ICRC

independent competition and regulatory commission

Final decision

Retail electricity price recalibration 2015–16

Standing offer prices for the supply of electricity to small customers

Report 5 of 2015, June 2015

The Independent Competition and Regulatory Commission is a Territory Authority established under the *Independent Competition and Regulatory Commission Act 1997* (the ICRC Act). The Commission is constituted under the ICRC Act by one or more standing commissioners and any associated commissioners appointed for particular purposes. Commissioners are statutory appointments and the current Commissioners are Senior Commissioner Malcolm Gray and Commissioner Mike Buckley. We, the Commissioners who constitute the Commission, take direct responsibility for delivery of the outcomes of the Commission.

We have responsibilities for a broad range of regulatory and utility administrative matters. We have responsibility under the ICRC Act for regulating and advising government about pricing and other matters for monopoly, near-monopoly and ministerially declared regulated industries, and providing advice on competitive neutrality complaints and government-regulated activities. We also have responsibility for arbitrating infrastructure access disputes under the ICRC Act. In discharging our objectives and functions, we provide independent robust analysis and advice.

Our objectives are set out in section 7 of the ICRC Act and section 3 of the *Utilities Act 2000*.

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1 Introduction

1.1 Background

On 20 September 2013, the Treasurer signed terms of reference under the *Independent Competition and Regulatory Commission Act 1997* (the ICRC Act) for a price direction for the supply of electricity by ActewAGL Retail to customers on its regulated retail tariff for the period commencing 1 July 2014. This was replaced by a revised terms of reference signed by the Acting Treasurer on 2 February 2014.[1]

In accordance with the terms of reference the Commission released its final report[2] and price direction[3] for the 2014 to 2017 period in June 2014. The price direction determined a maximum change in the average regulated retail price for 2014–15 and set out an annual price recalibration process for the subsequent two years of the regulatory period.

This report sets out the Commission's final decision on the annual price recalibration for 2015–16.

1.2 Structure of the report

The remainder of this report is structured as follows:

- Chapter 2 describes the annual recalibration process set out in the 2014–17 price direction.
- Chapter 3 establishes the efficient costs of supplying electricity to customers on the regulated tariff in accordance with the Commission's methodology.
- Chapter 4 sets out the Commission's final decision on the maximum allowed change in ActewAGL Retail's regulated retail electricity prices in 2015–16.
- Chapter 5 analyses the impact of the price change on customer bills.
- Appendix 1 reproduces the revised terms of reference.

[1] The terms of reference, shown in Appendix 1, was revised to change certain terminology to ensure consistency with the National Electricity Customer Framework and prescribed a three-year regulatory period.

[2] See http://www.icrc.act.gov.au/wp-content/uploads/2013/10/Report-4-of-2014-Final-Report-Standing-offer-prices-for-the-supply-of-electricity-to-small-customers.pdf.

[3] See http://www.icrc.act.gov.au/wp-content/uploads/2014/10/Report-5-of-2014.pdf.

2 Annual price recalibration process

2.1 The assessment process

Clause 8.2 of the 2014–17 price direction sets out an annual recalibration process for the 2015–16 and 2016–17 regulatory years as follows:

(a) On or before 10 May, ActewAGL Retail must submit to the Commission the following information:

  (i) Calculation of costs associated with achieving environmental objectives for the year in question, including Large-scale Renewable Energy Target (LRET), Small-scale Renewable Energy Scheme (SRES) and ACT Energy Efficiency Improvement Scheme (EEIS) costs, and any proposed adjustments.

  (ii) Full accounting of all proposed pass-through event costs that may be claimed under clause 9 and its sub-clauses.

(b) ActewAGL Retail must submit to the Commission for verification the updated network cost allowance for the regulated customer load as soon as ActewAGL Distribution's network charges are approved by the Australian Energy Regulator (AER).

(c) As per clause 8.4, the Commission will determine the energy purchase cost component based on data available up to 31 May.

(d) As per clause 8.4, the Commission will determine the value of Y^t, which is the percentage by which the weighted average price cap may adjust. The Commission will provide its determination to ActewAGL Retail on or before 7 June, although this date may be extended if approved network charges have not been published by the AER in time for the Commission to adhere to this date.

(e) ActewAGL Retail must provide the Commission with its proposed schedule(s) of standing offer prices including the associated weighted average price cap calculations.

(f) Subsequent to clause 8.1(e) occurring, the Commission will – subject to an assessment that the proposals are consistent with the Price Direction – approve the proposed prices within two business days of receipt of the proposed schedule(s).

The price direction also provides for the maintenance of current prices into the new regulatory year in the event the AER does not approve network costs in time to allow the Commission to determine the maximum average percentage change in prices for the new prices to apply on 1 July.

2.2 Calculating the value of Y^t

Clause 8.2 of the price direction requires the Commission to determine Y^t to be the percentage change in the cost index calculated from the components listed in Table 2.1.

Table 2.1 Components of the cost-index model

Component	Method
Energy purchase cost	As determined by the Commission at the time of the recalibration using the energy purchase cost model set out in clause 8.4 of the price direction
LRET and SRES costs	Estimates from ActewAGL Retail for the 2015–16 and 2016–17 years respectively, which are verified and applied using the Commission's methodology
Energy Efficiency Improvement Scheme	Estimates from ActewAGL Retail for the 2015–16 and 2016–17 years as required, subject to a prudence and efficiency assessment, with costs determined using the Commission's methodology
Energy losses	Calculated using the formula in Chapter 2 of the final report and using the Australian Energy Market Operator's (AEMO) marginal loss factor and distribution loss factor estimates for 2015–16 and 2016–17 as appropriate
Energy contracting costs	Previous year's value adjusted by the change in the consumer price index
National Electricity Market (NEM) fees	Previous year's value adjusted by the change in the consumer price index
Retail operating costs	Previous year's per customer value adjusted by the change in the consumer price index
Network costs	As determined and approved by the AER and applied by ActewAGL Retail to the standard retail contract customer load, and subsequently verified by the Commission
Cost pass-through	Cost pass-through verified by the Commission in current dollars as adjusted by the change in the consumer price index
Retail margin	Use a formula for the retail margin expressed in ex post terms, equivalent to a margin of 6.04 per cent measured ex ante

2.3 Calculation of the change in the consumer price index

Clause 8.3 of the price direction requires the Commission to calculate the percentage change in the consumer price index (CPI) for any relevant year t using the following formula, populated with the Australian Bureau of Statistics all groups index for the weighted average of eight capital cities:

$$\Delta \mathrm{CPI}_t = \frac{\mathrm{CPI}_{\mathrm{Mar}(t-2)} + \mathrm{CPI}_{\mathrm{Jun}(t-2)} + \mathrm{CPI}_{\mathrm{Sep}(t-1)} + \mathrm{CPI}_{\mathrm{Dec}(t-1)}}{\mathrm{CPI}_{\mathrm{Mar}(t-3)} + \mathrm{CPI}_{\mathrm{Jun}(t-3)} + \mathrm{CPI}_{\mathrm{Sep}(t-2)} + \mathrm{CPI}_{\mathrm{Dec}(t-2)}} - 1$$

