additionally, the depreciation allowance is higher under the DV method until year 16 of the asset's life.³¹ This means that the cost recovery of new assets will be more heavily borne by current users of the assets rather than later users of the assets.

²⁹ AusNet Services has chosen to apply the value of 200 per cent for the DV method, also referred to as a multiple of 2.

³⁰ 'Multiple of 2' refers to the multiple used in AusNet Services' proposed DV depreciation rate formula.

³¹ The depreciation at the start of the asset's life being higher under the DV method in this case also reflects the multiple of 2 that AusNet Services applied to the depreciation rate.

Forecasts of future utilisation

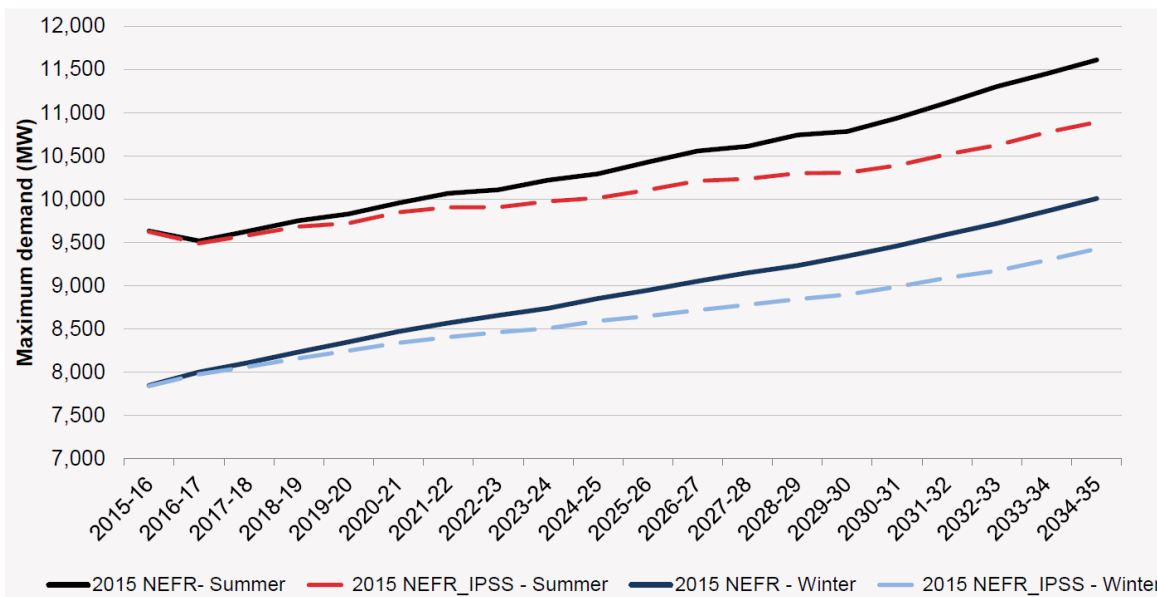
AusNet Services stated that accelerating the depreciation for new assets will better match revenue recovery with expected network usage over time.³² There are various factors that can be used to measure utilisation. Some of these factors include customer numbers, volume of energy delivered, and the level of demand for an asset at a particular point in time. In its proposal, AusNet Services has not clearly defined the term utilisation.

AusNet Services cited an AEMO report and noted an expected 6.2 per cent reduction in peak demand by 2034–35 due to emerging technologies, such as solar panels and battery storage that allow changes to energy sourced from traditional centralised network sources.³³ However, the reduction noted in the AEMO report was not relative to current maximum demand but relative to a rising maximum demand. This suggests that the technologies discussed may defer augmentation or replacement on the network. AEMO’s analysis suggests a more gradual increase in utilisation than without these technologies. Figure 7 is from AEMO’s report and shows this trend.³⁴

AEMO also notes the impact of storage on maximum demand is forecast to be small in the short-term.³⁵ As can be seen from Figure 7, integrated PV and storage systems are forecast to have no significant impact over the 2017–22 regulatory control period.

Figure 7 Victoria summer and winter 10% POE maximum demand forecasts with and without IPSS

Figure 30 Victoria summer and winter 10% POE maximum demand forecasts with and without IPSS



Notes: IPSS is shorthand for integrated PV and storage systems; POE is shorthand for probability of exceedance; NEFR is shorthand for national electricity forecasting report.

Source: AEMO, *Emerging Technologies Information Paper, National Electricity Forecasting Report*, June 2015, p. 53.

³² AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 53.

³³ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp.179-181.

³⁴ AEMO, *Emerging Technologies Information Paper, National Electricity Forecasting Report*, June 2015, p. 53.

³⁵ AEMO, *Emerging Technologies Information Paper, National Electricity Forecasting Report*, June 2015, p. 52.

Questions

2. Do you consider that there is some prospect that utilisation rates on AusNet Services' network may fall into the future (over the next five years and beyond)?

Applying accelerated depreciation to new assets

AusNet Service's proposal stated that the uptake of low-cost, alternative energy solutions could lead to inefficient under-utilisation of its network.³⁶ Under revenue cap regulation, such a decline in utilisation would increase the price per unit of energy supplied to future customers. This is because under the regulatory regime, AusNet Services' historical costs will continue to be recovered, regardless of the level of demand.

In response to the risk of falling utilisation, AusNet Services has proposed accelerated depreciation for new assets installed on its network. AusNet Services submitted that this approach will reduce the cost burden on the future customer base and contribute to more equitable access to electricity across generations.³⁷

We seek the views of stakeholders and consumers as to whether accelerated depreciation is an appropriate response to address the risk of falling utilisation. AusNet Services' depreciation proposal increases prices for customers in the 2017–22 regulatory period (other things being equal) relative to the SL method currently used by the AER. Furthermore, AusNet Services' proposal does not prevent falling utilisation,³⁸ so customers (particularly those who stay on the network) may face higher prices from the change of depreciation approach and any subsequent fall in utilisation.³⁹

We are also interested to hear views on whether there may be alternative approaches to address the risk of reduced utilisation.

