Transmission Network Service Providers

Electricity Performance Report for 2009-10

January 2012

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Contents

Glossary

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Capex	capital expenditure
EBIT	Earnings before interest and tax
GWh	Gigawatt hours
kV	Kilovolt
MAR	Maximum allowed revenue
MCC	Marginal Cost of Constraints
MW	Megawatts
MWh	Megawatt hour
NEL	National Electricity Law
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
NER	National Electricity Rules
NPAT	net profit after taxes
Opex	operating and maintenance expenditure
STPIS	Service targets performance incentive scheme
PS	prescribed services
RAB	regulatory asset base
SKM	Sinclair Knight Merz
SRP	Statement of Principles for the Regulation of Electricity Transmission Revenues, ACCC, December 2004

TCC	Total Cost of Constraints
TNSP	transmission network service provider

Foreword

The ACCC/AER has been collecting information from transmission network service providers (TNSPs) and reporting on their financial and operational performance since 2002-03. The 2009-10 report is therefore the eighth performance report on the electricity transmission sector to be released by the AER. The AER considers that this monitoring program provides transparency to stakeholders regarding the financial and operational performance of transmission businesses in the National Electricity Market (NEM).

This monitoring program is an important component of the AER's regulatory role because it provides transparent information for stakeholders and interested parties on the performance of TNSPs. This ensures accountable performance outcomes and facilitates informed public input into the AER's decision making.

The AER is looking at extending this monitoring program to also cover electricity distribution businesses.

TNSPs are required to submit certified annual financial statements to the AER in accordance with the AER's information guidelines. The guidelines contain information templates which provide the source data for this report.

The TNSPs covered in this report are Directlink, ElectraNet, EnergyAustralia, Murraylink, Powerlink, SP AusNet, Transend, TransGrid and AEMO.[1] The report provides updated revenue, profit, expenditure and service standards information on each TNSP for the 2009-10 financial year. This data reflects a continuation of trends established in previous reports:

- capital expenditure – continued to trend upwards, primarily reflecting the continuation of investments by TNSPs to upgrade and replace ageing networks to meet network performance requirements. Total capital expenditure over the past five years has exceeded $6 billion and was 3.8 per cent lower than forecast for the 2009-10 financial year.

- value of networks – reflecting this continued investment in infrastructure, the aggregate value of the TNSPs' regulatory assets now stands at $16.9 billion.

- operating and maintenance expenditure – stands at over $2.1 billion during the past five years.

- service standards – almost all TNSPs continue to exceed the reliability standards specified in their revenue determinations, with incentive payments totalling $23.4 million for the 2010 calendar year.

- profitability – since 2002-03 TNSPs have experienced a stable return on assets of between 7.4 to 8.2 per cent, earnings before interest and tax on prescribed services increased to $1.2 billion in 2009-10 and over the past five years have exceeded

[1] References to AEMO as a TNSP in this report arise from AEMO taking over the former role of the Victorian Transmission Planner, VENCorp.

$4.8 billion. Net profit after tax of TNSPs increased to $460.8 million in 2009-10 and over the past five years has exceeded $1.7 billion. TNSPs paid dividends of $362 million in 2009-10. This is a decrease of 7.7 per cent compared to 2008-09. Over the past five years dividend payments have exceeded $1.4 billion.

- equity – total equity of TNSPs continued to increase and now exceeds $6.4 billion.

Feedback

I hope that this report will provide interested parties with information to enable critical evaluation of TNSPs' performance under their existing revenue determinations. I encourage you to read this report and provide feedback to the AER.

Andrew Reeves
Chairman

Summary

The objective of this report is to review the performance of TNSPs regulated by the AER and provide stakeholders with access to comparative data on the financial performance of TNSPs, including comparisons with the forecasts incorporated in the regulatory revenue determination decisions.

Information regarding the following TNSPs is included in this report:

- Directlink
- ElectraNet
- EnergyAustralia[2]
- Murraylink
- Powerlink
- SP AusNet
- Transend
- TransGrid
- AEMO.[3]

Transmission network service providers including interconnectors Murraylink and Directlink regulated by the AER are required to provide certified annual statements containing details of their financial performance. This information is submitted in accordance with the AER's information guidelines. These businesses are also required to submit service quality information in accordance with the AER's service standard guidelines.

This report is structured as follows:

Chapter 1 overviews the AER's methodology for setting revenue determinations and its information gathering functions under the NER.

- Chapter 2 describes the national electricity market and the main features of each TNSP.
- Chapter 3 provides details of each TNSPs actual maximum allowed revenue (MAR) and compares this against its forecast maximum allowed revenue.

[2] EnergyAustralia is now referred to as Ausgrid and all references to EnergyAustralia in this report are references to Ausgrid.

[3] References to AEMO as a TNSP in this report arise from AEMO taking over the former role of the Victorian Transmission Planner, VENCorp.

- Chapter 4 sets out the industry's overall financial performance and each TNSP's financial performance.

- Chapters 5 and 6 overview capital expenditure (capex) and operating expenditure (opex) including information on variations between actual expenditure and forecast in the TNSPs' revenue determinations.

- Chapter 7 sets out information on service standards for the TNSPs.

Transmission determinations outcomes

Table A compares the actual revenue and expenditure outcomes against the forecast maximum allowed revenue (MAR), which mainly reflects opex and returns on the regulatory asset base (including capex allowances) in the TNSPs' transmission determinations. The summary figures are presented to provide an overall view of the average variations from forecast amounts. However, the outcomes for individual TNSPs may differ markedly from the average due to the influence of regional factors, and should be assessed in that context. In addition, these individual variations do not necessarily raise regulatory concerns provided they do not constitute systemic under or over-spending, and should be examined over the full five year period of the revenue determination for each TNSP before any conclusions are drawn.

Table A: TNSPs' transmission determinations outcomes, 2009-10

	Actual	*Forecast*	*Difference*	
	$m	***$m***	***$m***	***%***
Revenue*	2,379.6	2,373.5	6.1	0.3
Capex*	1,458	1,639	-181	-11
Opex**	465.3	485.9	-20.5	-4.2

Source: 2009-10 Regulatory Accounts and the ACCC's/AER's transmission determinations.
*Aggregate figures exclude AEMO and the Interconnectors. Forecast revenue does not include network support pass through and service standard incentives schemes.
**Excludes grid support.

Figures A, B and C illustrate the TNSPs' aggregate actual capex and opex (in real terms) against the forecasts contained in their revenue determinations.

Figure A: Aggregate actual and forecast capex, 2001-02 to 2009-10

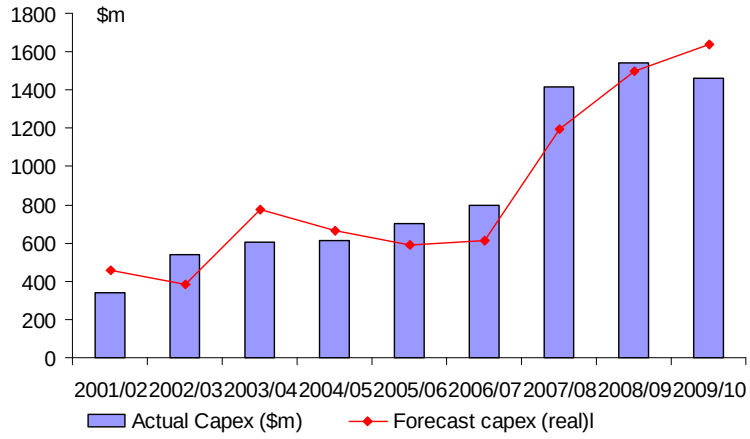

Figure A shows that over the past five years aggregate actual capex has exceeded $5.0 billion because TNSPs have upgraded and extend their networks to meet demand and reliability requirements. Actual aggregate capex was 13 per cent lower than forecast capex for the 2009-10 financial year. Actual capex was 6 per cent less than the previous financial year. Each TNSP's contribution to the overall difference is discussed in chapter 5.

Figure B: Aggregate actual and forecast opex, 2001-02 to 2009-10

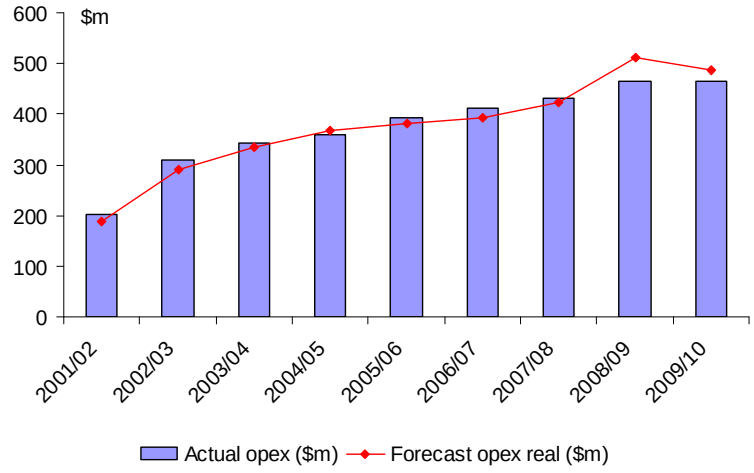

Figure B shows that aggregate actual opex was 14.2 cent lower than forecast in 2009-10. Actual opex was also 1.4 per cent lower than the previous financial year.

Figure C: Aggregate Return on Assets, 2002-03 to 2009-10

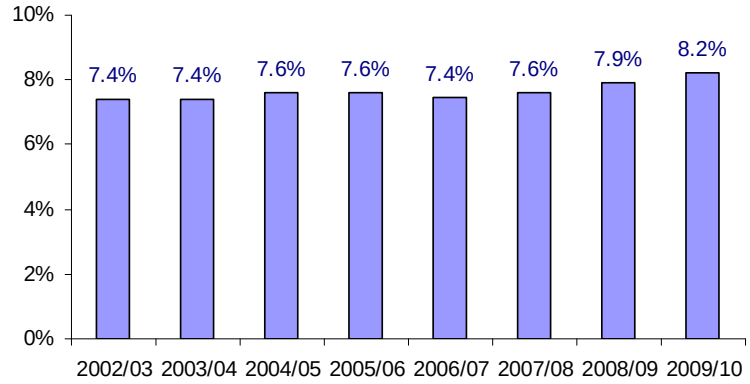

Figure C shows that in aggregate TNSP's have experienced stable return on assets since 2002-03 of between 7.4 and 8.2 per cent.

The aggregate return on assets is calculated by dividing aggregate earnings before interest and tax over aggregate RAB.

Figure D: Dividends, 2001-02 to 2009-10

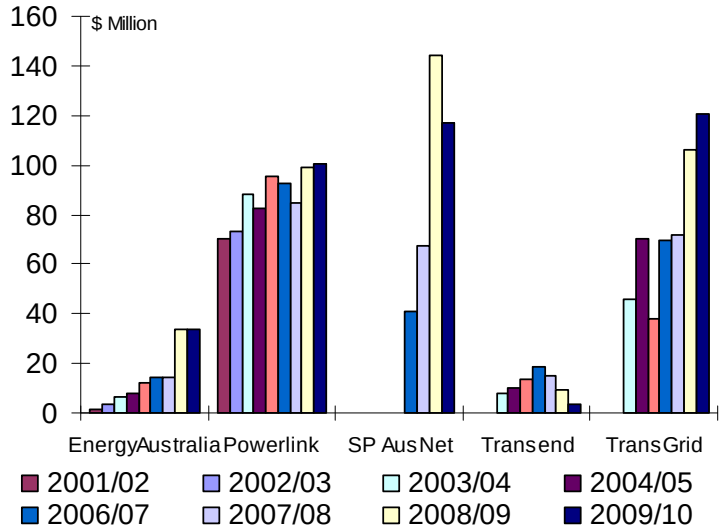

Figure D shows dividends paid out by TNSPs (excluding the interconnectors, Electranet and AMEO). In general, the dividends paid out by TNSPs have been increasing over time. In 2009-10, EnergyAustralia[4], SP AusNet and Transend decreased the total amount of dividends paid to shareholders. Powerlink and TransGrid increased the total amount paid to shareholders.

Table B compares the TNSPs' capex and opex as a percentage of their regulatory asset base (RAB). The data demonstrates that expenditure as a percentage of RAB varied amongst the TNSPs, particularly the capex ratio. These variances may be explained by key drivers of expenditure such as load growth and the ageing of assets which can vary significantly among individual TNSPs. The differences in the network characteristics[5] of individual TNSPs is discussed in further detail in chapter 2.

4 EnergyAustralia stated that its transmission dividend is an allocation from consolidated entities of EnergyAustralia and may not be comparable over time.

5 It should be noted that for EnergyAustralia, this only relates to its transmission assets which accounts for a small percentage of its total asset base.

Table B: TNSP expenditure as a proportion of average RAB 2009-10

	Average RAB ($m)	*Opex/Average RAB Ratio* (%)*	*Capex/Average RAB Ratio** (%)*
ElectraNet	1,434.9	3.7	8.9
EnergyAustralia	901.4	3.2	24.2
Powerlink	4,702.0	3.0	9.4
SP AusNet	2,396.3	3.1	4.6
Transend	1015.9	4.3	13.0
TransGrid	4,399.1	2.8	9.7
Murraylink	95.0	-	-
Directlink	104.0	-	-

*Opex/Ave RAB Ratios for ElectraNet, Powerlink and Transend exclude grid support. Opex/Ave RAB ratio for SP AusNet does not include network planning which is undertaken in Victoria by AEMO.
**Due to the regulatory arrangements in Victoria, SP AusNet's capex does not include network augmentation. AEMO does not have a RAB as it does not own transmission assets. Murraylink and Directlink do not have a capex allowance as part of their revenue determination.

A detailed summary of each TNSP's performance and financial outcomes for the 2009-10 financial year can be found in Appendix A.

Service standards performance

The service performance regime is aimed at deterring TNSPs from cutting costs at the expense of service performance. The service standards guidelines are forward-looking and use targets based on historical performance as a benchmark to compare future performance by a TNSP within a regulatory control period. Following the measurement of performance against established targets, a TNSP's MAR can be adjusted by the prescribed amount. Therefore, the service standard guidelines provide TNSPs with a financial incentive to improve service performance and financial penalties for deterioration in service performance. These financial incentives and penalties affect the TNSP's annual revenue calculation.

Table C shows the financial incentive based on performance outcomes for each relevant TNSP for the 2004-2010 calendar years.

Table C: Financial incentives/penalties for 2004 – 2010, $million

	2004	2005	2006	2007	2008	2009	2010
Directlink	-	-	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
ElectraNet	1.0	1.2	1.0	0.5	(0.2)	1.4	-
EnergyAustralia	0.5	0.6	0.4	(0.2)	0.9	0.3	-
Murraylink	(0.1)	(0.0)	0.0	(0.0)	0.1	0.1	0.1
Powerlink	-	-	-	2.2	3.0	1.1	11.3
SP AusNet*	0.6	0.2	(0.5)	0.2	2.9	2.4	2.8
Transend	0.6	0.2	0.1	0.7	1.2	0.7	0.7
TransGrid	2.0	3.1	3.0	0.6	1.7	(0.3)	8.6

Financial incentives are capped at + 1.0 per cent of each TNSP's MAR for that year. For example, an s-factor of 0.50 would result in a financial incentive of 0.5 per cent of the TNSP's MAR, or half of the potential maximum financial incentive available under the service standards performance incentive scheme. Powerlink and TransGrid were subject to the market impact of transmission congestion (MITC) scheme in 2010. This is a bonus only scheme of up to 2% for a full calendar year.

*SP AusNet's financial incentive in its previous regulatory control period was capped at + 0.5 per cent of its MAR. In 2008, SP AusNet transitioned into a new regulatory period, and its financial incentive is now capped at +1.0 per cent.

A detailed summary of each TNSPs performance outcome for the 2009 and 2010 calendar years can be found in Chapter 7. TNSP performance reports for 2004 – 2009 (for participating TNSPs) can be found on the AER's website (www.aer.gov.au).

Introduction

1.1 Scope of the report

The TNSP performance report provides stakeholders and interested parties with information and comparative data on financial and operational performance of TNSPs. In particular, the report details overall financial performance, capex and opex outcomes and service standards performance. A comparison of the financial and operational performance levels achieved by TNSPs must allow for basic differences between networks such as diverse geographical and environmental factors.

The AER's objective in monitoring and publishing the performance of TNSPs is to increase the accountability for performance through greater transparency. In particular, the AER's performance report aims to:

- facilitate informed public input into future decisions by the AER
- allow public scrutiny of performance against revenue determinations
- increase transparency of the regulatory process and the outcomes that are generated.

1.2 Priorities and objectives of performance reporting

In April 2011, the AER published its statement of approach to the priorities and objectives of electricity network service provider performance reports. The AER's objectives in publishing network performance reports are to provide transparency, and to maintain accountability as an incentive to improve performance.

In order to achieve these objectives the priorities of TNSP performance reporting are to:

- report on service performance
- report on compliance with the TNSP's approved cost allocation methodology (CAM)
- report the profitability of TNSPs
- report on performance against and compliance with revenue determinations in a format that allows for comparison between different jurisdictions and regulatory control periods
- report information in a format that can be utilised for future revenue determinations, to reduce information asymmetry and to streamline the revenue reset process
- assess whether the national electricity objective is being achieved.

1.3 Sources of information

The report draws upon information from the following sources:

- annual regulatory financial statements and service standards performance data provided by the TNSPs in accordance with the AER's transmission information guidelines
- revenue proposals made by the TNSPs
- annual statutory reports and reviews published by the TNSPs
- current revenue determinations made by the AER (and previously by the ACCC)
- other AER publications such as the State of the Energy Market reports; and previous TNSP performance reports.

1.4 The AER's role

The AER is responsible for the economic regulation of networks as well as compliance monitoring, reporting and enforcement in the NEM. In carrying out these functions, the AER collects a wide range of regulatory, financial and operational information from TNSPs annually. This is done for a variety of reasons, including:

- monitoring compliance with revenue determinations
- identifying any cross-subsidisation of costs between the regulated and unregulated parts of the TNSP's business
- using the information as an input for setting future revenue determinations
- monitoring performance against the service target performance incentive scheme (STPIS)
- assessing whether the national electricity objective is being achieved through regulation and the revenue determination in particular.

1.5 Collection of data under the information guidelines

TNSPs are required to submit certified annual financial statements to the AER in accordance with the AER's information guidelines. The guidelines contain information templates which provide the source data for this report.

The types of information collected may be categorised as:

- Financial information – mainly sourced from the TNSP's income statement and balance sheet prepared in accordance with the relevant accounting standards. This information is presented in chapter 4 and appendix A of this performance report and has been submitted by TNSPs in accordance with the AER's guidelines. While the AER's Post Tax Revenue Model will provide much of the ongoing data for assessing compliance and for future revenue determinations, this information is useful in providing a general guide for assessing progress in achieving the

national electricity objective between regulatory reviews, and identifying areas of interest that may need to be explored during upcoming revenue determination processes.

- Revenue determination related information – actual revenue, operating expenditure (opex) and capital expenditure (capex) outcomes are gathered and compared to the underlying forecasts contained in the TNSP's revenue determination (adjusted for actual CPI) made by the ACCC/AER. This information is presented in chapters 3, 5 and 6 of the report. TNSPs are able to comment on the reasons for any variances between actual and forecast figures.

This information should be read as a whole and, when combined with the service standards data in the report, is intended to present an overall picture of the TNSPs' performance.

1.6 Presentation of data

The following points should be taken into account when considering the data presented in this report:

- Capital expenditure (capex) - there are two alternatives under which capex data may be reported by TNSPs:
    - on an as-commissioned basis: the expenditure is not reported until the project is completed or commissioned (i.e. in operation) or
    - on an as-incurred basis: the expenditure is reported on a progressive basis as it is made or incurred by the TNSP.
- Operating expenditure (opex) – some TNSPs' opex allowances include an amount for network or grid support. Grid support figures are shown separately from opex in the report as it is essentially a substitute for capex and volatile in nature. This treatment ensures comparability of TNSPs' opex outcomes.
- Forecast figures – throughout the report, where forecast figures are compared with actual outcomes (e.g. revenue, capex, opex), forecast figures have been taken from final ACCC/AER decisions and adjusted for March quarter CPI figures for the later year of the relevant period.
- Regulatory framework – there have been changes in recent years to the regulatory framework under which TNSPs' revenue determinations are set. For example, the ex ante approach to determining capex allowances was introduced in the ACCC's Statement of Regulatory Principles (SRP) (released December 2004 and adopted by the AER in 2005). This approach has since been formalised in chapter 6A of the National Electricity Rules (NER).
- The calculations that appear in this report, such as the financial indicators and operating ratios detailed in chapter 5, are made by the AER and not TNSPs. The AER uses data provided by the TNSPs in the calculations.

1.7 Key Performance Indicators (KPIs) for performance monitoring

In order to assess the performance of the electricity transmission sector and its businesses in terms of the priorities and objectives of performance monitoring as discussed in the previous section, a number of performance measures or key performance indicators (KPIs) are considered in this report.

Performance depends on a number of factors, both internal and external to a company's management strategies and decision making processes. Performance can vary over time for the business in general and in any specific areas of operation or service delivery. Also, there may be trade offs between short-term and long-term performance for the sector and its businesses.

The KPIs used in this report are common measures that are objective, quantifiable and verifiable – they are based on data provided by the various businesses. Different measures are used in order to form a view on the overall performance of the industry and its businesses in a particular year, as well as trends over time. This is undertaken in terms of the reliability and quality of supply of electricity and service incentives, financial performance and outcomes monitoring by comparing actual outcomes to forecasts at time of revenue determinations largely with respect to capex and opex.

For the purposes of this report, the KPIs or performance measures are grouped into separate but inter-related categories. These are:

- Revenue
- Capex
- Opex
- Service incentives and service standards
- Profitability and financial; and
- Network statistics.

For example, the "transmission charges outcome (price path)" revenue KPI shows the extent to which actual revenue per megawatt hour transmitted varies from forecast revenue per megawatt hour transmitted. More importantly, it illustrates the differences that may arise in a given period due to pass throughs events, contingent projects, incentive payments and actual CPI and how these may vary between the businesses.

Another example is "comparing actual capex, and the AER final allowance for capex" in the capex KPIs. This measure illustrates the extent to which TNSPs have out performed on their capex relative to the AER allowance over time.

Detailed descriptions about each of the KPIs or performance measures used in this report are provided in appendices.

Comments from interested parties

Comments from interested parties regarding this report are welcomed and can be submitted via email to AERinquiry@aer.gov.au, or by mail to:

Chris Pattas
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2 Industry background and main features

This chapter provides a short description of the national electricity transmission market and its main features.

2.1 The National Electricity Market

The National Electricity Market (NEM) is a wholesale market through which generators and retailers trade electricity in eastern and southern Australia.

Transmission Network Service Providers (TNSPs) provide transmission infrastructure that enables the transfer of electricity between NEM participants. The electricity networks within the NEM are illustrated in Figure 2.1.

The Australian Energy Market Operator (AEMO) is responsible for managing the transmission elements of the physical power system to ensure that electricity supply and demand are balanced in each of the NEM's five regions.

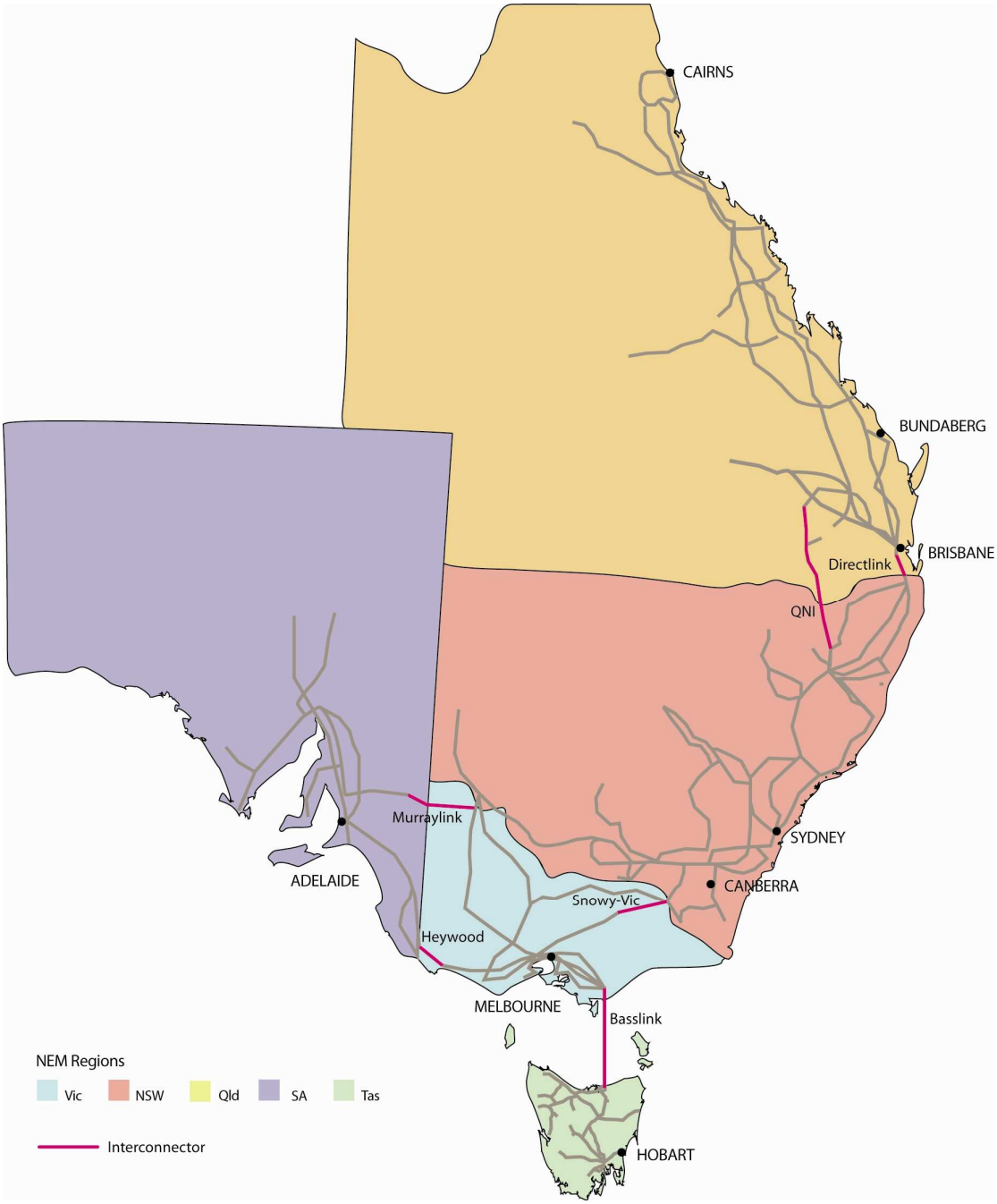
In addition, AEMO has adopted the central planning role of National Transmission Planner, and annually publishes the National Transmission Network Development Plan (NTNDP). The NTNDP outlines the long-term, efficient development of the national power system with a focus on national transmission flow paths.

The NEM has around 200 large generators, five state based transmission networks linked by cross-border interconnectors and 13 major distribution networks that supply electricity to customers.[6] The NEM meets the demand of almost nine million residential, commercial and industrial energy users and is the largest interconnected power system in the world in geographic span, covering a distance of 4500 kilometres.[7] In Australia, the NEM network spans six jurisdictions including Queensland (Qld), New South Wales (NSW), the Australian Capital Territory (ACT), Victoria (Vic), South Australia (SA) and Tasmania (Tas) that are physically linked by an interconnected transmission network.

The AER regulates ElectraNet, Powerlink, SP AusNet, Transend, TransGrid, EnergyAustralia[8], Directlink and Murraylink. This report focuses on the operational and financial performance of the six TNSPs and two interconnectors over 2009-10.

[6] AER, *State of the Energy Market*, 2010, p. 19.
[7] Ibid.
[8] EnergyAustralia is now Ausgrid. For the purposes of this report the previous name is used.

Figure 2.1 Electricity transmission networks in the National Electricity Market



2.2 Main features of Transmission Network Service Providers

Table 2.1 provides a brief overview of the TNSPs in the NEM. The TNSPs in Queensland, NSW and Tasmania are owned by their respective state governments. The TNSPs in Victoria and South Australia, and the two interconnectors are privately owned.

The two interconnectors have a ten year regulatory period and report annually on a calendar year basis. With the exception of SP AusNet, the other TNSPs report on a financial year basis (end of June) and have five year regulatory periods. SP AusNet reports annually on a 1 April to 30 March calendar year and has a six year regulatory period.

Table 2.1 NEM TNSPs at a glance

TNSP	Region	Current Regulatory Period	Owner
ElectraNet	SA	1 Jul 08 - 30 Jun 13	Powerlink (Queensland Government, YTL Power Investment, Hastings Utility Trust)
Powerlink	Qld	1 Jul 07 - 30 Jun 12	Queensland Government
SP AusNet	Vic	1 Apr 08 - 30 Mar 14	Publicly listed company (Singapore Power International 51%)
Transend	Tas	1 Jul 09 - 30 Jun 14	Tasmanian Government
TransGrid	NSW	1 Jul 09 - 30 Jun 14	New South Wales Government
EnergyAustralia	NSW	1 Jul 09 - 30 Jun 14	New South Wales Government
Interconnectors			
Directlink	Qld-NSW	1 Jul 05 - 30 Jun 15	Energy Infrastructure Investments (Marubeni 50%, Osaka Gas 30%, APA Group 20%)
Murraylink	Vic-SA	1 Oct 03 - 30 Jun 13	Energy Infrastructure Investments (Marubeni 50%, Osaka Gas 30%, APA Group 20%)

Table 2.2 summarises the key features of TNSPs in the NEM. Powerlink's network spans from Cairns in far north Queensland to the NSW border in the south. With over 13,000 circuit kilometres of transmission lines and cables, Powerlink has the largest transmission network in terms of line length in the NEM.

Table 2.2 Key features of TNSPs in the NEM

TNSP	Line Length (km)	Electricity Transmitted (GWh), 2009-10	Maximum Demand (MW), 2009-10	Regulated Asset Base Closing ($m), 2009-10	Revenue Prescribed Services ($m), 2009-10
ElectraNet (SA)	5,591	13,266	3,397	1477	249
Powerlink (Qld)	13,569	49,593	8,891	4,906	667
SP AusNet (Vic)	6,553	50,925	9,858	2,655	482
Transend (Tas)	3,469	11,658	2,366	1,070	166
TransGrid (NSW)	12,656	72,814	14,051	4,581	675
EnergyAustralia (NSW)	962	31,812	5,609	1,010	140
Interconnectors					
Directlink (Qld-NSW)	63	-	180	-	-
Murraylink (Vic-SA)	180	-	220	-	-

Source: 2009-10 TNSP regulatory reports and AER Revenue determinations.

EnergyAustralia is predominantly a distribution network service provider operating in NSW. However its network also contains a small proportion of high voltage transmission assets within parts of the Sydney, Central Coast and Newcastle areas. Despite having the smallest transmission line length, EnergyAustralia's 962 kilometres of transmission lines and cables transmitted the fourth highest electricity in the NEM in 2009-10 of 31,812 GWh. EnergyAustralia's transmission network is jointly planned with TransGrid and is operated in parallel and in support of TransGrid's transmission network.