2.4 Information provided by ActewAGL Retail

ActewAGL Retail provided the Commission with a confidential submission on 8 May 2015 as required under clause 8.2(a) of the price direction. The submission included information on the costs associated with the national and local environmental

schemes. ActewAGL Retail did not propose any pass-through events to be incorporated in 2015–16 prices under clause 9 of the price direction.[4]

Following the submission of ActewAGL Distribution's 2015–16 network pricing proposal to the AER on 21 May 2015, on 28 May 2015 ActewAGL Retail provided the Commission with its 2015–16 network cost allowance proposal for the regulated ACT customer load. ActewAGL Distribution's pricing proposal was approved by the AER on 12 June 2015.

[4] ActewAGL Retail, 2015: 8.

3 Analysis of efficient costs for 2015–16

3.1 Introduction

This chapter sets out the Commission's determination of the efficient costs of supplying electricity to customers on standard retail contracts in 2015–16, the second year of the 2014–17 regulatory period, using the cost-index model. The Commission's cost-index model is described in detail in the Commission's draft report on standing offer prices for the supply of electricity to small customers from 1 July 2014 to 30 June 2017 published in February 2014.[5]

There are three main cost categories in the build-up to the total cost of providing electricity to customers:

- wholesale energy costs, which comprise energy purchase costs, LRET and SRES costs, energy losses, energy contracting costs and National Electricity Market (NEM) fees;
- network costs, which include transmission and distribution costs; and
- retail costs, which comprise retail operating costs and EEIS compliance costs.

Each of these categories and their components are estimated in the remainder of this chapter.

In Chapter 4 these individual cost components are added together and multiplied by a retail margin to produce an overall cost in dollars per megawatt hour ($ per MWh). This cost is then compared to the cost calculated for 2014–15. This produces a maximum allowable percentage change that ActewAGL Retail can apply under the weighted average price cap to its basket of regulated retail tariffs in 2015–16.

3.2 Change in the consumer price index

Following clause 8.3 of the price direction, the Commission has calculated the change in the consumer price index to be applied in 2015–16 as 2.49 per cent:

$$\Delta \text{CPI}_{2015\text{–}16} = \frac{105.4 + 105.9 + 106.4 + 106.6}{102.4 + 102.8 + 104.0 + 104.8} - 1 = 0.0248792270531402$$

[5] Available at: http://www.icrc.act.gov.au/wp-content/uploads/2013/10/Report-1-of-2014-Draft-report-web.pdf.

3.3 Energy purchase cost

3.3.1 Price direction requirements

Clause 8.4 of the price direction requires the Commission to calculate energy purchase costs for 2015–16 as follows:

$$EPC_s = FP_s \times [(1 - M_s) \times LS_s + M_s \times LR_s] \text{ and}$$

$$\text{EPC} = \sum_{i=1}^{4} w_s \times \text{EPC}_s$$

where the following are defined for each quarter s:

- EPC_s denotes the energy purchase cost.
- FP_s denotes the forward price.
- M_s denotes the forward price margin.
- LS_s denotes the load shape.
- LR_s denotes the load ratio.
- w_s denotes the quarterly load weight.
- EPC without the subscript denotes the annual energy purchase cost.

3.3.2 Forward price

The forward price is calculated using carbon-exclusive over-the-counter (OTC) contracting data provided by ICAP. The price direction requires the forward price for 2015–16 to be calculated over a 23-month averaging period from 1 July 2013 to 31 May 2015.

The Commission adopted a 23-month forward price averaging period in its cost-index model on the basis that prudent retailers typically hedge well in advance of the year in which they supply customers. This period was applied in calculating the 2014–15 forward price. However, due to a lack of liquidity in the contract market in July and August 2013, ICAP only started reporting price data for 2015–16 contracts from 2 September 2013.[6] This has the practical effect of limiting the averaging period to a maximum of period of 21-months using ICAP data.

The Commission considered four alternatives to deal with this issue:

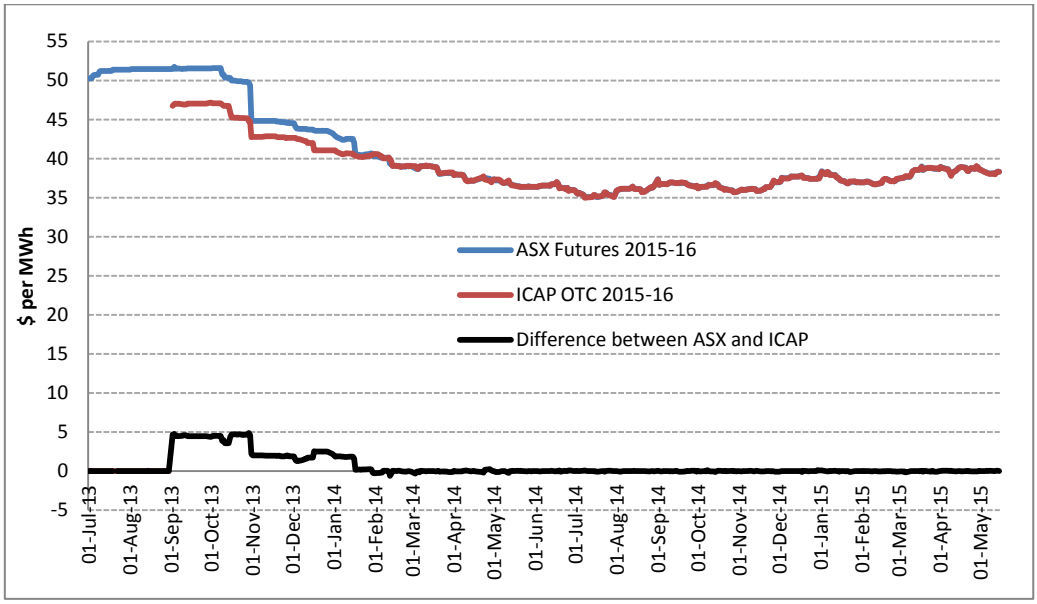
- first, using ICAP data, compare the 21-month forward price average for 2015–16 to the 23-month averaged forward price applied in 2014–15;

[6] Pers. comm. ICAP staff member, 16 April 2015.

- second, artificially construct the missing two months of ICAP data using Australian Securities Exchange (ASX) data and apply a 23-month averaging period;
- third, use the available 21-month period and recalculate the 2014–15 forward price on the basis of a 21- rather than 23-month averaging period; and
- fourth, use ASX data averaged over a 23-month period for both 2015–16 and 2014–15.