Questions

3. Do you consider that increasing depreciation is an appropriate response to expectations of falling utilisation?

4. Are there other approaches that could be employed to respond to the risk of falling utilisation?

AusNet Services response to its stakeholder consultation

AusNet Services' stakeholders were not in favour of accelerated depreciation, largely due to its short-term impact on prices. In light of this response, AusNet Services has proposed

³⁶ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 183.

³⁷ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 184.

³⁸ It may be the case that higher prices may encourage lower utilisation.

³⁹ Accelerating depreciation does not differentiate between customers likely to stay on, and those likely to leave, the network. A customer staying on the network could therefore pay accelerated depreciation on the assets they use and then the residual cost of the assets of anyone that leaves the network.

accelerated depreciation to new assets only. Table 2 sets out AusNet Services' response to stakeholder feedback in its proposal.

Table 2 Stakeholder concerns and questions regarding accelerated depreciation

Stakeholder concern/question	AusNet Services' response
Customers should not pay for the depreciation of existing assets	While the current regulatory regime ensures TNSPs can recover the costs of prudent and efficient investment, this protection contributes to lower price outcomes by reducing the risk attached to investment in networks and consequently the cost of capital. If a degree of utilisation risk was to be borne by networks, a commensurate adjustment to the WACC would be required to reflect this.
Accelerated depreciation is equivalent to making customers pay for historic overinvestment by networks	AusNet Services' investment decisions are made within a probabilistic planning framework, which compares estimated project costs with customer benefits. Under this framework, network investments are only made where customer benefits exceed project costs.
There a risk that businesses will be incentivised to replace assets more quickly if accelerated depreciation is applied	<p>AusNet Services has also proposed accelerated depreciation using the declining balance method, which does not change asset lives, rather than by reducing asset lives.</p> <p>As noted above, the prudence and efficiency of asset replacement projects is determined by evaluating the net economic benefits offered by the project. Projects are only justified if they will yield positive net economic benefits. As the depreciated value of assets is not an input into this analysis, the suggested incentive would not exist.</p>
Price increases caused by accelerated depreciation may be “sticky” over the long-run to the extent that other costs replace declining depreciation charges	<p>The regulatory framework provides a suite of incentives for AusNet Services to continuously drive efficiencies with respect to both operating and capital expenditure. These efficiency savings directly reduce long-term price pressure faced by customers.</p> <p>Further, AusNet Services has developed its approach to accelerated depreciation in the context of its price impact, with lower capex and relatively low financing costs reducing the broader revenue requirement. AusNet Services is therefore cognisant of the price impact accelerated depreciation will have on customers.</p> <p>For this reason, AusNet Services has applied accelerated depreciation to new capex only, rather than new and sunk assets.</p>
Proposing accelerated depreciation to address utilisation asset risk may not be consistent with proposing	AusNet Services recognises the importance of being consistent in its approach to addressing utilisation risk and is proposing a range of complimentary measures to manage the size of its RAB and the uncertainty around the future utilisation of its network. These

Stakeholder concern/question

AusNet Services' response

Opex step changes to extend the life of existing assets

include increased opex to extend the life of assets, rather than replacing assets.

Does accelerated depreciation increase the amount of depreciation recovered by networks?

Applying declining balance depreciation to new assets does not impact the total amount of depreciation (in present value terms) that is recovered from customers, just the timing of this recovery.

Are other electricity networks proposing accelerated depreciation?

No other networks have explicitly proposed declining balance depreciation as a means of addressing utilisation risk.

Have AusNet Services' investors expressed concerns with respect to utilisation risk?

While investors acknowledge that the current regulatory framework protects networks from utilisation risk, recent analyst reports have highlighted the potential impact of disruptive technologies on the future recovery of investments made by Australian electricity networks.

In a recent note, Citi Research considered that “the risk of stranded assets and a death spiral as customers disconnect from the grid in favour of distributed generation is well publicised. We see limited near term risks however, because networks revenues are moving from a price cap to a revenue cap that protects against volume risk. But longer term we see significant potential risks.”⁴⁰

In February 2015, Morgan Stanley reduced its valuation of Spark Infrastructure, the part-owner of SA Power Networks, CitiPower and Powercor, to reflect its “higher longer run stranding risk relative to peers.”⁴¹

Can accelerated depreciation rates be adjusted if other cost pressures (e.g. the cost of capital) change?

Any future change in AusNet Services proposed depreciation approach would only be made if there are compelling reasons for making such a change (e.g. due to changes in other cost pressures or the development path of disruptive technologies).

It is important to note that, under the regulatory framework, the present value of the depreciation charges for each asset is equal over the long term, regardless of changes that are made to the approach.

Source: AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 188-189.

⁴⁰ Citi Research, *Regulated Utilities Initiation – A Focus on Dividends*, May 2015, p. 12

⁴¹ Morgan Stanley Research, *Regulated Utilities – RAB Season*, February 2015, p. 17.

Question

5. Do you agree with AusNet Services' response to its stakeholder consultation on depreciation?

Application of the DV method by AusNet Services

The DV method proposed by AusNet Services includes a multiple in the depreciation rate calculation based on tax guidelines. The economic basis for choosing the multiple needs to be established. It would be coincidental if the tax multiple of two as proposed by AusNet Services resulted in a depreciation rate that best matched the expected change in utilisation rates over the expected lives of the new assets. The formula below shows how AusNet Services calculated the depreciation rate on an asset with an expected standard life of 45 years.

$$\begin{aligned}\text{DV depreciation rate} &= \frac{1}{\text{standard asset life}} \times 2 \\ &= 2.22\% \times 2 \\ &= 4.44\%\end{aligned}$$

At the end of the asset's standard life (year 45), the DV method (unlike the SL method) leaves a residual asset value at a time utilisation is expected to be zero. For an asset with a standard life of 45 years, there is still 12.9 per cent of the asset's initial value to be recovered at the end of that life under the DV method.⁴² AusNet Services did not explain how such residuals should be dealt with.