SP AusNet in Victoria has the highest density network which is built around a 500 kV high voltage line running from the major generating source in the Latrobe Valley, through Melbourne and across the southern part of the state to Heywood near the South Australian border. Its 6,553 kilometres of transmission line and cables transmits the second highest maximum demand and electricity in the NEM.

ElectraNet in South Australia has one of the smallest networks in the NEM, starting from the Victorian border near Mount Gambier to Port Lincoln on the Eyre Peninsula. ElectraNet also operates radial extensions of over 200 kilometres each from the main network to Leigh Creek, the Yorke Peninsula and Woomera. It has the oldest assets, with the majority of its assets between 40 and 60 years old.[9]

Transend operates in Tasmania and also has one of the smallest networks in the NEM. Due to the majority of Tasmania's generation being hydro-electricity and variations

[9] ElectraNet, *ElectraNet transmission network revenue proposal – volume 1, 1 July 2008 to 30 June 2013*, 31 May 2007, p.5.

involved in generation output, Transend may encounter additional costs in providing transmission services relative to other TNSPs.

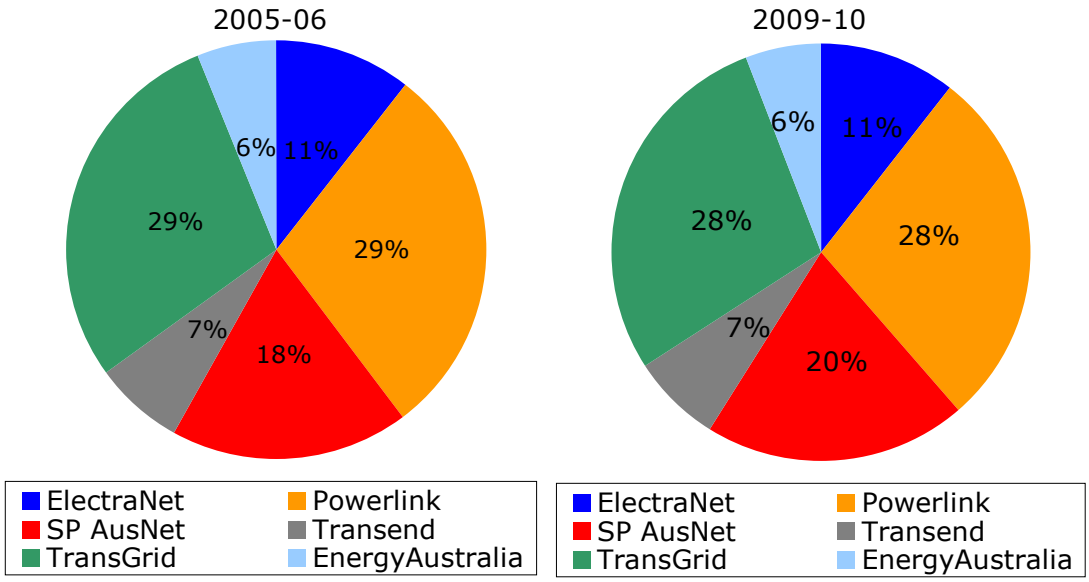
2.3 Different characteristics of TNSPs

In this section, differences between the TNSPs are illustrated in terms of their revenue, size, network utilisation and expenditure. Any changes over time with respect to these differences are also provided.

2.3.1 TNSP revenue and size

One way to illustrate the varying sizes of the TNSPs is to compare their revenue. In Figure 2.2, the "market shares" as illustrated by the maximum allowed revenue (MAR) varies by around 6 per cent for EnergyAustralia and Transend, to 28-29 per cent for Powerlink and TransGrid. Between 2005-06 and 2009-10, SP AusNet's market share has increased from 18 per cent to 20 per cent and Powerlink and TransGrid's market share has decreased from 29 per cent to 28 per cent.

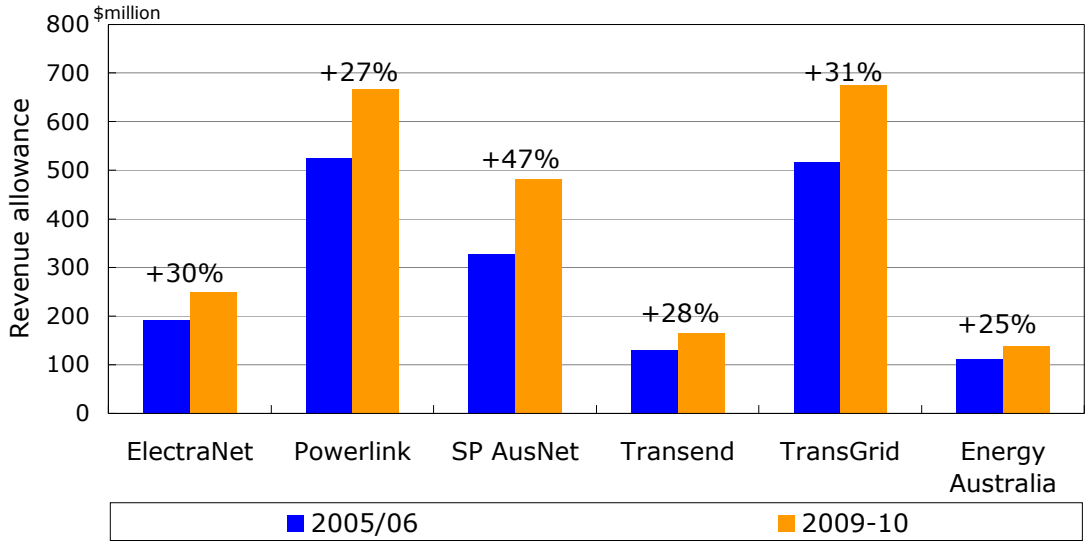
Figure 2.2 TNSPs market share by revenue allowance for prescribed services



Source: AER calculations based on TNSP regulatory reports

While the distribution of the total MAR across the TNSPs has not changed significantly over time, there has been a strong increase in revenues across all TNSPs. Figure 2.3 shows each TNSPs' change in the MAR from 2005-06 to 2009-10 in real terms. The increase in RAB over the five year period to 2009-10 is a major reason for the change in the revenue allowance for all TNSPs.

Figure 2.3 Percentage increase in MAR from 2005-06 to 2009-10 ($ real)

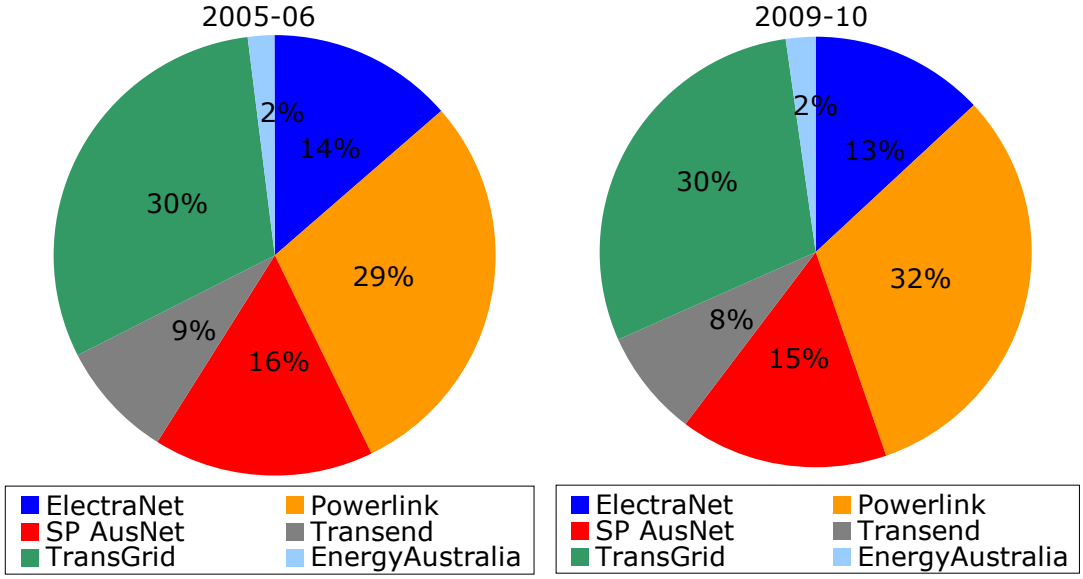


Source: AER calculations based on TNSP regulatory reports

With the exception of SP AusNet, over the five year period to 2009-10, all the other TNSPs experienced increases in their revenue allowance of between 25 per cent and 31 per cent. SP AusNet's increase in revenue allowance was 47 per cent. This is explained by the inclusion of the easement tax in MAR in 2009-10. If the easement tax is removed from the MAR the increase in revenue allowance for SP AusNet would be 19 per cent.

Figure 2.4 provides a breakdown by line length in the years 2005-06 and 2009-10.

Figure 2.4 TNSP market share by line length



Source: TNSP regulatory reports and AER revenue determinations.

There has not been a significant change in the relative shares of line length between TNSPs over the past five years. The most notable increases in line length has been for Powerlink from 29 per cent to 32 per cent (Figure 2.5).

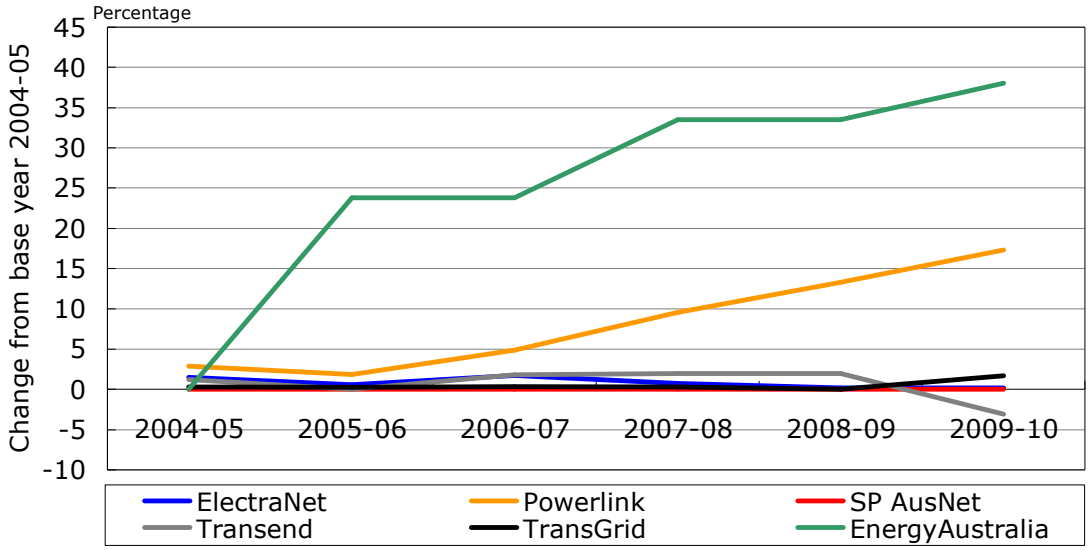
EnergyAustralia has experienced the greatest change in line length from 2004-05, with a 17 per cent increase to 2009-10. However, due to the small size of its line length, the percentage change is not entirely indicative of the size of the change, with only 141 kilometres of circuit line being added in that period.

Powerlink has experienced a steady increase in line length, with its line length increasing by 14 per cent between 2005-06 and 2009-10.

Transend was the only TNSP which experienced an overall contraction of three per cent in its network size over the period.

Appendix A.2 contains a summary of various TNSP network data for 2009-10 and earlier years and more detailed descriptions of each TNSP.

Figure 2.5 Percentage change in line length from base year 2004-05

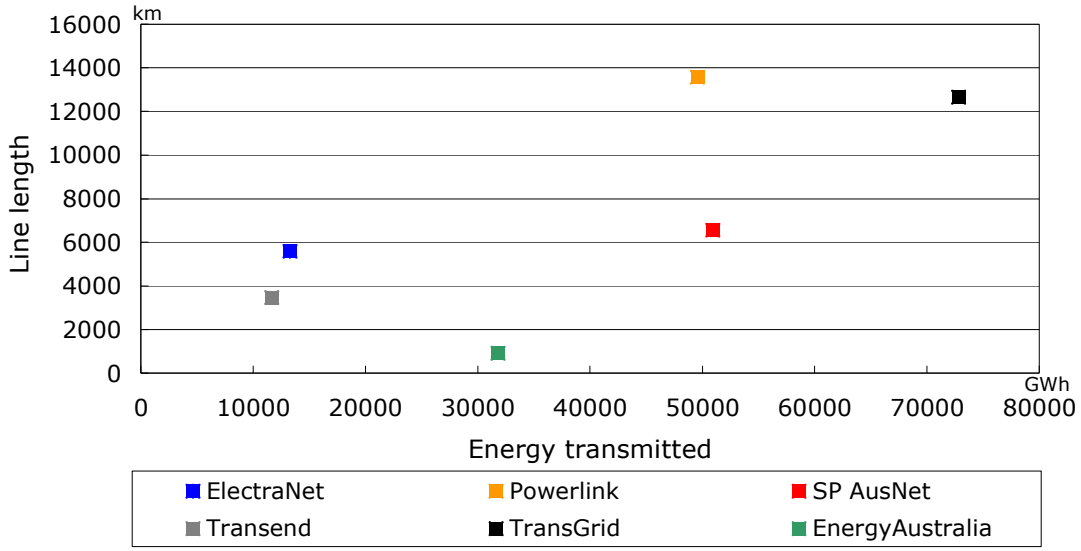


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

2.3.2 Transmission densities and network utilisation

The NEM is a relatively sparse electricity network, reflective of the vast distances between major centres in each state. This is evident in Figure 2.6, which plots the relationship between line length and electricity transmitted for each TNSP (excluding the two interconnectors) in 2009-10.

Figure 2.6 Relationship between line length and electricity transmitted



Source: AER calculations based on TNSP regulatory reports

Powerlink has the largest network in terms of total line length but transmits roughly the same amount of electricity as SP AusNet, which has half the line length.

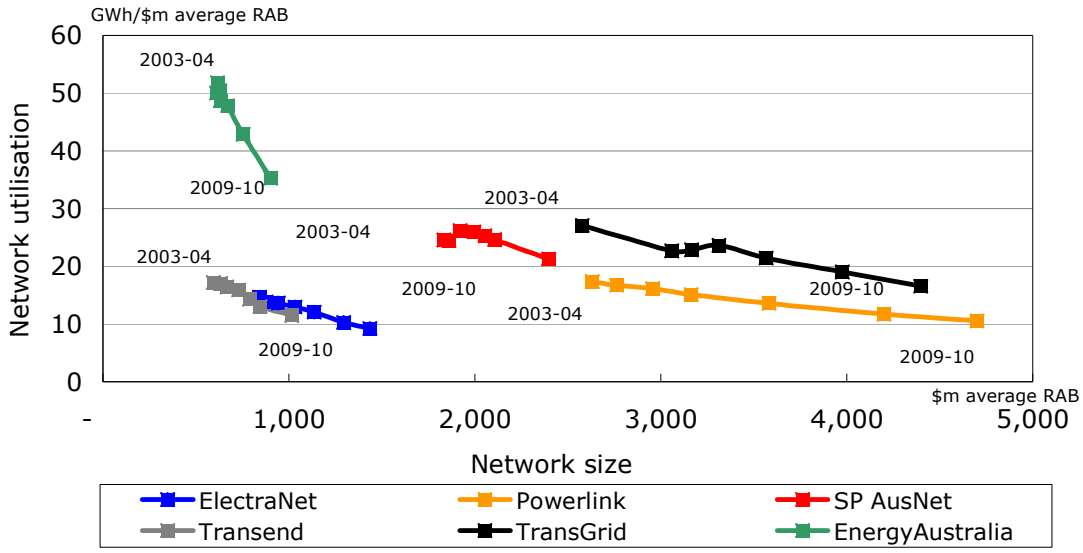
TransGrid which operates in the more densely populated areas of NSW has the second largest network. It also has the largest maximum demand and transmits the most electricity.

ElectraNet and Transend operate smaller networks in terms of both line length and electricity transmitted. This is reflective of the smaller markets in which they operate.

Figure 2.7 compares the relationship between network size and network utilisation for each TNSP (excluding the two interconnectors). Network utilisation is represented by electricity transmitted (GWh) as a proportion of the average regulated asset base (RAB) of each individual TNSP. The average RAB is used as a measure of the relative size of different TNSPs in the NEM.[10]

[10] The two interconnectors are not included in the calculation of network size.

Figure 2.7 Relationship between network utilisation and network size, 2005-06 to 2009-10



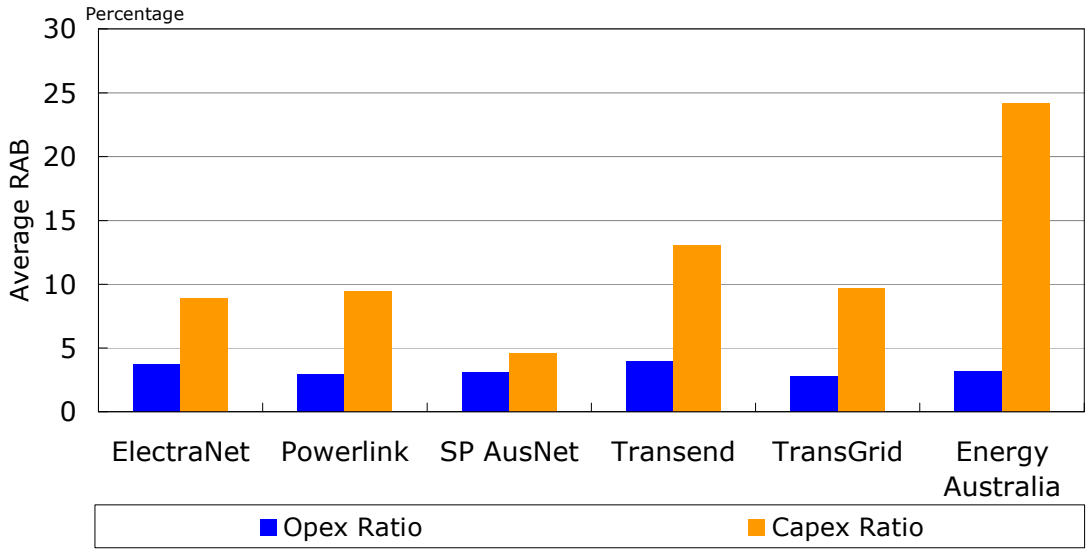
Source: AER calculations based on TNSP regulatory reports

Figure 2.7 illustrates the changes in network utilisation for the TNSPs between 2003-04 and 2009-10. For each TNSP, there has been a downward trend in network utilisation as their asset bases relative to GWh have increased in recent years.

2.3.3 TNSP expenditure breakdown

Figure 2.8 provides the operating expenditure (opex) and capital expenditure (capex) ratios for the six TNSPs for 2009-10 (excluding the interconnectors). The TNSPs' expenditures are presented as a percentage of each TNSP's average RAB.

Figure 2.8 Capex and Opex Ratios for 2009-10



Source: AER calculations based on TNSP regulatory reports.

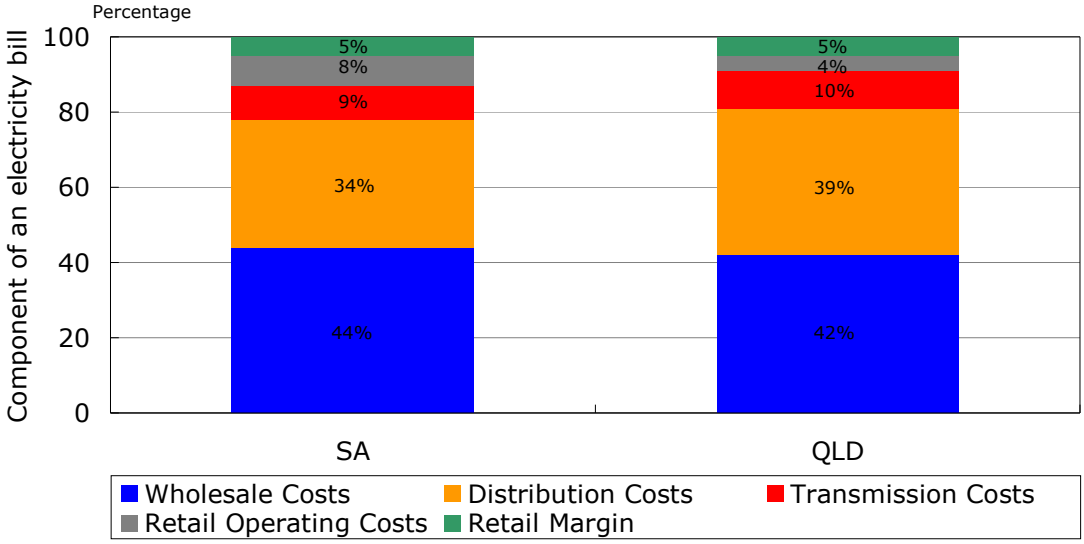
2.4 The price of transmitting electricity

There has been growing community interest in recent years about the rising costs of electricity. Electricity bills for end use customers comprise of the costs and profits of wholesale energy (generators), the costs and profits of transport through transmission and distribution networks and the costs and profits of retail services.

The cost of transport through the transmission and distribution networks is recovered through network tariffs. Transmission costs and prof its are the transmission proportion of the network tariff that recovers the required revenue for transmission services.

Figure 2.9 estimates the composition of a typical electricity retail bill for a residential customer in Queensland and South Australia.

Figure 2.9 Indicative composition of residential electricity bills, 2010



Source: AER calculations based on revenue determinations.

Figure 2.9 demonstrates that in Queensland and South Australia, the recovery of distribution and transmission costs and profits through network tariffs account for approximately 43-49 per cent of a typical residential electricity bill. Recovery of the transmission costs and profit only accounts for approximately 10 per cent of the total average residential bill in those States.[11]

[11] AER, *State of the Energy Market*, 2010 and AER analysis.

3 Revenue

3.1 Introduction

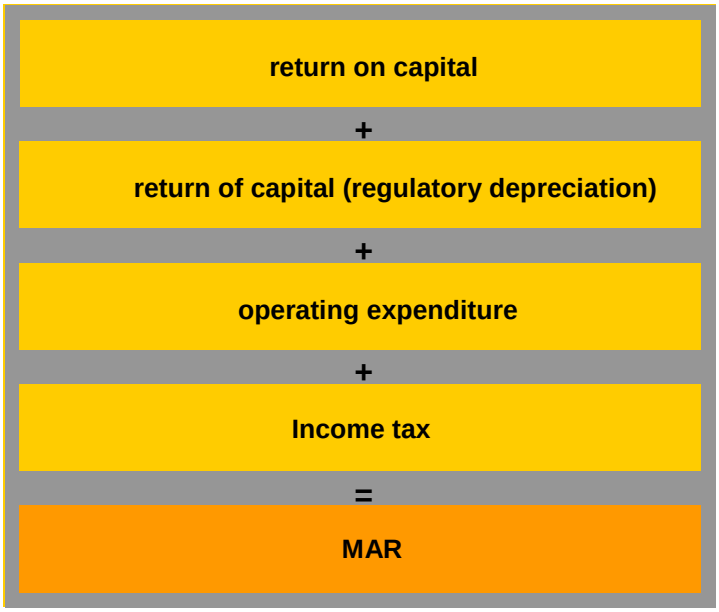
The AER is responsible for regulating the revenues associated with non-contestable elements of the electricity transmission services provided by TNSPs.

Chapter 6A of the NER sets out the regulatory framework and the process the AER applies to determine a TNSP's revenue determination.

In determining the revenue for each year of the regulatory period, the AER adopts the accrual building block approach which requires the Maximum Allowed Revenue (MAR) to be calculated as the sum of the return on capital, the return of capital (regulatory depreciation), an allowance for operating and maintenance expenditure (opex) and an income tax allowance (figure 3.1).

The TNSP then uses the MAR to determine transmission prices (tariffs). These tariffs are determined in accordance with the NER and the AER's pricing guidelines. The TNSPs set tariffs to recover the MAR for each year of the regulatory period. A number of adjustments can be made so that the TNSP does not over or under recover its MAR over the whole regulatory period.

Figure 3.1 The revenue building blocks



A TNSP's revenue allowance can vary over the regulatory control period. As part of the revenue determination process, a TNSP's MAR is determined using a forecast inflation rate for the duration of the regulatory control period. The MAR is adjusted annually for actual CPI to preserve the real value of the revenue stream. This adjustment may explain some of the discrepancies between forecast and actual revenue reported by TNSPs. Payments and penalties awarded under the service standards performance incentive scheme also affect actual revenue.

Additionally, certain unexpected costs[12] that the AER allows TNSPs to pass onto customers (known as cost past-through events) can lead to differences between actual revenue and the forecast MAR

This chapter discusses the TNSP's reported revenues in 2009-10, including:

- revenue from prescribed services and other sources;
- actual MAR achieved compared to the forecast MAR as set by the AER in its revenue determinations. It should be noted that forecast figures for MAR have been taken from final AER decisions and adjusted for March quarter CPI figures for the later year of the relevant period;[13] and
- the transmission charges outcome (or price path).

3.2 TNSPs revenues in 2009-10 and recent years

The electricity transmission industry is capital intensive in nature and the size of a TNSP's asset base is positively correlated with revenue. That is, revenue from prescribed services is about 15-20 per cent of the regulatory asset base, irrespective of the size of the TNSP's asset base.

As depicted in table 3.1, total transmission revenue from prescribed services increased from about $2.15 billion in 2008-09 to about $2.39 billion in 2009-10. This equates to about 11.7 per cent increase in annual terms.

12 For example, damage caused to transmission lines as a result of a cyclone.

13 For example, forecast MAR for the period 2009-10 is adjusted using the March quarter 2010 CPI with the exception of SP AusNet and Transend which have been adjusted using the December quarter 2009 CPI. CPI data is sourced from the ABS website (www.abs.gov.au).

Table 3.1 Actual MAR from prescribed services ($million), 2004-05 to 2009-10

TNSP	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Directlink	Na	Na	12.0	12.1	12.4	12.4
ElectraNet	163.9	170.4	179.1	186.8	230.5	249.4
EnergyAustralia	91.3	99.0	107.6	115.9	129.5	139.7
Murraylink	12.4	12.7	12.7	13.0	13.9	13.7
Powerlink	416.2	466.0	510.5	536.8	604.4	667.0
SP AusNet	281.2	291.3	302.0	313.2	456.1	482.5
Transend	108.0	115.0	123.3	130.1	144.2	165.8
TransGrid	435.3	459.5	486.5	520.4	570.6	675.0
Total	**1,508.3**	**1,613.8**	**1,733.7**	**1,828.4**	**2,161.6**	**2,405.5**

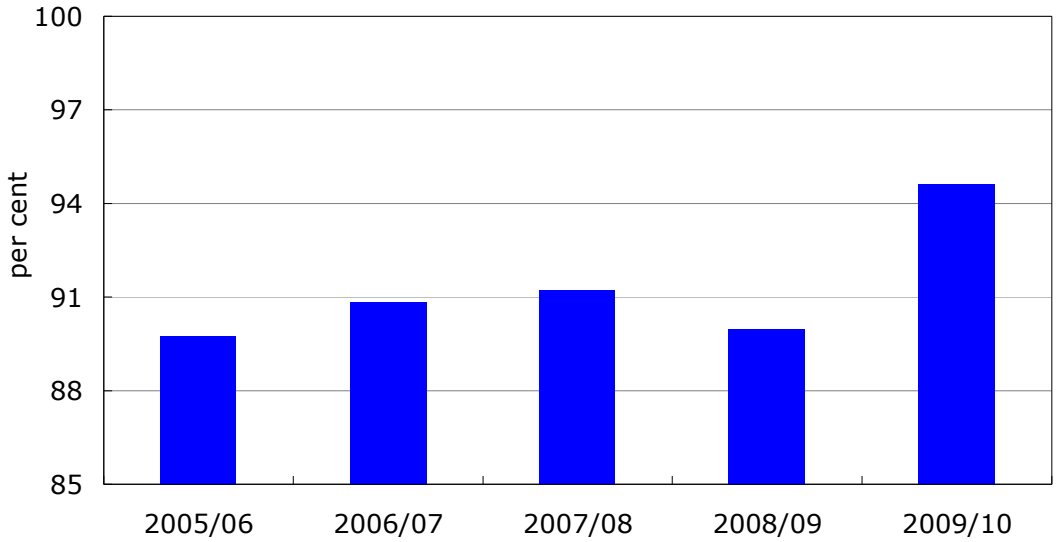
Source: AER calculations based on TNSPs regulatory accounts.

The revenue from prescribed services as a share of total revenue for the transmission sector increased from 90.6 per cent in 2008-09 to 94.6 per cent in 2009-10 (figure 3.2). This increase was largely due to relatively higher prescribed services revenue as a share of total revenue in 2009-10 for TransGrid, Powerlink, SP AusNet, Directlink and Murraylink.

TNSPs can earn non-regulated revenue in a number of ways. These include revenue earned by renting line space to telecommunications companies for optic fibre cabling and by providing connection services for other businesses.[14]

[14] In Victoria AEMO manages network augmentation work. Where the augmentation is deemed contestable and procured through a competitive tender process, the assets remain outside of the regulatory asset base. Where the augmentation is deemed non-contestable, the assets are rolled into SP AusNet's regulatory asset base at the end of the period.

Figure 3.2 Transmission prescribed services revenue as a share of total revenue, 2005-06 to 2009-10, per cent



Source: AER calculations based on TNSPs regulatory accounts.

The actual average increase in the MAR for prescribed transmission services for each of the TNSPs for the five years between 2005-06 and 2009-10 is 9.7 per cent, with the exception of SP AusNet of 12.5 per cent and Transend with 8.1 per cent (refer to table 3.2).

Table 3.2 Change in the actual MAR of prescribed transmission services – 2008-09 to 2009-10 and actual average change 2005-06 to 2009-10, per cent

TNSP	2009-10	5-year average	2009-10 variation from 5-year average
ElectraNet	8.2	9.0	-0.8
EnergyAustralia	7.9	8.1	-0.2
Powerlink	10.4	9.9	0.4
SP AusNet	5.8	12.5	-6.7
Transend	14.9	9.1	6.0
TransGrid	18.3	9.3	9.0

Source: AER calculations based on TNSPs regulatory accounts.

Between 2008-09 and 2009-10, the actual MAR from prescribed services for Transend and TransGrid increased substantially more than their five year averages, with increases of 14.9 per cent and 18.3 per cent respectively. The increase in actual MAR for Transend and TransGrid can be explained by the commencement of a new regulatory period in 2009-10 for these TNSPs and an increase in the allowed revenues as determined by the AER.

