Final report to

Australian Energy Regulator

Review of ETSA Utilities customer number forecasts for the 2010 to 2015 price review

16 October 2009

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Ref: J1770 ETSA

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1	21 Sept 2009	Draft to AER	LC, MG
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3	16 Oct 2009	After comments from ETSA	RL, LC

EXECUTIVE SUMMARY

Introduction

The Australian Energy Regulator (AER) is responsible for the economic regulation of electricity distribution services provided by distribution network service providers (DNSPs) and is conducting an assessment into the appropriate revenues and prices for ETSA Utilities in South Australia from 1 July 2010 to 30 June 2015.

The AER has engaged McLennan Magasanik Associates (MMA) to assist it in reviewing the customer number forecasts provided by ETSA Utilities in its 2010–2015 Regulatory Proposal and associated Regulatory Information Notice (RIN) templates. This report documents the results of the review of the customer number forecasts.

ETSA Utilities proposal

Between 2005 and 2009 (assuming that ETSA Utilities 2009 estimate is close to the actual customer numbers), ETSA Utilities experienced a residential customer number growth rate of around 1.3% pa or an average annual residential customer number increase of about 9,100 pa. Over the forecast period, the growth rate is expected to decline slightly to under 1.2% pa or around 8,500 customers pa. This is shown in Table E-1.

Table E-1 ETSA Utilities recent historical and forecast customer number growth

	Actual	Forecast
	2005-2009	2010-2015
Residential		
% Growth pa	1.33%	1.16%
Number pa	9,120	8,490
Total - all customers		
% Growth pa	1.25%	1.09%
Number pa	9,742	9,139

We understand that the ETSA Utilities forecasts have been based on forecasts made for it by the National Institute of Economic and Industry Research (NIEIR).

We have assessed the forecast customer number growth against the two key drivers of residential customer numbers – population growth and changes to household size.

Population growth

Between 2001 and 2008 population in South Australia grew by 0.8% pa. NIEIR has forecast South Australian population growth to average around 0.8% pa between 2008/09 and 2013/14. The ABS projects that the South Australian population would grow by between 0.89% pa and 1.07% pa between 2009 and 2015. In its 2009 Annual Planning Report, ESIPC quotes KPMG's population base case growth projections of 1% pa for South Australia.

Taking these into account we consider that the population growth for South Australia is likely to lie between 0.9% pa and 1.1% pa. It appears that NIEIR's forecast of population growth of about 0.8% pa between 2009 and 2014 is just outside the low end of the forecast range although consistent with the growth rate experienced between 2001 and 2008.

Household size

Based on the ABS census data, persons per dwelling in South Australia fell from 2.33 in 1996 to 2.25 in 2001. This is a decline rate of -0.7%pa. However, the rate of decline was significantly lower in the period between 2001 and 2006 when the decline rate of persons per dwelling was -0.2%. This change in growth rate could reflect the higher cost of home ownership, reducing divorce rates and rental accommodation resulting in fewer new household formations over that period and the increased fertility rate. It seems reasonable to assume that the rate of decline in persons per dwelling will be similar to that over the period 2001 to 2006 although it might reduce by -0.4% pa as forecast by NIEIR.

Dwelling and Customer numbers

Using ABS census data from 1996, 2001 and 2006, it appears that the net growth rate of dwellings in South Australia has been around 1% pa. However, in its report to NEMMCO, KPMG Econtech forecast that the South Australian dwelling stock would increase by 1.4% pa from 2009/10 to 2019/20. The NIEIR customer growth rate forecast of 1.16% is slightly higher than the historical rate of dwelling growth.

In MMA's view, given that the South Australia population is likely to grow at 0.9% to 1.1% pa and persons per dwelling is expected to continue declining at around 0.2%to 0.4% pa, dwelling numbers are likely to increase at around 1% to 1.5% pa over the forecast period. Given that almost all dwellings are residential customers, the growth in customer numbers is likely to increase at the same rate of growth in net dwellings. MMA is of the opinion that this is likely to be between 1.1% and 1.5%.

ETSA Utilities forecast residential customer number growth of 1.16% pa is within this range and is therefore considered reasonable.

Non-residential customer numbers

Non-residential customer numbers make up fewer than 13% of total customer numbers. By the end of the next regulatory period in 2014/15, ETSA Utilities forecasts that the ratio would fall to12%. ETSA Utilities states that a long-term growth rate of 0.64% pa has been used to escalate business customer numbers, with business growth assumed to occur at levels slightly below historic growth rates, owing to the effects of the current economic downturn.

MMA undertook a regression analysis against residential customer numbers to determine the relationship between non-residential and residential customer numbers. This relationship may be represented by the following mathematical equation:

Number of non-residential customers = 50,635.39 + 0.068876*Number of residential customers

The regression analysis achieved an R-squared value of 0.9932 indicating a robust relationship.

Based on the regression analysis, MMA is of the view that the ETSA Utilities non-residential customer number over the forecast period 2011 to 2015 appears reasonable.