Question

6. Do you consider that AusNet Services has sufficiently justified its chosen multiple used for the DV method?

Future implications

Accelerating depreciation in an asset's life brings forward cash flow for the service provider. While this improves a service provider's cash flow in the short run, it may exaggerate cash flow shortages or cause other consequences when depreciation falls in later years. For example, in its report on financeability to the Office of Gas and Electricity Markets (Ofgem), Cambridge Economic Policy Associates (CEPA) stated that:⁴³

Even when NPV neutral approaches are adopted there may be unintended consequences – for example, the most recent electricity distribution determination saw an increase in the proportion of assets that are subject to accelerated depreciation in part because the previous acceleration exacerbated the perceived cash-flow constraints as the capex programme grows.

⁴² The size of the residual value varies depending on the standard life of the asset.

⁴³ CEPA, *RPI-X@20: Providing financeability in a future regulatory framework*, May 2010, p. i–ii.

Whether this is likely will depend on other factors that are unrelated to the depreciation method. We are interested to hear from stakeholders whether AusNet Services has engaged with the potential consequences of accelerated depreciation, or demonstrated that accelerated depreciation will be in the long-term interests of consumers in this regard.

Bringing forward depreciation may also encourage early replacement of the asset to earn a return on the replacement value. Customers raised this as a concern at AusNet Services' consumer forum. AusNet Services responded that depreciation was not a factor in the efficiency and prudence assessments of asset placement projects.⁴⁴ While this may be true, we consider there is scope for the timing of such assessments to be influenced by the remaining asset value. AusNet Services also stated it was not changing the standard asset lives under the DV method.⁴⁵ However, under the DV method, most depreciation occurs early in the asset's life and there is a residual that remains well past the standard asset life (to infinity). These considerations suggest the standard asset lives are not going to provide an indication on when assets are nearing the end of their economic lives under the DV method.

AusNet Services undertook modelling which showed its expected future depreciation profile.⁴⁶ This modelling shows a significant reduction in expected pricing from 2037 onward as a result of the full depreciation of existing assets reaching the end of their lives. This reduction in future depreciation is exaggerated if accelerated depreciation is applied now.

Questions

7. What are the future implications if the DV depreciation method is applied as proposed by AusNet Services?
8. Are there other issues we should consider in assessing the merits of the DV depreciation method as proposed by AusNet Services?

⁴⁴ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 188.

⁴⁵ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 188.

⁴⁶ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 185.

5 Capital expenditure

Capital expenditure (capex) refers to the capital expenditure incurred in the provision of network services. The most significant elements of total capex are generally network augmentation expenditure (augex), asset replacement expenditure (repex) and connections.

Capex is added to the regulatory asset base (RAB) and so forms part of the capital costs of the building blocks used to determine total required revenue. Under the rules, we must accept the proposed forecasts of total capex if we are satisfied they reasonably reflect the capital expenditure criteria (capex criteria) set out in the Rules.⁴⁷ The capex criteria relate to the efficient costs incurred by a prudent operator in light of realistic demand forecasts and cost inputs. We must have regard to the capex factors in the NER when making that decision.⁴⁸

5.1 How do we assess capex expenditure

Our approach is to compare the service provider's total capex forecast with an alternative estimate that we develop and that reasonably reflects the capex criteria.

If we are satisfied that the service provider's proposal reasonably reflects the capex criteria, we accept it. If we are not satisfied, the rules require us to put in place a substitute estimate which we are satisfied reasonably reflects the capex criteria taking into account the capex factors.⁴⁹ Where we have done this, our substitute estimate is based on our alternative estimate.

The assessment techniques that we may adopt to assess AusNet Services' forecasts of total capex are outlined in our expenditure forecast assessment guideline.

5.2 AusNet Services' capex proposal

AusNet Services has proposed forecast capex of \$745.6 million (real \$2016–17) over the forthcoming regulatory period. This represents an average reduction of approximately 8 per cent compared to actual and expected expenditure over the current period.⁵⁰

AusNet Services submitted that most of the capex forecast is related to network capex (\$634.1 million, or 85 per cent) compared to non-network (\$111.5 million, or 15 per cent). A significant part of the forecast (42 per cent) is for major stations projects. AusNet Services' capex forecast only relates to the replacement of shared transmission network assets and transmission connection assets, and excludes any expenditure to augment the transmission system.⁵¹

⁴⁷ NER, cl.6A.6.7(c).

⁴⁸ NER, cl.6A.6.7(e).

⁴⁹ NER, cl.6A.6.7(d).

⁵⁰ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 56.

⁵¹ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 56.