SP AusNet's average change in actual MAR from prescribed services of 12.5 per cent over the five year period reflects the inclusion of an allowance in the MAR calculation to recover an easement tax in the new regulatory period. The change in SP AusNet's actual revenue from prescribed services between 2008-09 and 2009-10 of 5.8 per cent is below its five year average (12.5 per cent).[15]

3.3 Comparison of actual revenue and forecast MAR

Variations between actual revenues for TNSPs and forecast MARs made at the start of the regulatory period may occur due to pass throughs events, contingent projects, incentive payments and differences between actual and forecast CPI.

In table 3.3, the forecast MAR at the time of each TNSP's determination and any subsequent final determinations has been adjusted using the appropriate CPI.

Table 3.3 Differences between the total actual MARs of all TNSPs and the total forecast MARs of all TNSPs, 2005-06 to 2009-10

	2005-06	2006-07	2007-08	2008-09	2009-10
Transmission Revenue (PS) - MAR	1,613.8	1,733.7	1,828.4	2,155.4	2,379.6
Forecast MAR (adjusted for actual CPI)	1,594.3	1,714.2	1,829.9	2,147.7	2,373.5
Difference ($m)	19.5	19.5	-1.5	7.7	6.1
Difference (%)	1.2	1.1	-0.1	0.4	0.3

Source: AER calculations based on TNSPs regulatory accounts. Excludes VenCorp/AEMO data and interconnectors. Forecast MAR does not include network support pass through or service target performance incentive scheme payments

The difference between the total actual MARs in 2009-10 for all TNSPs and the total forecast MARs as made at the time of the determinations (and adjusted for actual CPI) was $54.2 million or 2.3 per cent.

In 2009-10, as indicated in table 3.4, the difference between the actual MAR and forecast MAR was the largest for SP AusNet (2.7 per cent).

The difference between Transend's actual MAR and forecast MAR is primarily a result of the service standard bonus being recovered in addition to the forecast revenue.

[15] The easement tax was introduced in 2005/06 in the middle of the previous regulatory period. For reporting purposes in that period the AER subtracted the easement tax from its calculations of changes in revenue. With the commencement of the new regulatory period the AER has included the easement tax in its reporting of revenue. The five year average revenue which crosses two regulatory periods will reflect the inclusion of the easement tax.

The difference between SP AusNet's actual MAR for 2009/10 and forecast MAR can be explained by an upward adjustment for s-factor and a pass through for differences between forecast and actual easement tax.

Table 3.4 Differences between actual MAR and forecast MAR by TNSP (excluding interconnectors), 2009-10

	Transmission Revenue (PS) - MAR	Forecast MAR (adjusted for actual CPI)	Difference ($m)	Difference (%)
ElectraNet	249.4	250.2	-0.8	-0.3
EnergyAustralia	139.7	143.0	-3.3	-2.3
Powerlink	667.0	664.0	3.0	0.5
SP AusNet	482.5	472.2	10.3	2.2
Transend	165.8	164.7	1.1	0.7
TransGrid	675.0	679.3	-4.3	-0.6

Source: AER calculations based on TNSPs regulatory accounts. Forecast MAR does not include network support pass through or service target performance incentive scheme payments

In figures 3.3 to 3.10, the differences between actual MAR and forecast MAR (adjusted for actual inflation) for each TNSP have been presented from 2005-06 to 2009-10 (data permitting).

Some key observations include:

- Following a sharp increase in actual and forecast MAR of about 24 per cent for ElectraNet between 2007-08 and 2008-09 (the first year of its current regulatory control period), increases of actual and forecast MAR between 2008-09 and 2009-10 were in the order of eight per cent.

- EnergyAustralia's actual and forecast MAR in 2009-10 increased by between seven to eight per cent compared to 2008-09 and were less that the increases between 2007-08 and 2008-09 (13.6 per cent).

- Powerlink’s actual revenue increased by 10.4 per cent between 2008-09 and 2009-10. This was in line with their forecast MAR (10.3 per cent). These increases were less than the increases for actual and forecast MARs between 2007-08 and 2008-9 of around 12.5 per cent.

- SP AusNet’s actual and forecast revenue increases in 2009-10 were the smallest of all TNSPs (about 3.6 to 5.8 per cent). This follows an increase in actual and forecast revenue in the order of 43 per cent to 45 per cent between 2007-08 and 2008-09. 2008-09 was the first year of SP AusNet’s current regulatory control period. The sharp increase in revenue reflects the increase in revenues approved by the AER and includes allowance for the recovery of the easement tax.

- Transend's actual revenue increased by 14.9 per cent in 2009-10 compared to 2008-09 while the increase for forecast MAR was almost 16.8 per cent between 2009-10 and 2008-09.

- TransGrid increases in actual and forecast MAR between 2009-10 and 2008-09 have been in the order of 18-19 per cent. This compares in the order of 9.5 per cent between 2007-08 and 2008-09. The increase for 2009-10 can be explained by the start of a new regulatory period in 2009-10 and an increase in allowed revenue as approved by the AER. Over the past two financial years, the total increase in actual revenue by TransGrid has been the largest of the main TNSPs at about 28 per cent (or about $155 million).

Comparison of revenue outcomes by TNSP

Figure 3.3 ElectraNet

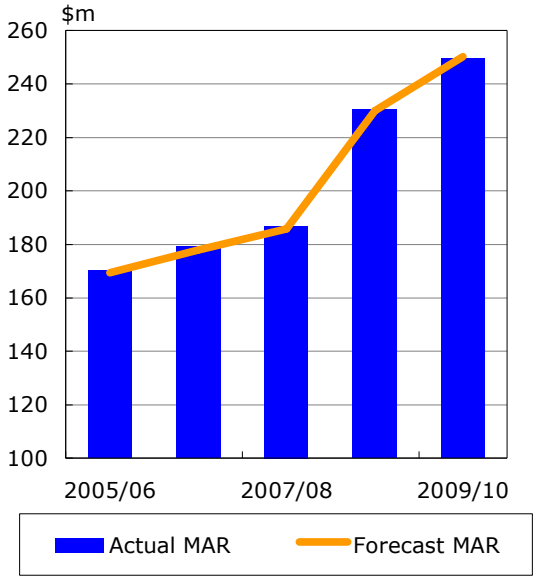


Figure 3.4 EnergyAustralia

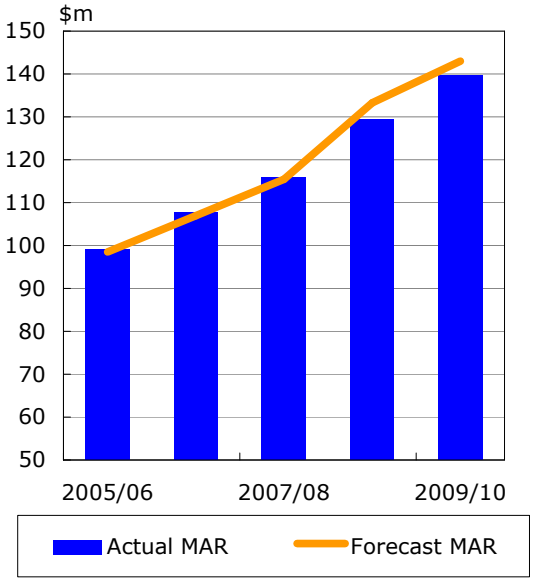


Figure 3.5 Powerlink

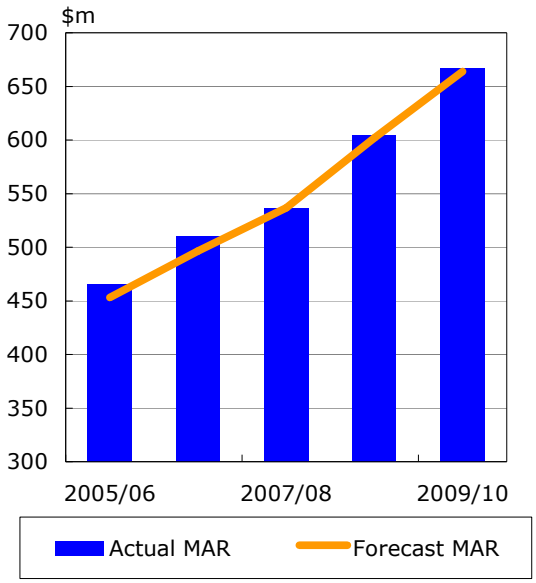


Figure 3.6 SP AusNet

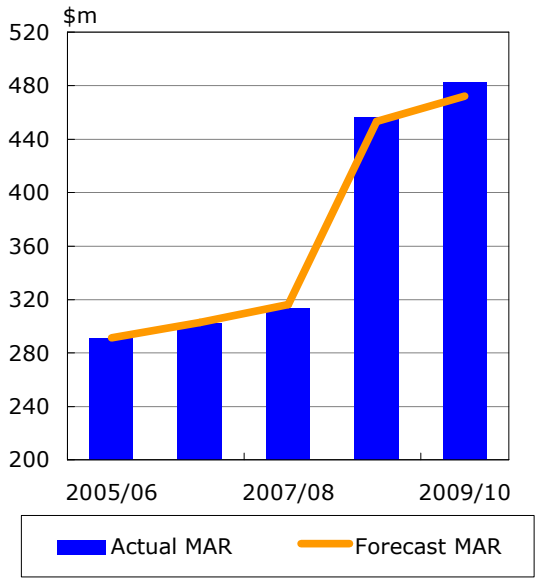


Figure 3.7 Transend

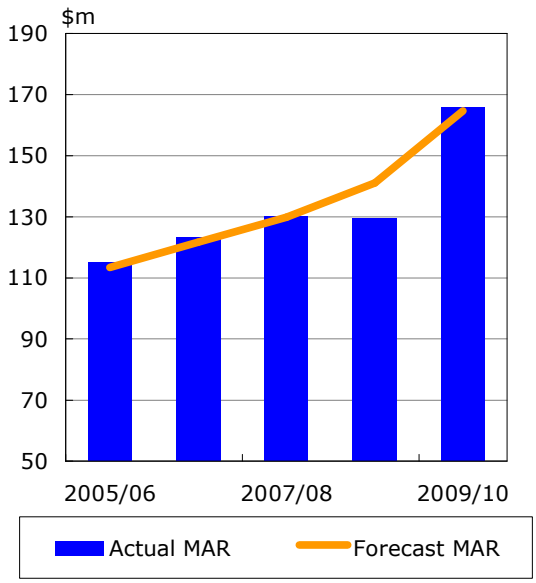


Figure 3.8 Transgrid

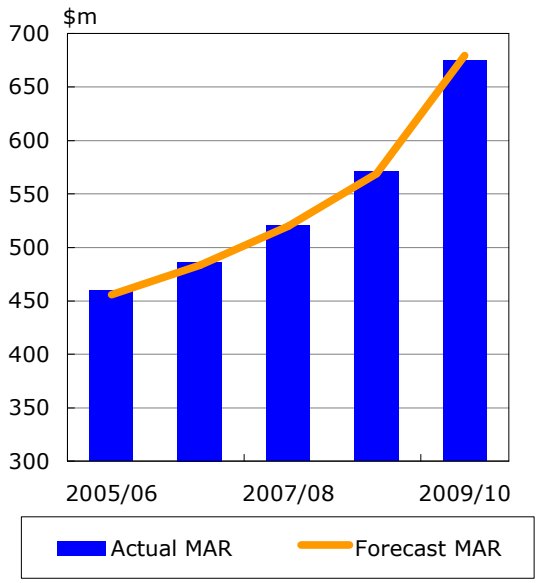


Figure 3.9 Directlink

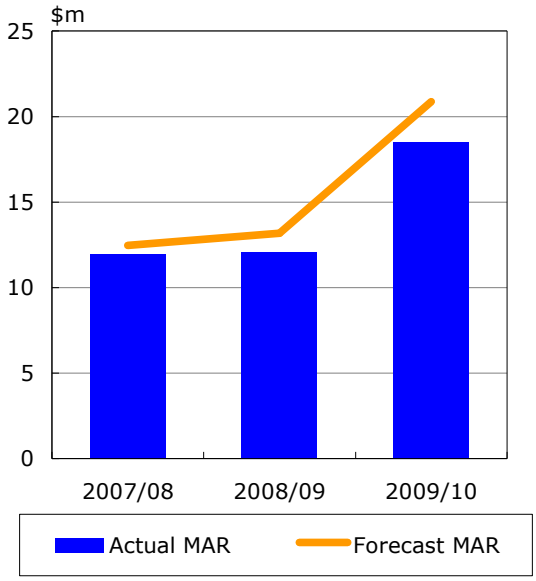
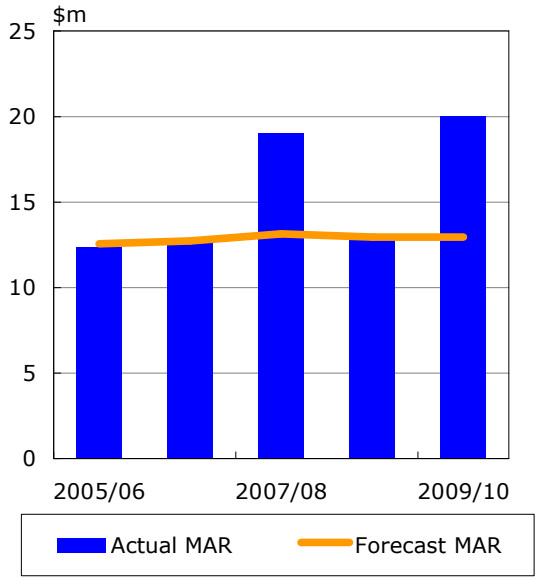


Figure 3.10 Murraylink



Source: AER calculations based on TNSPs regulatory accounts.

3.4 TNSP transmission charges outcomes

Figures 3.11 to 3.16 show the indicative price path of TNSPs' actual allowed transmission charges (expressed on a $MAR/MWh basis) compared to the transmission charges that were forecast based on the allowed revenues at the time of the regulator's decision.

These price paths indicate the extent to which actual revenue per megawatt hour transmitted varies from forecast revenue per megawatt hour transmitted. Differences may arise due to variation between forecast and actual CPI and contingent projects.

The movement in actual indicative prices for all TNSPs were generally very close to those forecast in the respective transmission determination. The differences that were evident appeared to be primarily due to actual revenue containing STPIS (s-factor) payments and network support pass throughs, which are not incorporated in the original revenue allowances by the regulator.

Comparison of revenue transmission charges by TNSP

Figure 3.11 ElectraNet

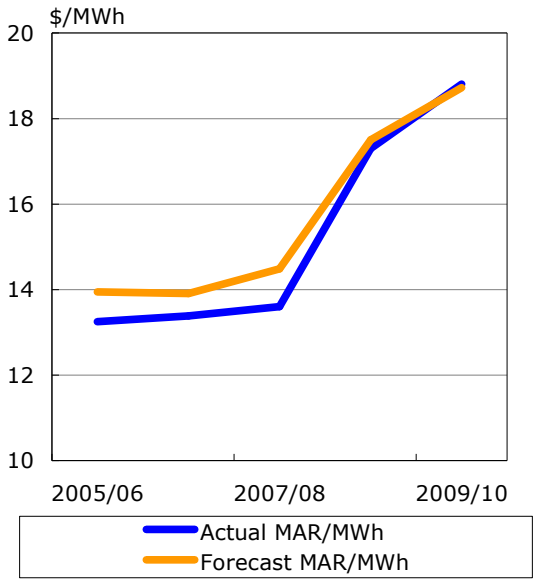


Figure 3.12 EnergyAustralia

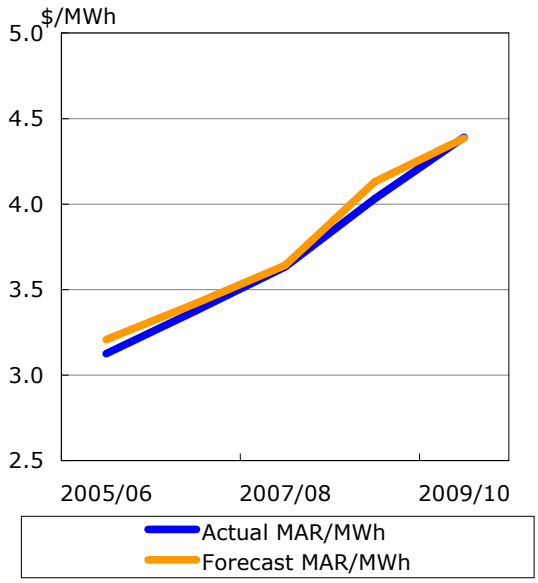


Figure 3.13 Powerlink

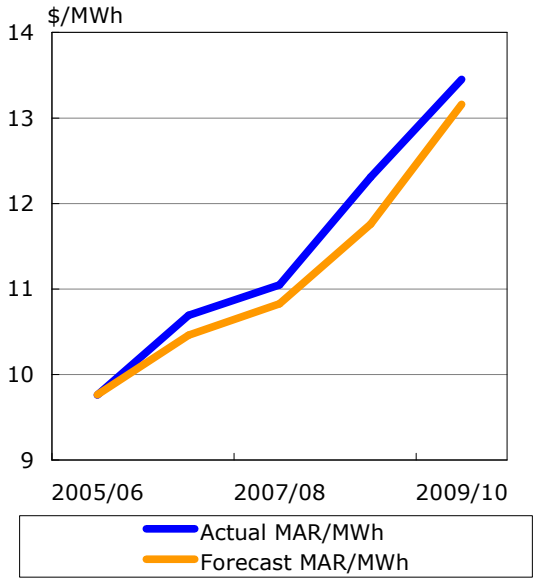
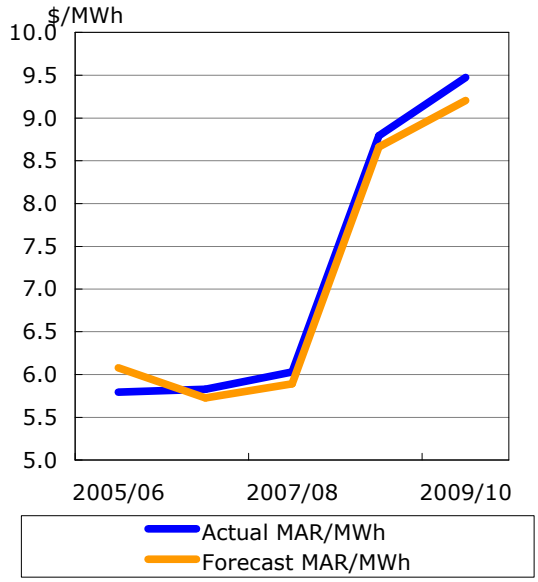


Figure 3.14 SP AusNet



Comparison of revenue outcomes by TNSP (continued)

Figure 3.15 Transend

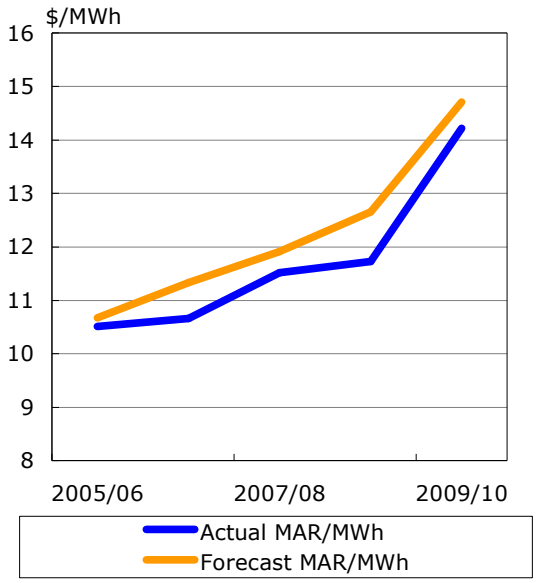
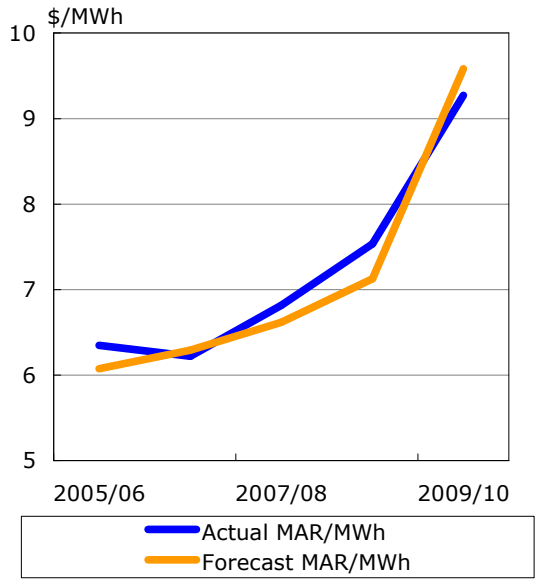


Figure 3.16 TransGrid



Source: AER calculations based on TNSPs regulatory accounts and final revenue determinations.

4 Financial indicators

4.1 Introduction

This chapter describes the financial performance of TNSPs in the 2009-10 financial year and where appropriate compares their performance against previous financial years. Appendix Aof this report provides a summary of key items and financial indicators derived from TNSPs' income statements and balance sheets.

Under the building block methodology for regulating prices, TNSPs are provided with a MAR which provides them with a consistent and relatively predictable cash flow - regardless of seasonal fluctuations and volume changes. This cash flow supports the TNSPs' operations and planned capital investments and may also service debt.

Key factors in determining TNSPs' profits include actual capex and opex. As the TNSPs' regulatory asset bases grow, the depreciation expense will also increase and can affect reported profit and return on equity.

4.1.1 Financial ratios

The ratios used by the AER to assess TNSPs' financial performance are set out in the table below and relate to prescribed services (PS) where indicated. They are widely accepted financial ratios and have been adopted by the AER on this basis.[16]

Financial ratio	Description	Calculation
Return on Equity (ROE)	Measures the firm's profitability and allows investors to compare returns for investments with similar risk profiles.	Net Profit After Tax / Average Equity
Return on Assets (ROA)	Measures the efficiency of the use of the business' assets in producing operating profit.	Earnings before Interest and Tax (PS) / Average Regulatory Asset Base
Gearing	The percentage of the firm's funding which is attributed to debt.	Debt / (Debt + Equity)
Interest cover	Measures whether a firm's earnings can cover its gross interest expense.	Earnings before Interest and Tax (PS) / Gross Interest Expense

In this report:

[16] As noted in the 2008-09 performance report, for businesses that own more than one regulated network, pay tax and hold debt at the corporate level, any allocation of tax or debt to an underlying line of business will be somewhat arbitrary. The allocation is only done for regulatory accounts and not statutory accounts (eg SP AusNet). Therefore, care must be taken when assessing the financial ratios and measures for these businesses.

ROE is calculated using net profit after tax (NPAT) and average equity as measured for the whole of a TNSP's business.

ROA and interest cover are calculated using prescribed earnings before interest and tax (EBIT) and the average regulatory asset base (RAB) associated with the prescribed services provided by the TNSP. The prescribed services provided by the TNSP typically account for more than 90 per cent of the total revenue of a TNSP.

4.1.2 Aggregate TNSP performance

Table 4.1 below identifies which TNSPs have contributed to the aggregate TNSP performance indicators, as reported in this performance report.

Table 4.1 TNSPs included in aggregate financial indicators

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Directlink				✓	✓	✓	
ElectraNet	✓	✓	✓	✓	✓	✓	✓
EnergyAustralia	✓	✓	✓	✓	✓	✓	✓
Murraylink		✓	✓	✓	✓	✓	
Powerlink	✓	✓	✓	✓	✓	✓	✓
SP AusNet	✓	✓	✓	✓	✓	✓	✓
Transend	✓	✓	✓	✓	✓	✓	✓
TransGrid	✓	✓	✓	✓	✓	✓	✓
AEMO	✓	✓	✓	✓	✓	✓	

Aggregate TNSP performance is reported below in table 4.2. It should be noted that:

- Opex, grid support and depreciation relate to prescribed services only.
- Gross interest, tax and dividends are aggregated figures relating to both prescribed and other services.

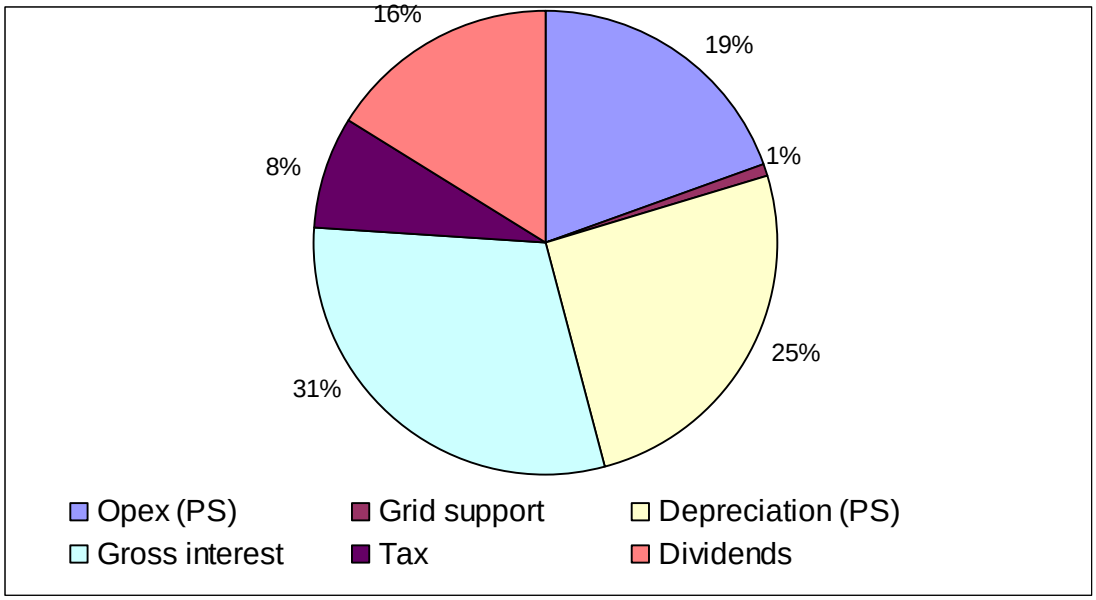
Table 4.2 TNSPs' aggregate financial performance

	2008-09	2009-10
Income statement – Prescribed Services	**$ million**	**$ million**
Transmission revenue (PS) *	2,155.4	2,379.6
Operating expenditure (PS)	465.7	465.3
Grid support (PS)	23.4	21.3
Depreciation (PS)	501.7	572.6
Earnings before interests and tax (EBIT, PS)	1,055.4	1,216.9
Income statement – Aggregate **		
Gross interest expense (aggregate)	610.4	682.3
Tax (aggregate)	158.8	178.7
Net profit after tax (aggregate)	388.7	460.8
Dividends (aggregate)	392.3	362.0
Balance sheet		
Closing RAB (PS)	14,108.8	15,698.7
Total assets (aggregate)	17,698.6	19,527.9
Total debt (aggregate)	8,777.6	9,650.2
Total liabilities (aggregate)	11,672.4	12,808.5
Total equity (aggregate)	6,026.2	6,719.5

* Transmission revenue is from prescribed services network charges only.
** This information is not reported or requested at a prescribed services level and therefore aggregate figures can only be provided for these categories.

Figure 4.1, below illustrates the various reported components of the TNSPs' expenses as a percentage of aggregate expenditure in 2009-10.

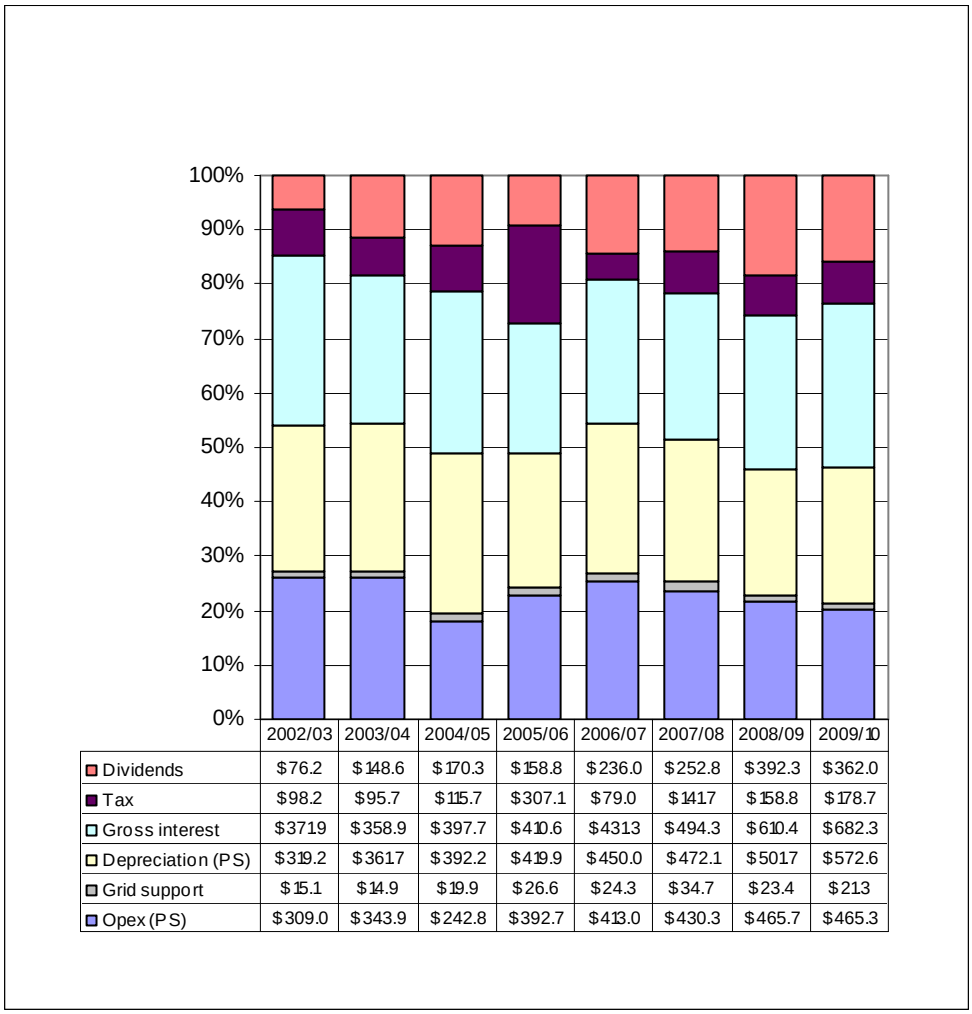
Figure 4.1 TNSPs' aggregate financial performance 2009-10



Source: AER calculations based on TNSP regulatory reports.

Figure 4.2 illustrates the various reported components of the TNSPs' expenses as an absolute dollar amount of aggregate expenditure by TNSPs. Aggregate expenditure increased 5.7 per cent in 2009-10 compared to the previous year.