Conclusion

In conclusion we consider the ETSA Utilities customer number forecasts included in its Regulatory Proposal to be reasonable.

1 INTRODUCTION

1.1 Background – review of revenues and prices

The Australian Energy Regulator (AER) is responsible, under the National Electricity Law (NEL) and National Electricity Rules (NER), for the economic regulation of electricity distribution services provided by distribution network service providers (DNSPs) in the National Electricity Market (NEM).

The Australian Energy Regulator (AER), in accordance with the NER, is required to determine the revenue requirements and prices for services provided by ETSA Utilities in South Australia from 1 July 2010 to 30 June 2015 (the next regulatory control period).

The NER require the AER to accept the forecasts of operating and capital expenditures in the DNSPs' regulatory proposals if they reasonably reflect, amongst other things, realistic expectations of demand (refer to clauses 6.5.6(c) (3) and 6.5.7(c) (3) of the NER).

1.2 Role of demand forecasts

Demand forecasts potentially play a significant role in two components of a regulatory review in determining:

- the required capital (and to a lesser extent operating) expenditures applying to a DNSP. Capital and operating expenditures, in turn, are major inputs into the revenue required by the DNSPs over the 2010 to 2015 period.
- tariffs to apply under price cap regulation (pricing proposal). Here, in simple terms, tariffs are set by dividing the required revenue stream by the forecast demand.

The two components require different but related demand forecasts. The forecasts of most relevance to capital expenditure requirements are those of maximum demand (MD) at both a system or "global" and more localised, "spatial", level. Forecasts of most relevance to determining tariffs are those related to energy and customer numbers.

ETSA Utilities will be regulated under a weighted average price cap mechanism As such, the forecasts of customer numbers are important for both helping to determine the capital expenditure related to new customers and also in estimating revenues related to customers.

1.3 Review of customer number forecasts

The AER has engaged McLennan Magasanik Associates (MMA) to assist it in reviewing the customer number forecasts provided by ETSA Utilities in its 2010–2015 regulatory proposal. MMA is required to undertake a desktop review to inform the AER of its view on the reasonableness of ETSA Utilities forecasts.

1.4 Conventions adopted

Unless otherwise stated, all years referred to in the report are for financial years ending June 30 of the year stated. For example, unless otherwise, stated 2010 refers to the financial year ending June 30th 2010.

2 REVIEW OF CUSTOMER NUMBERS

This report examines the ETSA Utilities forecasts of growth in residential and non-residential customer numbers. MMA has concentrated on reviewing residential customer numbers as residential customers constitute over 87% of all customers according to ETSA Utilities actual 2007/08 customer numbers. This ratio is forecast to increase slightly to 88% over the forecast period.

2.1 Sources of information

ETSA Utilities customer number history and forecasts have been taken from ETSA Utilities Regulatory Proposal. In reviewing ETSA Utilities customer numbers MMA has utilised forecasts undertaken by the National Institute of Economic and Industry Research (NIEIR) as provided by ETSA Utilities in its submission as well as from KPMG Econtech. MMA has also utilised various economic and demographic indicators from the Australian Bureau of Statistics (ABS) including Gross State Product (GSP) and historical population and housing statistics. Forecasts provided by the Housing Industry Association and the Construction Forecasting Council have also been used in assessing growth in dwellings and hence customer numbers. South Australia population data from the Electricity Supply Industry Planning Council (ESIPC, now AEMO) has also been used.

2.2 ETSA Utilities proposal

Between 2005 and 2009 (assuming that ETSA Utilities 2009 estimate is close to the actual customer numbers), ETSA Utilities experienced a residential customer number growth rate of around 1.3% pa or an average annual residential customer number increase of about 9,100 pa. Over the forecast period, the growth rate is expected to decline slightly to under 1.2% pa or around 8,500 customers pa. This is shown in Table 2-1.

Table 2-1 ETSA Utilities recent historical and forecast customer number growth

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Total - all customers		
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In Section 2.3.8 Demand Forecast of its Regulatory Proposal, ETSA Utilities indicates that its forecast residential customer numbers "*have been determined on the basis of NIEIR's forecasts of customer numbers for that calendar year, taking the average of the opening and closing*

numbers of these customers" .[1,2] For business customers, ETSA Utilities states that a long-term growth rate of 0.64% pa has been used to escalate business customer numbers, with business customer number growth assumed to occur at levels slightly below historic growth rates, owing to the effects of the current economic downturn[1].

At the beginning of the current regulatory period, ETSA Utilities supplied a total of over 776,300 customers (excluding controlled load customers). Of these, some 679,000 customers (about 87.5%) were residential customers. Over the current regulatory period, the number of residential customers is expected by ETSA Utilities to grow to over 717,500 by 2009/10, a compounded annual growth rate of about 1.4% pa. Total customer numbers are expected to reach 817,500 by 2009/10. As a proportion, residential customers would account for 87.8% of total customers by the end of the current regulatory period.