The first option was rejected for two reasons. First, a like-for-like comparison is essential to maintain comparability across adjacent years under the Commission's index approach. Second, effectively ignoring the missing ICAP data for the first two months of the 23-month period, the period over which prices would have been expected to be at their peak at their peak, would disadvantage ActewAGL Retail by producing a lower average forward price that would have been the case had the data been available for the full 23-month period.[7]

Figure 3.1 ASX and ICAP forward prices for the 2015–16 financial year, July 2013 to May 2015



Note: ASX prices implicitly include the cost of carbon while ICAP prices are carbon-exclusive.
Source: ASX and ICAP data.

The second and fourth options were rejected on the basis that they require a satisfactory level of comparability between the ASX and carbon-exclusive ICAP data, particularly with regard to the cost of carbon when the price on carbon was in force.

[7] Generally, observed forward electricity prices exceed the expected spot price due to the nature of the risks faced by market participants in the electricity market and the fact that unlike many commodities electricity is non-storable. This effect is called being in contango. In a contango situation the forward price will decline over time towards the expected spot price as the commencement of the forward period approaches.

When this matter was previously considered in relation to 2013–14 data, the Commission found the two data sources to be consistent and therefore to be good proxies for one another.[8] The 2013–14 data show a consistent difference of around $20 between ASX and ICAP data across the entire year, a similar amount to the cost of carbon. As shown in Figure 3.1, this consistency is not apparent in the 2015–16 data. This can be seen by the divergence between the ASX and ICAP curves from November 2013 through to about February 2014.

The Commission chose the third option as the preferred approach for three reasons. First, it maintains comparability across adjacent years under the Commission's index approach. Second, there is a precedent, set in the 2012–13 price determination and 2013–14 price reset, for the Commission applying a shorter averaging period than 23-months due to ICAP data constraints. Third, it is the option that is closest to the spirit and specific terms of the price direction.

ICAP provides annual financial year contract data, while the Commission's energy purchase cost model is constructed on a quarterly timeframe. Because of this difference, the Commission has adopted a single annual forward price for the relevant financial year rather than individual quarterly prices. Table 3.1 shows the forward prices for each calendar year quarter for the 2014–15 and 2015–16 financial years. The forward prices have been calculated as the simple average of ICAP prices over the 21-month period from 2 September 2012 to 31 May 2014 and 2 September 2013 to 31 May 2015 for 2014–15 and 2015–16, respectively.

Table 3.1 Quarterly forward prices, 2014–15 and 2015–16 (dollars per MWh)

Year	Q3	Q4	Q1	Q2
2014–15	40.68	40.68	40.68	40.68
2015–16	38.82	38.82	38.82	38.82

Source: Commission's calculations based on ICAP data.

Note: The 2014–15 quarterly forward prices have been recalculated from that contained in the 2014–15 price determination using a 21- rather than 23-month averaging period.

3.3.3 Uplift factor

A key element of the Commission's hedging strategy is the uplift factor which is applied to the forward price. The uplift factor comprises the load shape, the load ratio and the forward price margin. The forward price margin, set at 5 per cent, captures the observation that forward prices generally exceed average spot prices. The uplift factor is calculated as follows:

$$Uplift\ factor = (0.95\ \times load\ shape) + \ (0.05 \times load\ ratio)$$

[8] ICRC, 2013: 5.

Load shape

The load shape captures the relationship between the spot price and electricity load. The load shape is calculated using New South Wales spot prices and the net system load profile for ActewAGL Distribution, both reported by AEMO.

The quarterly average load shape for 2014–15 and 2015–16 is shown in Table 3.2, and the underlying quarterly load shape data from 2003–04 through 2014–15 is presented in Table 3.3.

Table 3.2 Quarterly average load shape, 2014–15 and 2015–16

Year	Q3	Q4	Q1	Q2
2014–15 (average 2003–04 through 2013–14)	1.113	1.093	1.225	1.117
2015–16 (average 2003–04 through 2014–15)	1.107	1.089	1.209	1.110

Source: Commission's calculations using data from AEMO load profiles and AEMO aggregated price and demand data files.

Table 3.3 Quarterly load shape, 2003–04 through 2014–15

Year	Q3	Q4	Q1	Q2
2003–04	1.251	1.043	1.192	1.104
2004–05	1.148	1.164	1.207	1.082
2005–06	1.114	1.149	1.360	1.145
2006–07	1.161	1.080	1.207	1.387
2007–08	1.134	1.075	1.105	1.100
2008–09	1.123	1.096	1.294	1.119
2009–10	1.086	1.254	1.254	1.109
2010–11	1.067	1.024	1.561	1.036
2011–12	1.047	1.032	1.035	1.043
2012–13	1.065	1.040	1.032	1.048
2013–14	1.044	1.070	1.054	1.033
2014–15	1.050	1.039		

Source: Commission's calculations using data from AEMO load profiles and AEMO aggregated price and demand data files.

The price direction requires that, for quarters where the cost of carbon applies, the load shape is to be calculated after subtracting the cost of carbon from each half-hourly price. The purpose of this is to ensure that the cost of carbon which does not require hedging is not included in the uplift factor calculations.

Table 3.4 presents the cost of carbon for 2014–15 of $21.99 per MWh, calculated by multiplying the legislated price on carbon by the emissions intensity factor. The price on carbon under the *Clean Energy Act 2011* for 2014–15 was $25.40. The emissions intensity factor, measured in tonnes of carbon dioxide equivalent gas emitted per megawatt hour (t CO_2-e per MWh), is averaged over a 12-month period ending as near as possible to 31 May 2014.

Table 3.4 Cost of carbon, 2014–15

Year	Price on carbon ($/t CO_2-e)	NEM emissions intensity factor (t CO_2-e/MWh)	Cost of carbon ($/MWh)
2014–15	25.40	0.866	21.99

Sources: *Clean Energy Act 2011*; AEMO data.

The *Clean Energy Legislation (Carbon Tax Repeal) Act* which abolished the price on carbon received the Royal Assent on 17 July 2014. Even though the legislation backdated the repeal to 1 July 2014, for the purposes of the load shape calculations, it could be argued that the legislated price on carbon technically remained in effect for the first 16 days of the 2014–15 financial year. As such, it could be argued that $21.99 should be subtracted from all half-hour spot prices for the first 16 days in July 2014 before calculating the load shape for 2015–16.

However, an examination of the ASX and carbon-exclusive ICAP curves leading up to and including this period show very little difference between the two suggesting that the ASX data no longer factored in the full cost of carbon in expectation of the price on carbon being removed with effect from 1 July 2014. In light of this, the Commission's decision is to apply a cost of carbon of zero for the entire 2014–15 financial year for the purposes of calculating the load shape for 2015–16.