Figure 4.2 TNSPs' aggregate financial performance 2002-03 to 2009-10 ($nominal, m)



	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Dividends	$76.2	$148.6	$170.3	$158.8	$236.0	$252.8	$392.3	$362.0
Tax	$98.2	$95.7	$115.7	$307.1	$79.0	$141.7	$158.8	$178.7
Gross interest	$371.9	$358.9	$397.7	$410.6	$431.3	$494.3	$610.4	$682.3
Depreciation (PS)	$319.2	$361.7	$392.2	$419.9	$450.0	$472.1	$501.7	$572.6
Grid support	$15.1	$14.9	$19.9	$26.6	$24.3	$34.7	$23.4	$21.3
Opex (PS)	$309.0	$343.9	$242.8	$392.7	$413.0	$430.3	$465.7	$465.3

Source: AER calculations based on TNSP regulatory reports

4.2 Individual TNSP performance

A business' operating environment has a direct impact on its financial performance. The following sections provide snapshots of individual TNSPs' performances.

4.2.1 ElectraNet

In 2009-10 ElectraNet's earnings before interest and tax increased to $135.6 million as indicated in figures 4.3 to 4.8. Since 2005-06 ElectraNet has recorded subsequent net losses after tax. These losses resulted from high interest expenses and moderate depreciation and amortisation expense and operating and maintenance expenditure. However, ElectraNet recorded a net profit after tax in 2009-10 of $11.0 million, compared with a net loss after tax in 2008-09 of $1.7 million.

Return on equity was higher than the previous financial year and the return on assets remained steady at 9.3 per cent. Subsequently, ElectraNet's gearing ratio decreased to 70.1 per cent of equity whilst interest coverage increased to 1.0 time. ElectraNet's gearing ratio has remained relatively constant since 2003-04 whilst its interest cover times have trended up.

Figure 4.3 EBIT (PS) $million

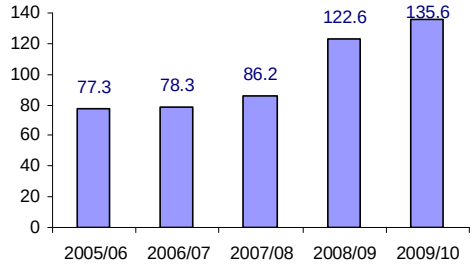


Figure 4.4 NPAT $million

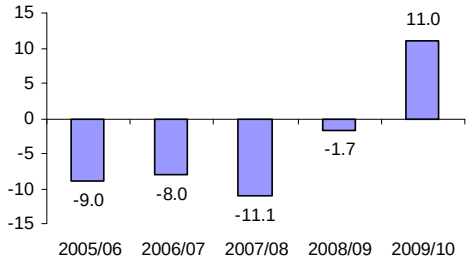


Figure 4.5 ROE

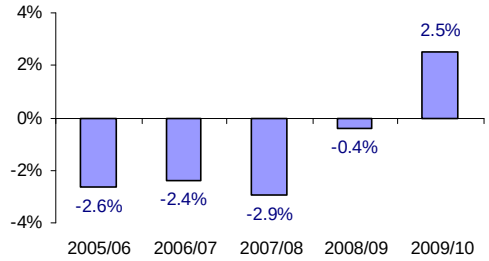


Figure 4.6 ROA (PS)

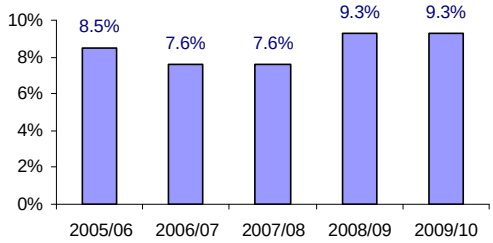


Figure 4.7 Gearing ratio

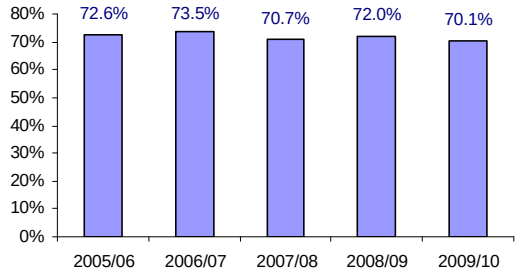
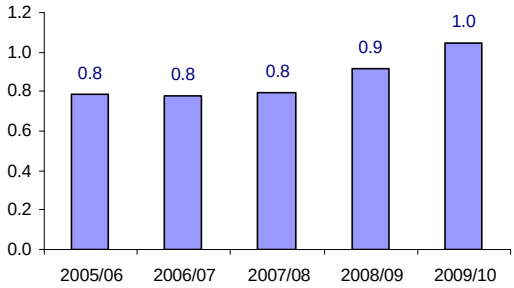


Figure 4.8 Interest cover times



Source: AER calculations based on TNSP regulatory reports

4.2.2 EnergyAustralia

In 2009-10 EnergyAustralia's earnings before interest and tax increased to $82.1 million and return on assets remained at 9.1 per cent as illustrated in figures 4.9 to 4.15. However its net profit after tax and return on equity decreased in 2009-10. Dividend payments made by EnergyAustralia decreased by 38 per cent to $20.9 million. Its gearing ratio and interest coverage also decreased to 68.2 per cent and 1.8 times respectively.

EnergyAustralia's NPAT has fluctuated over the five year period to 2009-10. Similar to other TNSPs, NPAT was influenced by interest expenses from liabilities, depreciation and amortisation expenses, and operation and maintenance expenditure. EnergyAustralia's gearing ratio has remained relatively constant since 2005-06.

Figure 4.9 EBIT (PS) $million

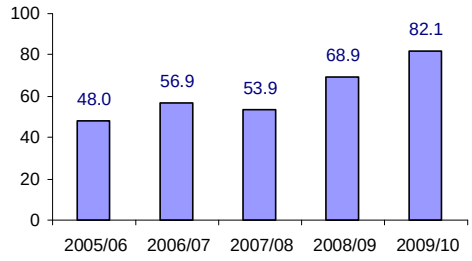


Figure 4.10 NPAT $million

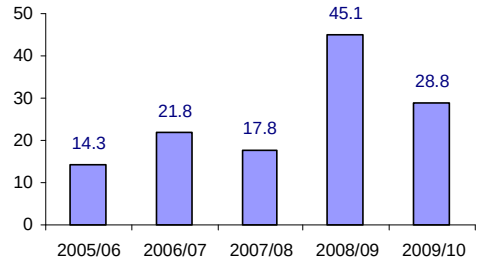


Figure 4.11 Dividends $million

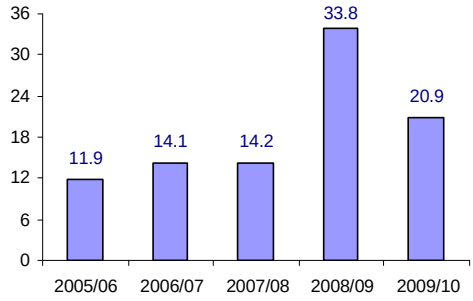


Figure 4.12 ROE

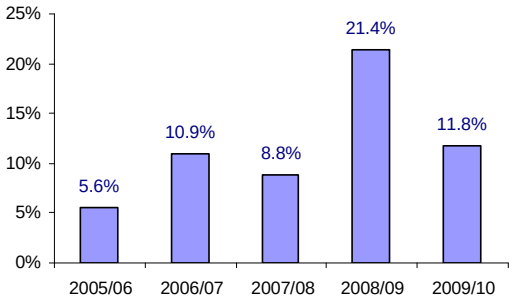


Figure 4.13 ROA (PS)

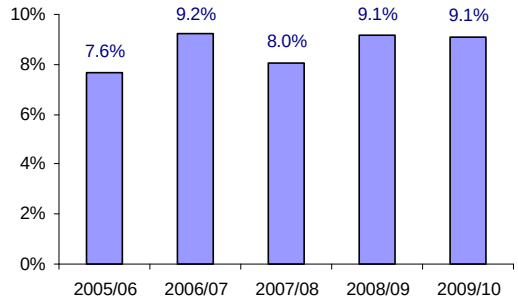


Figure 4.14 Gearing ratio

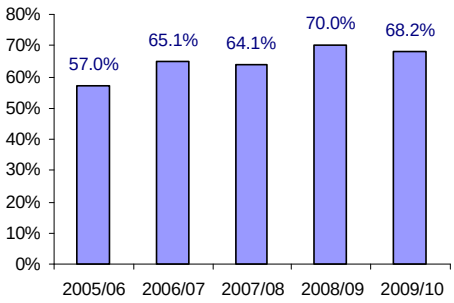
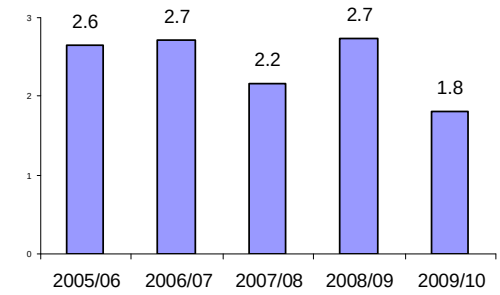


Figure 4.15 Interest cover times



Source: AER calculations based on TNSP regulatory reports

4.2.3 Powerlink

Powerlink's earnings before interest and tax increased in 2009-10 to $313.7 million and net profit after tax also increased to $128.6 million, as illustrated in figures 4.16 to 4.22. Dividends payments also increased in 2009-10 to $100.2 million, whilst return on equity remained constant 6.7 per cent, return on assets decreased slightly to 6.7 per cent. Powerlink's gearing ratio increased to 62.4 per cent while interest coverage remained constant of 1.6 times.

Powerlink's NPAT has fluctuated over the five year period to 2009-10. Similar to other TNSPs, NPAT was influenced by Powerlink's interest expenses and to a smaller extent its depreciation and amortisation expenses. Dividend payments have remained relatively constant above 80 per cent of NPAT. Powerlink's gearing ratio has trended upwards since 2004-05 to support its increasing capital investment program. Consequently, Powerlink's interest coverage ratio has also trended down until the previous year.

Figure 4.16 EBIT (PS) $million

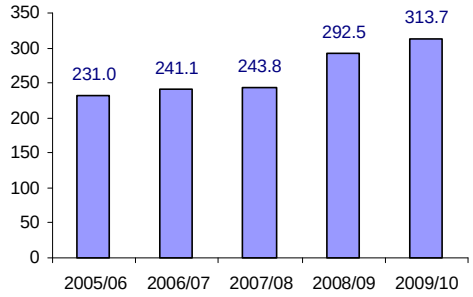


Figure 4.17 NPAT $million

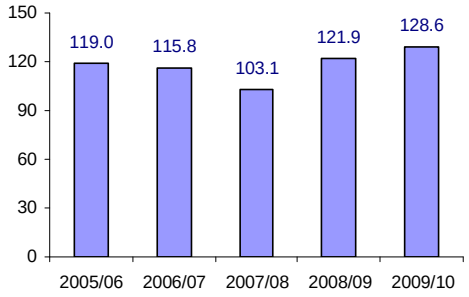


Figure 4.18 Dividends $million

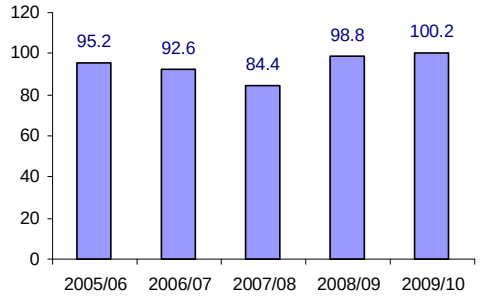


Figure 4.19 ROE

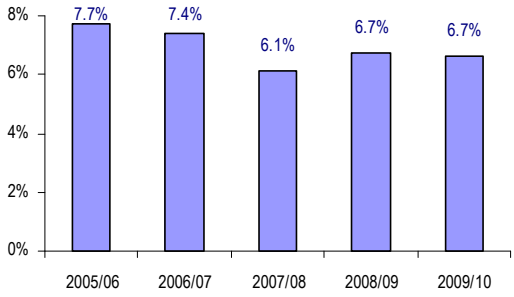


Figure 4.20 ROA (PS)

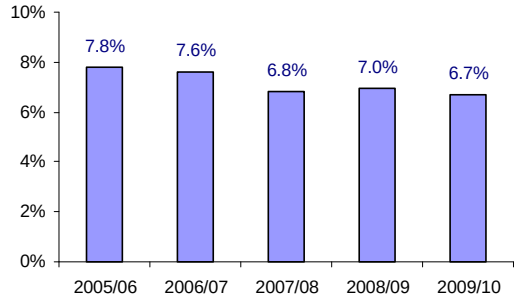


Figure 4.21 Gearing ratio

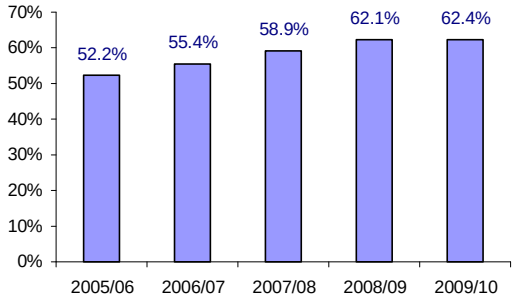
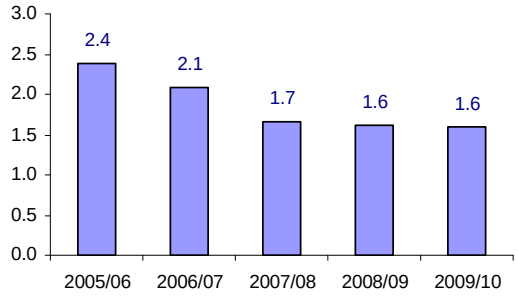


Figure 4.22 Interest cover times



Source: AER calculations based on TNSP regulatory reports

4.2.4 SP AusNet

SP AusNet's earnings before interest and tax and net profit after tax increased in 2009-10 to $267.9 million and $103.9 million respectively (figures 4.23 to 4.29). The return on equity increased from the previous financial year to 9.9 per cent whilst the return on assets decreased slightly to11.2 per cent. Dividends to shareholders decreased by 19 per cent in 2009-10 to $117 million. In 2009-10 SP AusNet's gearing ratio increased to 64.3 per cent while interest coverage remained steady to 1.9 times.

SP AusNet's NPAT has fluctuated over the five year period to 2009-10. Similar to other TNSPs, NPAT was influenced by the SP AusNet's interest expenses from liabilities and to smaller extent its depreciation and amortisation expenses and operation and maintenance expenditure. SP AusNet's gearing ratio has trended up since 2006/07.[17] SP AusNet's interest coverage ratio has remained relatively stable over the five year period to 2009-10.

[17] As noted in the 2008-09 performance report, SP AusNet commented that this was influenced by the merger between SPI Powernet and TXU in 2004 which led to significant structural change within the business and a successful public offering of 49 per cent of the business in 2005-06.

Figure 4.23 EBIT (PS) $million

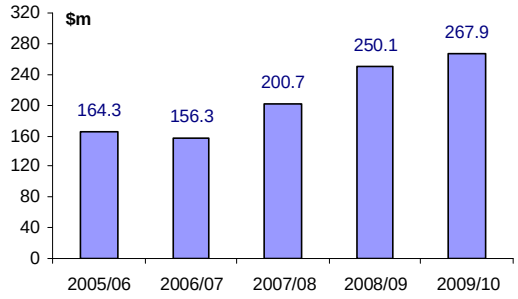


Figure 4.24 NPAT $million

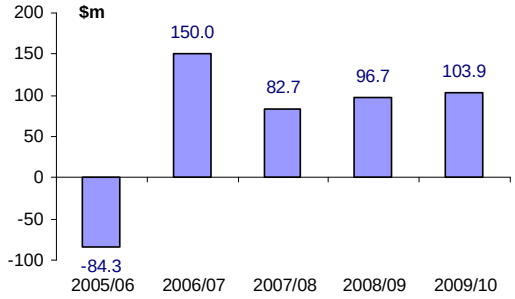


Figure 4.25 Dividends $million

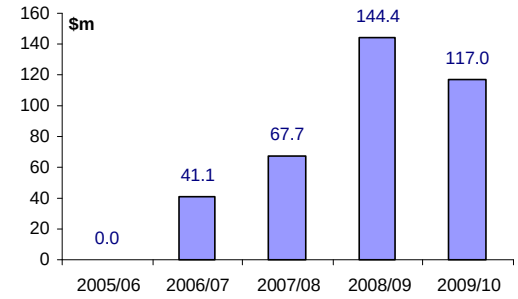


Figure 4.26 ROE

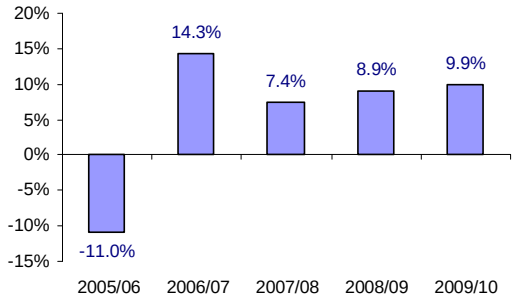


Figure 4.27 ROA (PS)

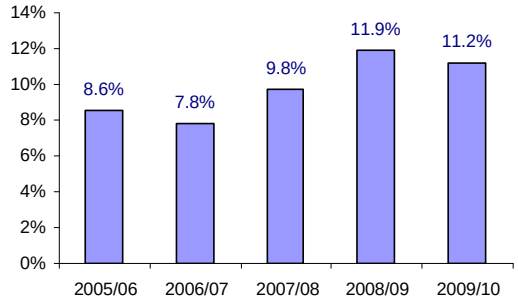


Figure 4.28 Gearing ratio

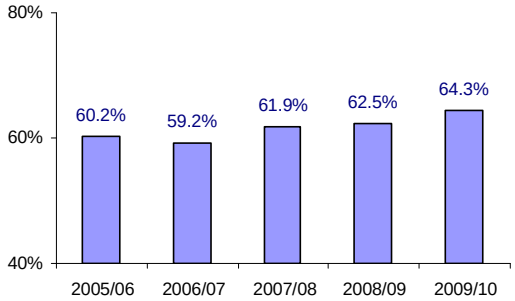
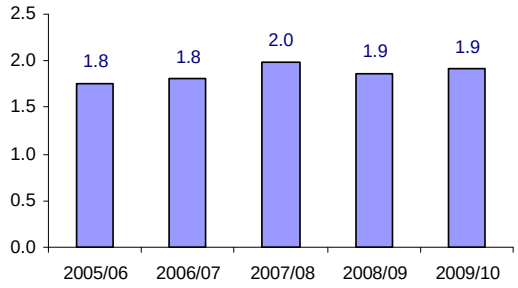


Figure 4.29 Interest cover times



Source: AER calculations based on TNSP regulatory reports

4.2.5 Transend

In 2009-10 Transend recorded an increase in earnings before interest and tax and net profit after tax, with results of $68.6 million and $26.4 million respectively (refer figures 4.30 to 4.36). Dividends paid by Transend continued to decline. Between 2009-10 and 2008-09 they declined by 61 per cent to $3.6 million. However the return on equity and the return on assets recorded an increase compared to the previous financial year. Transend's gearing ratio decreased slightly to 47.9 per cent whilst interest coverage increased to 2.1 times.

Transend's NPAT has fluctuated over the five year period to 2009-10. NPAT was influenced by Transend's interest and depreciation expenses and, unlike other TNSPs, Transend's operating and maintenance expenditure contributed to falling NPAT over time.

Figure 4.30 EBIT (PS) $million

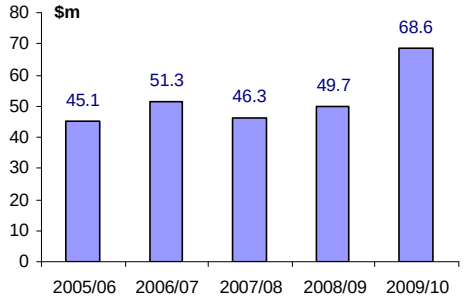


Figure 4.31 NPAT $million

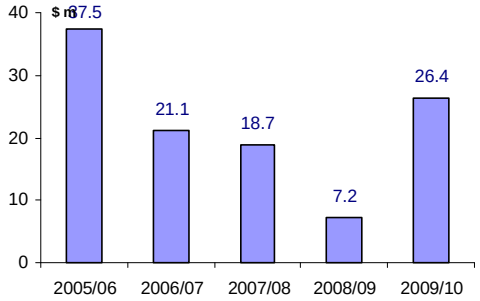


Figure 4.32 Dividends $million

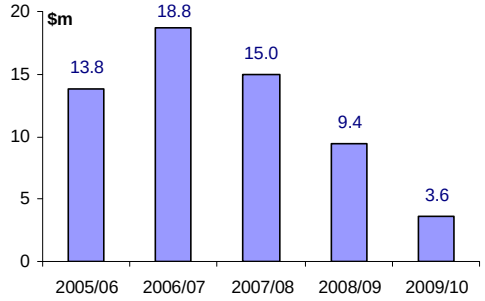


Figure 4.33 ROE

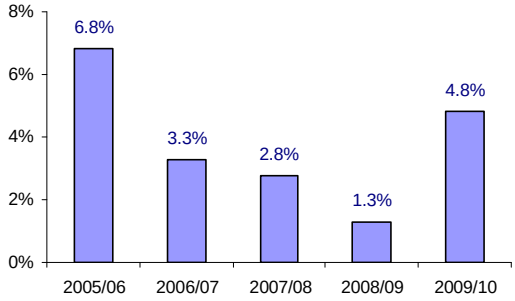


Figure 4.34 ROA (PS)

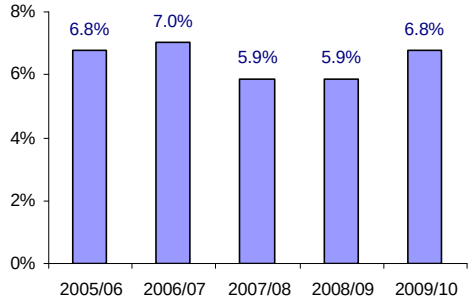


Figure 4.35 Gearing ratio

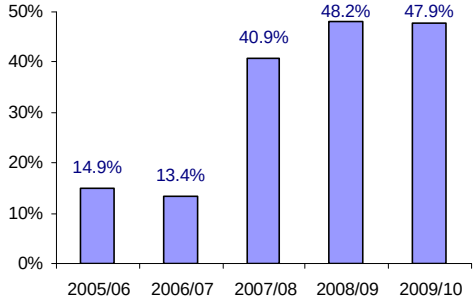
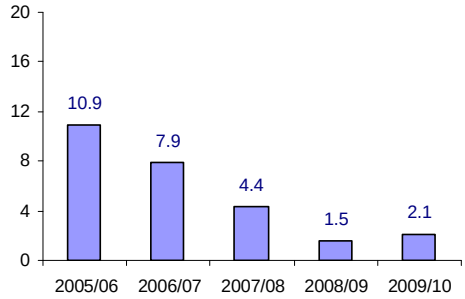


Figure 4.36 Interest cover times



Source: AER calculations based on TNSP regulatory reports

4.2.6 TransGrid

TransGrid's (figure 4.37 to 4.43) earnings before interest and tax continued to grow reaching $353.8 million in 2009-10. Net profit after tax and dividend payments increased to $162.1 million and $135.1 million respectively. Return on equity decreased to 7.5 per cent whilst the return on assets increased slightly to 7.6 per cent in 2009-10. TransGrid's gearing ratio and interest coverage decreased in 2009-10 to 48.4 percent and 2.6 times.

TransGrid NPAT has fluctuated over the five year period to 2009-10. The NPAT was influenced by TransGrid's depreciation and amortisation costs and operation and maintenance expenditure and to a smaller extent interest expenses from liabilities.

Figure 4.37 EBIT (PS) $million

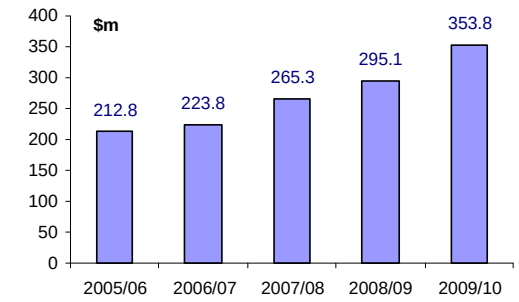


Figure 4.38 NPAT $million

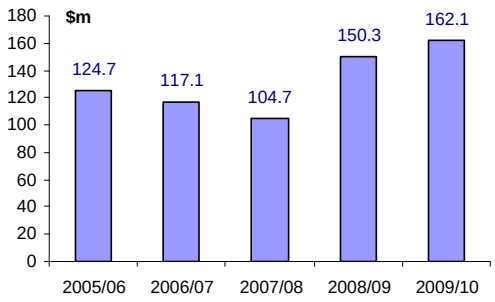


Figure 4.39 Dividends $million

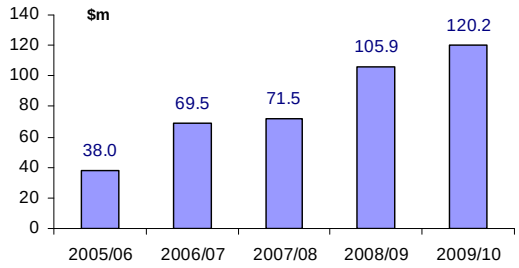


Figure 4.40 ROE

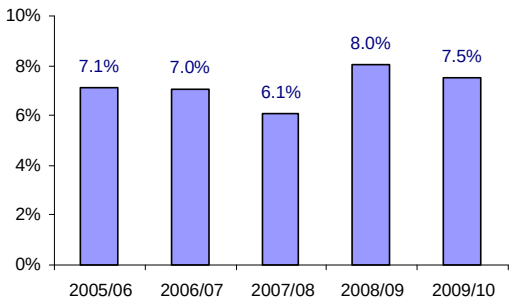


Figure 4.41 ROA (PS)

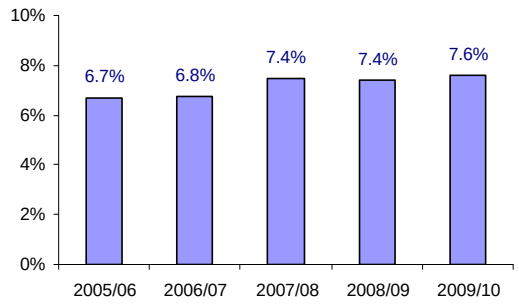


Figure 4.42 Gearing ratio

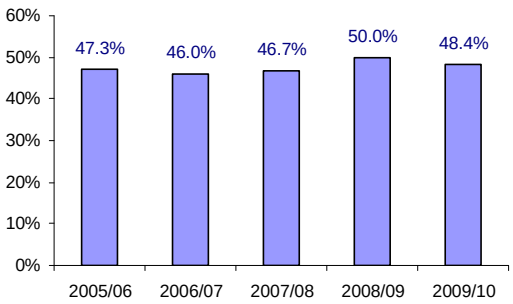
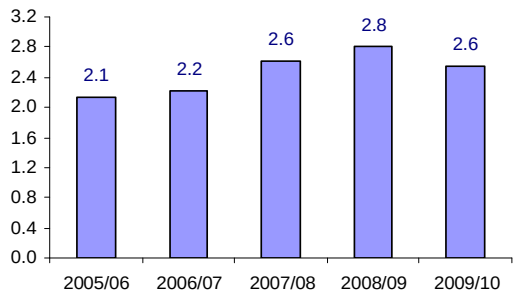


Figure 4.43 Interest cover times



5 Capital Expenditure

5.1 Introduction

Electricity transmission networks are typically comprised of large assets with long asset lives. Capital expenditure (capex) is required when these assets expire, or when the demand for electricity reaches levels the current network assets cannot safely manage. In addition, capex includes expenditure to augment transmission networks to provide extra capacity in order to maintain a consistent and reliable supply of electricity for consumers.

Capex is one component of the building block model that the AER uses to make a determination on the revenue that a transmission business needs to cover its efficient costs while providing for a commercial return to the business. At the beginning of a regulatory control period, the AER sets an efficient ex-ante capex allowance for each TNSP. This capex allowance is intended to cover a TNSP's expected infrastructure investments, including augmentation of the network, replacement of aging or redundant assets and investment in business support systems.
TNSPs determine which capital investment projects they will undertake within this allowance, subject to service standards requirements. The objective of the ex-ante allowance is to provide certainty and a strong incentive for efficient investment.

The AER sets capex targets for each TNSP at the time of its revenue determination. In its revenue proposal, TNSPs are required to propose a forecast capex that aims to achieve the capex objectives of:[18]

- meeting the expected demand for prescribed transmission services over that period
- complying with all applicable regulatory obligations associated with the provision of prescribed transmission services
- maintaining the quality, reliability, safety and security of prescribed transmission services and in turn the transmission system.

TNSPs that spend less than the allowance set by the AER retain the benefit of that lower expenditure (both the return on and return of capital) for the remainder of the regulatory control period. Conversely, TNSPs exceeding the allowance forgo any return on or return of capital for the remainder of the regulatory control period.

This chapter discusses TNSPs' capex performance in 2009-10, including comparisons to previous years. Murraylink and Directlink have been excluded from the aggregate capex measures as they do not have any capex forecast during their current regulatory periods.

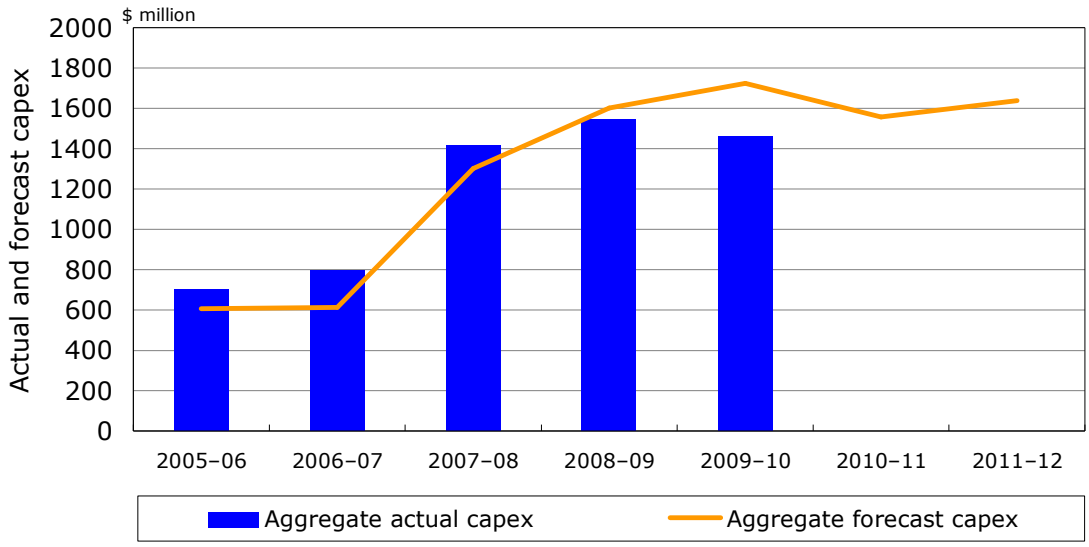
[18] Rule 6.A.6.7(a), NER.

5.2 Capex in 2009-10 and recent years

Capital expenditure (capex) for the TNSPs have been generally increasing over time, with a noticeable increase in expenditure in 2007-08. The aggregate actual and forecast capex for the TNSPs from 2005-06 to 2011-12 is provided in Figure 5.1. From 2005-06 to 2007-08, the TNSPs' aggregate actual capex has been above forecast capex. From 2008-09 to 2009-10, forecast capex has been in line with actual capex.