According to ETSA Utilities, growth in residential customer is expected to average around 1.16% pa while total customer growth is expected to be 1.09% pa over the forecast period to 2014/15. By 2014/15, total customer numbers are expected to reach over 863,200 with residential customers numbers making up 88% or almost 760,000. The historical ETSA Utilities customer numbers and forecast are shown in Table 2-2.

Table 2-2 ETSA Utilities customer number forecast

Customer numbers	Current regulatory period					Next regulatory period				
	Actual			Estimate		Forecast				
	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Major Business	20	20	20	20	20	23	23	23	23	23
High Voltage Business	175	179	180	184	185	186	187	188	189	190
Low Voltage Business	97,041	97,980	98,495	99,168	99,804	100,442	101,087	101,735	102,388	103,045
Total non residential customers	97,236	98,179	98,695	99,372	100,009	100,651	101,297	101,946	102,600	103,258
Residential	679,069	688,524	697,518	707,224	717,524	727,511	736,863	744,832	752,179	759,972
Residential growth		1.4%	1.3%	1.4%	1.5%	1.4%	1.3%	1.1%	1.0%	1.0%
Total - all customers	776,305	786,703	796,213	806,596	817,533	828,162	838,160	846,778	854,779	863,230
Growth p.a. %		1.3%	1.2%	1.3%	1.4%	1.3%	1.2%	1.0%	0.9%	1.0%
Residential/ total	87.5%	87.5%	87.6%	87.7%	87.8%	87.8%	87.9%	88.0%	88.0%	88.0%
Controlled Load Business and Residential	299,135	302,844	279,156	266,617	254,167	241,670	229,078	216,278	203,385	190,559
Controlled Load growth		1.2%	-7.8%	-4.5%	-4.7%	-4.9%	-5.2%	-5.6%	-6.0%	-6.3%

1 ETSA, *ETSA Utilities Regulatory Proposal, RIN 47,*Section 2.3.8 Demand Forecast.

2 In its comments on the daft report, ETSA questions the source of this statement and states that *"the customer numbers used in the forecast, and from which NIEIR has forecasted future customer numbers, are 30 June Financial (and Regulatory) Year numbers"*.

2.3 Economic overview

In assessing the general economic outlook over the next five or six years MMA has utilised forecasts by the NIEIR[3] as provided by ETSA Utilities in its submission. MMA also referred to KPMG Econtech's forecast provided to NEMMCO in March 2009[4].

Over the past few years economic growth in South Australia has lagged the Australian economic growth rate. Between 2003 and 2008, real South Australian GSP growth averaged 2.4% pa, significantly lower than the Australian economic growth rate of 3.4% pa over the same period. As a result of the GFC, NIEIR has forecast that the Australian economy will not return to the September quarter 2008 value till the June quarter 2011. GDP growth is forecast to be negative for 2009 (-0.2%) and 2010 (-1.3%) before returning to positive growth of 1.4% in 2011. In 2012 and 2013, the Australian GDP growth rate is forecast to be between 4 and 5 per cent. While this growth rebound is typical for recovery years, NIEIR forecasts that the high growth rates will not be sustained and the economic growth falls back to 0.6% in or by 2015.

NIEIR forecasts the South Australian GSP to rise by only 0.1% in 2008-09, and then fall by 0.8% in 2009-10. A recovery in GSP growth in South Australia occurs in 2011-12, where growth is projected to be 2.4%. On average, South Australian GSP growth is expected to average 1.2% pa over the 2008-09 to 2014-15 period.

Table 2-3 South Australia Economic Outlook (% Growth)

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2013/14	2008/09 to 2014/15
Gross state product	0.6	3.8	0.1	-0.8	1.4	2.4	1.1	0.5	2.4	1.2
Population	1.1	1.1	1.1	0.9	0.8	0.7	0.8	0.8	0.8	0.8

Source: NIEIR

In its report to NEMMCO[4], KPMG Econtech noted that while the South Australia economy has been expanding in recent years, it is forecast to slow in 2009/10 due to the global financial crisis and the turn in the commodity cycle. GSP is forecast to grow at 1.2% in 2009/10. This is significantly higher than the NIEIR forecast which has South Australia experiencing a negative 0.8% economic growth in 2009/10. Over the medium term, KPMG Econtech forecasts that growing population and major public infrastructure investments will lead to increasing dwelling investment and stronger GSP growth.

[3] Two NIEIR documents have been used: A Preliminary Report to ETSA Utilities, *Electrical energy projections for ETSA Utilities in South Australia to 2018-19* (May 2009) and A Preliminary Report to ETSA Utilities, *Modelling and forecasting of annual maximum demands in ETSA Utilities distribution area* (May 2009).

[4] KPMG Econtech, *NEMMCO Ltd Stage 2: Economic Scenarios and Forecasts for the NEM Regions 2008-09 to 2028-29*, March 2009.