Load ratio

The load ratio for each quarter is calculated as the maximum of the observed ratio of the quarterly maximum load to the quarterly average load using AEMO data. To complete the calculation of the load ratio, the Commission adds 0.1 to the observed maximum to allow for the possibility of a higher peak. The load ratio for 2014–15 and 2015–16 and the underlying load data are shown in Table 3.5.

Table 3.5 Quarterly load ratio, 2014–15 and 2015–16

Year	Q3	Q4	Q1	Q2
2003–04	1.786	2.156	1.702	2.013
2004–05	1.828	1.905	1.724	2.108
2005–06	1.808	1.960	1.888	2.063
2006–07	1.768	1.801	1.885	2.148
2007–08	1.927	1.708	1.891	1.863
2008–09	1.746	1.821	2.250	2.061
2009–10	1.764	2.172	2.236	2.196
2010–11	1.754	1.975	2.440	2.115
2011–12	1.868	2.137	2.039	2.001
2012–13	1.815	2.489	2.469	2.261
2013–14	2.030	2.193	2.621	2.322
2014–15	1.939	2.757		
Maximum through Q4 2013–14	**2.030**	**2.489**	**2.469**	**2.261**
Maximum through Q4 2014–15	**2.030**	**2.757**	**2.621**	**2.322**
Load ratio 2014–15	**2.130**	**2.589**	**2.569**	**2.361**
Load ratio 2015–16	**2.130**	**2.857**	**2.721**	**2.422**

Source: Commission's calculations using data from AEMO load profiles.

Load weights

Quarterly load weights are required to calculate the annual average energy purchase cost. The load weight for each quarter is equal to the historical average load in that quarter divided by the sum of the historical average load for all four quarters. The historical average load for a quarter is the simple average of the loads for that quarter for the period 2003–04 through 2014–15. The load used is the net system load profile for ActewAGL Distribution as reported by AEMO. The quarterly load weights for 2014–15 and 2015–16 are shown in Table 3.6.

Table 3.6 Quarterly load weights, 2014–15 and 2015–16

Year	Q3	Q4	Q1	Q2
2003–04	109.621	71.384	64.911	93.947
2004–05	108.849	68.535	65.910	90.063
2005–06	110.759	70.952	70.791	104.097
2006–07	109.656	70.494	70.773	95.027
2007–08	110.995	68.837	68.338	94.735
2008–09	114.401	67.694	70.945	96.657
2009–10	109.033	73.936	68.545	94.249
2010–11	111.748	66.593	63.059	94.546
2011–12	102.113	62.356	59.446	94.205
2012–13	101.811	59.272	58.250	85.369
2013–14	95.348	59.536	60.486	84.287
2014–15	96.815	53.697		
Average through Q4 2013–14	**107.667**	**67.235**	**66.097**	**94.289**
Average through Q4 2014–15	**106.762**	**66.107**	**65.587**	**93.380**
Load weights 2014–15	**0.321**	**0.201**	**0.197**	**0.281**
Load weights 2015–16	**0.322**	**0.199**	**0.198**	**0.281**

Source: Commission's calculations using data from AEMO load profiles.

Uplift factor over time

Table 3.7 shows the annual load shape and ratio and resulting uplift factor over the period 2009–10 to 2015–16. The uplift factor has been falling since 2012–13 and continued the declining trend in 2015–16.

Table 3.7 Annual uplift factor, 2009–10 through 2015–16

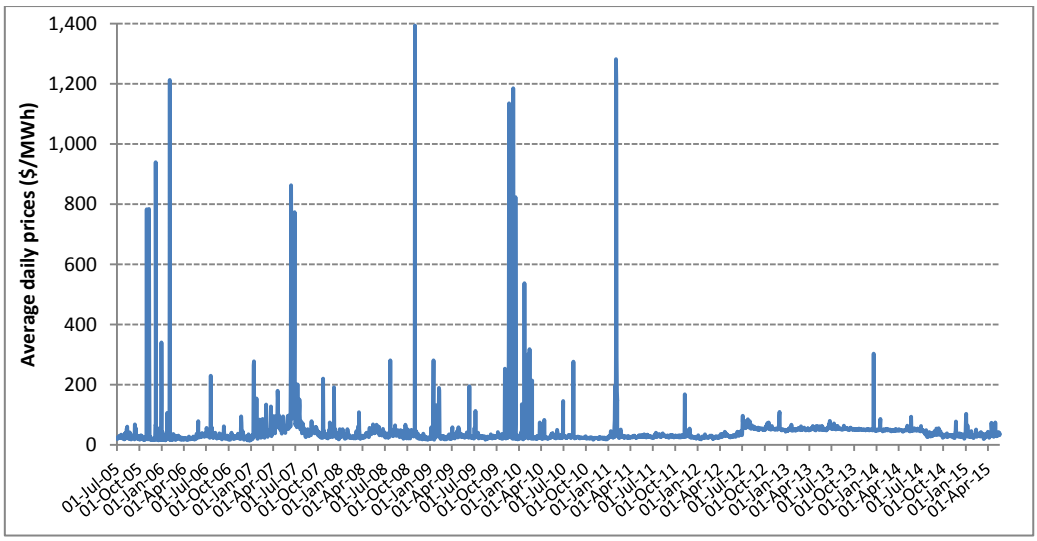
Year	Load shape	Load ratio	Uplift factor
2009–10	1.158	2.128	**1.207**
2010–11	1.160	2.203	**1.212**
2011–12	1.153	2.215	**1.207**
2012–13	1.153	2.253	**1.208**
2013–14	1.141	2.316	**1.200**
2014–15	1.132	2.374	**1.194**
2015–16	1.125	2.474	**1.192**

Source: Commission's calculations.