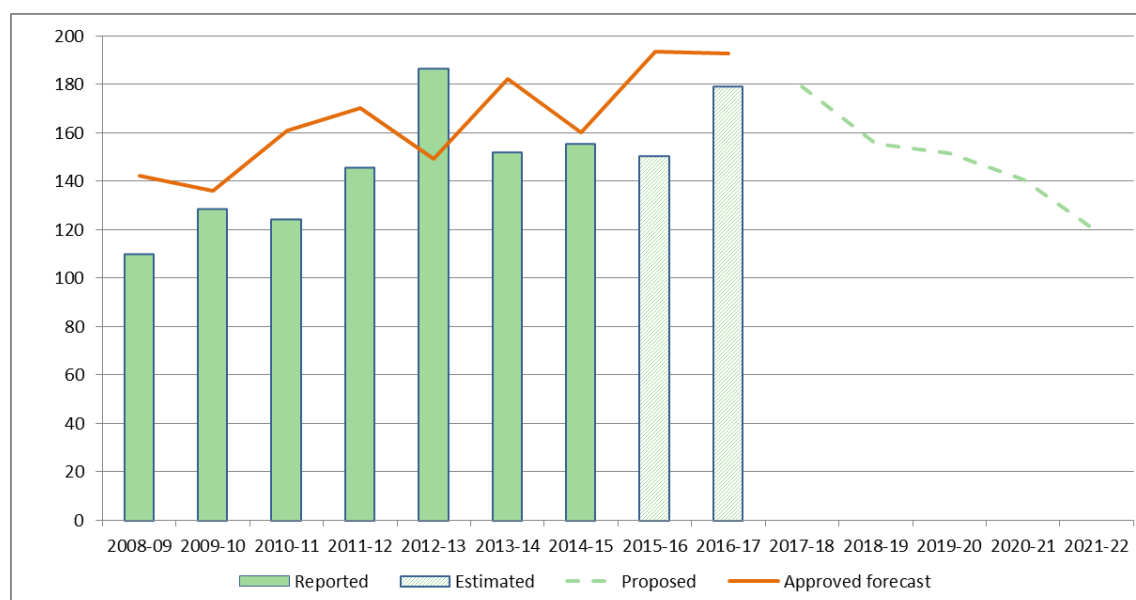
Since its previous transmission revenue determination there have been two exogenous changes that AusNet Services submit have required it to revisit its capital expenditure plans. These changes are reduced growth in network demand and AEMO's downward revision in the estimated Value of Customer Reliability (VCR). As a result the need for investment in new and replacement transmission infrastructure is reduced. This has reduced the capex forecast compared to the current period.⁵²

AusNet Services submitted that the reduction in capital investment means that existing assets will remain in place for longer than originally planned. However, as there is a trade-off between price and reliability, there will be a gradual decline in reliability.⁵³ AusNet Services submitted that the forecast capex program is expected to efficiently manage risk resulting from asset failure.

Figure 8 outlines AusNet Services' proposed capex forecasts, compared to historic levels and capex allowances. Over the 2008–14 period, capex gradually increased, peaking in the 2012–13 regulatory year. Since that year, capex has remained relatively high, largely due to the Richmond Terminal Station rebuild, which will be completed in 2018.

AusNet Services submitted that while the average age of its assets has continued to increase, changes in key planning assumptions (being forecast demand and the VCR) have led to a reduction in forecast capex. These changes impacted AusNet Services' capex in the 2014–17 period, deferring the West Melbourne Terminal Station (WMTS) project and other major station rebuilds. AusNet Services estimated that, through the deferral of major projects, the combined effect of lower demand forecasts and the VCR is to reduce the 2017–22 capex forecast by around \$145 million.⁵⁴

Figure 8 AusNet Services - Historical and forecast capex (\$m, real 2016–17)



⁵² AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 58–63.

⁵³ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 58–63.

⁵⁴ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 57–60.

Source: AER, Final decision PTRM for SP AusNet 2014–17; AER, Final decision PTRM for SP AusNet 2008-14; AusNet Services, Proposed PTRM, October 2015; AusNet Services, CA RIN response 2008-15; AER analysis..

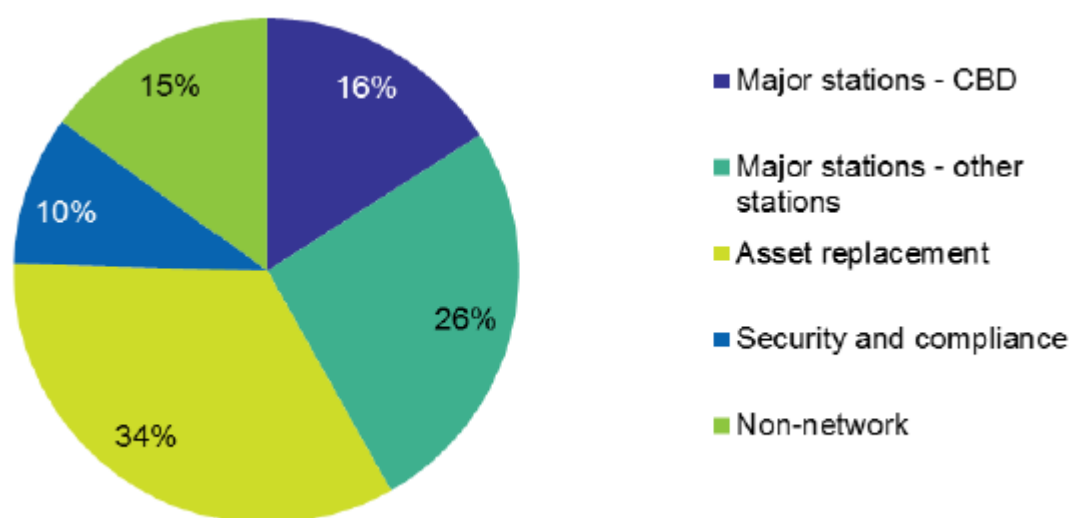
AusNet Services has also proposed replacement of its two remaining synchronous condensers as a contingent project. The estimated cost for this project is \$70 million.⁵⁵

5.3 Key drivers of the capital expenditure proposal

AusNet Services submitted that its capex forecast reflects the need for asset replacement given the historic pattern of development of the Victorian transmission network and the consequential age (and condition) profile of the asset base.

Figure 9 shows the breakdown of capex forecast into driver categories.

Figure 9 AusNet Services breakdown of capex forecast into driver categories



Source: AusNet Services, *Regulatory proposal 2017–22*, 30 October 2015, p.59.

AusNet Services submitted that it consulted stakeholders on the key issues in its proposal, including capex. Stakeholders expressed the view that AusNet Services should use existing assets for as long as it is safe to do so and find ways of combining capex and operating expenditure (opex) that minimise overall costs.

Questions

9. Do you consider that AusNet Services has sufficiently justified its capex proposal?

10. Do you consider that AusNet Services has adequately considered customer views in developing its capex proposal?

⁵⁵ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 93–94.

6 Operating expenditure

Opex refers to the operating, maintenance and other non-capital expenditure incurred in the provision of network services. It includes labour costs and other non-capital costs that a prudent service provider is likely to require for the efficient operation of its network.