2.4 Population growth

Over the period 2002 to 2008, South Australia's population grew at a rate of about 0.9% pa[5]. As with economic growth, this population increase is significantly lower than that for the Australian population as a whole (about 1.5% pa over that period) reflecting the lower economic and employment growth experienced in South Australia over these years. Over two census periods (1996 to 2006), the ABS reported that the South Australian population grew by 0.5% pa. Growth was around 0.2% pa between 1996 and 2001 before increasing significantly between 2001 and 2006 to 0.8% pa. According to NIEIR, population growth in South Australia in 2008/09 was 1.1%, a similar growth rate to the previous two years.

NIEIR's forecast of South Australian population growth has been provided in *Attachment D.1 NIEIR Energy Sales Forecast* provided by ETSA Utilities as part of its submission and averages around 0.8% pa between 2008-09 and 2013-14. This forecast is lower than the projections provided by the ABS. The ABS projects that the South Australian population would grow by between 0.89% pa and 1.07% pa[6] between 2009 and 2015. The ABS projections are shown in Table 2-4.

Table 2-4 ABS Population projection growth rates for South Australia

	2009-2015 (% pa)
Series A	1.07%
Series B	0.97%
Series C	0.89%

Source: ABS, 3222.0 Population Projections, Australia.

In its 2009 Annual Planning Report, ESIPC[7] quotes KPMG's population base case growth projections of 1% pa for South Australia. A comparison of the South Australian population projections from the ABS and ESIPC is provided in Table 2-5. As can be seen in Table 2-5, the ESIPC base case forecast is very similar to the ABS Series A projections. These forecasts provide for a population growth rate of approximately 1.1% pa over the 2010/11 to 2014/15 regulatory period. Over this period, the growth rate of 1.1% is higher than the comparable growth rate forecasted by NIEIR of 0.8%.

5 Australian Bureau of Statistics, 3201.0 Population by Age and Sex, Australian States and Territories Table 4.1, 2009.
6 Australian Bureau of Statistics 3222.0, *Population Projections, Australia, 2006 to 2101*, 4 Sep 08.
7 ESIPC, *AnnualPlanningReport*, June 2009, p19.

Table 2-5 Comparison of ABS population projections and ESIPC's population forecasts for South Australia

	ABS			ESIPC (KPMG)		
	Series A	Series B	Series C	Base	High	Low
2008-09	1617	1617	1617	1614		
2009-10	1634	1633	1632	1632	1634	1630
2010-11	1652	1649	1647	1650	1654	1646
2011-12	1670	1665	1662	1669	1675	1661
2012-13	1688	1682	1676	1687	1696	1676
2013-14	1706	1698	1690	1706	1717	1691
2014-15	1724	1714	1705	1725	1739	1706
2015-16	1743	1730	1718	1744	1760	1722
2016-17	1762	1746	1732	1764	1782	1737
2017-18	1781	1762	1745	1783	1804	1752
2018-19	1801	1778	1759	1802	1826	1767
Growth pa 2009/10 - 14/15	1.08%	0.97%	0.87%	1.11%	1.25%	0.92%

In its report to NEMMCO[8], KPMG Econtech noted that South Australia is no longer the slow population growth state[9]. Net overseas migration has been driven by the State Government's drive to attract migrants to South Australia. Between 2009/10 and 2018/19, KPMG Econtech has South Australian population growing at around 1.1% pa. This is slightly faster than the projected ABS population growth rate for South Australia however it is not clear what impact GFC will have on population growth, especially overseas and interstate migration.

Overall, the population growth forecast for South Australia is likely to lie between 0.9% pa and 1.1% pa. It appears that NIEIR's population forecast of 0.8% pa between 2009 and 2014 is just outside the low end of the forecast range although consistent with the growth rate experienced between 2001 and 2006.

2.5 Household size

The number of dwellings is related to both population and household size through the occupancy rate. As we have seen, population is forecast to grow by about 1% pa, however, occupancy rates are in decline. According to the ABS[10] the average household size in Australia is projected to decline from 2.6 persons per household in 2001 to between

8 KPMG Econtech, *NEMMCO Ltd Stage 2: Economic Scenarios and Forecasts for the NEM Regions 2008-09 to 2028-29*, March 2009.

9 However, in its August 2009 quarterly, Australian *National, State and Industry Outlook,* KPMG Econtech continues to use the term.

10 Australian Bureau of Statistics, *Household and Family Projections Australia*, (Document no 3236.0), June 2004.

2.2 and 2.3 persons per household in 2026. Australia's household size in 2011 is expected to be 2.5 persons per household.

There are several factors that explain the expected drop in average occupancy rates over the longer term.

Among these are:

- a falling fertility rate,
- ageing population and
- an increase in single parent families[11].

In South Australia, the ABS projected the household size in 2006 to be around 2.4 persons per household. By 2011, this was projected to fall to around 2.32 persons per household and by 2016, to around 2.25 persons per household[11].

However, the reality in more recent years has been somewhat different.