The load shape, which captures the relationship between the spot price and load, has fallen in recent years due to the reduced volatility in the spot price in the New South Wales wholesale electricity market. An examination of the market shows that the observed spot market price for electricity in New South Wales has remained relatively

stable since 2011. Figure 3.2 shows the average daily price since 1 July 2005 which clearly shows that volatility remains low as compared to historical data.[9]

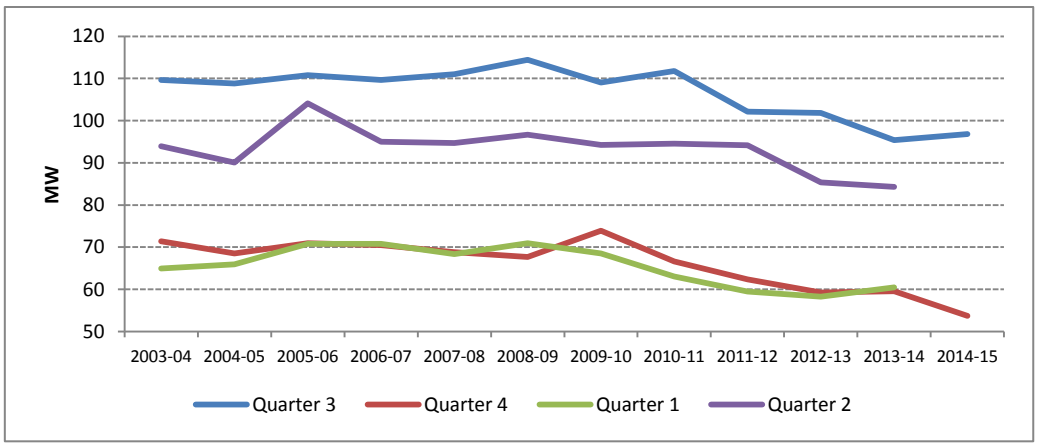
Figure 3.2 New South Wales average daily electricity spot prices, July 2005 to May 2015



Source: AEMO data.

In contrast to the load shape, the load ratio, which captures the peakiness of the load, has risen in recent years. This is despite a reduction in average quarterly load, as shown in Figure 3.3.

Figure 3.3 Average quarterly ACT electricity load, 2003–04 to 2014–15



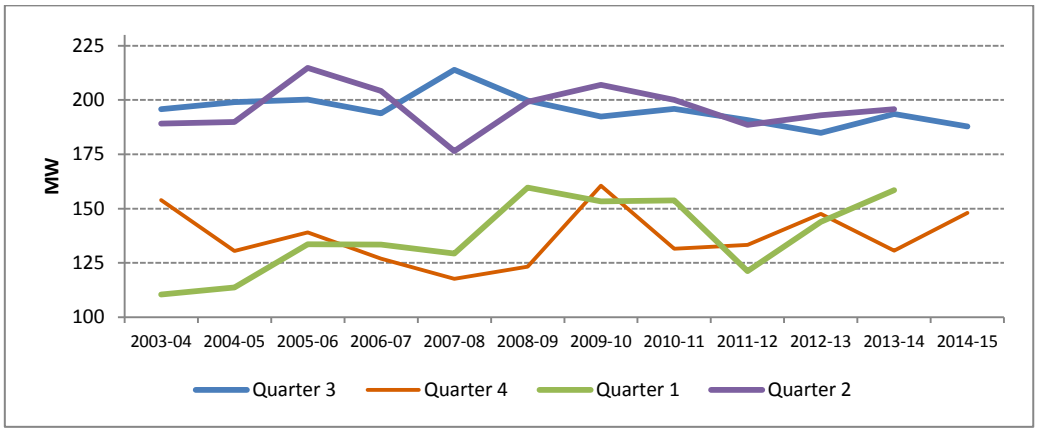
Source: AEMO data.

An explanation can be found in an examination of ACT quarterly maximum load, as shown in Figure 3.4. The data indicates that the maximum load has not fallen as much

[9] The average daily price is equal to the average price for the 48 half-hour periods in each day. There is intraday variation in price that is not captured in the average daily price.

as the average load in recent years in the summer months, and indeed has risen in 2014–15. The load ratio has risen, as it is the ratio of the maximum to the average load, and the average load has fallen faster than the maximum load.

Figure 3.4 Maximum quarterly ACT electricity load, 2003–04 to 2014–15



Source: AEMO data.

3.3.4 Energy purchase cost for 2014–15 and 2015–16

Table 3.8 shows the energy purchase cost calculated for 2014–15 in the Commission's previous determination.

Table 3.8 Energy purchase cost, 2014–15

Component	Q3	Q4	Q1	Q2
Forward price ($/MWh) (A)[a]	40.68	40.68	40.68	40.68
Load shape (B)	1.11	1.09	1.22	1.12
Load ratio (C)	2.13	2.59	2.57	2.36
Forward price margin (D)	0.05	0.05	0.05	0.05
Uplift factor (E = (1 – D) × B + D × C)	1.16	1.17	1.29	1.18
Energy purchase cost ($/MWh) (A × E)	**47.33**	**47.52**	**52.55**	**47.98**
Annualised load-weighted EPC				**48.58**

Source: ICRC (2014c): 51.

Note: a The 2014–15 energy purchase cost amount has been recalculated from that contained in the 2014–15 price determination due to the adjustment to the forward price averaging period and the Commission's desire to maintain comparability across adjacent years under the index approach.

Table 3.9 shows the calculated energy purchase cost for 2015–16. The quarterly load weights from Table 3.6 are multiplied by the quarterly energy purchase cost in Table 3.9 and summed to give the 2015–16 annual energy purchase cost of $46.27 per MWh, $2.31 per MWh or 4.8 per cent lower than the energy purchase cost for the previous year.

Table 3.9 Energy purchase cost, 2015–16

Component	Q3	Q4	Q1	Q2
Forward price ($/MWh) (A)	38.82	38.82	38.82	38.82
Load shape (B)	1.11	1.09	1.21	1.11
Load ratio (C)	2.13	2.86	2.72	2.42
Forward price margin (D)	0.05	0.05	0.05	0.05
Uplift factor (E = (1 – D) × B + D × C)	1.16	1.18	1.28	1.18
Energy purchase cost ($/MWh) (A × E)	**44.98**	**45.70**	**49.88**	**45.62**
Annualised load-weighted EPC				**46.27**

Source: Commission's calculations.

3.4 Large-scale Renewable Energy Target and Small-scale Renewable Energy Scheme costs

The costs of complying with the national LRET and SRES requirements are calculated in this section. Key data inputs into the cost calculations are provided in Table 3.10.

Table 3.10 LRET and SRES data, 2015 and 2016

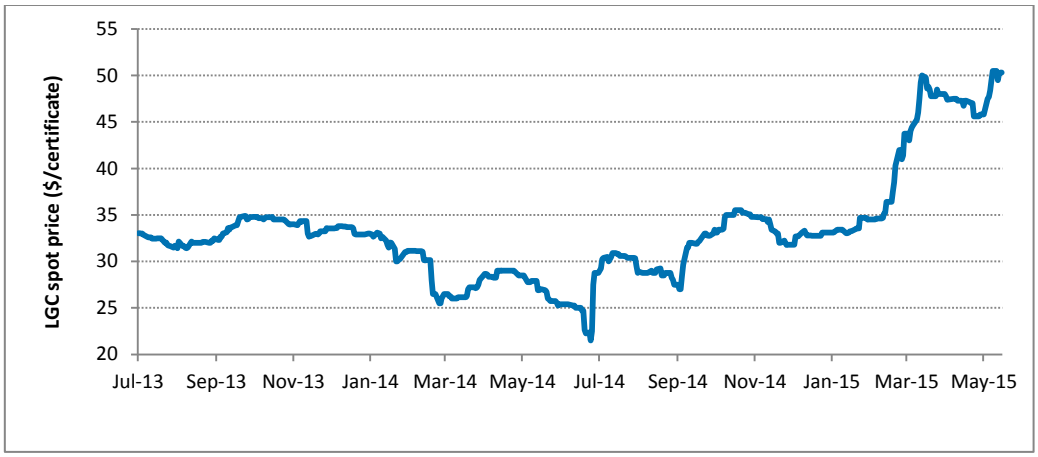
	2015	2016
Renewable power percentage	11.11%	11.96%
Average LGC spot price ($/certificate)	31.15	36.81
Small-scale technology percentage	11.71%	9.98%
Average STC spot price ($/certificate)	38.60	38.76
Half-yearly load weights	0.528	0.472