Appendix B details forecast and actual capex for each TNSP in nominal dollars.

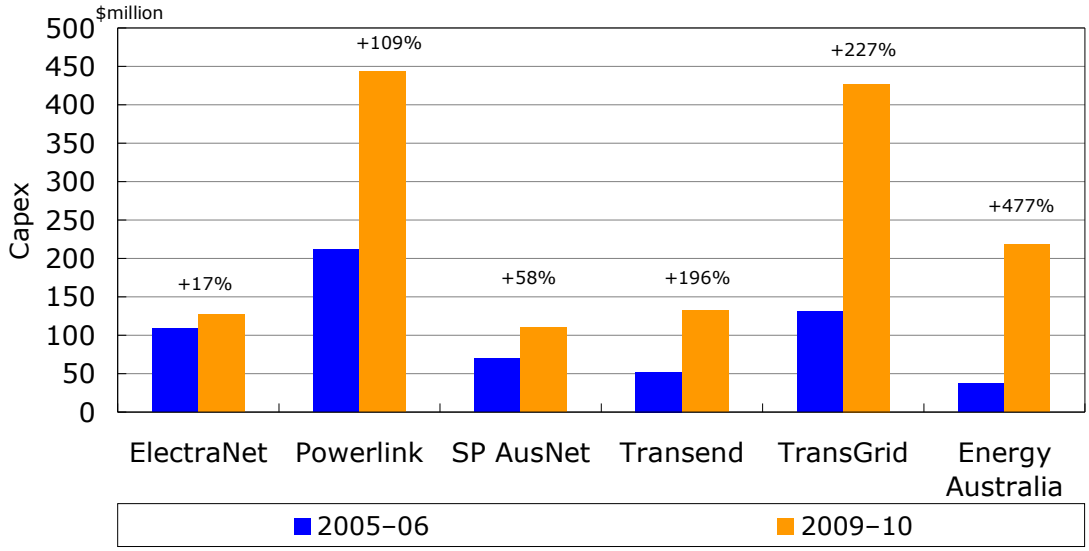
Figure 5.1 TNSPs' aggregate actual and forecast capex, 2005-06 to 2011-12



Source: AER calculations based on TNSP regulatory reports

Figure 5.2 compares capex across TNSPs between 2005-06 and 2009-10. Overall, capex has increased over time in line with increasing demand and network expansion. SP AusNet experienced an increase of only nine per cent in the five year period. In contrast over the same period, EnergyAustralia experienced a 477 per cent increase The other TNSPs each experienced increases ranging from approximately 17 per cent to 227 per cent in the five year period to 2009-10.

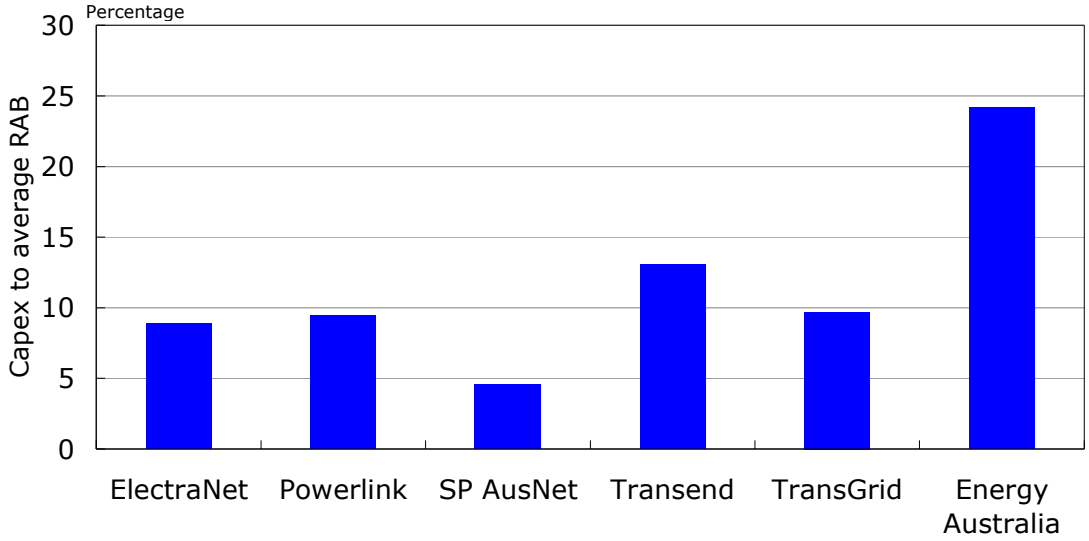
Figure 5.2 Individual TNSP capex comparison between 2005-06 and 2009-10 ($ nominal)



Source: AER calculations based on TNSP regulatory reports

Figure 5.3 shows TNSPs' capex as a percentage of average RAB in 2009-10. EnergyAustralia's capex in 2009-10 was approximately 24.2 per cent of average RAB. In contrast, SP AusNet's was under five per cent. The other TNSPs experienced ratios between eight per cent and 13 per cent.

Figure 5.3 TNSP capex to average RAB ratio, 2009-10, per cent



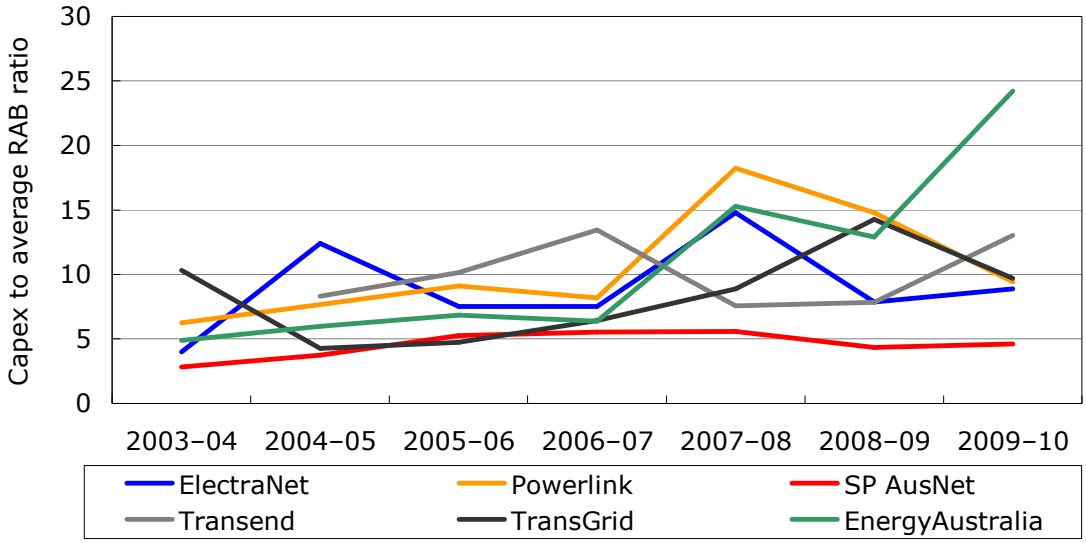
Source: AER calculations based on TNSP regulatory reports

5.2.2 Capital expenditure and the RAB

Figure 5.4 shows the capex to average RAB ratio for TNSPs from 2003-04 to 2009-10. EnergyAustralia has experienced significant increases in its capex to average RAB ratio from 6.4 per cent in 2006-07 to 24.2 per cent in 2009-10, the highest of the TNSPs. This has been due to its capex increasing substantially over that period whilst its average RAB has remained relatively steady.

SP AusNet's capex to average RAB ratio has been the lowest of the TNSPs, at 4.6 per cent in 2009-10. This reflects capex and average RAB increasing at a proportionate rate over the period.

Figure 5.4 Capex to average RAB ratio from 2003-04 to 2009-10



Source: AER calculations based on TNSP regulatory reports

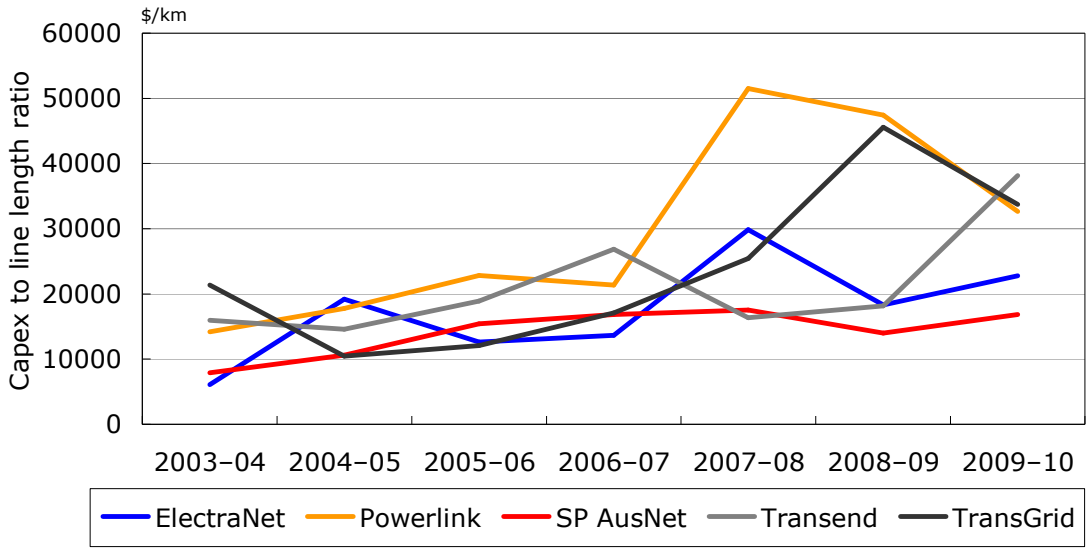
5.2.3 Capital expenditure and line length

Figure 5.5 shows capex to line length ratios for TNSPs from 2003-04 to 2009-10. EnergyAustralia has been excluded for comparison purposes, however its capex to line length ratio is discussed further in Appendix C.

Figure 5.5 demonstrates that the five TNSPs' capex to line length ratio were broadly in line with each other until 2006-07. Powerlink, TransGrid and Transend experienced significant increases in their capex in 2007-08, 2008-09 and 2009-10 respectively, whilst their line lengths remained steady. This translated to significant increases in their capex to line length ratios in those respective years.

SP AusNet's capex to line length ratio has been below $20,000 per kilometre from 2003-04 to 2009-10. In 2007-08 and 2008-09, Powerlink had the highest capex to line length ratio of the TNSPs. However in 2009-10, Transend's capex to line length ratio reached $38,138 per kilometre, compared to SP AusNet at the lower end of the capex to line length ratio at $16,832 per kilometre.

Figure 5.5 Capex to line length ratios from 2003-04 to 2009-10



Source: AER calculations based on TNSP regulatory reports

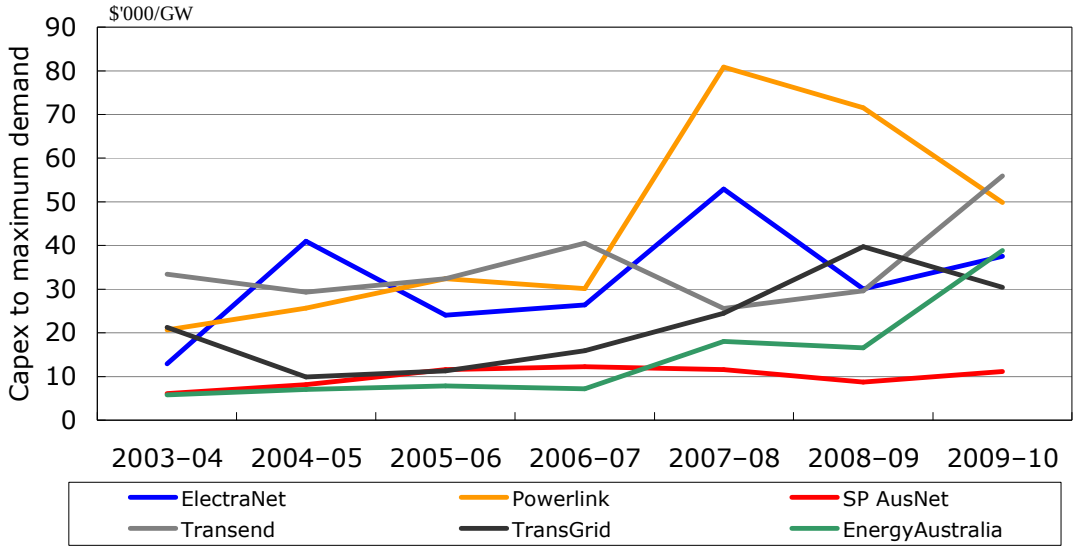
5.2.4 Capital expenditure and maximum demand

Networks must maintain a level of maximum capacity above maximum demand so as to avoid system outages during peak periods. As such, capex is often incurred to upgrade networks in anticipation of increased future maximum demand.

Figure 5.6 presents capex as a proportion of maximum demand. The significant increase in the 2007-08 ratio for Powerlink arose from a reduction in their maximum demand that coincided with a significant increase in capex.

SP AusNet has consistently incurred low capex per gigawatt (GW) of maximum demand. In 2009-10, SP AusNet incurred the lowest at $11,188 per gigawatt, compared to Transgrid, the highest at $68,639 per gigawatt.

Figure 5.6 Capex per GW of maximum demand from 2003-04 to 2009-10 ($'000/GW)



Source: AER calculations based on TNSP regulatory reports

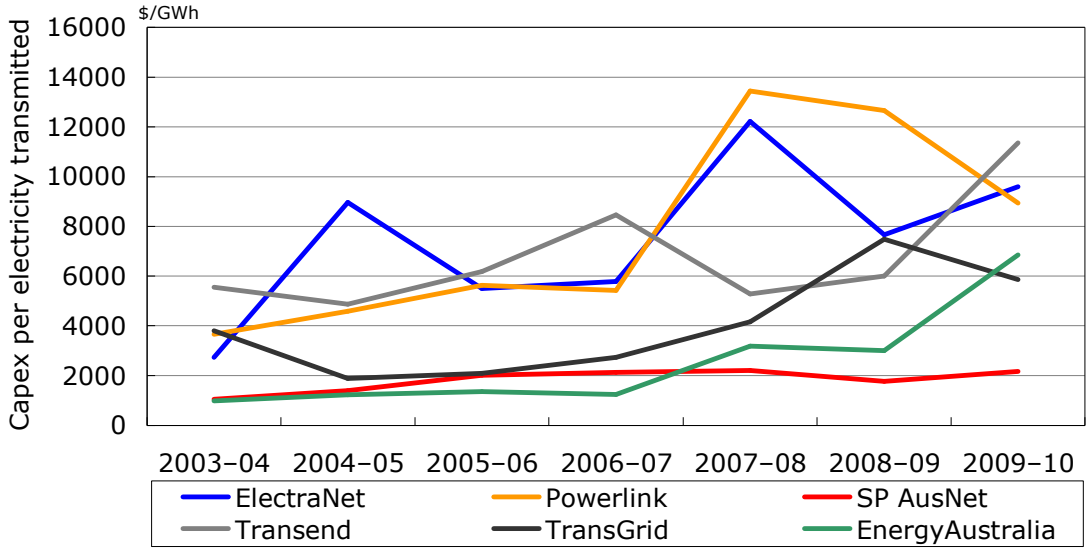
5.2.5 Capital expenditure and electricity transmitted

Figure 5.7 illustrates the capital cost of each unit of electricity transmitted across the TNSPs from 2003-04 to 2009-10.

In 2009-10, Transend's capex to electricity transmitted ratio was the highest, at $11,348 per GWh, compared to SP AusNet's at the lower end of the capex to electricity transmitted ratio at $2,166 per GWh.

Transend's electricity transmitted has remained relatively steady from 2003-04 to 2008-09. However, its capex nearly doubled from 2008-09 to 2009-10, increasing its capex to electricity transmitted to $11,348 per GWh, the highest of the TNSPs.

Figure 5.7 Capex per GWh of electricity transmitted from 2003-04 to 2009-10 ($/GWh)



Source: AER calculations based on TNSP regulatory reports

5.3 Main capex cost drivers

In this section, a variety of capex indicators are used to assess the TNSPs' performance in 2009-10.

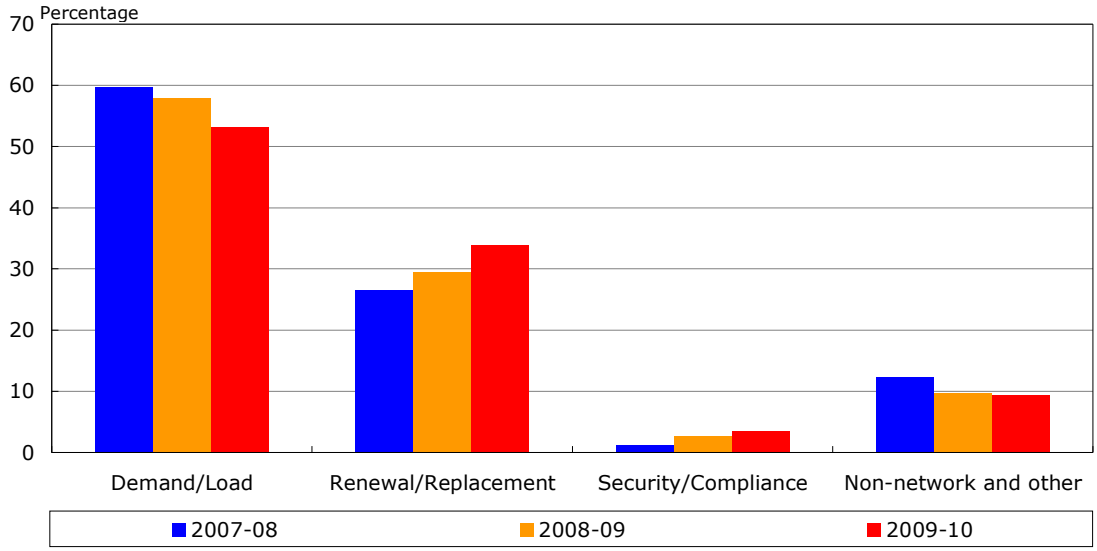
TNSPs typically undertake capex for three main reasons:

- the replacement or renewal of aging assets
- the upgrade or augmentation of the network to cope with increased demand and load
- to meet legal, environmental and statutory obligations.

Figure 5.8 illustrates the reasons given by TNSPs for undertaking capex in 2009-10.

The primary driver for capex in 2009-10 continues to be expenditure to meet increased demand and load on transmission networks, accounting for about half of aggregate capex. In 2009-10, renewal and replacement of network assets capex increased, accounting for approximately 34 per cent. Security and compliance capex requirements were minimal.

Figure 5.8 Aggregate capex by cost drivers for TNSPs, 2007-08 to 2009-10



Source: AER calculations based on TNSP regulatory reports

Notes: No data is available for SP AusNet and ElectraNet for 2007-08.

6 Operating Expenditure

6.1 Introduction

A transmission network consists of towers and the wires that run between them, underground cables, transformers, switching equipment, reactive power devices, and monitoring and telecommunications equipment. TNSPs incur operating and maintenance expenditure (opex) costs in maintaining the functionality of the transmission network in order to adequately provide transmission services. Opex typically includes wages and salaries, transmission asset maintenance costs, service contract expenses paid to third parties and other input costs related to the provision of prescribed transmission services.

Opex is one component of the building block model that the AER makes a determination on the revenue that a transmission business needs to cover its efficient costs while providing for a commercial return to the business. The AER forecasts the amount of opex necessary for each TNSP to operate at an efficient level based on its network requirements. These vary due to different load densities, scale and condition of networks, service reliability and geographical requirements.

The AER also operates an efficiency benefits sharing scheme to provide TNSPs with an incentive to achieve an efficient level of opex in running their networks. This is done by allowing TNSPs to retain a proportion of any opex efficiency gains (losses) made against a benchmark opex target.[19]

This chapter discusses the TNSPs' opex performance for 2009-10, including comparisons to previous years. The interconnectors, Directlink and Murraylink are excluded from the analysis as they require very little opex to function relative to the other TNSPs and do not provide useful comparisons. EnergyAustralia has been excluded from the analysis in sections 6.2.3 and 6.3.1 because its data was not suitable for comparison with the other TNSPs. More detailed analysis of the TNSPs and interconnectors is set out in Appendix A.3.

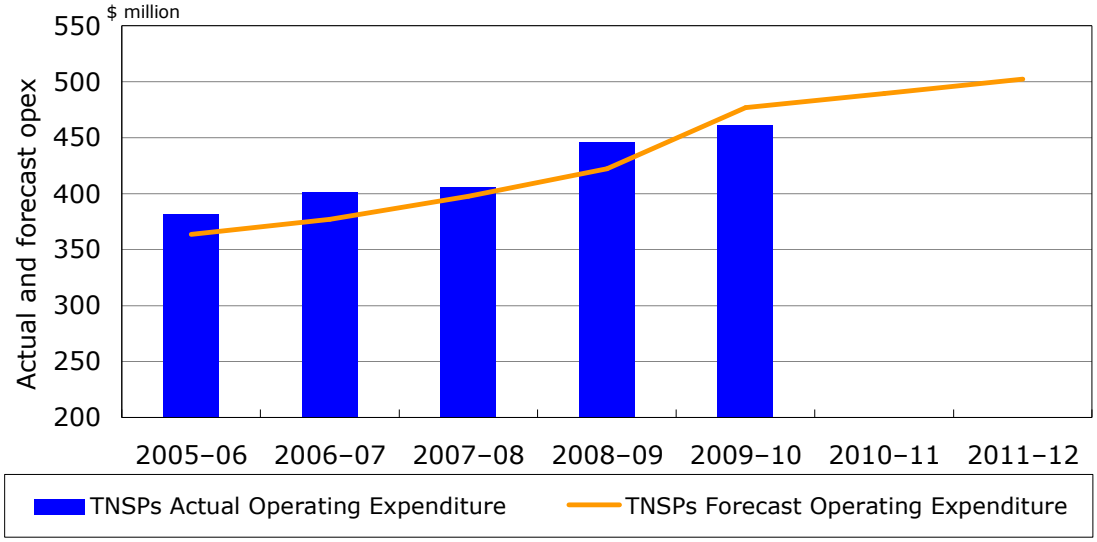
6.2 Opex in 2009-10 and recent years

Opex for the TNSPs has been generally increasing over time. The aggregate actual and forecast opex for the six TNSPs from 2005-06 to 2011-12 is provided in Figure 6.1. From 2005-06, the TNSPs' aggregate actual opex has moved broadly in line with forecast opex, though forecast opex has been below actual opex for each of the past five years.

Appendix D further details forecast and actual opex for each TNSP in nominal dollars.

[19] Under this incentive scheme, the businesses retain around 30 per cent of efficiency gains or losses against the benchmark, and pass on the remaining 70 per cent to customers through price adjustments. TNSPs can retain efficiency gains (or bear the cost of any efficiency losses) for five years after the gain (loss) is made

Figure 6.1 TNSPs' aggregate actual and forecast opex, 2005-06 to 2011-12

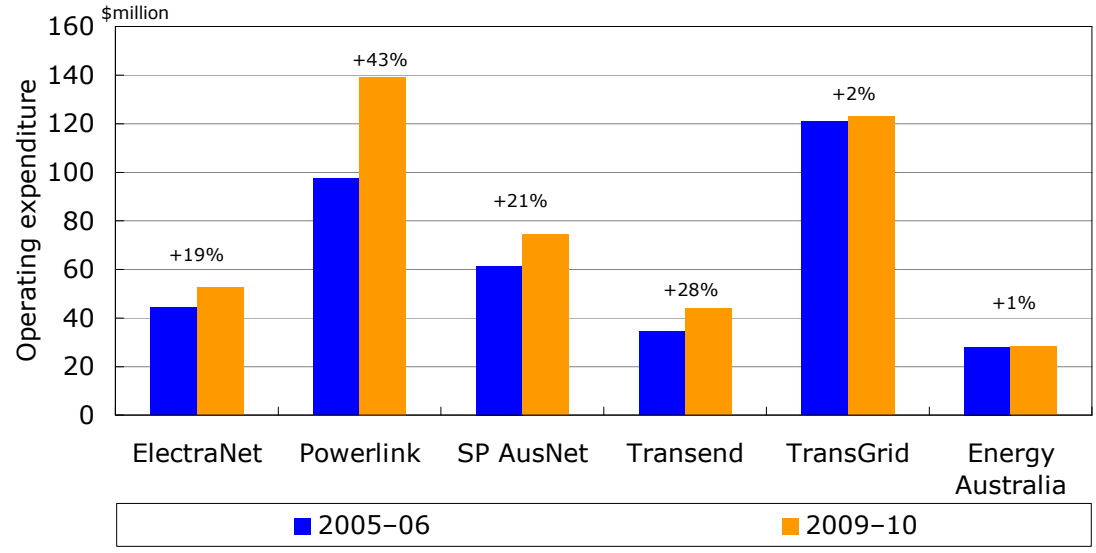


Source: AER calculations based on TNSP regulatory reports

Figure 6.2 compares opex across TNSPs between 2005-06 and 2009-10.

Overall, opex costs have risen over time in line with increasing demand and increased input costs. Powerlink and EnergyAustralia experienced increases of nearly 50 per cent in the five year period to 2009-10. In contrast over the same period, the other TNSPs each experienced increases of roughly 20 per cent, with the exception of TransGrid.

Figure 6.2 TNSP opex comparison between 2005-06 and 2009-10 ($ nominal)



Source: AER calculations based on TNSP regulatory reports

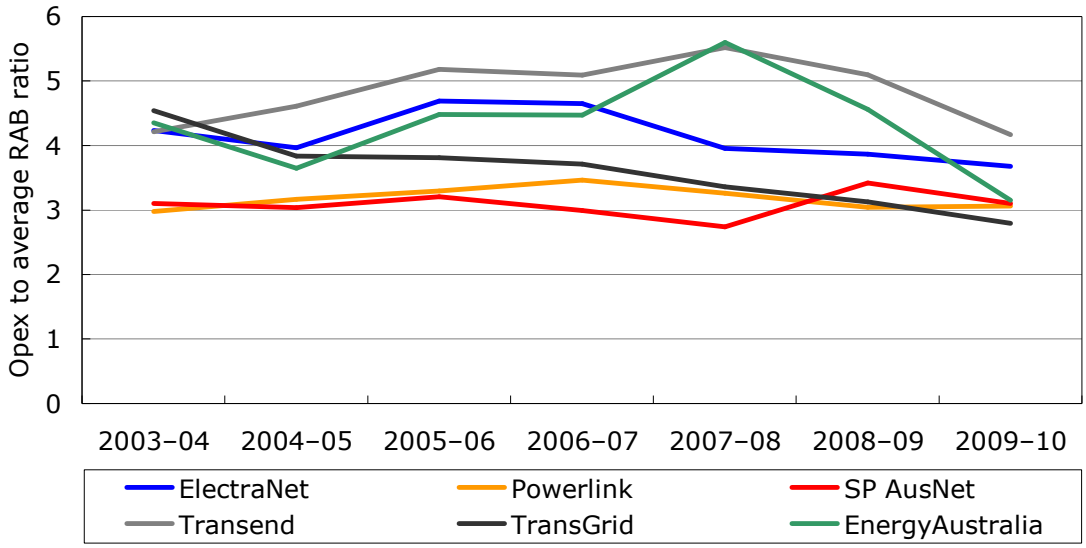
6.2.2 Operating expenditure and the RAB

Figure 6.3 shows the ratio of opex to average RAB for the TNSPs from 2003-04 to 2009-10. The indicative trend is for the opex to average RAB ratio to be

lower when the asset base is larger. In other words, the larger TNSPs generally exhibit lower opex to average RAB ratios due to the economies of scale available to larger businesses. In Figure 6.3, Powerlink, SP AusNet's and TransGrid's opex to average RAB ratios are lower than Transend and ElectraNet's opex to average RAB ratios.

Though Transend's opex to average RAB relationship has been higher than the other TNSPs, from 2008-09, Transend's opex to average RAB ratio has decreased as its opex remained constant and average RAB increased significantly. In 2009-10, Transend's opex to average RAB ratio was in line with the other TNSPs.

Figure 6.3 Ratio of opex to average RAB



Source: AER calculations based on TNSP regulatory reports

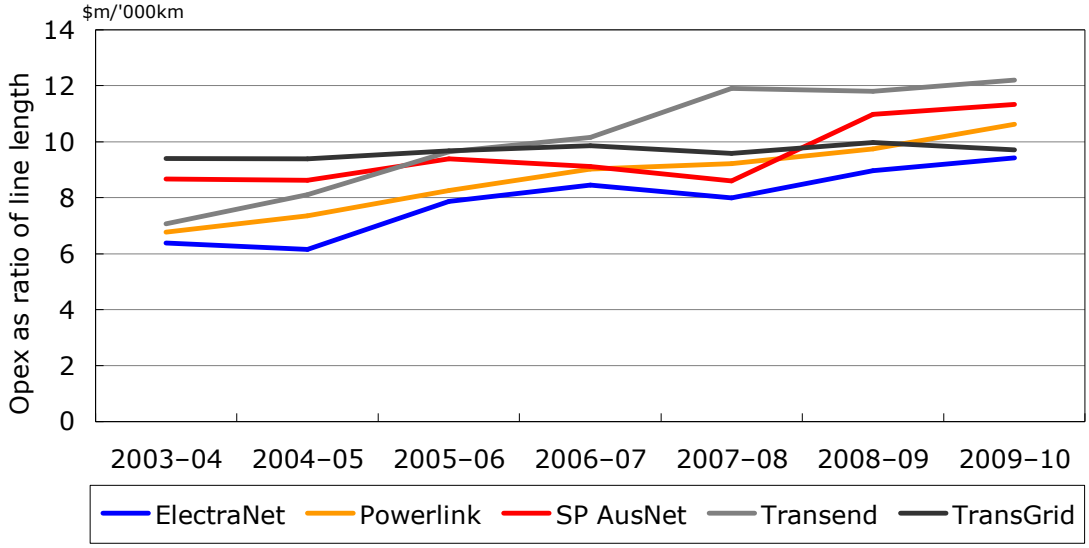
6.2.3 Operating expenditure and line length

Figure 6.4 shows opex to line length ratios for five of the six TNSPs from 2003-04 to 2009-10. EnergyAustralia has been excluded from Figure 6.4 for comparison purposes.[20]

Figure 6.4 demonstrates that the five TNSPs' opex to line length ratio all move together closely, and is indicative of the level of opex required by the industry at large to maintain a given length of transmission circuit line. Transend's opex to line length ratio is higher than the other TNSPs, reflective of their opex almost doubling in the period while their line length has remained steady.

[20] EnergyAustralia has a high opex to line length ratio and is excluded from the comparison in this section but is discussed in Appendix C.