Based on the ABS census data, persons per dwelling fell from 2.33 in 1996 to 2.25 in 2001. This is a decline of -0.7% pa. However, the rate of decline was significantly lower in the period between 2001 and 2006 when the decline rate of persons per dwelling was -0.2%. This is shown in Table 2-6. We are unsure of the reason for this change in growth rate but it could reflect the higher cost of home ownership and rental accommodation resulting in fewer new household formations over that period. The introduction of the baby bonus scheme may also have acted to increase household sizes. However, while the underlying causes and the direction of occupancy rate growth over the period to 2015 are not clear, over the next regulatory period, MMA considers it most appropriate to assume a decline similar to that experienced recently.

Table 2-6 Total private dwellings, population and persons per dwelling, South Australia

Census	1996	2001	2006
Population	1,437,193	1,454,805	1,514,336
% growth pa		0.2%	0.8%
Total Dwelling	617,208	645,944	679,662
% growth pa		0.9%	1.0%
Persons per dwelling	2.33	2.25	2.23
% growth pa		-0.7%	-0.2%

Source: ABS, Cat. No. 2068.0 - 2006 Census Tables.

[11] Australian Bureau of Statistics, *Household and Family Projections Australia*, (Document no 3236.0), June 2004.

2.5.1 Estimated persons per dwelling changes

Applying the NIEIR forecast population growth rate to the Estimated Residential Population in South Australia for 2008 and dividing this by the forecast number for customers, we find that the NIEIR is forecasting that persons per customer declines from 2.3 in 2008 to 2.24 in 2014, a decline of -0.4% pa. Analysis of KPMG Econtech forecasts suggests they use a -0.3% rate.

These ratios are broadly consistent with the reduction in persons per household and thus appear reasonable.

2.6 Dwelling numbers

Dwelling growth is a combination of population growth and changes in persons per dwelling (occupancy rate).

Based on ABS 2006 census data there were 679,662 private dwellings in South Australia. The data from the ABS census conducted in 1996, 2001 and 2006 are shown in Table 2-7.

Table 2-7 ABS census dwelling data

ABS Census	Dwellings	Growth in dwellings (% pa)
1996	617,208	
2001	645,944	0.91%
2006	679,662	1.02%

Using ABS census data from 1996, 2001 and 2006, it appears that the net growth rate of dwellings in South Australia has been around 1% pa. There is evidence however, that the rate of growth may have increased in the more recent years although this increase is likely to be relatively small. Between 1996 and 2001, the rate of dwelling growth was just over 0.91% pa. The rate of growth between 2001 and 2006 was over 1% pa. If this trend continues over the study period, it is likely that the growth rate in dwellings could approach 1.1% pa. However, the current economic environment may dampen this increasing trend.

Table 2-8 shows historical and forecast housing starts as compiled by the HIA[12] in May and September 2009. The forecasts for 2010 and 2011 provided by the HIA in September 2009 have increased significantly from their May 2009 forecast possibly reflecting the increased confidence in the economic recovery from the GFC. As a result, gross growth for these two years has increased from 1.6% pa in the May 2009 forecast to 1.8% pa in the September 2009 forecast.

[12] HIA Economics Group, Forecasts - May 2009 and Forecasts - September 2009.

Table 2-8 HIA dwelling starts forecast

FY	HIA dwelling starts ('000)	
	May 2009	September 2009
2003	10,250	10,250
2004	10,390	10,390
2005	11,000	11,010
2006	10,740	10,780
2007	11,180	11,170
2008	11,880	11,890
2009	12,460	12,330
2010	11,560	12,130
2011	11,540	13,480

Source: HIA Housing Starts Forecast, May and September 2009.

The historical grow rates derived from the ABS census data are slightly lower than the HIA housing starts data, which suggests that the gross number of dwellings grew by 1.7% pa between 2006 and 2009. The HIA forecasts that the number of dwellings would grow by around 1.8% pa in 2010 and 2011. However, these growth rates do not take into consideration any demolition of existing dwelling units. In 2008, the Department of the Environment, Water, Heritage and the Arts applied a demolition rate of 0.18% nationally to the existing dwelling stock each year[13]. Similarly, the Australian Greenhouse Office applied a national demolition rate of approximately 0.2%[14].

According to ETSA Utilities, over the last 3 years there were an average of 3000 NMI deletions from the customer numbers each year. Given that deletions and demolitions are likely to be very similar a deletion of 3,000NMI's in a total customer base of 800,000 is equivalent to 0.38% pa. Actual net dwelling growth rates are thus likely to be lower then the gross dwelling figures suggests, by perhaps approximately 0.2% to 0.4% because of demolitions.

In its report to NEMMCO[15], KPMG Econtech forecast that the South Australian dwelling stock would increase by between 1.4% pa from 2008 to 2015. While this is higher than other forecasts, it is reasonably consistent with the higher population growth rates forecast by KPMG Econtech.

In MMA's view, given that the South Australia population is likely to grow at some 0.9% to 1.1% pa and persons per dwelling to decline at around 0.2% to 0.4% pa, dwelling numbers are likely to increase at around 1.1% to 1.5% pa over the forecast period.