Opex is one of the building blocks used to determine AusNet Services' total revenue requirement. Under the rules, we must accept a service providers' forecast of total opex if we are satisfied it reasonably reflects the opex criteria.⁵⁶ The opex criteria relate to the efficient costs incurred by a prudent operator in light of realistic expectations of the demand forecast and cost inputs. We must have regard to the opex factors when assessing the distributor's forecast opex.⁵⁷

Under the Rules, if we are not satisfied a service providers' opex proposal reasonably reflects the opex criteria, we must not accept it.⁵⁸ We must estimate the total required opex that, in our view, reasonably reflects the opex criteria taking into account the opex factors.

6.1 How we assess operating expenditure

We have outlined our approach to assessing the service providers' forecasts of total opex in our expenditure forecast assessment guideline.⁵⁹

Our approach is to compare the service provider's total forecast opex with an alternative estimate that we develop and that reasonably reflects the opex criteria.⁶⁰ By doing this we form a view on whether we are satisfied that the service provider's proposed total forecast opex reasonably reflects the opex criteria. If we conclude the proposal does not reasonably reflect the opex criteria, we use our estimate as a substitute forecast.

Our estimate is unlikely to exactly match the service provider's forecast because it may not adopt the same forecasting method. However, if the service provider's inputs and assumptions are reasonable, its method should produce a forecast consistent with our estimate.

If a service provider's total forecast opex is materially different to our estimate and we find there is no satisfactory explanation for this difference, we may form the view that the service provider's forecast does not reasonably reflect the opex criteria. Conversely, if our estimate demonstrates that the service provider's forecast reasonably reflects the expenditure criteria, we will accept the forecast.⁶¹

AusNet Services stated that its forecasting method largely aligned with the AER's expenditure forecast assessment guideline.⁶²

⁵⁶ NER, cl.6A.6.6(c).

⁵⁷ NER, cl.6A.6.6(e).

⁵⁸ NER, cl.6A.6.6(d).

⁵⁹ AER, *Expenditure forecast assessment guideline*, November 2013.

⁶⁰ AER, *Expenditure forecast assessment guideline*, November 2013, p. 7.

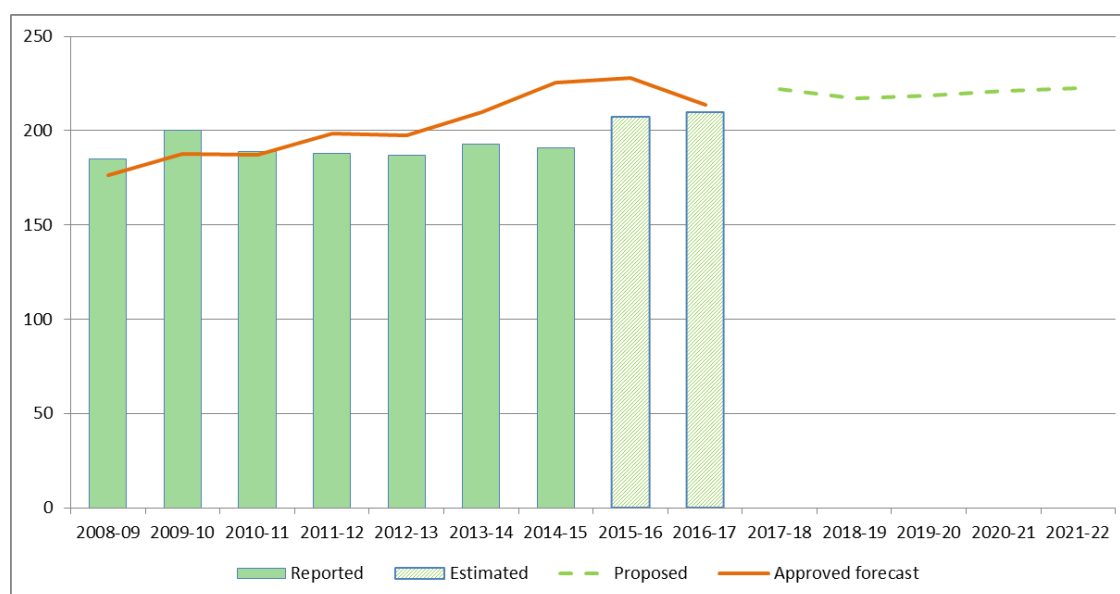
⁶¹ NER, cl.6A.6.6(c).

⁶² AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 111.

6.2 Key drivers of the operating expenditure proposals

AusNet Services proposed total operating expenditure of \$1101.7 million (\$2016–17) for the 2017–22 regulatory control period. This is approximately 9 per cent more than AusNet Services' actual and estimated opex for the 2014–17 regulatory control period (Figure 10) on an average annual basis.⁶³

Figure 10 Operating expenditure (\$million, 2015–17)



Source: : AusNet Services (SP AusNet), Economic benchmarking - Regulatory Information Notice response 2006–13, 2013–14, 2014–15; AER final decision PTRM 2008–14; AER final decision 2014–17 PTRM and opex model; AusNet Services, Regulatory proposal, 30 October 2015.

AusNet Services used its audited actual opex for the 2014–15 year ending March 2015 as the basis for forecasting opex.⁶⁴ The key drivers of the proposed increase in opex were:

- output growth:** AusNet Services stated that it adopted our approach to forecasting output growth.⁶⁵ It stated it used the forecast increase in energy throughput (with a weight of 21.4 per cent), ratcheted maximum demand (22.1 per cent), voltage weighted entry and exit points (27.8 per cent) and circuit length (28.7 per cent) to forecast output growth. This increased its opex forecast for the 2017–22 regulatory control period by \$33.7 million (real 2016–17).
- category specific forecasts:** AusNet Services forecast insurance (\$28.9 million) and self-insurance (\$13.5 million) using category specific forecasts. Insurance and self-insurance comprise 8.3 per cent of AusNet Services' total opex forecast (excluding easement land tax). It also forecast easement land tax (\$691.6 million) using a category specific forecast.