Figure 6.4 Opex to line length ratios for TNSPs from 2003-04 to 2009-10



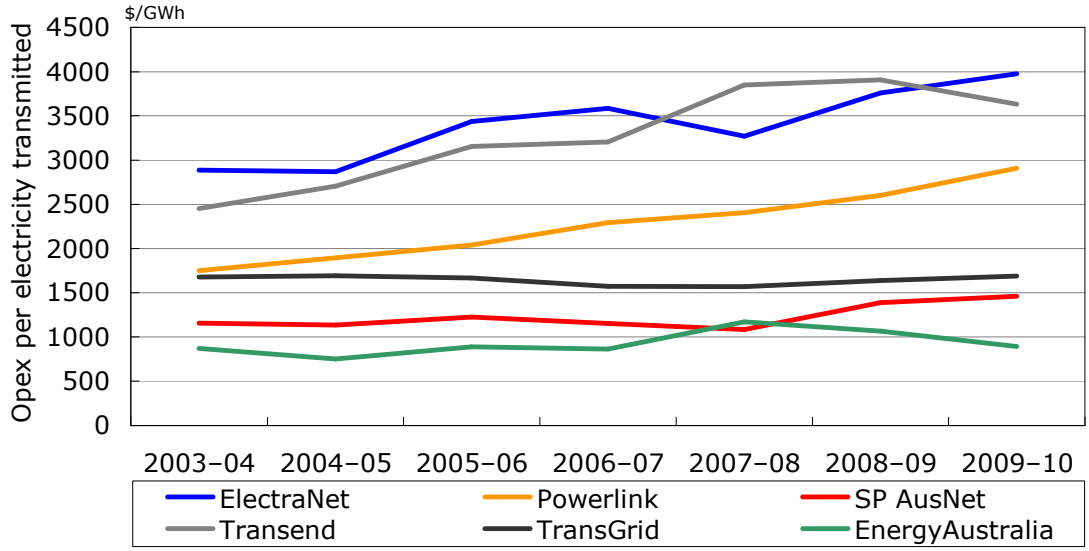
Source: AER calculations based on TNSP regulatory reports

6.2.4 Operating expenditure and electricity transmitted

Figure 6.5 illustrates the operating cost of each unit of electricity transmitted across the TNSPs from 2003-04 to 2009-10. In 2009-10, ElectraNet's opex to electricity transmitted ratio was the highest, at $3,979/GWh, compared to EnergyAustralia at the lower end of the opex to electricity transmitted ratio at $708/GWh.

The larger TNSPs have a lower opex to electricity transmitted ratio. This is consistent with analysis in section 6.2.2, that larger TNSPs are able to take advantage of economies of scale to reduce their opex relative to smaller TNSPs.

Figure 6.5 Opex per GWh of electricity transmitted from 2003-04 to 2009-10 ($/GWh)



6.3 Main opex cost drivers

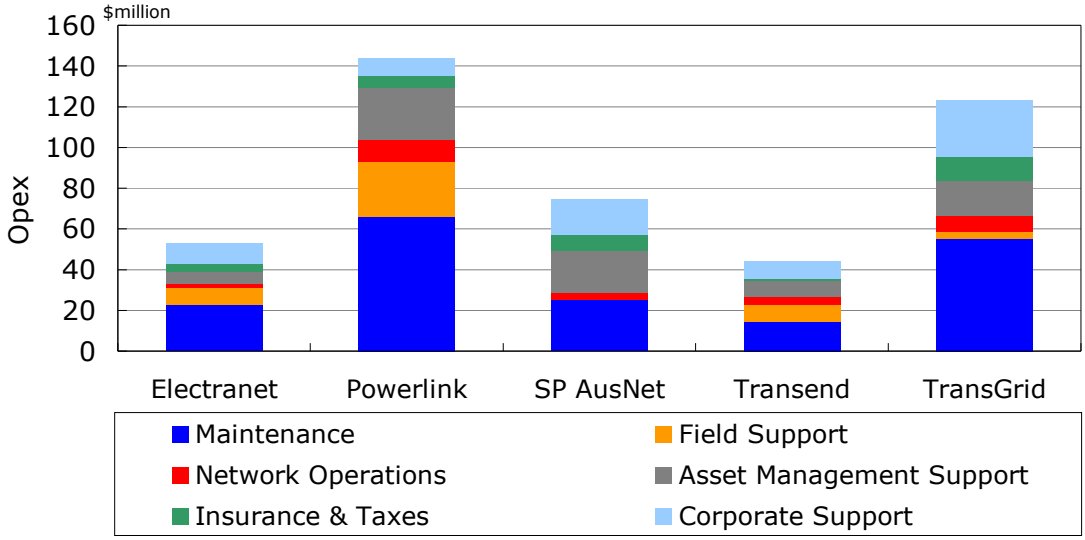
In this section, a variety of opex indicators are used to assess the TNSPs' performance in 2009-10. EnergyAustralia is excluded because disaggregated opex data was not available.[21] Information for the interconnectors, Directlink and Murraylink is included in Appendix E.

6.3.1 TNSPs main opex cost drivers

Figure 6.6 provides a breakdown of the main opex cost drivers for five of the six TNSPs for 2009-10. Figure 6.7 shows those cost drivers as a percentage of total opex.

In 2009-10, expenditure on maintenance was the largest component of opex across all TNSPs, ranging from 34 per cent to 46 per cent of total opex. SP AusNet's asset management support is substantially higher than the other TNSPs at 28 per cent of total opex. Other drivers of expenditure vary between each TNSP.

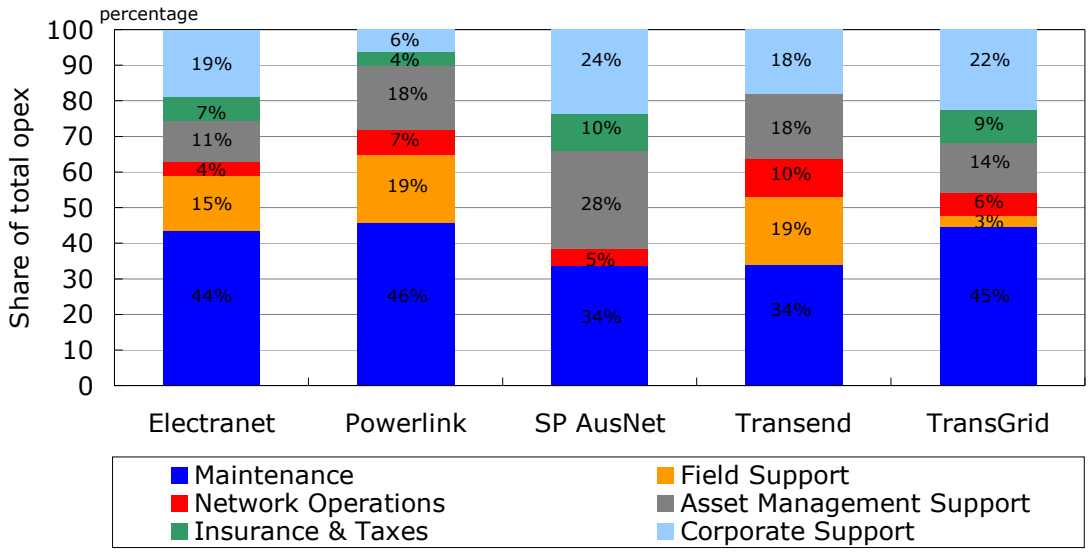
Figure 6.6 TNSP's opex drivers, 2009-10



Source: AER calculations based on TNSP regulatory reports

[21] Disaggregated opex data for EnergyAustralia was not available because EnergyAustralia operates predominantly as a distribution network service provider and reports on its transmission services on that basis. See EnergyAustralia, *Transmission Accounts*, 2010.

Figure 6.7 TNSP's opex drivers by percentage share of total opex, 2009-10



Source: AER calculations based on TNSP regulatory reports

Notes: Percentages may not add to 100 per cent due to rounding.
Data for the six cost driver categories have been compiled using TNSPs' regulatory financial statements.

7 Service standards

7.1 Introduction

This chapter outlines the performance of TNSPs and interconnectors in 2009-10 with respect to the service standards performance regime.

The service standards performance regime operates by providing financial incentives for TNSPs and interconnectors to meet predefined service performance targets. The regime is implemented through service standards incentive schemes and operates in conjunction with the efficiency Benefit sharing scheme (EBSS) and other capex arrangements to support the revenue cap regulatory framework.

7.2 Background

In 2003, the Australian Competition and Consumer Commission (ACCC) was responsible for the regulation of transmission revenues in the NEM. The ACCC exercised its transmission regulatory duties under the Statement of regulatory principles, applying a service standards incentive scheme under the ACCC *Service standards guidelines (guidelines).*[22] This scheme applied to all TNSPs and interconnectors.

On 1 July 2005, the AER assumed the ACCC's responsibilities for the regulation of transmission revenues in the NEM. The AER continued to apply the ACCC guidelines until a new AER scheme was created.

In January 2007, the AER published its first service target performance incentive scheme (STPIS) for TNSPs and interconnectors.[23] This scheme was to apply to TNSPs and interconnectors whose regulatory control periods commenced on or after April 2008. In 2008, the TNSPs that this scheme applied to were SP AusNet, ElectraNet and AEMO.

In March 2008, the AER published its final decision on the STPIS version 2.[24] This scheme was to apply to TNSPs and interconnectors whose regulatory control periods commenced on or after June 2009. In 2009, the TNSPs that this scheme applied to were Transend and TransGrid.

STPIS version 2 incorporated a market impact of transmission congestion parameter, also known as the market impact parameter (MIP), which targets outages that have an adverse impact on generator dispatch outcomes. This scheme incorporated the MIP based on historical data and provides financial rewards for improvements in performance against the target.

22 ACCC, *Service standards guidelines*, 12 November 2003

23 AER, *First proposed electricity transmission network service providers - service target performance incentive scheme*, January 2007.

24 AER, *Electricity transmission network services providers - servicer target performance incentive scheme (incorporating incentives based on the market impact of transmission congestion)*, March 2008

Transend was specifically excluded from the MIP analysis due to a lack of sufficient data.[25]

Powerlink is currently operating under the scheme imposed by the ACCC guidelines. However, due to recent changes in the NER, Powerlink was able to apply for early adoption of the MIP. The AER approved Powerlink's early implementation of the MIP from 13 July 2010.[26]

ElectraNet is currently operating under the AER's first proposed STPIS. ElectraNet too sought early adoption of the MIP on 1 October 2010. The AER approved ElectraNet's early implementation of the MIP from 1 January 2011.[27]

SP AusNet is currently operating under the AER's first proposed STPIS. SP AusNet applied for early adoption of the MIP with an implementation date of 1 August 2011. The application is under consideration.[28]

EnergyAustralia was operating under the ACCC guidelines until the end of their regulatory period in 2009. EnergyAustralia (Ausgrid) is now subject to the distribution service standards performance scheme.

Table 7.1 provides an overview of the three service standards incentive schemes that apply to TNSPs and interconnectors. The date of application of the MIP to each TNSP is also identified.

25 Ibid.

26

27 AER, *Early application of the market impact component of the service target performance incentive scheme for ElectraNet - Performance Target*, December 2010.

28 www.aer.gov.au/content/index.phtml/itemId/744990

Table 7.1 TNSP and interconnectors' service standards incentives schemes

TNSP	Version of scheme currently applied	Current regulatory period	MIP to apply from
ElectraNet (SA)	AER first proposed STPIS, Jan 2007	1 Jul 08-30 Jun 13	1 Jan 2011
Powerlink (Qld)	ACCC Service standard guidelines Decision, 12 Nov 2003	1 Jul 07 -30 Jun 12	13 Jul 2010
SP AusNet (Vic)	AER first proposed STPIS, Jan 2007	1 Apr 08-30 Mar 14	1 Apr 2015
Transend (Tas)	AER STPIS v2, Mar 2008	1 Jul 09-30 Jun 14	n/a
TransGrid (NSW)	AER STPIS v2, March 2008	1 Jul 09-30 Jun 14	1 Jul 2009
EnergyAustralia (NSW)	No longer part of the regime	1 Jul 09-30 Jun 14	n/a
Interconnectors			
Directlink (Qld-NSW)	ACCC Service Standards Guidelines Decision, 12 Nov 2003	1 Jul 05-30 Jun 15	1 Jul 2016
Murraylink (Vic - SA)	ACCC Service Standards Guidelines Decision, 12 Nov 2003	1 Oct 03-30 Jun 13	1 Jul 2014

7.3 Service standards performance regime

The AER's objectives in setting service standards incentives schemes within the transmission determination framework are to:

- contribute to the national electricity objective
- be consistent with the principles in the NER
- promote transparency in the information provided by a TNSP or interconnector and AER decisions
- promote efficient TNSP and interconnector capex and opex by balancing the incentive to reduce actual expenditure with the need to maintain and improve reliability for customers and minimise the market impact of transmission congestion.

The service standards performance regime is forward looking and uses targets based on historical performance to assess a TNSP's performance within a regulatory control period. The AER also takes into account the impact of planned capex on performance. Each TNSP and interconnector's service performance is compared to their individual targets during the relevant regulatory control period. Service performance exceeding the targets results in a financial bonus, while performance which fails to reach the targets results in a financial penalty. A TNSP or interconnector's maximum allowed revenue (MAR) is then adjusted by including the financial incentive. Therefore, the service standard performance regime provides TNSPs and

interconnectors with a financial incentive to improve service performance, and a deterrence against poor performance. There are three core performance parameters applying to TNSPs and interconnectors:

- transmission circuit availability
- loss of supply event frequency
- average outage duration.

The performance targets are set in each revenue determination decision and are constant for the entire regulatory control period. Performance targets and the weighting of performance parameters are based on factors unique to each TNSP and interconnector and therefore, vary between individual TNSPs and interconnectors.

The financial incentive is calculated using the formula set out in the service standards incentives schemes and in each TNSP and interconnector's revenue determination decision. This formula applies a weighting to each performance parameter. The financial incentive for parameters other than the MIP has been limited to one per cent of each TNSP and interconnector's MAR for the relevant calendar year. The financial incentive for the MIP has been set at two per cent.

7.3.1 Implementation of the service standards performance regime

The service standards performance regime for 2009 and 2010 was implemented through the TNSPs revenue determinations set under clause 6.2.4(b) of the NER. In setting a revenue determination, clause 6.2.4(c) requires the AER to take into account the TNSP or interconnector's revenue requirement, with regard to, amongst other things, the service standards applicable to the TNSP or interconnector.

The service standards performance regime measures performance based on calendar years. This results in a four to six month lag between the time at which the service standards performance is measured at the end of the calendar year and the time at which the financial incentive is adjusted from the MAR at the beginning of the next regulatory year.[29] This allows sufficient time for the data submitted by TNSPs to be audited and the resultant financial incentive to be included in the following financial year's MAR.

7.3.2 Exclusions

To maintain the integrity of performance incentives, the services standards incentives schemes permit TNSPs and interconnectors to exclude certain categories of events. The nature and number of excludable events differ between TNSPs and interconnectors. Exclusions are generally granted for events caused by third parties and force majeure events. Each TNSP and interconnector also has company specific exclusions which are generally expansions of the third party exclusion. All TNSPs and interconnectors are permitted to exclude these events from their performance calculations provided that the AER is satisfied that each event satisfies the appropriate definition.

[29] SP AusNet has regulatory years beginning in April rather than July.

When considering the classification of an event as being force majeure, the AER will consider the following:

- was it foreseeable and its impact extraordinary, uncontrollable and not manageable
- does this event occur frequently and if so how did the impact of the particular event differ
- could the TNSP or interconnector, in practice, have prevented the impact of the event though not necessarily the event itself
- could the TNSP or interconnector have effectively reduced the impact of the event by adopting better practices.

7.3.3 Annual compliance review

TNSPs and interconnectors are required under their revenue determinations and the service standards performance regime to report their service standards performance each year to the AER. The AER reviews each report to ensure that the reporting of performance, treatment of exclusions and proposed financial incentives comply with the service standards reporting regime and their respective revenue determination decisions. At the conclusion of the review process, the AER notifies the TNSPs and interconnectors of their performance outcomes and subsequent financial incentive for that year.

7.4 2009-10 performance report and service standards

Table 7.2 shows the s-factors used to calculate the financial incentives the TNSPs and interconnectors were subject to under the service standards performance regime from 2006 to 2010. Table 7.3 summarises the annual financial outcome for the TNSPs and interconnectors under the service standards performance regime.

Table 7.3 demonstrates the varied financial outcomes for the TNSPs under the service standards performance regime. In 2010, Powerlink and TransGrid received financial benefits of approximately $11.34 million and $8.56 million respectively, whilst in contrast, Directlink incurred a penalty of approximately $0.13 million. Powerlink and TransGrid's bonuses were largely a result of their MIP performance.

Table 7.2 S-factors values (%) for TNSPs and interconnectors

TNSP	2006	2007	2008	2009	2010
ElectraNet (SA)	0.59	0.28	0.29 | -0.40	0.60	0.00
Powerlink (Qld)	-	0.82	0.53	0.17	2.62
SP AusNet (Vic)	-0.29	0.06	0.15 | 0.82	0.51	0.58
Transend (Tas)	0.06	0.56	0.85	0.88 | 0.11	0.35
TransGrid (NSW)	0.63	0.12	0.31	0.22 | 0.11	1.21
EnergyAustralia (NSW)	0.39	-0.14	0.72	0.37	-
Interconnectors					
Directlink (Qld-NSW)	-0.54	-0.62	-1.00 | 0.00	-0.98 | 0.00	-1.00
Murraylink (Vic-SA)	0.21	-0.32	0.69 | 0.00	0.87 | 0.00	1.00

Source: AER's service standards compliance reviews for each TNSP and interconnector from 2006 to 2010, www.aer.gov.au/content/index.phtml/itemId/660322.

Notes: SP AusNet reported separately for the first quarter of 2008 and the remainder of that year. In 2008 SP AusNet transitioned to a new regulatory control period, with the financial incentive capped at +1 per cent of its MAR. Its financial incentive in previous regulatory control periods was capped at +0.5 per cent.
ElectraNet reported separately for the first and second halves of 2008.
TransGrid and Transend reported separately for the first and second halves of 2009.
EnergyAustralia data for 2009 is for the six months to June.

Table 7.3 Financial outcome ($) for TNSPs and interconnectors

TNSP	2006	2007	2008	2009	2010
ElectraNet (SA)	1,028,373	504,036	269,381 | 459,980	1,438,880	0
Powerlink (Qld)	-	2,197,214	3,034,846	1,050,642	11,339,054
SP AusNet (Vic)	-871,150	195,438	116,715 | 2,793,998	2,408,852	2,845,653
Transend (Tas)	73,499	707,604	1,151,240	617,796 | 95,688	648,863
TransGrid (NSW)	2,956,432	575,067	1,711,790	628,016 | 371,256	8,562,674
EnergyAustralia (NSW)	400,564	-149,871	900,477	252,182	-
Interconnectors					
Directlink (Qld-NSW)	-49,673	-74,928	-122,462	122,128	-126,561
Murraylink (Vic-SA)	26,762	-40,449	89,887	116,003	135,786

Source: AER's service standards compliance reviews for each TNSP and interconnector from 2006 to 2010, www.aer.gov.au/content/index.phtml/itemId/660322.

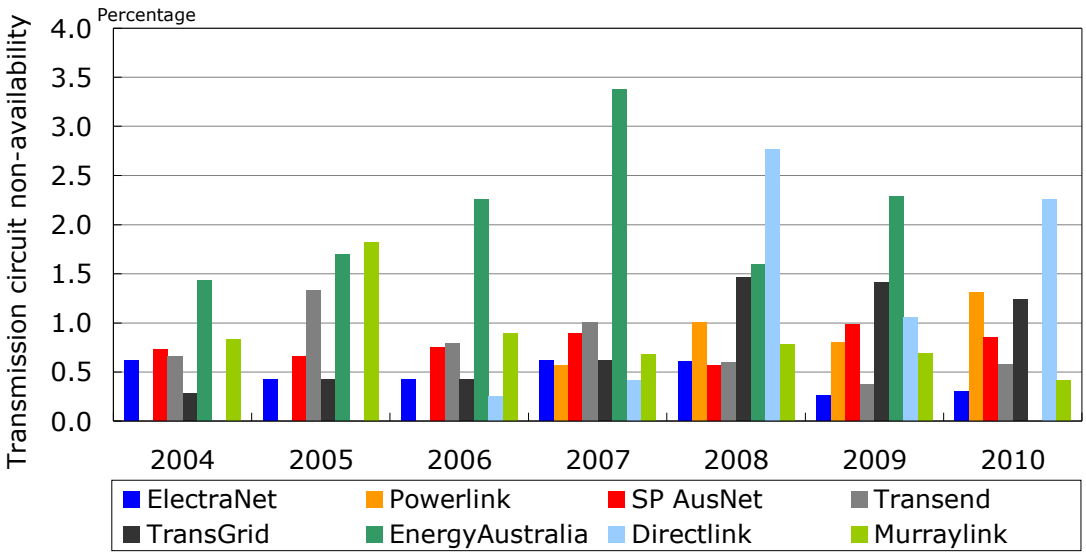
7.4.2 Non-availability of circuit

One measure of service standards which is relatively consistent across the TNSPs and interconnectors is availability of transmission circuit.

Figure 7.1 provides a comparison of circuit non-availability across all TNSPs and interconnectors for the past seven years. Given that each TNSP and interconnector has its own performance targets, a comparatively lower transmission circuit non-availability percentage does not always translate to financial incentives. In addition, this measure may be only one of many performance measures for a TNSP or interconnector and is not indicative of total service standard performance.

From 2008, Powerlink, TransGrid and Directlink have experienced the largest increases in circuit non-availability. TransGrid has advised that the increase in circuit non-availability can be explained by a large capital works program, which included a rebuild of a transmission line between Yass and Wagga Wagga and the replacement of wood poles due to condition. The remaining TNSPs have either remained steady or experienced slight decreases compared to previous years, suggesting an improvement in service standards.

Figure 7.1 Non-availability of transmission circuits



Source: AER's service standards compliance reviews for each TNSP and interconnector from 2006 to 2010, www.aer.gov.au/content/index.phtml/itemId/660322.

Notes: All data is for performance with exclusions.
No data is available for Directlink from 2004 to 05 or Powerlink from 2004 to 2006.
No data is available for EnergyAustralia for 2010 as they are no longer apart of the service standards performance regime.
Powerlink data is from the parameter 'total non-availability of critical transmission circuits'.
Directlink data is from the parameter 'total scheduled non-availability of transmission circuits.
Murraylink data is from the parameter 'total planned non-availability of transmission circuit energy'.

All other TNSPs' data is from the parameter 'total non-availability of transmission circuits'.
For TNSPs with two reporting periods in the same calendar year, the data from the earlier period was used.

7.5 TNSP's individual service standards performance

Detailed summaries of each TNSP's service standard performance for 2009 and 2010 are provided below.

7.5.1 ElectraNet

ElectraNet's annual performance report for 2009 reported an s-factor of 0.60 per cent resulting in a financial bonus of approximately $1.44 million in 2010-11.

ElectraNet's annual performance report for 2010 reported an s-factor of zero resulting in no financial incentive in 2011-12.

7.5.1.1 Performance measures

The performance measures applying to ElectraNet under its current revenue determination decision are:

- total transmission circuit availability
- critical transmission circuit – peak
- critical transmission circuit – non-peak
- loss of supply event frequency (events > 0.05 system minutes)
- loss of supply event frequency (events > 0.2 system minutes)
- average outage duration (minutes).

The MIP was added to this list of measures and applied from 1 January 2011

Table 7.4 shows ElectraNet's performance against these measures and the resulting financial incentives outcomes for 2009 and 2010.

Table 7.4 Measures, results and incentives for ElectraNet, 2009 and 2010

ElectraNet		2009		2010	
Parameter	**Target**	**Performance**	**s-factor (%)**	**Performance**	**s-factor (%)**
Total transmission circuit availability (%)	99.47	99.74	0.30	99.69	0.30
Critical circuit availability - peak (%)	99.24	99.82	0.20	99.75	0.20
Critical circuit availability - non-peak (%)	99.62	-	0.00	99.49	0.00
Loss of supply event frequency (>0.05 system minutes)	8	3	0.10	11	-0.10
Loss of supply event frequency (>0.2 system minutes)	4	2	0.20	6	-0.20
Average outage duration (minutes)	78	161	-0.20	130	-0.20
Market impact parameter					
Net s-factor (%)			**0.60**		**0.00**
Net financial incentive ($m)			**1.44**		**0**

Source: AER's service standards compliance reviews for ElectraNet for 2009 and 2010, www.aer.gov.au/content/index.phtml/itemId/737266 and www.aer.gov.au/content/index.phtml/itemId/745424

Notes: Data is for performance with exclusions.
Critical circuit availability — non-peak has a zero weighting and does not contribute to the incentive calculation.

7.5.1.2 Exclusions

For 2009, ElectraNet proposed several outages be excluded from its performance data, including five exclusions for customer related outages.

For 2010, ElectraNet proposed that a number of 'major project outages' exceeding the 14 day cap be excluded from the performance calculation of its total transmission circuit availability parameter. These outages were associated with the rebuilding of the Para-Waterloo 132kv transmission line and were previously approved as exclusions by the ACCC and incorporated by the AER into the service standards incentives scheme for ElectraNet.

7.5.1.3 AER's conclusions

For 2009, the AER reviewed ElectraNet's proposed exclusions and accepted these exclusions. Consequently, the AER endorsed an s-factor of 0.6 per cent, which resulted in a financial incentive bonus of approximately $1.44 million in 2010-11.

The AER reviewed ElectraNet's performance in 2010, approving the exclusions and endorsing an s-factor of zero. This resulted in no financial incentive for ElectraNet in 2011-12.

In reaching these conclusions, the AER considered ElectraNet's revenue determination decision, annual performance reports and service standards incentives scheme.

7.5.2 Powerlink

Powerlink's annual performance report for 2009 reported an s-factor of 0.17 per cent, resulting in a financial bonus of approximately $1.05 million in 2010-11.

Powerlink's annual performance report for 2010 reported a total s-factor of 2.62 per cent, resulting in a financial bonus of approximately $11.34 million in 2011-12.

7.5.2.1 Performance measures

The performance measures which apply to Powerlink are outlined in the AER's revenue determination for Powerlink. These are:

- transmission circuit availability – critical elements
- transmission circuit availability – non-critical elements
- transmission circuit availability – peak hours
- loss of supply frequency events
- greater than 0.2 system minutes
- greater than 1.0 system minute
- average outage duration

The MIP was added to this list of measures and applied from 13 July 2010.

Table 7.5 shows Powerlink's performance against these measures and the resulting financial incentives for 2009 and 2010.

Table 7.5 Measures, results and incentives for Powerlink, 2009 and 2010

Powerlink			2009		2010
Parameter	**Target**	**Performance**	**s-factor (%)**	**Performance**	**s-factor (%)**
Transmission circuit availability - critical elements (%)	99.07	99.20	0.04	98.69	-0.06
Transmission circuit availability - non critical elements (%)	98.40	97.94	-0.07	98.85	0.06
Transmission circuit availability - peak periods (%)	98.16	97.98	-0.04	98.64	0.12
Loss of supply event frequency (>0.20 system minutes)	5	2	0.16	0	0.16
Loss of supply frequency (>1.0 system minutes)	1	1	0.00	0	0.30
Average outage duration (minutes)	1033	707	0.08	779	0.06
Market impact parameter	740	-	-	11	1.97
Net s-factor (%)			**0.17**		**2.62**
Net financial incentive ($m)			**1.05**		**11.34**

Source: AER's service standards compliance reviews for Powerlink for 2009 and 2010, www.aer.gov.au/content/index.phtml/itemId/745427 and www.aer.gov.au/content/index.phtml/itemId/736456

Notes: Data is for performance with exclusions. The market impact parameter for 2010 applied from 13 July 2010 to 31 December 2010 and the annual target is 1570 dispatch intervals,

7.5.2.2 Exclusions

Powerlink proposed to exclude a number of events from its 2009 performance. The proposed exclusions affected the transmission circuit availability and average outage duration measures.

Powerlink proposed to exclude 77 events from its 2010 performance. These exclusion events related to actions of third parties (customers, generators and distributors). The proposed exclusions affected the three transmission circuit availability measures, the average outage duration measure, as well as the MIP.

7.5.2.3 AER's conclusions

The AER considered that all the exclusions in Powerlink's 2009 and 2010 performance data be allowed.

For 2009, the AER endorsed an s-factor of 0.17 per cent, resulting in a financial bonus of approximately $1.05 million in 2010-11.

Based on its 2010 performance, the AER endorsed an s-factor of 0.65 per cent, resulting in a financial bonus of approximately $4.51 million in 2011-2012.

The AER also considered Powerlink's MIP performance and accepted that this measure increased by seven dispatch intervals. Based on this performance, the AER endorsed an increase of approximately $6.83 million to Powerlink's revenue in 2011-12, calculated from an s-factor of 1.97 per cent.

Overall, Powerlink's MAR adjustment for 2011-12 is approximately $11.34 million.

In reaching these conclusions, the AER considered Powerlink's revenue determination decision, annual performance reports, the ACCC guidelines and the decision to grant early adoption of the MIP to Powerlink.

7.5.3 SP AusNet

SP AusNet's annual performance report for 2009 reported an s-factor of 0.51 per cent, resulting in a financial bonus of approximately $2.41 million in 2010-11.

SP AusNet's annual performance report for 2010 reported an s-factor of 0.58 per cent, resulting in a financial bonus of approximately $2.85 million in 2011-12.

7.5.3.1 Performance measures

The performance measures which apply to SP AusNet are outlined in the AER's revenue determination for SP AusNet. These are:

- total transmission circuit availability
- peak critical transmission circuit availability
- peak non-critical transmission circuit availability
- intermediate critical transmission circuit availability
- intermediate non-critical transmission circuit availability
- loss of supply frequency (events > 0.05 system minutes)
- loss of supply frequency (events > 0.3 system minutes)
- average outage duration – lines (hours)
- average outage duration – transformers (hours)

The MIP was added to this list of measures and applied from 1 April 2015.

Table 7.6 outlines SP AusNet's performance against these measures for 2009 and 2010.

Table 7.6 Measures, results and incentives for SP AusNet, 2009 and 2010

SP AusNet		2009		2010	
Parameter	**Target**	**Performance**	**s-factor (%)**	**Performance**	**s-factor (%)**
Total circuit availability (%)	98.73	99.02	0.18	99.15	0.20
Peak critical circuit availability - (%)	99.39	99.85	0.20	99.67	0.14
Peak non-critical circuit availability (%)	99.40	99.94	0.05	99.81	0.05
Intermediate critical circuit availability (%)	98.67	99.06	0.01	99.82	0.03
Intermediate non critical circuit availability (%)	98.73	98.97	0.01	99.01	0.01
Loss of supply event frequency (>0.05 minutes)	6	6	0.00	1	0.13
Loss of supply event frequency (>0.3 minutes)	1	2	-0.04	0	0.13
Average outage duration - lines (minutes)	382	177	0.08	319	0.03
Average outage duration - transformers (minutes)	412	395	0.01	818	-0.13
Market impact parameter					
Net s-factor (%)			**0.51**		**0.58**
Net financial incentive ($m)			**2.41**		**2.85**

Source: AER's service standards compliance reviews for SP AusNet for 2009 and 2010, www.aer.gov.au/content/index.phtml/itemId/737142 and www.aer.gov.au/content/index.phtml/itemId/745466

Notes: Data is for performance with exclusions.