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13 Department of the Environment, Water, Heritage and the Arts, *Energy Use In The Australian Residential Sector 1986-2020*, 2008, p11.

14 AGO,*Australian Residential Building Sector Greenhouse Gas Emissions 1990 – 2010 Final Report 1999*, p44.

15 KPMG Econtech, *NEMMCO Ltd Stage 2: Economic Scenarios and Forecasts for the NEM Regions 2008-09 to 2028-29*, March 2009.

2.7 Translating dwelling growth to customer number growth

Estimating the growth of electricity customers within a region is relatively simple. As virtually all dwellings within a region consume electricity, the number of electricity customers corresponds well with the number of dwellings. The growth in electricity customer numbers should similarly correspond well with the growth in dwelling numbers.

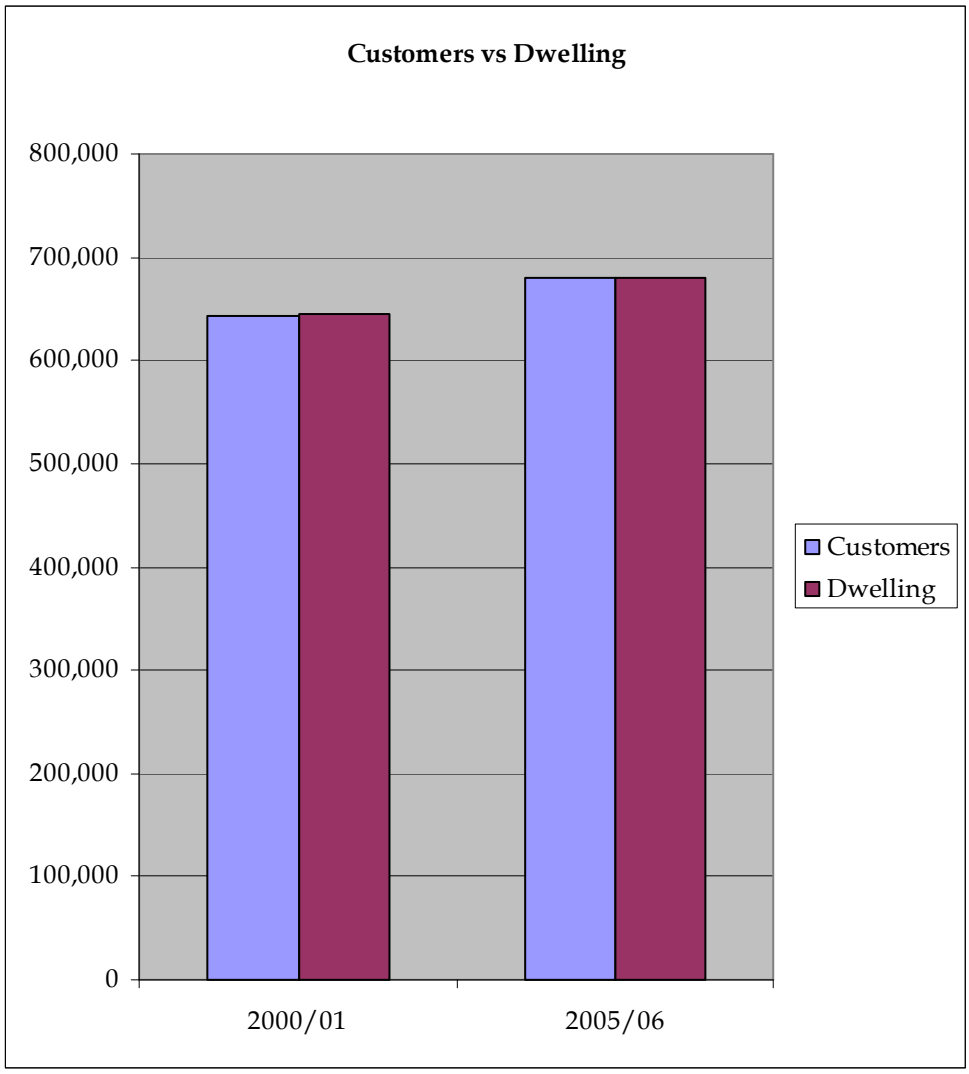
There is little difference between dwelling numbers and residential customer numbers in the ETSA Utilities regulatory submission, with residential customer numbers being slightly less than dwelling numbers for the state. This difference has diminished over the last two census periods from 0.4% in 2001 to less than 0.1% in 2006[16]. The difference may be caused by a number of factors, including;

- Timing of counting new homes and
- Unoccupied houses without electricity supply.

We next looked at the ratio of customers per dwelling. The differences between dwelling and customer numbers are only important if they highlight disparities between customer and dwelling numbers in an individual DB or if the ratio of customers to dwellings is changing. If there is an increasing or decreasing trend in the ratio then a growth rate based on dwelling growth rates will understate or overstate the real expected growth rate respectively. Based on the census data and available residential customer numbers, the difference is small and the ratio appears to be fairly stable. This is seen in Figure 2-1 based on the 2001 and 2006 census data.