Sources: Clean Energy Regulator (2015); ICAP price data; ActewAGL Retail half-yearly load weight data.

LRET

Figure 3.5 shows daily spot prices for Large-scale Generation Certificates (LGC) from 1 July 2013 to May 2015. The average price of LGCs for calendar year 2015 is $31.15. The price of LGCs for calendar year 2016, averaged over the 11-month period from 1 July 2014 to 31 May 2015, is $36.81. The increase reflects the recent sharp rise in spot prices.

Figure 3.5 LGC spot prices, July 2013 to May 2015



Source: ICAP data.

The average LGC price for 2016 increases to $40.49 when adjusted by 10 per cent for the opportunity cost of holding certificates over a 12-month period. The renewable power percentage for 2015 is 11.11 per cent and estimated at 11.96 per cent for 2016.[10] This produces a LRET allowance for 2015–16 of $4.51 per MWh.

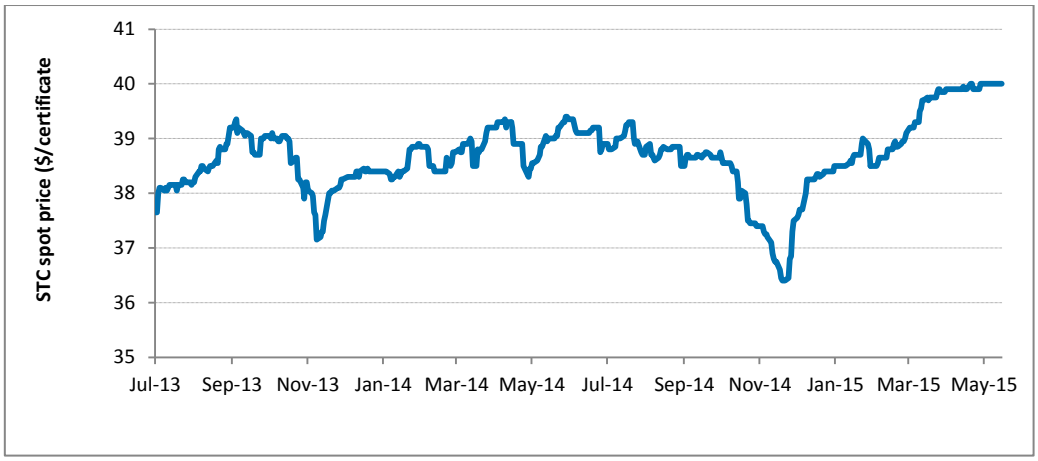
SRES

Figure 3.6 shows daily spot prices for Small-scale Technology Certificates (STC) from 1 July 2013 to May 2015. The average price of STCs for calendar year 2015 is $38.60. The price of STCs for calendar year 2016, averaged over the 11-month period from 1 July 2014 to 31 May 2015, is $38.76. This becomes $42.63 when adjusted for the holding cost. The small-scale technology percentage for 2015 is 11.71 per cent and is estimated at 9.98 per cent for 2016.[11] This produces a SRES allowance for 2015–16 of $4.87 per MWh.

[10] See http://ret.cleanenergyregulator.gov.au/About-the-Schemes/About-the-renewable-power-percentage/About-the-renewable-power-percentage.

[11] See http://ret.cleanenergyregulator.gov.au/About-the-Schemes/About-the-small-scale-technology-percentage/The-current-STP/The-current-STP.

Figure 3.6 STC spot prices, July 2013 to May 2015



Source: ICAP data.

Cost adjustment

The Commission's approach allows for a cost adjustment resulting from any difference between the actual 2015 small-scale technology percentage and renewable power percentage and the estimated numbers used in the 2014–15 decision. The Commission has calculated an adjustment of $0.44 per MWh for 2014–15 for these costs to be included in the LRET and SRES cost allowances for 2015–16.

Total allowance

The calculated LRET and SRES allowance for 2014–15 and 2015–16 are summarised in Table 3.11. The allowance for 2015–16 of $9.82 per MWh is $1.32 per MWh or 15.6 per cent more than the allowance for the previous year.

Table 3.11 LRET and SRES allowance, 2014–15 and 2015–16 (dollars per MWh)

	2014–15	2015–16
LRET	3.96	4.51
SRES	4.18	4.87
Cost adjustment from previous year	0.34	0.44
Total cost	**8.49**	**9.82**

Source: Commission's calculations.

3.5 Energy losses

The distribution loss factor reported by AEMO for 2015–16 is 1.0456.[12] The marginal loss factor reported by AEMO for the Canberra connection point in 2015–16 is

[12] AEMO, 2015a: 18.

0.9828.[13] Using the Commission's formula this generates an energy loss allowance of $1.76 per MWh for 2015–16. This is about 145 per cent higher than the energy losses allowance granted in 2014–15. This is due to the increase in the marginal loss factor over this period and a higher LRET and SRES cost allowance for 2015−16.

3.6 Energy contracting costs

The energy contracting cost allowance is adjusted by the annual change in the consumer price index. The Commission has calculated an allowance of $0.86 per MWh for energy trading and management costs for 2015–16. This is based on an adjustment of the 2014–15 cost allowance of $0.84 per MWh for a change of 2.49 per cent in the consumer price index.

3.7 National Electricity Market fees

The cost allowance for NEM fees is adjusted by the annual change in the consumer price index. The Commission has calculated an allowance of $0.86 per MWh for NEM fees for 2015–16. This is based on an adjustment of the 2014–15 cost allowance of $0.84 per MWh for a change of 2.49 per cent in the consumer price index.