7.5.3.2 Exclusions

SP AusNet proposed exclusions in the 2009 reporting period for seven bush fire related incidents. Four of the incidents were associated with the Kinglake bushfire, one with bushfires in the Bunyip State Forrest at Labatouche, and two were associated with the bushfires in Myrtleford area. These proposed exclusions did not have a significant impact on the financial incentive proposed by SP AusNet.

The AER engaged Sinclair Knight Merz (SKM), to audit SP AusNet's performance for 2009. SKM considered that SP AusNet's performance reporting was free from material errors and in accordance with the requirements of the AER's service performance regime. SKM also found that the recording system used by SP AusNet capturing the relevant details for outages was accurate and reliable, and all but one of

the exclusions requested by SP AusNet met the criteria. SKM recommended that the s-factor for SP AusNet be 0.51 per cent, after making adjustments to the exclusions recommended in the audit.

In their 2010 performance report SP AusNet proposed to exclude three force majeure outage events. Two of these events related to the snow storm in the alpine region and the other exclusion to a microburst windstorm. The proposed exclusions affected the measures of:

- peak critical circuit availability
- peak non-critical circuit availability
- intermediate non-critical circuit availability.

7.5.3.3 AER's conclusions

For 2009, the AER reviewed SP AusNet's performance and determined an s-factor of 0.51 per cent in accordance with SKM's audit findings. This resulted in a financial bonus of approximately $2.41 million to be recovered in 2010-2011.

For 2010, the AER reviewed SP AusNet's transmission service performance and approved the proposed exclusions as force majeure events. The AER noted that for future force majeure exclusions such as extraordinary weather events, Bureau of Meteorology (or similar) information would be required to support such exclusions. The AER endorsed an s-factor of 0.58 per cent for 2010 resulting in a financial bonus of approximately $2.85 million in 2011-2012.

In reaching these conclusions, the AER considered SP AusNet's revenue determination, annual performance reports and service standards incentives scheme.

7.5.4 Transend

For July-December 2009, Transend's reported an s-factor of 0.11 per cent, resulting in a financial bonus of $95,688 for 2010-11.

Transend's annual performance report for 2010 reported an s-factor of 0.35 per cent, resulting in a financial bonus of $648,863 for 2011-12.

7.5.4.1 Performance measures

The following performance measures apply to Transend under its revenue determination decision. These are:

- transmission circuit availability (critical)
- transmission circuit availability (non-critical)
- transformer availability
- loss of supply event frequency (> 0.1 system minutes)
- loss of supply event frequency (> 1.0 system minutes)

- Average outage duration - transmission lines (no revenue attached)
- Average outage duration - transformers (no revenue attached).

Table 7.7 shows Transend's performance against these measures for Jul-Dec 2009 and 2010.

Table 7.7 Measures, results and incentives for Transend, Jul-Dec 2009 and 2010

Transend			**2009**		**2010**
Parameter	**Target**	**Performance**	**s-factor (%)**	**Performance**	**s-factor (%)**
Total transmission circuit availability - critical (%)	99.13	99.92	0.20	99.47	0.11
Critical circuit availability - non critical (%)	98.97	99.26	0.06	99.38	0.08
Transformer availability (%)	99.28	99.28	0.00	99.11	-0.04
Loss of supply event frequency (>0.01 system minutes)	8	5	0.20	9	0.20
Loss of supply event frequency (>1.0 system minutes)	1	2	-0.35	2	0.00
Average outage duration - transmission lines (minutes)	326	168	0.00	275	0.00
Average outage duration - transformers (minutes)	712	414	0.00	247	0.00
Market impact parameter					
Net s-factor (%)			**0.11**		**0.35**
Net financial incentive ($m)			**95.688**		**648,863**

Table 1

Source: AER's service standards compliance reviews for Transend for Jul-Dec 2009 and 2010, www.aer.gov.au/content/index.phtml/itemId/737271 and www.aer.gov.au/content/index.phtml/itemId/745423

Notes: Data is for performance with exclusions.
Average outage duration - transmission lines (minutes) and Average outage duration - transformers (minutes) have zero weighting do not contribute to the calculation of the financial incentives.

7.5.4.2 Exclusions

Transend sought to exclude events related to third party outages and force majeure events from its July-December 2009 performance measures. These events were in relation to outages as a result of Hydro undertaking work on its Poatina power

generation station and also severe weather events. The proposed exclusions affected the following parameters:

- transmission circuit availability (non-critical)
- loss of supply event frequency (> 0.1 system minutes)

Transend also sought to exclude five events from its 2010 performance measures. These exclusion events related to actions of third parties (customers, generators and distributors). The proposed exclusions affected the following parameters:

- transmission circuit availability (critical)
- transmission circuit availability (non-critical)
- transformer availability.

7.5.4.3 AER's conclusions

The AER engaged SKM to assist in reviewing the proposed exclusions for Transend's July-December 2009 performance. The AER assessed the performance and based on SKM's report, accepted the proposed exclusions.

The AER endorsed an s-factor of 0.11 per cent, resulting in a financial bonus of $95,688 to be recovered in 2010-11 in addition to the amount allowed for the January-June 2009 period.

In its review of Transend's 2010 performance, the AER was satisfied that all of the proposed exclusions from Transend's 2010 performance data were valid. However, the AER noted that Transend's network outage system data did not align with the generator's (Hydro) outage system data; causing problems in assessing Transend's network outage time. This discrepancy was of particular concern to the AER, given that Hydro is the only generator in Tasmania and Transend is the only transmitter of electricity. The AER noted that proposed exclusions may not be approved in future years if system data did not align.

The AER endorsed an s-factor of 0.35 per cent, resulting in a financial bonus of $648,863 in 2011-12.

In reaching these conclusions, the AER considered Transend's revenue determination decision, annual performance reports and service standards incentives scheme.

7.5.5 TransGrid

For the six months from 1 July 2009-31 December 2009, TransGrid reported an s-factor of 0.11 per cent, resulting in a financial bonus of approximately $0.37 million for 2010-11.

TransGrid's annual performance report for 2010 reported a total s-factor of 1.2 per cent, resulting in a financial bonus of approximately $8.56 million for 2011-12.

7.5.5.1 Performance measures

The performance measures which apply to TransGrid are outlined in its revenue determination decision. These are:

- transmission line availability
- transformer availability
- reactive plant availability
- loss of supply > 0.05 system minutes
- loss of supply > 0.25 system minutes
- average outage restoration time
- MIP.

Table 7.8 shows TransGrid's performance against these measures for the six month period 1 July to 31 December 2009 and for 2010.

In the six months from July toDecember 2009, TransGrid outperformed its target in one parameter (average outage restoration time) but was below its target in three parameters (transmission line availability, transformer availability and reactive plant availability). This was predominantly due to its capital works program, in particular transmission line rebuilds and transformer replacements.

In 2010, TransGrid outperformed its target for loss of supply > 0.05 system minutes but was below its targets for transmission line availability, transformer availability, reactive plant availability as well as average restoration time.

TransGrid's MIP performance in both the 6 month period from 1 July to 31 December 2009 and in 2010 resulted in an overall bonus as a result of the financial incentive adjustment.

Table 7.8 Measures, results and incentives for TransGrid, Jul-Dec 2009 and 2010

TransGrid		2009		2010	
Parameter	**Target**	**Performance**	**s-factor (%)**	**Performance**	**s-factor (%)**
Transmission line availability (%)	99.26	98.50	-0.20	98.76	-0.20
Transformer availability (%)	98.61	98.28	-0.04	98.38	-0.03
Reactive plant availability (%)	99.12	96.58	-0.10	95.44	-0.10
Loss of supply (>0.05 system minutes)	2	2	0.00	3	0.13
Loss of supply (>0.25 system minutes)	1	1	0.00	1	0.00
Average outage restoration time (minutes)	824	774	0.06	861	-0.04
Market impact parameter	2857	1,149	0.39	780	1.45
Net s-factor (%)			**0.11**		**1.21**
Net financial incentive ($m)			**0.37**		**8.56**

Source: AER's service standards compliance reviews for TransGrid for Jul-Dec 2009 and 2010, www.aer.gov.au/content/index.phtml/itemId/736457 and www.aer.gov.au/content/index.phtml/itemId/745422

Notes: Data is for performance with exclusions.

7.5.5.2 Exclusions

For the period 1 July- 31 December 2009, TransGrid proposed to exclude 77 outages from its service standards performance data.

The AER was concerned with the proposed exclusions for an event in Bayswater. This event related to the two 'loss of supply' parameters and was claimed as third party outages. The AER engaged SKM to audit the information provided by TransGrid regarding the Bayswater event. SKM were unable to determine whether the event should be excluded as it was uncertain of the extent that third parties contributed to the outage.

- TransGrid proposed 111 exclusions from its 2010 performance data, including events related to third parties and outages exceeding the agreed cap of 168 hours.
- These exclusions had a minimal impact on the financial incentives for 2010.

7.5.5.3 AER's conclusions

The AER reviewed TransGrid's proposed exclusions for the period 1 July to 31 December 2009 and determined that all of the events except those relating to the Bayswater event be excluded from the 1 July to 31 December 2009 performance data.

The AER evaluated the information on the circumstances surrounding the Bayswater event, including the findings of SKM. The AER also considered TransGrid's additional information provided as well as the response to the AER staff reasoning. Having considered all of the relevant material, the AER found that but for TransGrid's Bayswater switchyard asset failure, the sequence of events resulting in the outage would not have occurred. Thus, in the circumstances, the AER concluded that the exclusion of the event under both 'loss of supply frequency' parameters was unjustified.

Accordingly, the AER endorsed an s-factor of 0.11 per cent, resulting in a financial bonus of approximately $0.37 million to TransGrid in 2010-11.

In its review of TransGrid's 2010 performance, the AER determined that all of TransGrid's proposed exclusions for 2010 were valid. The AER endorsed an s-factor of -0.24 per cent, resulting in a financial penalty of approximately $1.73 million in 2011-2012.

For its market impact component, the AER considered TransGrid's proposed exclusions and generally accepted the exclusions, with exception of 18 dispatch intervals for outages that the AER concluded were within TransGrid's control. The AER reviewed the performance measure and endorsed an increase of approximately $10.29 million to TransGrid's revenue in 2011-12, based on an s-factor of 1.45 per cent.

Overall, the net s-factor for TransGrid for 2010-2011 is 1.21 per cent resulting in an adjustment to TransGrid's MAR for 2011-12 of approximately $8.56 million.

In reaching these conclusions, the AER considered TransGrid's revenue determination, annual performance reports and service standards incentives scheme.

7.5.6 Directlink

Directlink's annual performance report for 2009 reported an s-factor of -0.98 per cent, resulting in a financial penalty of approximately $0.12 million in 2010-11.

Directlink's annual performance report for 2010 reported an s-factor of -1 per cent, resulting in a financial penalty of approximately $0.13 million in 2011-12.

7.5.6.1 Performance measures

The performance measures which apply to Directlink are outlined in its revenue determination decision. These are:

- scheduled circuit availability
- forced peak circuit availability
- forced off-peak circuit availability.

Table 7.9 shows Directlink's performance against these measures for 2009 and 2010. In 2009, Directlink's service standards performance improved from 2008, but was still well below all its parameter performance targets.

In 2010 Directlink's service standards performance deteriorated even further. However, financial penalties for Directlink are currently capped at one per cent of Directlink's maximum allowed revenue and do not truly reflect the level of poor performance by Directlink.

Table 7.9 Measures, results and incentives for Directlink, 2009 and 2010

DirectLink			**2009**		**2010**
Parameter	**Target**	**Performance**	**s-factor (%)**	**Performance**	**s-factor (%)**
Scheduled circuit availability (%)	99.45	98.94	-0.28	97.74	-0.30
Forced peak circuit availability (%)	99.23	91.47	-0.35	78.64	-0.35
Forced off peak circuit availability	99.23	94.99	-0.35	87.97	-0.35
Market impact parameter					
Net s-factor (%)			**-0.98**		**-1.00**
Net financial incentive ($m)			**-0.12**		**-0.13**

Source: AER's service standards compliance reviews for Directlink for 2009 and 2010, www.aer.gov.au/content/index.phtml/itemId/736452 and www.aer.gov.au/content/index.phtml/itemId/745467

Notes: Data is for performance with exclusions.

7.5.6.2 Exclusions

Directlink proposed 34 third party outage exclusions from its 2009 performance data. Five proposed exclusions related to outages requested by third parties and the remaining 29 were forced outages. Excluding these outages resulted in a very minor improvement to Directlink's s-factor and financial incentive.

Directlink proposed 29 third party outage exclusions from its 2010 performance data. Three proposed exclusions related to third party auxiliary power failures, three were related to third party equipment failures and the remaining 23 were forced outages for planned work by third parties.

7.5.6.3 AER's conclusions

The AER considered Directlink's proposed exclusions for 2009 and 2010 and accepted that all third party outages be excluded from Directlink's service performance data.

Based on its performance in 2009, the AER applied a penalty of approximately $0.12 million to Directlink's revenue in 2010-11, based on an s-factor of -0.98 per cent.

In 2010, the AER endorsed an s-factor of -1.0 per cent resulting in a financial penalty of approximately $0.13 million to be applied in the 2011-12 financial year.

In reaching these conclusions, the AER considered Directlink's revenue determination decision, annual performance reports and the ACCC guidelines.

7.5.7 Murraylink

Murraylink's revised annual performance report for 2009 reported an s-factor of 0.87 per cent, resulting in a financial bonus of approximately $0.12 million in 2010-11.

Murraylink's annual performance report for 2010 reported an s-factor of 1.0 per cent, resulting in a financial bonus of approximately $0.14 million in 2011-12.

7.5.7.1 Performance measures

The performance measures which apply to Murraylink are outlined in its revenue determination decision. These are:

- planned circuit availability
- forced peak circuit availability
- forced off-peak circuit availability.

Table 7.10 shows Murraylink's performance against these measures for 2009 and 2010.

Table 7.10 Measures, results and incentives for Murraylink, 2009 and 2010

MurrayLink			**2009**		**2010**
Parameter	**Target**	**Performance**	**s-factor (%)**	**Performance**	**s-factor (%)**
Planned circuit energy availability (%)	99.17	99.31	0.27	99.58	0.40
Peak forced outage availability (%)	99.48	100.00	0.40	100.00	0.40
Off peak forced outage availability	99.34	100.00	0.20	100.00	0.20
Market impact parameter					
Net s-factor (%)			**0.87**		**1.00**
Net financial incentive ($m)			**0.12**		**0.14**

Source: AER's service standards compliance reviews for Murraylink for 2009 and 2010, www.aer.gov.au/content/index.phtml/itemId/737274 and www.aer.gov.au/content/index.phtml/itemId/745468.

Notes: Data is for performance with exclusions.

7.5.7.2 Exclusions

For 2009, Murraylink proposed to exclude approximately 20 hours of third party outages related to two separate maintenance related requests for Murraylink to go offline from SP AusNet and ElectraNet.

For 2010, Murraylink proposed to exclude approximately 37 hours of third party outage relating to a request from ElectraNet.

7.5.7.3 AER's conclusions

The AER determined that Murraylink's proposed third party outages for 2009 should be excluded from Murraylink's performance data. Based on its performance in 2009, the AER endorsed an s-factor of 0.87 per cent resulting in a financial bonus of approximately $0.12 million to be applied to Murraylink's MAR for 2010-11.

The AER also determined that Murraylink's proposed third party outages for 2010 should be excluded from Murraylink's performance data. Based on its performance in 2010, the AER endorsed an s-factor of 1.0 per cent resulting in a financial bonus of approximately $0.14 million to be applied in 2011-12.

In reaching these conclusions, the AER considered Murraylink's revenue determination decision, annual performance reports and the ACCC guidelines.

A The Transmission Network Service Providers

A.1 Summary of Statistics

Table A.1 Key TNSP Network Statistics

	2005-06	2006-07	2007-08	2008-09	2009-10
Regulatory Asset Base - Closing ($nominal m)					
ElectraNet	989	1,075	1,197	1,391	1,477
Powerlink	3,070	3,259	3,904	4,498	4,906
SP AusNet	1,959	2,032	2,075	2,137	2,655
Transend	690	768	808	882	1,070
TransGrid	3,229	3,398	3,735	4,218	4,581
EnergyAustralia	609	625	714	793	1,010
Revenue - PS Actual ($nominal m)					
ElectraNet	170	179	187	230	249
Powerlink	466	511	537	604	667
SP AusNet	291	302	313	456	482
Transend	115	123	130	144	166
TransGrid	460	487	520	571	675
EnergyAustralia	99	108	116	130	140
Line Length (km)					
ElectraNet	5,611	5,676	5,620	5,589	5,591
Powerlink	11,939	12,132	12,671	13,106	13,569
SP AusNet	6,553	6,553	6,553	6,553	6,553
Transend	3,580	3,645	3,650	3,650	3,469
TransGrid	12,480	12,489	12,445	12,445	12,656
EnergyAustralia	821	821	885	885	962
Maximum Demand (MW)					
ElectraNet	2,938	2,934	3,172	3,397	3,397
Powerlink	8,295	8,589	8,082	8,677	8,891

SP AusNet	8,730	9,062	9,850	10,446	9,858
Transend	2,089	2,415	2,332	2,236	2,366
TransGrid	13,292	13,458	12,954	14,274	14,051
EnergyAustralia	5,460	5,484	5,683	5,918	5,609
Electricity Transmitted (GWh)					
ElectraNet	12,857	13,381	13,734	13,327	13,266
Powerlink	47,734	47,750	48,576	49,104	49,593
SP AusNet	50,267	51,821	51,927	51,877	50,925
Transend	10,945	11,565	11,298	11,031	11,658
TransGrid	72,383	78,226	76,359	75,744	72,814
EnergyAustralia	31,669	31,847	32,007	32,289	31,812

Source: TNSP regulatory reports

A.2 ElectraNet (South Australia)

ElectraNet is owned by a consortium of three private entities and Powerlink Queensland. It owns, operates and manages the South Australian electricity transmission network which spans more than 1000 kilometres, from the Victorian border near Mount Gambier to Port Lincoln on the Eyre Peninsula. ElectraNet operates radial extensions of over 200 kilometres each from the main network to Leigh Creek, the Yorke Peninsula and Woomera. It connects major generation sources at Port Augusta, Torrens Island and the eastern states via the Heywood and Murraylink interconnectors. Wind energy is a growing source of generation in South Australia. ElectraNet's network also connects to ETSA Utilities' distribution business and eight directly connected industrial customers.

ElectraNet operates 5,591 circuit kilometres of transmission lines and cables, with nominal voltages of 275 kV, 132 kV and 66 kV. Further, it operates and maintains 79 substations and switchyards. Transmission from the main network to country areas of South Australia is via long radial 132 kV lines. With approximately 35 per cent of its transmission assets being 40-60 years old, ElectraNet has one of the oldest networks in Australia.[30]

The South Australian transmission network is characterised by long distances, a low energy density and a small customer base compared with other states. Its assets are also amongst the oldest in Australia. The demand profile is high mainly due to air conditioning load over the summer period.

[30] ElectraNet, *ElectraNet transmission network revenue proposal - volume 1, 1 July 2008 to 30 June 2013, 31 May 2007*, p.5.

A.3 Powerlink (Queensland)

Powerlink is a Queensland government owned corporation that owns and operates the Queensland electricity transmission network. Powerlink's $5.6 billion transmission network spans more than 1,700 kilometres, from Cairns in far north Queensland to the NSW border in the south. It connects to 15 regulated customers comprising generators, distribution businesses (primarily Ergon Energy and Energex, but also Country Energy in northern NSW) and directly connected major loads. Powerlink's network connects to the rest of the NEM via the Queensland–NSW interconnector and the Directlink interconnector.

Powerlink operates 13,569 circuit kilometres of transmission lines and cables (the highest among the TNSPs in the NEM), with nominal voltages of 330 kV, 275 kV, 132 kV, 110 kV and 66 kV. Further, it operates and maintains 112 substations which include 187 transformers.

The Queensland transmission network is characterised by long distances. Queensland is one of the most decentralised states in the NEM with electricity networks servicing low load density cities, towns and industrial areas.[31] Due to the constant hot and humid summer climate in Queensland, peak summer demand conditions occurs for the entire summer period (November–March) compared to isolated hot days in the southern states.

As shown in Table A.1, Powerlink had the highest RAB ($4906 million) and highest revenue ($667 million) of all TNSPs in the NEM in 2009-10.

A.4 SP AusNet (Victoria)

SP AusNet is Victoria's largest utility company, providing electricity transmission, gas distribution and electricity distribution services. SP AusNet is publicly listed on the Australian and Singapore Stock Exchanges. Singapore Power International Pty Ltd, a wholly-owned subsidiary of Singapore Power, owns a 51 per cent interest in SP AusNet. Public investors own the remaining 49 per cent.

SP AusNet's network is built around a 500 kV backbone running from the major generating source in the Latrobe Valley, through Melbourne and across the southern part of the state to Heywood near the South Australian border. The network provides key physical links in the NEM, connecting with networks in South Australia, NSW and Tasmania. The network consists of 6,553 kilometres of cable, running at voltages of 500kV, 330kV, 275kV, 220kV and 66kV.

In 2009-10, SP AusNet had a maximum demand of 9,858 MW and transmitted 50,925 GWh. These figures are the second highest in the NEM.

[31] Powerlink, *Queensland transmission network revenue proposal for the period 1 July 2007 to 30 June 2012*, p.8

A.5 Transend (Tasmania)

Transend is a public corporation that owns and operates the electricity transmission system in Tasmania. It owns 47 substations and nine switching stations including 95 supply and 14 network transformers operating at voltages of 220kv and 110kv. It is connected to 16 regulated customers, including four generators and the Basslink interconnector. A backbone network operating predominantly at 220 kV connects generators to major load centres, including major industrials, while a network operating predominantly at 110 kV connect generators to regional centres.[32] Transend's transmission system also includes sub-transmission assets that operate at voltages of 6.6 kV, 11 kV, 22 kV, 33 kV and 44 kV.[33] These are connected via substations to the distribution system.

Over 70 per cent of the generation in Tasmania is hydro generation with a comparatively large number of small generators, which are widely dispersed. Tasmania's generators are usually energy constrained rather than capacity constrained. Hydro generation's variable nature (with a requirement for more transmission network to deliver the same amount of electricity to customers) has also been a major contributor to the evolution of the network. World heritage status in some areas contributes to increased transmission costs.

Tasmania is connected to mainland Australia via the Basslink interconnector which operates between Loy Yang substation in Gippsland and George Town substation in Tasmania. Basslink transfers energy at 480 MW import to Tasmania and up to 630 MW export from Tasmania for limited periods.

Aside from Murraylink and Directlink, Transend has the lowest maximum demand (2,366 MW) and shortest circuit kilometres (3,469 kilometres) among the TNSPs regulated by the AER.

Transend has a relatively high number of transmission connection points reflecting that Tasmania has a relatively high number of generators, distribution connections, directly-connected industrial customers, and a Market Network Service Provider (MNSP), relative to the load served.

A.6 TransGrid (NSW)

TransGrid is a NSW government owned corporation that owns, operates and manages the NSW electricity transmission network. TransGrid's network stretches along the east coast of Australia from Queensland to Victoria, then inland to Broken Hill, making it the backbone of the NEM. It connects major generation sources in the Central Coast, Hunter Valley, Lithgow area and Snowy Mountains, and is interconnected with the Victorian and Queensland networks. TransGrid's network also connects to 4 distribution businesses (in NSW and ACT) and 13 directly connected industrial customers.[34]

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32 Transend, *Transend transmission revenue proposal for the regulatory control period 1 July 2009 to 30 June 2014, 30 May 2008*, p.18

33 Ibid 19.

34 TransGrid, *Annual Report 2010*, p. 4-5.

TransGrid operates 12,656 circuit kilometres of transmission lines and cables, the second highest in the NEM, with nominal voltages of 500 kV, 330 kV, 220 kV and 132 kV. TransGrid also operates and maintains 91 substations and switching stations and 358 distributor and direct customer connection points servicing over 3 million households and businesses across NSW and the ACT.[35]

The NSW transmission network facilitates inter-state electricity trading and plays a central role in the NEM as a result of both its geographic location and the flexible generation plants located in NSW. At times of high demand, Queensland and Victoria can rely on imports from NSW, and export power to NSW at other times.

As shown in Table A.1, TransGrid had the highest maximum demand (14,051 MW) and electricity transmission (72,814 GWh) in the NEM in 2009-10.

A.7 EnergyAustralia (NSW)

EnergyAustralia is a NSW government owned corporation. It owns and operates an electricity distribution network that covers an area of 22,275 square kilometres[36] and extends from Waterfall in Sydney's south to north of Newcastle and extends in a north westerly direction to Scone and Barry. EnergyAustralia's network also contains a small proportion of high voltage transmission assets within parts of the Sydney, Central Coast and Newcastle areas (EnergyAustralia operates 962 circuit km of transmission lines and cables with nominal voltages of 132 kV and 66 kV). EnergyAustralia's transmission network is jointly planned with TransGrid and is operated in parallel and in support of the TransGrid transmission network.

EnergyAustralia has 5,908 employees and total company assets exceeding $10.3 billion with shareholders equity of $1.9 billion.[37] For 2009-14 the Transitional Rules applying to EnergyAustralia deem EnergyAustralia's transmission assets to be part of a distribution network for the purpose of the AER's distribution determination for EnergyAustralia. For other purposes, such as pricing, these assets are still transmission assets.

A.8 Murraylink

Murraylink is an interconnector owned by Energy Infrastructure Investments and managed by APA. Murraylink connects the Victorian and South Australian regions of the NEM and came into operation in early October 2002, with the AER issuing a revenue determination for Murraylink covering the period of 2003-2013.

Murraylink consists of approximately 180 kilometres of transmission line that transfers power between the Red Cliffs substation in Victoria and the Monash substation in South Australia and a converter terminal station at either end. At any given time Murraylink is capable of delivering 220 MW.

35 Ibid.
36 EnergyAustralia, *2008-09 Network performance report*, 31 October 2009, p.2.
37 EnergyAustralia, *Annual report 200*9-10, 30 October 2010, p.5.

A.9 Directlink

Directlink is owned by Energy Infrastructure Investments and managed by APA. Directlink connects the Queensland and NSW regions of the NEM and came into operation in July 2000 as an unregulated interconnector. It remained unregulated until March 2006, when the AER approved Directlink's application to become a regulated interconnector.

Directlink has a total nominal rated capacity of 180 MW and consists of 63 kilometres of underground cables or cables laid in galvanised steel and runs between Mullumbimby and Bungalora (80 kV DC) and between Bungalora and Terranora (110 kV DC).

Directlink has the lowest maximum demand and circuit kilometres among the TNSPs regulated by the AER.

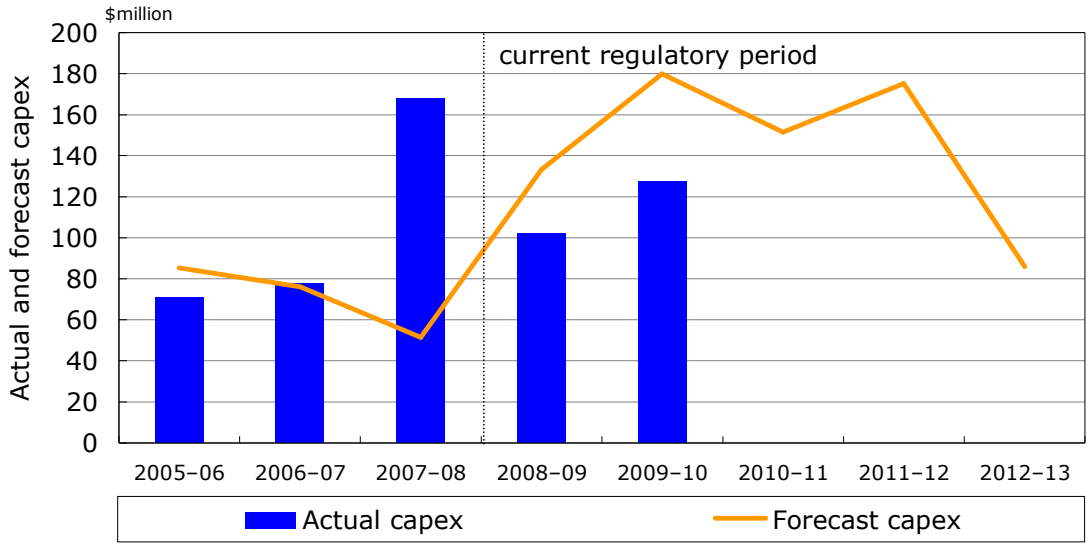
B TNSPs' capital expenditure estimates and performance

B.1 ElectraNet

In 2007-08 — the last year of ElectraNet's previous regulatory period — its actual capex was substantially higher than its forecast capex by $122.4 million, or 270 per cent.

In the current regulatory period, forecast capex has been higher than actual capex in both years to date. ElectraNet commented that this was due to initial delays in achieving planning and approvals for major network projects. However, the total capex costs for these projects are still expected to be incurred during the current regulatory period. Therefore, actual capex in the remaining years is expected to be above forecast for those years, compensating for the differences in the earlier years.

Figure B.1 ElectraNet's actual and forecast capex ($ nominal)

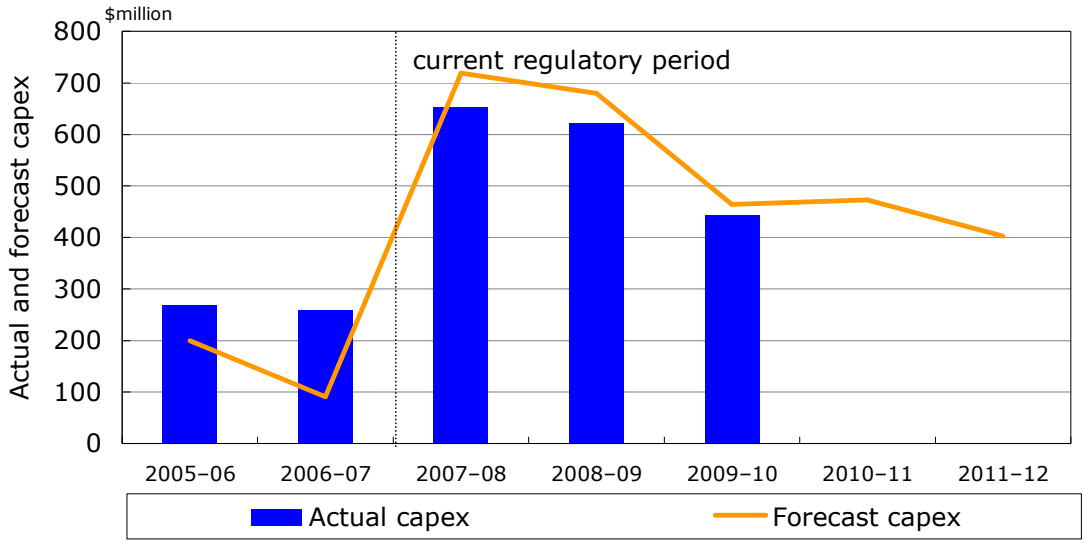


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

B.2 Powerlink

From 2005-06 to 2008-09, Powerlink's actual capex has been relatively consistent with its forecast capex, with both values increasing significantly in 2007-08. However, in 2009-10, Powerlink incurred capex of $443.2 million which was 4.4 per cent below the forecast capex of $463.7 million.