[16] ABS 2001 Census has 645,944 dwellings in South Australia at while the 2006 Census had 679,622. This translates to a customer to dwelling ratio of 0.9961 in 2001 and 0.9991 in 2006.

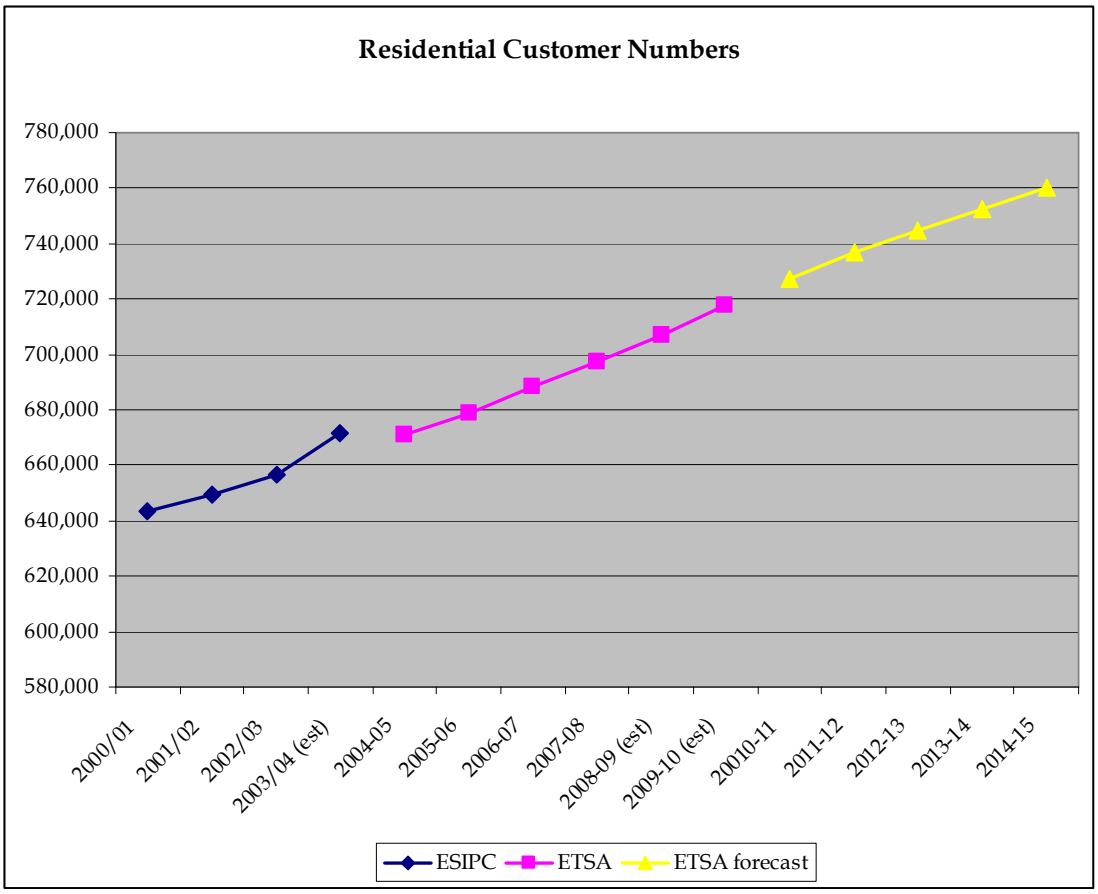
Figure 2-1 ETSA Utilities residential customer vs South Australia dwelling numbers



2.8 Customer numbers growth rates

The historical and forecast customer numbers are shown in Figure 2-2. It appears that ETSA Utilities residential customer number growth has been fairly consistent, growing around 1.2% pa from 2000/01. A slightly lower growth trend of 1.16% pa has been projected into the forecast period, also seen in Figure 2-2.

Figure 2-2 ETSA Utilities Customer Numbers, 2000/01 to 2014/15



Sources: ETSA Utilities Demand Forecast and ESIPC, Report to the Essential Services Commission of SA, Sales forecasts by tariff category for South Australia's electricity distribution network for the period 2005-06 to 2009-10, 14 Sep 2004.

Given that the ratio of customer per dwelling remained reasonably consistent between 0.996 and 0.999, as seen in Figure 2-1, with the 2001 and 2006 census data and the short length of the historical data available we consider it reasonable to translate the dwelling growth directly into customer number growth.

2.9 Conclusion on ETSA Utilities residential customer numbers forecast

Population growth forecast ranges from 0.9% to 1.1% pa. The persons per dwelling ratio has recently been declining at -0.2% pa based on the last two ABS census data although higher rates of decline had been expected (see for example the ABS Household and Family Projection). Over the coming regulatory period it might reasonably be expected to decline at -0.2% to -0.4% pa. This results in a dwellings growth of around 1.1% to 1.5%pa.