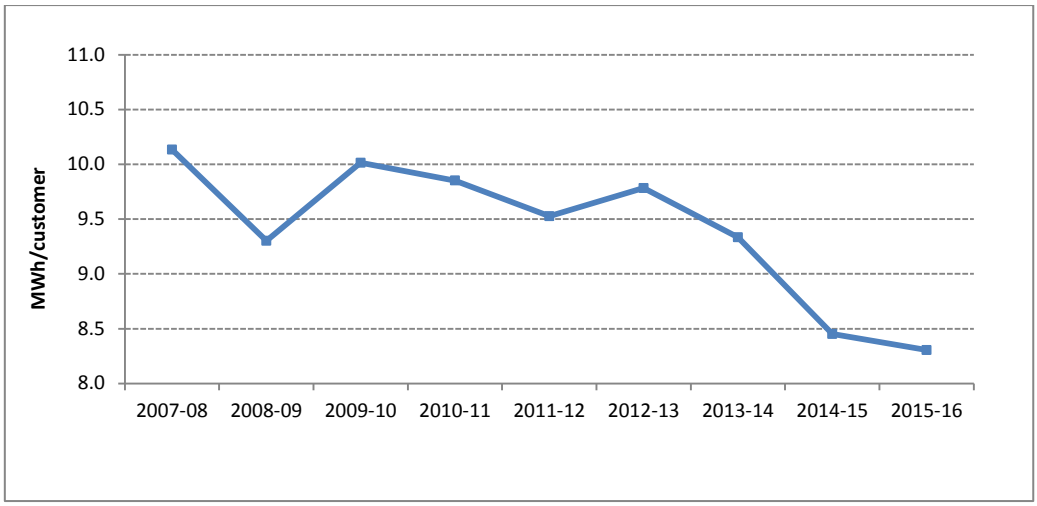
3.8 Retail operating costs

The price direction requires the retail operating cost allowance for 2015−16 to be calculated by adjusting the 2014−15 per customer allowance of $114.68 by the change in the consumer price index of 2.49 per cent. This adjustment takes the per customer allowance to $117.53 for 2015−16.

This value is then converted into an allowance of $14.15 per MWh for retail operating costs for 2015–16 using customer numbers and energy usage for the year to 31 March 2015 provided by ActewAGL Retail. This represents a 4.3 per cent increase over the 2014–15 cost allowance of $13.57 per MWh. The reason for the above inflation rise in the per MWh allowance is due to the continued decrease in the average per customer energy usage, as shown in Figure 3.7.

[13] AEMO, 2015b: 16.

Figure 3.7 Average annual energy use per regulated tariff customer, 2007–08 to 2015–16



Source: ActewAGL Retail data.

3.9 Energy efficiency scheme costs

The ACT Government's Energy Efficiency Improvement Scheme (EEIS), which places a mandatory obligation on all active retailers in the ACT to promote energy efficiency measures in households and small businesses, is currently legislated to finish on 31 December 2015. The ACT Government intends to extend the scheme to 2020, and, to this end, presented the *Energy Efficiency (Cost of Living) Improvement Amendment Bill 2015* to the ACT Legislative Assembly on 4 June 2015.[14] Key elements of the extended scheme that directly impact retailer costs, such as the energy savings targets, will only be determined by the ACT Government following passage of the bill. This means the costs of the scheme from January to June 2016, the second half of the financial year for which the Commission is setting prices, are uncertain.

The price direction requires the EEIS cost allowance to be calculated using the Commission's methodology and cost estimates provided by ActewAGL Retail, subject to a forward-looking prudence and efficiency assessment. The Commission's methodology is designed to capture the actual costs incurred by ActewAGL Retail in complying with the scheme.[15] In practice, since the Commission relies on forecast and estimated costs in order to determine cost allowance in advance of the actual cost being incurred, provision is made for an ex post cost adjustment.

ActewAGL Retail provided the Commission with information on its EEIS compliance costs in its May 2015 submission. Due to the uncertainty around the details of the

[14] See: http://www.legislation.act.gov.au/b/db_51862/default.asp.

[15] The methodology is set out in the Commission's 2014 draft report. See ICRC, 2014a: 78-85.

extended scheme, ActewAGL Retail only provided cost estimates for the period July to December 2015.

Table 3.12 shows ActewAGL Retail's updated abatement costs for the EEIS over the 2013 to 2015 period. ActewAGL Retail expects to spend about $24.3 million over three years to abate 590,845 t CO_2-e at an average cost of $41 per t CO_2-e.

Table 3.12 ActewAGL Retail EEIS abatement costs and targets, 2013–15

	2013	2014	2015	Total
Compliance costs ($ million, 2012–13)	$7.38	$9.07	$7.82	**$24.27**
Energy Savings Obligation (t CO_2)	117,045	220,114	253,686	**590,845**
Planned abatement (t CO_2)	180,040	240,436	170,369	**590,845**
Abatement cost ($ per t CO_2-e)	41.00	37.71	45.90	**41.08**

Source: ActewAGL Retail, 2015: 6.

The updated abatement target is lower than the 645,000 t CO_2 presented by ActewAGL Retail for the purposes of the 2014 price determination, primarily due to lower than forecast energy consumption.[16] This has also reduced total scheme costs from the $26.5 million presented in 2014. The abatement cost per t CO_2 remains the same as that estimated in 2014 by ActewAGL Retail and applied by the Commission in the EEIS cost allowance for 2014–15. As such, no ex post adjustment is required.

In the absence of any forecast costs from ActewAGL Retail for the January to June 2016 period the Commission considered three options for establishing this cost:

- first, apply a forecast cost of zero and then apply an ex post adjustment for the entire cost in the 2016–17 price recalibration process;
- second, produce a Commission forecast cost; and
- third, use the most recent cost estimate as the lower bound.

The Commission rejected the first option on the basis that a full ex post cost adjustment next year would disadvantage ActewAGL Retail as it would have bear all EEIS costs for a six month period. This option would also result in electricity customers facing a greater EEIS price adjustment in 2016–17 than would otherwise be the case.

The second option was rejected on the basis that the Commission is in no better position than ActewAGL Retail to forecast the costs of a scheme for which no details on the key cost parameters have been announced.

The Commission adopted the third option on the basis that costs are unlikely to fall under any extended scheme. As such, in the absence of any better information, the

[16] ActewAGL Retail, 2015: 6.

most recent cost estimate, that for 2015, is the most appropriate value to apply for the costs of the scheme in 2016. An ex post adjustment will be applied at the next price recalibration to account for any difference between this estimate and the actual costs. It should be noted that no inferences should be drawn from the Commission using the 2015 cost estimate about the level of the actual costs that are likely to be incurred by ActewAGL Retail in 2016.

As shown in Table 3.13, applying the Commission's methodology to ActewAGL Retail's forecast abatement cost for the first half of the 2015−16 regulatory year and using the same cost for the second half of 2015−16 generates an EEIS cost of $5.11 per MWh.