⁶³ Opex for 2014–15 is actual, opex for 2015–16 and 2016–17 is estimated because actual data is not available yet.

⁶⁴ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 117.

⁶⁵ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 126.

- **step changes:** AusNet Services forecast six step changes totalling \$13.5 million (real 2016–17) or 2.6 per cent of total opex (excluding easement land tax). AusNet Services stated the step changes were driven by asset retirements, capex-opex trade-offs and regulatory changes.
- **price growth:** AusNet Services forecast price growth of \$13.0 million (real 2016–17) for the 2017–22 regulatory control period. It used wage price growth forecasts from its consultant, CIE, to forecast labour price growth.
- **roll in of group 3 assets:** AusNet Services forecast an increase in opex to operate and maintain of group 3 assets. Group 3 assets (or excluded prescribed assets) are new network augmentations and connections assets constructed at the direction of AEMO or a DNSP. This increased its opex forecast for the 2017–22 regulatory control period by \$10.0 million (real 2016–17).
- **productivity growth:** AusNet Services forecast productivity growth of 0.28 per cent per annum for the 2017–22 regulatory control period. This is the historic industry productivity growth over the period 2006 to 2014 as measured by Huegin, a consultant for AusNet Services. This decreased its opex forecast for the 2017–22 regulatory control period by \$5.8 million (real 2016–17).

Questions

11. Do you consider that AusNet Services has sufficiently justified its opex proposal?
12. Do you consider that AusNet Services has adequately considered customer views in developing its opex proposal?

7 Rate of return

The allowed rate of return is the forecast cost of funds a transmission business requires to invest in the network. To estimate this cost, we consider the cost of the two sources of funds for investments—equity and debt. The return on equity is the return shareholders of the business require to attract new investment. The return on debt is the interest rate the business pays when it borrows money to invest in capex. We consider that efficient transmission network businesses would fund their investments by borrowing 60 per cent of the required funds, while raising the remaining 40 per cent from equity.

We published our Rate of Return guideline in December 2013.⁶⁶ It sets out the method we propose to use to estimate the allowed rate of return for electricity and gas network businesses. The Rate of Return guideline is not binding, but if a business seeks to depart from it, the business must include reasons in its proposal for doing so. If we seek to depart from its guideline when making our draft or final decision, we must also include reasons for doing so.

7.1 AusNet Services' proposed overall rate of return

AusNet Services' rate of return proposal is largely the same as the AusNet Services distribution proposal submitted in April 2015. In October 2015 we released a preliminary decision on that proposal.⁶⁷

In its transmission revenue proposal, AusNet Services proposed a rate of return of 7.22 per cent. This comprises:

- 10.0 per cent return on equity;
- 5.37 per cent return on debt; and
- 60 per cent gearing.

The cost of equity has been estimated based on the multi-model approach. AusNet Services considers that this methodology is the most appropriate and consistent with the requirements of the NER. AusNet Services submitted that extensive research has shown that there is no single financial model which can accurately estimate the return on equity in all economic circumstances. AusNet Services considered, therefore, that combining several different models, each with particular strengths, provides a more robust estimate in different economic conditions.

The estimated cost of debt is based on a benchmark credit rating of BBB and 10 year term to maturity. Given current material discrepancies between the (recently developed) Bloomberg 10 year BVAL data series and actual debt issuances, AusNet Services proposes that the RBA data series should be solely relied upon.

⁶⁶ AER, *Rate of return guideline*, December 2013.

⁶⁷ AusNet Services, *Regulatory proposal 2016–20*, April 2015; AER, *Preliminary decision: AusNet distribution determination 2016–20*, October 2015.

AusNet Services has proposed a return to the use of a market-based approach to forecasting inflation, which yields an inflation forecast of 2.35 per cent. This approach was applied by us prior to 2008. AusNet Services considers a return to this approach is appropriate under current circumstances, given:

- Actual outturn inflation has been significantly lower than inflation forecast of 2.45 per cent, which indicates that the AER's current methodology may not be appropriate in current market conditions;
- RBA's acknowledgement that monetary policy is a less effective tool to influence inflation outcomes compared to the past; and
- A return to liquidity in the market for indexed-linked Commonwealth Government Securities, demonstrated by higher traded volumes.

7.2 Return on equity (RoE)

Recognising there is not one perfect model to estimate the return on equity, our rate of return guideline approach draws on a variety of models and information which we have assessed as relevant. Our starting point is the standard capital asset pricing model (CAPM)—our 'foundation model.' We then use a range of models, methods, and information to inform our return on equity estimate. We use this information to either set the range of inputs into the CAPM foundation model or assist in determining a point estimate within the range of estimates of overall return on equity resulting from the CAPM foundation model.

We propose to use the Sharpe–Lintner capital asset pricing model (SLCAPM) as the foundation model, which runs as follows:

- The SLCAPM is estimated by adding to the risk free rate the product of the equity beta and market risk premium (MRP).
- Our approach is to estimate the risk free rate based on market conditions that prevail as close as possible to the commencement of the regulatory control period.
- Our point estimates for equity beta is 0.7.
- As at December 2013, our point estimate for MRP is 6.5.
- The range and point estimate for the expected return on equity is calculated based on the range and point estimates from the corresponding input parameters. For example, the lower bound of the expected return on equity range is calculated by applying the point estimate for the risk free rate and the lower bound estimates of the equity beta and MRP. A probability will not be assigned to values within the range, but it will not be assumed that all values within the range are equally probable.

AusNet Services' RoE proposal

AusNet Services return on equity is based on SFG Consulting estimates for four models using an indicative averaging period spanning the 20 days to 17 July 2015:

- SL-CAPM: 9.48 per cent;
- Black-CAPM: 10.09 per cent;

- Fama-French Three Factor model: 10.10 per cent; and
- DGM: 10.45 per cent.