Given that almost all dwellings are residential customers, the growth in customer numbers is likely to increase at the same rate of growth in net dwellings. MMA is of the opinion that the rate of growth in net dwellings is likely to be between 1.1% - 1.5%. ETSA Utilities forecast customer number growth of 1.16% pa between 2010/11 and 2014/15 is within this range and appears reasonable.

Based on the last known actual residential customer number (as at June 2008), the ETSA Utilities residential customer growth ate of 1.23% pa forecast (to 2014/15) also falls within the likely net dwelling growth range.

2.10 Non-residential customer numbers

Non-residential customer numbers make up fewer than 13% of total customer numbers. In 2004/05, the ratio of non-residential customers to total customers was 12.6%. This ratio fell to 12.4% in 2007/08. ETSA Utilities has estimated that the ratio in 2009/10 would be 12.2%. There is thus a small decrease over time of non-residential customers relative to residential customers. By the end of the next regulatory period in 2014/15, ETSA Utilities forecast that the ratio would fall further to 12%. This appears reasonable given the current economic environment.

For non-residential customers, ETSA Utilities states that a long-term growth rate of 0.64% pa has been used to escalate business customer numbers, with business growth assumed to occur at levels slightly below historic growth rates, owing to the effects of the current economic downturn[17].

MMA undertook a regression analysis to determine the relationship between non-residential and residential customer numbers over the period 2004/05 to 2009/10. This relationship may be represented by the following mathematical equation:

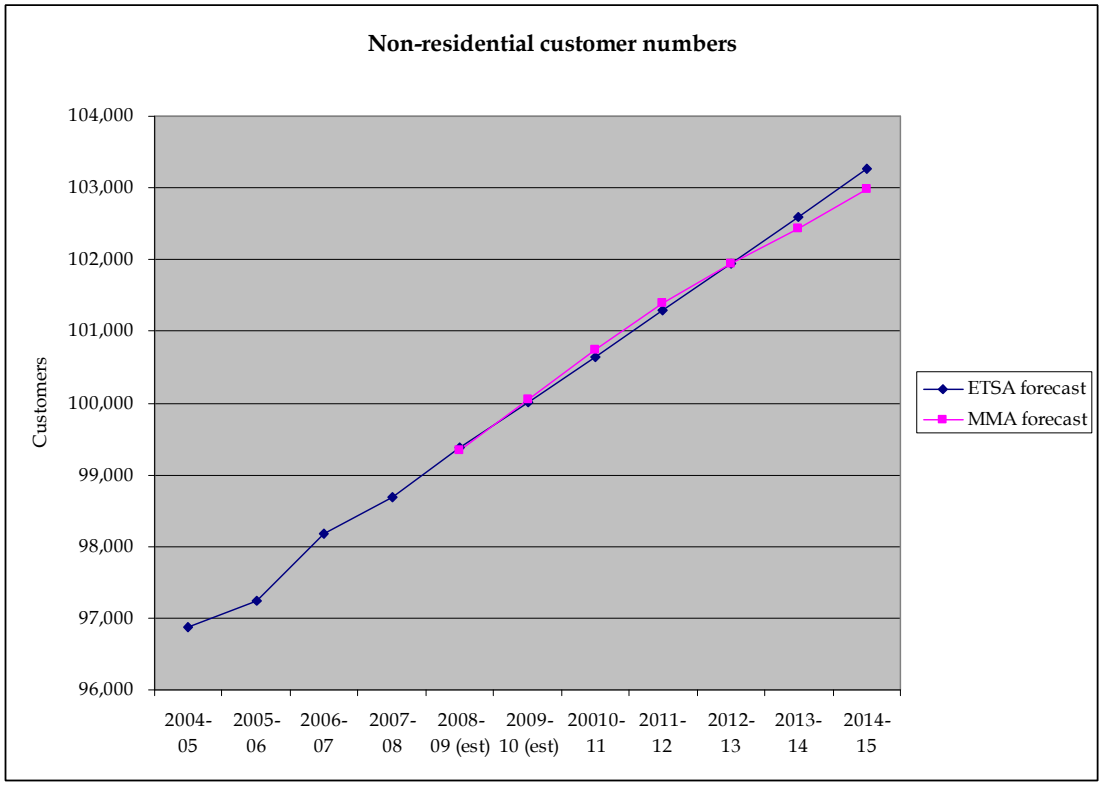
Number of non-residential customers = 50,635.39 + 0.068876*Number of residential customers

The regression analysis achieved an R-squared value of 0.9932 indicating a robust relationship.

The MMA non-residential customer number forecast based on this relationship is shown in Figure 2-3.

[17] ETSA, *ETSA Utilities Regulatory Proposal, RIN 47*,Section 2.3.8 Demand Forecast.

Figure 2-3 ETSA Utilities non residential customer cumbers, 2004/05 to 2014/15



Based on the regression analysis, MMA is of the view that the ETSA Utilities non-residential customer number appears reasonable, possibly a little high in the final two years of the period.