Figure B.2 Powerlink's actual and forecast capex ($ nominal)



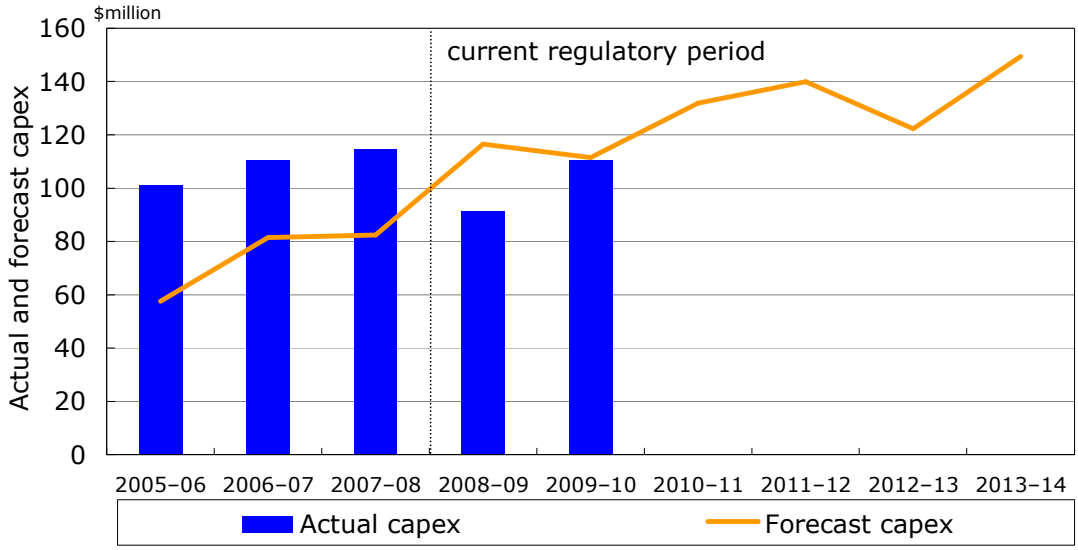
Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

B.3 SP AusNet

SP AusNet's capex has been the smoothest of the TNSPs. This is likely due to the maturity of its network. In the previous regulatory period to 2007-08, SP AusNet's actual capex was higher than its forecast. In the current regulatory period, SP AusNet's actual capex has been more in line with its forecast capex. Over 70 per cent of SP AusNet's capex in 2009-10 was incurred on replacement projects.

Augmentation capex has not been included in this report because augmentations are managed in Victoria by AEMO. Where the augmentation is deemed contestable and procured through a competitive tender process, the assets remain outside of the RAB. Where the augmentation is deemed non-contestable and procured through SP AusNet (as augmentor of last resort), the assets are rolled into the RAB at the end of the regulatory period.

Figure B.3 SP AusNet's actual and forecast capex ($ nominal)



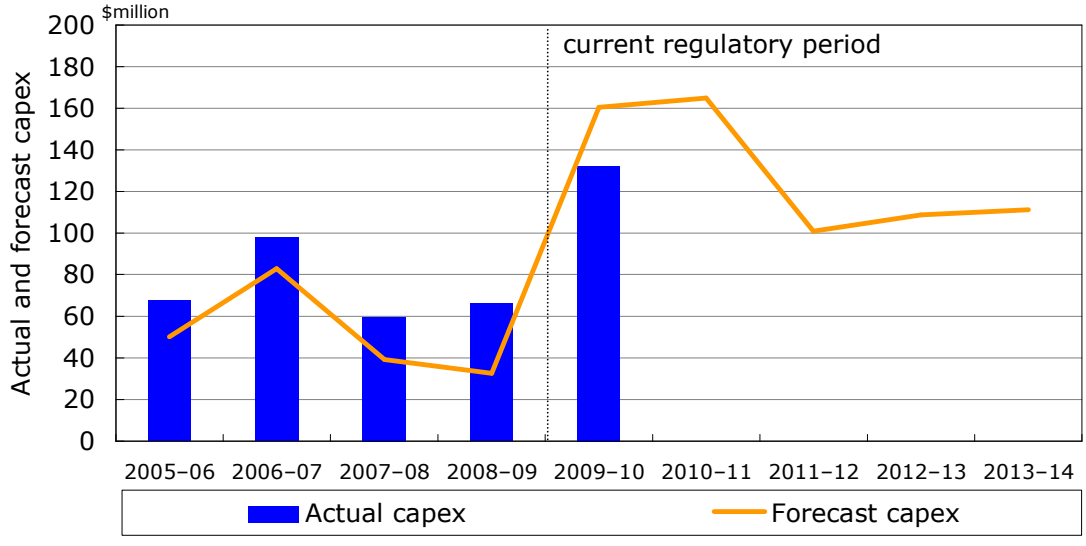
Source: AER calculations based on TNSP regulatory reports and revenue determinations

B.4 Transend

In the previous regulatory period to 2008-09, Transend's actual capex had been consistently higher than forecast. Contrastingly, 2009-10 is the first year Transend's forecast capex, at $162.4 million, was higher than actual expenditure at $132.3 million. This coincided with a new regulatory period, where Transend's regulatory regime transitioned from an 'as commissioned basis' to an 'as incurred basis'.

Transend's forecast and actual capex in 2009-10 increased significantly due to an augmentation project that began in Southern Tasmania.

Figure B.4 Transend's actual and forecast capex ($ nominal)



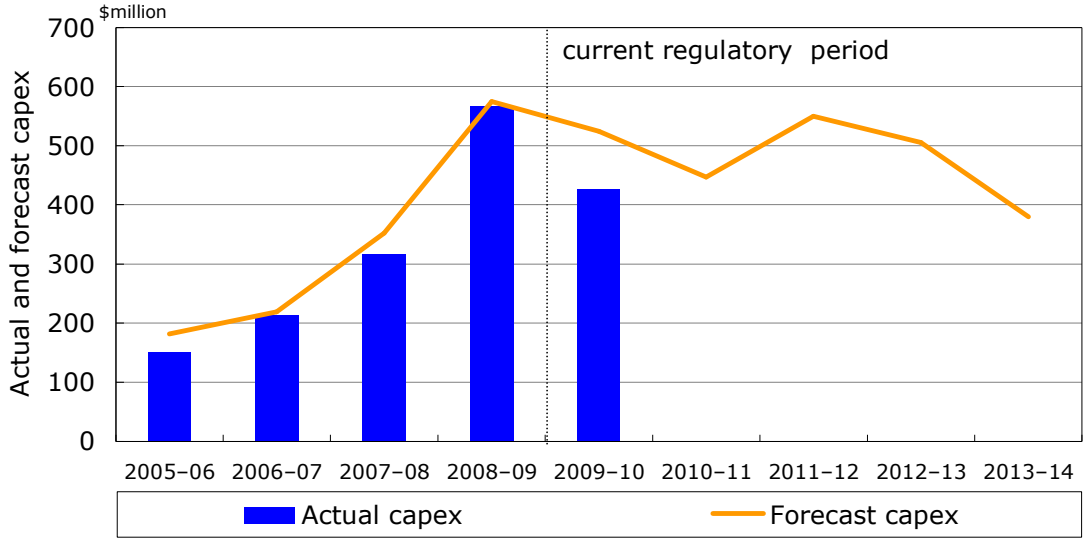
Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

B.5 TransGrid

In the previous regulatory period, TransGrid demonstrated its capacity to spend close to its forecast capex. 2009-10 is the first year that forecast capex, at $563.9 million, has substantially exceeded actual capex at $426.8 million.

The majority of TransGrid's capex in 2009-10 was on network augmentations.

Figure B.5 TransGrid's actual and forecast capex ($ nominal)



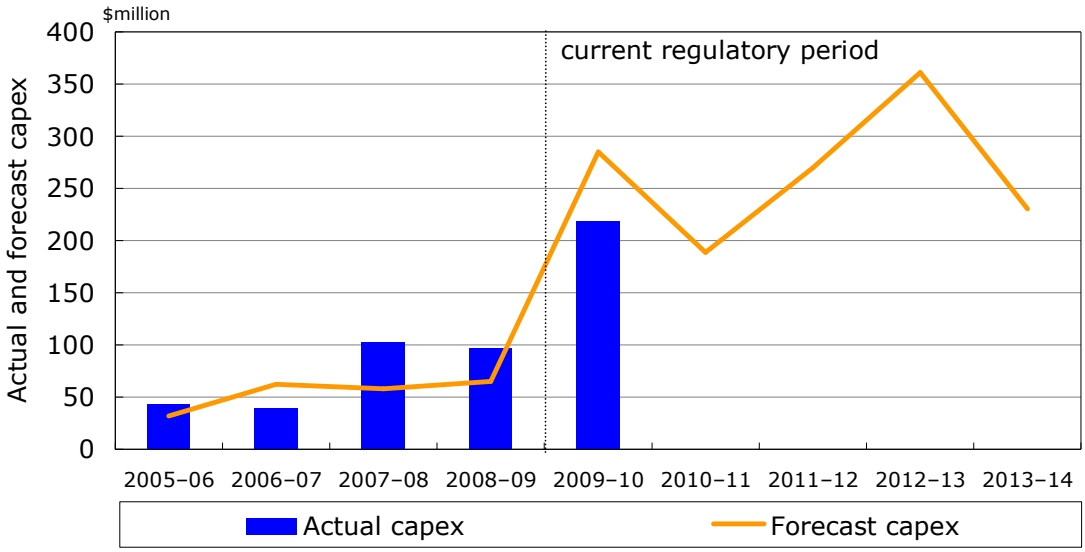
Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

B.6 EnergyAustralia

In the previous regulatory period, EnergyAustralia incurred relatively low levels of capex. In 2009-10, EnergyAustralia's forecast capex was 22 per cent above the actual capex of $218.2 million.

EnergyAustralia's capex increased significantly in the current regulatory period. In 2009-10, augmentation of the network to meet growing demand in the Sydney CBD accounted for over 40 per cent of total capex. Replacement of aging and obsolete assets accounted for just under 30 per cent.

Figure B.6 EnergyAustralia's actual and forecast capex ($ nominal)

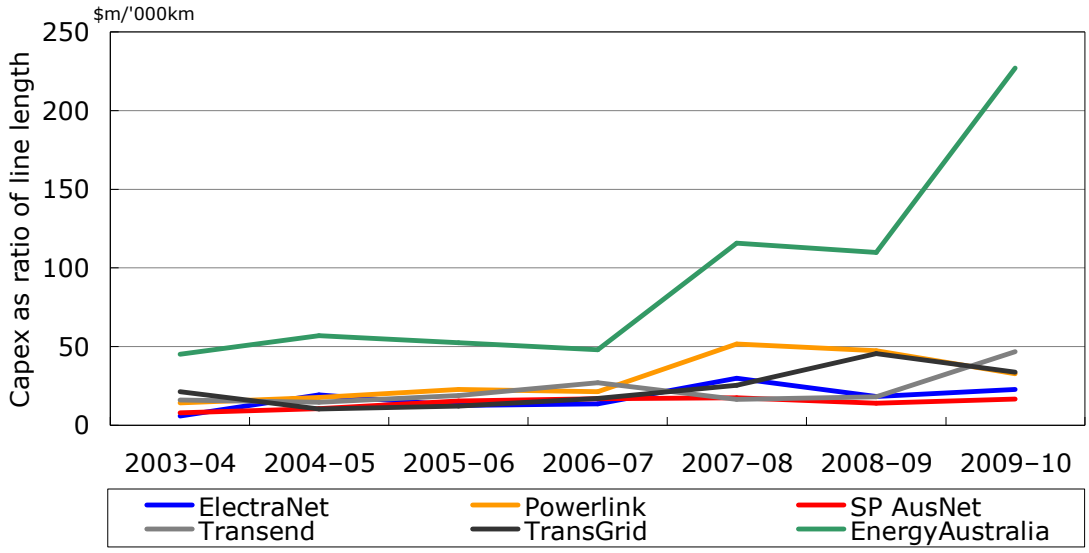


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

C Comparison of capex to line length ratio

EnergyAustralia's capex to line length ratio is significantly higher than the other TNSPs. This is due to the unique function of its transmission network operating in parallel and in support of TransGrid's network and a significant portion of its assets being underground. EnergyAustralia's transmission network is utilised during times of peak load and demand in Sydney and NSW. Thus, despite its small network line length, it still incurs a relatively high capex for augmentation and replacement in order to maintain its network.

Figure C.1 Capex as ratio of line length for all TNSPs from 2003-04 to 2009-10

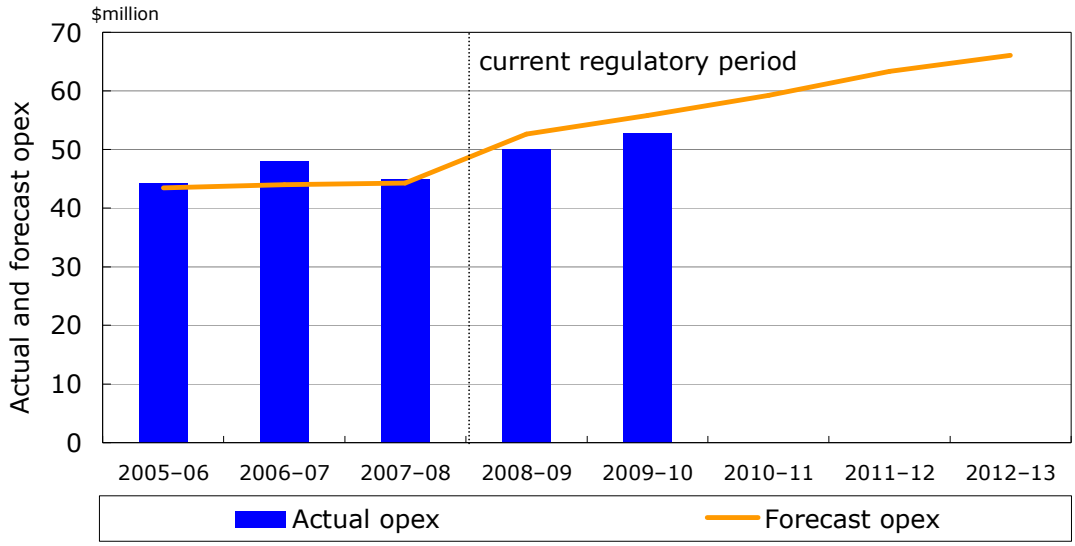


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations.

D TNSPs' operating expenditure estimates and performance

D.1 Electranet

Figure D.1 ElectraNet's actual and forecast opex ($ nominal)

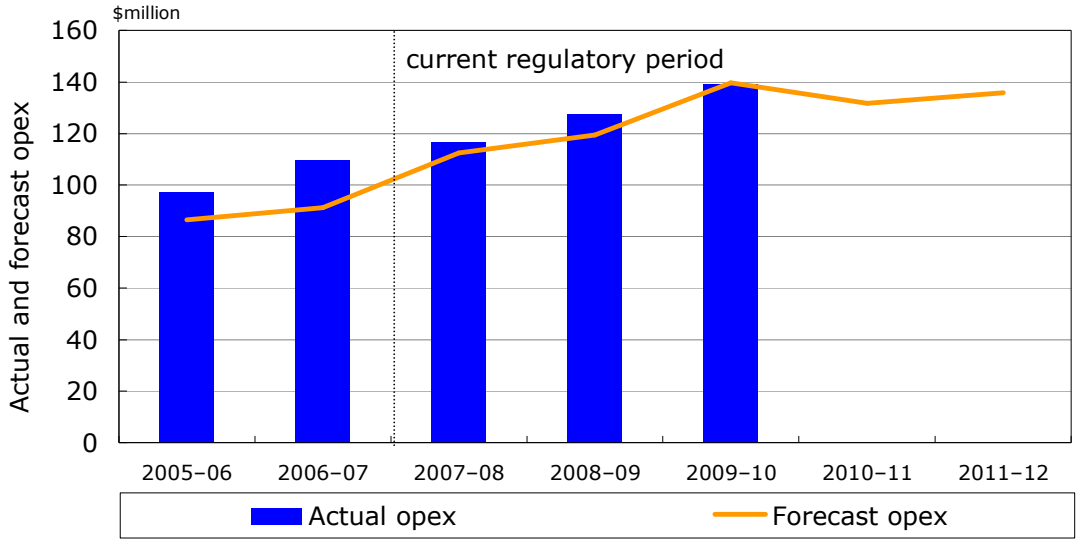


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

In the previous regulatory period to 2007-08, ElectraNet's actual opex has been close to its forecast expenditure. In the current regulatory period, ElectraNet's actual opex has been less than forecast opex, however its actual opex has been consistent with levels of expenditure in the previous regulatory period.

D.2 Powerlink

Figure D.2 Powerlink's actual and forecast opex ($ nominal)

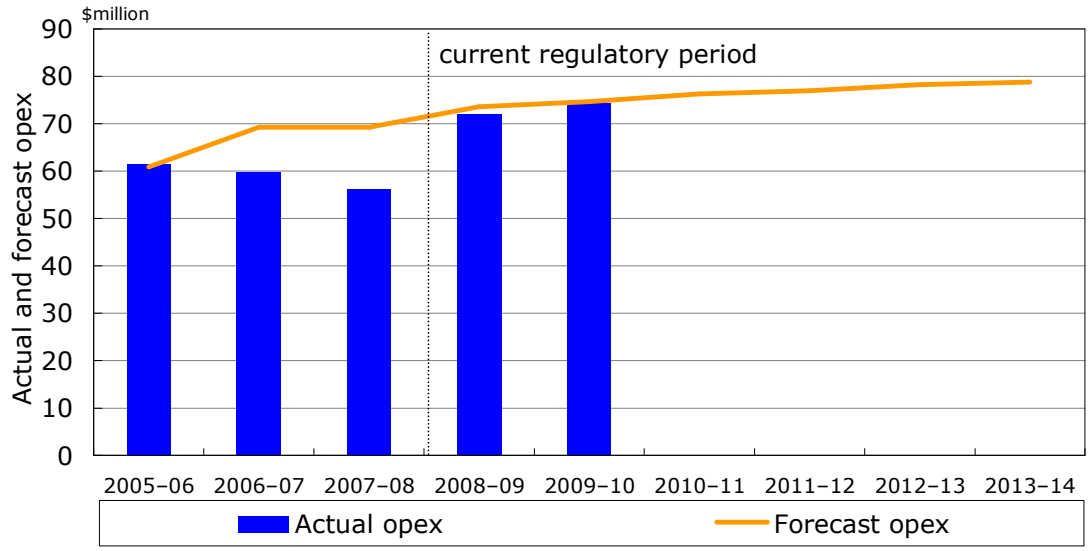


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

Powerlink's actual opex has consistently been above forecast opex for the past five years. In 2009-10, Powerlink's actual expenditure was $19.4 million above forecast opex.

D.3 SP AusNet

Figure D.3 SP AusNet's actual and forecast opex ($ nominal)

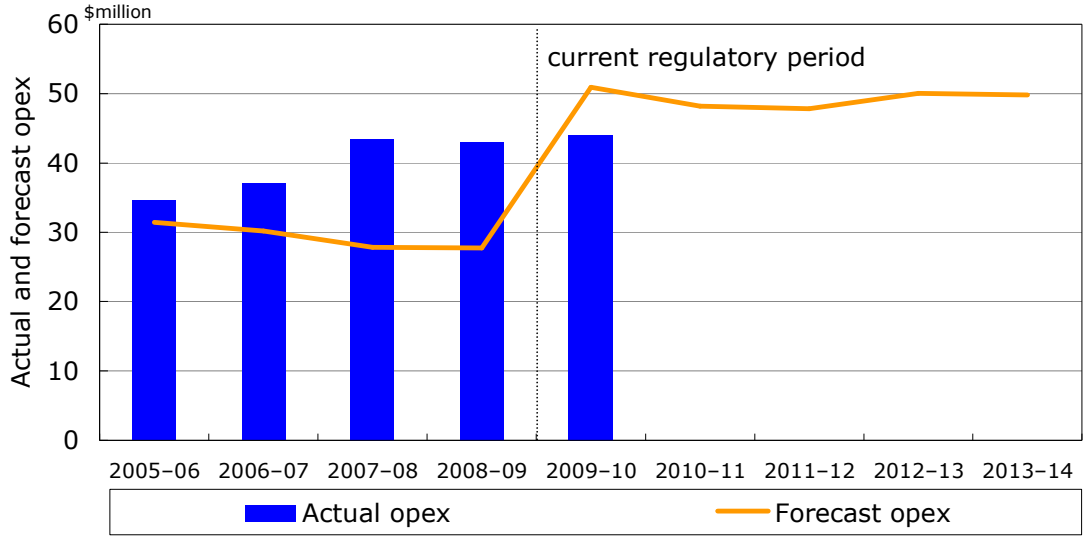


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

In the previous regulatory period to 2007-08, SP AusNet's actual opex was less than its forecast expenditure. In the current regulatory period, SP AusNet's actual opex has been in line with its forecast opex.

D.4 Transend

Figure D.4 Transend's actual and forecast opex ($ nominal)



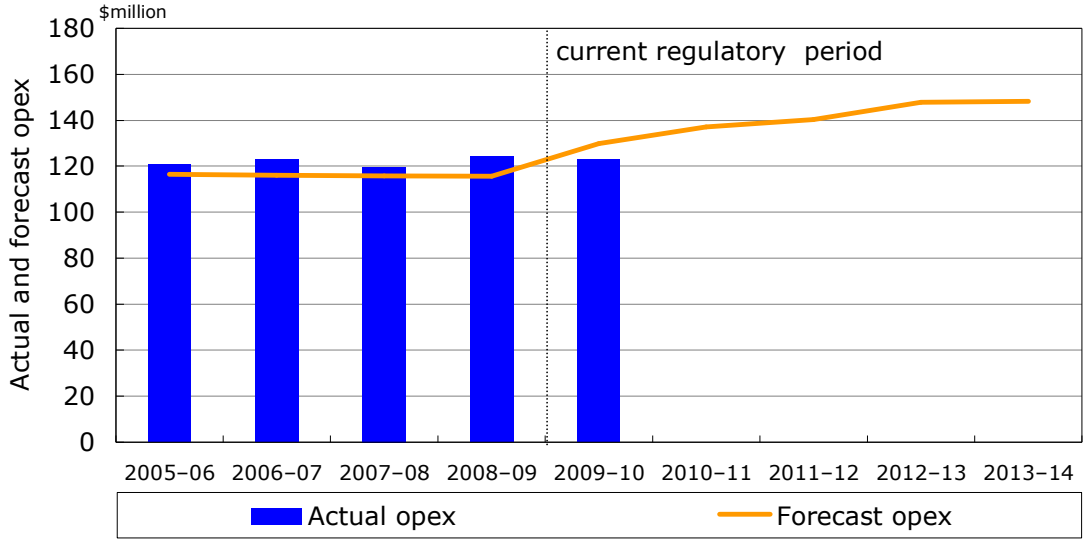
Source: AER calculations based on TNSP regulatory reports and AER revenue determinations. Actual opex excludes grid support.

In the previous regulatory period to 2008-09, Transend's actual opex has been higher than forecast expenditure. Contrastingly, 2009-10 is the first year Transend's forecast opex was higher than actual expenditure. The AER's revenue determination for the current regulatory period allowed an increased opex allowance for Transend for a number of reasons. Broadly, these included:

- increasing real wage growth in Australia
- increasing asset growth and need for additional resources
- increased legislative obligations.

D.5 TransGrid

Figure D.5 TransGrid's actual and forecast opex ($ nominal)

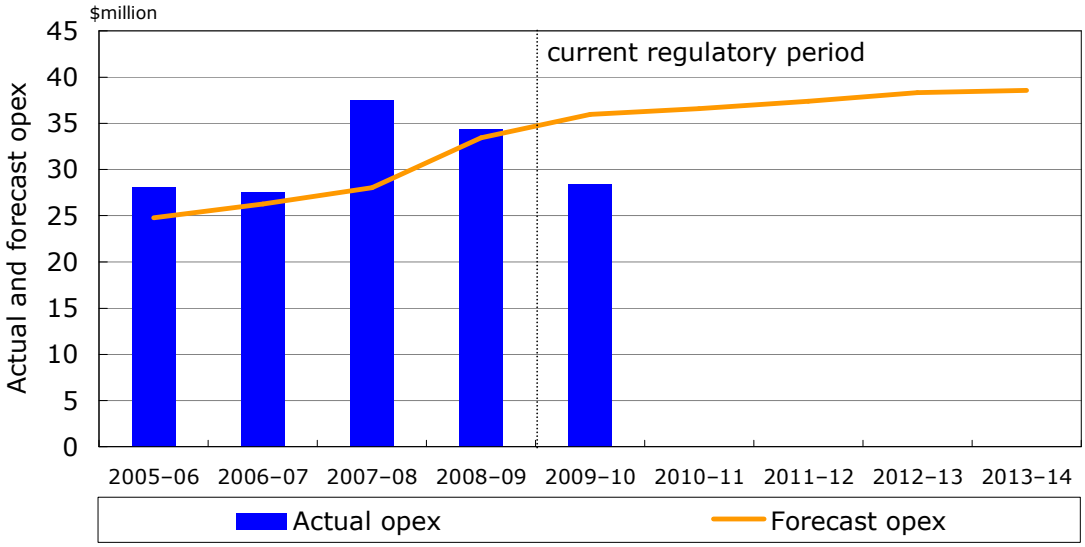


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations

In the previous regulatory period, TransGrid demonstrated its capacity to spend close to its forecast opex. 2009-2010 is the first year of the current regulatory period, where TransGrid's actual opex is slightly less than forecast opex.

D.6 EnergyAustralia

Figure D.6 EnergyAustralia's actual and forecast opex ($ nominal)

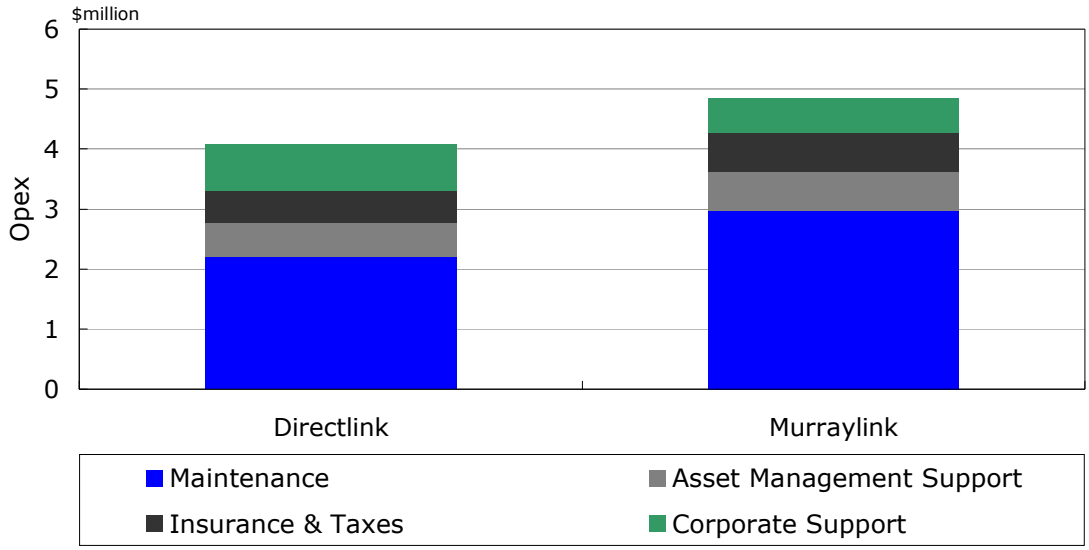


Source: AER calculations based on TNSP regulatory reports and AER revenue determinations.

In the previous regulatory period, EnergyAustralia's actual opex was more than its forecast opex. but in 2009-10 the actual opex was less than forecast opex. However, in 2008 the AER approved an incremental opex amount of $3.49 ($m, 2004) for a contingent project.

E Interconnectors' opex drivers

Figure E.1 Interconnectors' opex cost drivers

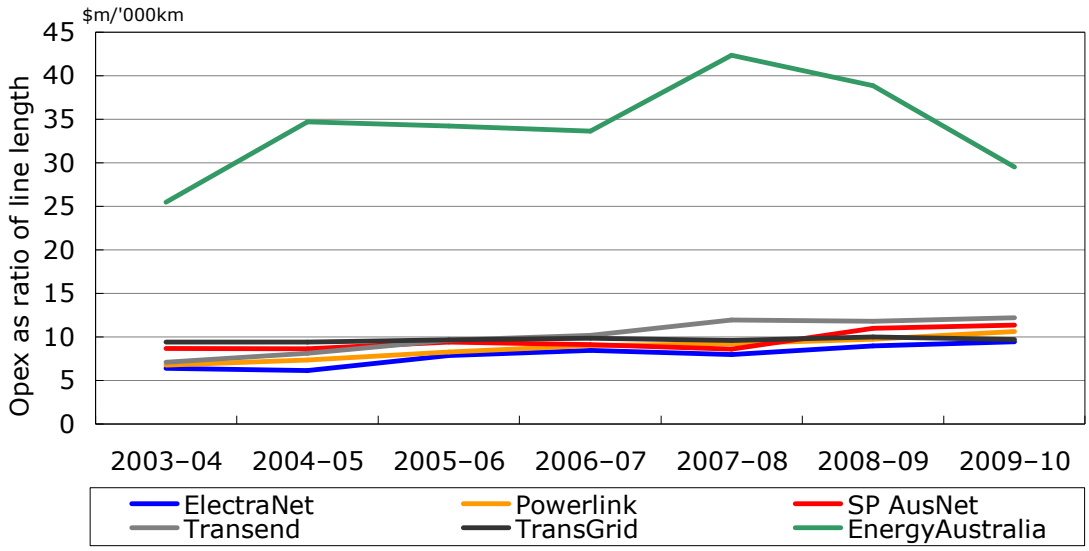


Source: AER calculations based on TNSP regulatory reports

Similar to the TNSPs, maintenance is the main opex cost driver for the two interconnectors. It should be noted that the interconnectors do not incur any opex for field support or network operations as do the other TNSPs.

F Comparison of opex to line length ratio

Figure F.1 Opex as ratio of line length



Source: AER calculations based on TNSP regulatory reports

EnergyAustralia's opex to line length ratio is significantly higher than the other TNSPs. This is due to the unique function of its transmission network operating in parallel and in support of TransGrid's network. EnergyAustralia's transmission network is utilised during times of peak load and demand in Sydney and NSW. Thus, despite its small network line length, it still incurs a relatively high opex in order to maintain its network.