On the basis of an equal weighting of the above estimates, the return on equity has been estimated at 10.00 per cent. AusNet Services has submitted that averaging periods will be nominated in advance.⁶⁸

AusNet Services proposed that the beta should be a minimum of 0.8 and equal weighting should be given to the Ibbotson and Wright approaches to estimating the MRP. When implementing the Ibbotson approach, the market risk premium should be the arithmetic average for the longest available series – that is 6.56%.

7.3 Return on debt (RoD)

The AER rate of return guideline sets out a new methodology for the estimation of the return on debt. This methodology departed from previous practice in two key respects:

- First, the AER proposed to estimate the RoD by gradually transitioning from the current “on-the-day” approach to a “trailing average” approach. The on-the-day approach resets the return on debt allowed based on prevailing interest rates around the start of the regulatory period. Under the trailing average approach the return on debt is estimated as the simple average of the historic rate of return on ten-year debt during a period in time in each of the last ten years.
- Second, the AER proposed to allow the RoD to vary from year to year during the regulatory period.

AusNet Services' RoD proposal

AusNet Services' RoD proposal has used the following approach for establishing an allowed rate of RoD:⁶⁹

- Establish the tenor of the benchmark debt;
- Establish whether it is ultimately preferable to set the benchmark efficient debt management strategy on the basis that the benchmark entity:
 - Refinances all debt at the beginning of each regulatory period (the “on-the-day” method);
 - Maintains a staggered debt portfolio with no interest rate swap overlay (the trailing average method); or
 - Maintains a staggered debt portfolio with an interest rate swap overlay; the effect of which is to reset some portion “x%” of the benchmark entity’s base rate of interest at the beginning of each regulatory period (the hybrid debt management strategy);
- Determine what transition (if any) should apply;

⁶⁸ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 196–198, 265.

⁶⁹ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 266–282.

- Set out the proposed estimation procedure;
- Select averaging periods;
- Assess debt raising costs;
- Assess the cost of the new issue premium;
- Set out the proposed annual update formula and
- Set out the proposed return on debt

In its proposal, AusNet Services accepted the AER's guideline approach of transitioning to a 10 year trailing average to calculate the cost of debt. However, AusNet Services considers that the benchmark credit rating should be BBB, rather than BBB+ as set out in the rate of return guideline. Furthermore, AusNet Services considers that the Reserve Bank of Australia (RBA) data series should be used as the source of data for the benchmark return on debt, rather than the average of the RBA and Bloomberg curves as used by the AER in its recent decisions.

Applying AusNet Services' proposed approach to estimating the return on debt over the placeholder averaging period of 22 June to 17 July 2015 yields a RoD of 5.37 per cent.^{70,71}

7.4 Value of imputation credits

In the building block model an allowance is made for the estimated tax paid by the benchmark firm. In Australia companies typically pay tax at the rate of 30 per cent on their profit. However, under the Australian taxation system, investors can receive an 'imputation credit' for income tax paid at the company level. For investors that meet certain eligibility criteria, this credit can be used to offset their tax liabilities. If the amount of imputation credits received exceeds an investor's tax liability, that investor can receive a cash refund for the balance. Imputation credits are a benefit to investors in addition to any cash dividend or capital gains from owning shares.

The rate of return guideline proposes that the value of imputation credits would be estimated as a market-wide parameter, rather than estimating this on an industry or business specific basis. Under the guideline, it would be determined as the product of:

- a distribution rate (referred to in our guideline as the 'payout ratio'), which represents the proportion of imputation credits generated by the benchmark entity that is distributed to investors
- a utilisation rate, which is the extent to which investors can use the imputation credits they receive to reduce their tax or to get a refund.

In the guideline, our assessment of this evidence produced an estimate of 0.7 for the utilisation rate and 0.7 for the distribution rate. The guideline therefore proposed an estimate of 0.5. However, in the recent NSW determinations we re-examined the evidence and

⁷⁰ AusNet Services, *Regulatory proposal 2017–22*, October 2015, p. 277.

⁷¹ AusNet Services' proposed return on debt is indicative because it has been derived from a placeholder averaging period. The return on debt will be updated in the final decision based on an averaging period closer to the final decision.

clarified our understanding of the utilisation rate as the utilisation value to investors in the market per dollar of imputation credits distributed. This re-examination, in addition to new evidence and advice considered since the guideline, led us to depart from the 0.5 value of imputation credits we proposed in the guideline. Instead, we chose a value for imputation credits of 0.4 from within a range of 0.3 to 0.5.

AusNet Services proposal

AusNet Services has proposed a total net taxation allowance of \$156.6 million (real 2016-17) over the 2017–22 period; an annual average of \$31.3m. The proposal is based on adopting:

- the current corporate tax rate of 30 per cent; and
- a gamma value of 0.25.

A different value of gamma is proposed than has previously been adopted by the AER, including in its 2013 Rate of Return guideline. This is because AusNet Services does not agree with the ‘conceptual framework’ adopted by the AER for estimating the value of distributed imputation credits to the investors that receive them. Market value studies are the only source of evidence that capable of producing an accurate point estimate of this value.⁷²

Questions

13. Do you have any comments on AusNet Services proposed approach to calculating the rate of return?

14. Do you agree with AusNet Services proposal to use a gamma value of 0.25 in valuing imputation credits?

⁷² AusNet Services, *Regulatory proposal 2017–22, October 2015*, pp. 284–285.

8 Consumer engagement

This section summarises the consumer engagement strategies and activities described by AusNet Services in its revenue proposal. We consider this is a valuable resource for readers to get a sense of AusNet Services' consumer engagement approaches. However, we also encourage consumers to review the consumer engagement material contained in the revenue proposal and make submissions.

When assessing the revenue proposal we will have regard to how a business engaged with its consumers and accounted for their long term interests.

8.1 Consumer engagement in the NER

Under the NER, consumer engagement is a factor we can consider when making our revenue determinations.⁷³ We will examine whether and how well a transmission business considered and responded to consumer views, equipped consumers to participate in consultation, made issues tangible and obtained a cross-section of views. We will make our assessment on a case-by-case basis, considering whether it would have been reasonable to engage on a particular issue. We will monitor consumer engagement activities through our consumer challenge panel and by our ongoing engagement with stakeholders. We may publicly comment on any shortcomings in a businesses' consumer engagement that we identify from a regulatory proposal.

Our obligation to have regard to the extent to which a transmission businesses' forecast includes expenditure to address the concerns of consumers forms part of our overall task of determining whether the transmission businesses' proposed forecasts reasonably reflect the efficient and prudent costs of achieving the capex (or opex) objectives.⁷⁴ Therefore, if proposed expenditure is not required to achieve one or more of the capex (or opex) objectives, even with evidence of consumer support we will not be satisfied that the proposed expenditure reasonably reflects the capex and opex criteria.

Furthermore, the extent to which the proposed forecasts include expenditure to address the concerns of consumers during the course of its engagement with consumers is only one of nine or more factors that we must have regard to in determining whether we are satisfied that the proposed capex (or opex) reasonably reflects the capex (or opex) criteria.⁷⁵ In this sense, the factor relating to consumer engagement alone is not determinative.⁷⁶

If a transmission business submits that particular expenditure programs will address the concerns of consumers identified through its consumer engagement, we will consider whether such claims are supported by solid evidence of the preferences of affected consumers. This may include consideration of whether the engagement was sufficient to identify key areas of consumer concern, whether consumers have been adequately informed

⁷³ NER, cl. 6A.6.6(e)(5A), cl. 6A.6.7(e)(5A).

⁷⁴ NER, cl. 6A.6.6(e)(5A).

⁷⁵ NER, cl. 6A.6.6(e)(5A).

⁷⁶ NER, cl. 6A.6.6(e)(5A).

of relevant price implications, and how the expenditure proposed would address those customer concerns.

8.2 Our consumer engagement guideline

Our consumer engagement guideline sets out a framework for electricity and gas network service providers to better engage with consumers. It aims to help the businesses develop strategies to engage systematically, consistently and strategically with consumers on issues that are significant to both parties. The guideline sets out our expectations when considering service provider consumer engagement activities:

Priorities—we expect service providers to identify consumer cohorts, and the current views of those cohorts and their service provider; outline their engagement objectives; and discuss the processes to best achieve those objectives.

Delivery—we expect service providers to address the identified priorities via robust and thorough consumer engagement.

Results—we expect service providers to articulate the outcomes of their consumer engagement processes and how they measure the success of those processes reporting back to us, their business and consumers

Evaluation and review—we expect service providers to periodically evaluate and review the effectiveness of their consumer engagement processes.

Below, we summarise the businesses submitted approach to consumer engagement. For details, we encourage readers to review the revenue proposals and supporting documentation. As a guide, we have referenced below where each business has included consumer engagement content in their revenue proposal package of materials.

8.3 AusNet Services' consumer engagement strategy

In its revenue proposal, AusNet Services submitted that with energy markets undergoing rapid changes, it is important that it understands stakeholder views and preferences. While transmission represents a relatively small component of most consumers' electricity bills, a reliable and cost-effective transmission service is a vital part of the electricity network service experienced by all consumers.⁷⁷

AusNet Services submitted that while understanding and responding to stakeholder preferences is critical, there are many other factors that influence AusNet Services' activities, and hence the development of this revenue proposal. These factors include meeting compliance obligations to provide a safe and reliable supply of electricity. AusNet Services' role is to balance these influencing, and sometimes competing, factors. AusNet Services stated that where stakeholder's preferences have been unable to be incorporated, a clear explanation has been provided as to why this is the case.⁷⁸

⁷⁷ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 40–44.

⁷⁸ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 40–44.

AusNet Services acknowledged that its stakeholder engagement practices are in a developmental phase.⁷⁹ Nonetheless, AusNet Services conducted a number of stakeholder engagement activities in the lead-up to submitting its revenue proposal. These activities included conducting stakeholder forums, one-on-one consultation with consumer bodies, and online communication. AusNet Services also published a consultation paper seeking views on its proposed depreciation approach.

In its proposal, AusNet Services has provided a summary of typical stakeholder views by topic, along with the responses in its revenue proposal.⁸⁰

Question

15. Please provide your comments on the quality of the consumer engagement conducted by AusNet Services in preparing its revenue proposal.

⁷⁹ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 51–56.

⁸⁰ AusNet Services, *Regulatory proposal 2017–22*, October 2015, pp. 51–56.

9 Summary of questions

Questions

1. Do you consider that AusNet Services has sufficiently justified its proposal for accelerating depreciation of assets removed from service?
2. Do you consider that there is some prospect that utilisation rates on AusNet Services' network may fall into the future (over the next five years and beyond)?
3. Do you consider that increasing depreciation is an appropriate response to expectations of falling utilisation?
4. Are there other approaches that could be employed to respond to the risk of falling utilisation?
5. Do you agree with AusNet Services' response to its stakeholder consultation on depreciation?
6. Do you consider that AusNet Services has sufficiently justified its chosen multiple used for the DV method?
7. What are the future implications if the DV depreciation method is applied as proposed by AusNet Services?
8. Are there other issues we should consider in assessing the merits of the DV depreciation method as proposed by AusNet Services?
9. Do you consider that AusNet Services has sufficiently justified its capex proposal?
10. Do you consider that AusNet Services has adequately considered customer views in developing its capex proposal?
11. Do you consider that AusNet Services has sufficiently justified its opex proposal?
12. Do you consider that AusNet Services has adequately considered customer views in developing its opex proposal?
13. Do you have any comments on AusNet Services proposed approach to calculating the rate of return, which departs from our guideline?
14. Do you agree with AusNet Services proposal to use a gamma value of 0.25 in valuing imputation credits?
15. Please provide your comments on the quality of the consumer engagement conducted by AusNet Services in preparing its revenue proposal.