Table 3.13 Forecast EEIS cost, 2015–16, dollars per MWh

Year	Cost allowance per tonne	Emissions factor	Energy savings target	Cost per MWh	Half-yearly load weights
Jul–Dec 2015	$41.00	0.89	14%	$5.11	52.8%
Jan–Jun 2016				$5.11	47.2%
2015–16 EEIS cost				**$5.11**	

Source: Commission's calculations.

Prudence and efficiency

The Commission assessed the prudence and efficiency of ActewAGL Retail's EEIS costs in the 2014 price determination process. The Commission found ActewAGL Retail's forecast costs for 2014–15 of about $41 per t CO_2-e abated to be prudent and efficient.[17]

The Commission determined that the decision to spend money was necessary as ActewAGL Retail is legally obligated to implement the scheme, and was therefore prudent. As for efficiency, the Commission concluded that it was satisfied that ActewAGL Retail had undertaken a robust expenditure decision-making process to meet its EEIS compliance requirements and that its proposed costs were below the cost ceiling based on the scheme's penalty rate for non-compliance.

ActewAGL Retail's proposed expenditure per t CO_2-e abated for the first half of 2015−16 has not changed from the amount the Commission determined as prudent and efficient last year. As such, the Commission's conclusion is that ActewAGL Retail's proposal is prudent and efficient.

In conclusion, the Commission's final decision is to determine an allowance of $5.11 per MWh for EEIS costs in 2015−16. This is 3.9 per cent more than the allowance of $4.92 per MWh granted for 2014–15. The increase is entirely due the mandated increase in the energy savings target from 13 per cent in 2014 to 14 per cent in 2015.

[17] ICRC, 2014c: 23-27.

3.10 Network cost allowance

Network costs

Consistent with the price direction, the Commission passes through the network charges determined by the Australian Energy Regulator (AER) and applied by ActewAGL Retail to the standard customer contract retail load.

The AER published ActewAGL Distribution's 2015−16 Network Pricing Proposal for all ACT customers on 26 May 2014. The proposal, subsequently approved by the AER on 12 June 2015, indicates that total network revenue is expected to decrease by 11 per cent from 2014–15, as shown in Table 3.14.

Table 3.14 ActewAGL Distribution network revenue components, 2014–15 and 2015–16

Components	2014–15 ($)	2015–16 ($)	% change
Distribution use of system	155,007,678	128,577,668	-17.1
Transmission use of system	64,356,444	62,746,556	-2.5
Jurisdictional schemes	28,682,570	28,411,894	-0.9
Total	**248,046,692**	**219,736,118**	**-11.4**

Sources: ActewAGL Distribution (2014); ActewAGL Distribution (2015).

The major contributor to the total revenue reduction is distribution use of system revenue, which is expected to fall by 17 per cent in 2015−16. This follows the AER's revenue determination in April 2015 that substantially cut ActewAGL Distribution's allowed revenues for 2015−16.Transmission use of system revenue is expected to fall by 2.5 per cent with jurisdictional scheme revenue falling by 1 per cent.

Based on ActewAGL Distribution's approved network charges, ActewAGL Retail proposed a network cost allowance of $89.08 per MWh to apply to regulated retail tariffs in 2015−16. The Commission examined this proposal and determined an amount of $89.08 per MWh as the network cost allowance for 2015–16.

The 2015–16 allowance is 9 per cent lower than the 2014–15 allowance of $98.02 per MWh. This decrease is less than the percentage reduction in total network revenue due to an increase in customers on the regulated retail tariff in 2015–16 and a fall in energy consumed, compared to the previous year.

Identifying feed-in tariff compliance costs

In its final report for the 2014 price determination, the Commission indicated that it would identify and report on ActewAGL Distribution's feed-in-tariff cost allowance for 2015–16 in the annual recalibration exercise.[18]

[18] Feed-in-tariff costs are not directly incurred by ActewAGL Retail but are passed on to its ACT customers through the network cost allowance.

ActewAGL Distribution's 2015–16 network pricing proposal to the AER separately identifies jurisdictional scheme costs from distribution and transmission costs. ACT jurisdictional schemes comprise the small and medium-scale feed-in tariff, the large-scale feed-in tariff, the utilities network facilities tax and the energy industry levy. As shown in Table 3.14, ActewAGL Distribution has estimated that $28.4 million of revenue needs to be collected to cover total jurisdictional scheme costs in 2015–16, accounting for about 13 per cent of total network revenue. This compares to jurisdictional scheme costs of $28.7 million in 2014–15, which accounted for about 12 per cent of total network revenue.

As shown in Table 3.15, ActewAGL Distribution has estimated feed-in-tariff costs of $23.7 million for 2015–16, $15.3 million for the small and medium-scale scheme and $8.4 million for the large-scale scheme. The total feed-in-tariff costs represent 11 per cent of total network revenue.

Table 3.15 ActewAGL Distribution estimated feed-in-tariff costs, 2015–16

Fit costs	2015–16 costs ($'000)	% of total network revenue	$/MWh
Feed-in tariff, small and medium-scale	15,323	6.97	6.21
Feed-in tariff, large-scale	8,402	3.82	3.41
Total	**23,725**	**10.80**	**9.62**

Sources: ActewAGL Distribution (2015) and the Commission's calculations.

It is important to note that the revenue that ActewAGL Distribution expects to collect from customers in 2015–16 to recover feed-in-tariff costs does not match that presented in Table 3.15 for two reasons.

The first reason is that, in addition to forecast costs for the year in question, the assessment of the revenue that needs to be collected takes into account over or under collections in previous years. For example, comparing ActewAGL Distribution's feed-in-tariff cost estimates for 2014–15 in its 2014–15 and 2015–16 network pricing proposals suggests that ActewAGL Distribution overestimated total feed-in-tariff costs by $2.2 million, comprising an underestimate of $1.4 million for the small and medium-scale scheme and an overestimate of $3.6 million on the large-scale scheme.[19]

The second reason is that ActewAGL Distribution adjusts the total jurisdictional scheme amount to be recovered, which includes the feed-in-tariff component, for changes in the energy load profile. For example, in 2015–16, ActewAGL Distribution inflated the jurisdictional scheme costs by 3.27 per cent to calculate the amount to be recovered in revenues:

[19] The overs and unders account also takes into account interest on opening balances and the over or under recovered amount in any particular year.

> However, as energy sales in 2015/16 are forecast to be 3.27 per cent lower than in the 2013/14 financial year (used to set prices), the amount to be recovered using the load profile for 2013/14 has been inflated 3.27 per cent so that the charges applied in 2015/16 will recover the forecast amount.[20]

For ease of comparison with other components of the cost-index model, the feed-in-tariff costs detailed in Table 3.15 are presented on a per MWh basis. This requires multiplying the network cost allowance by the proportion of total network costs that can be attributed to feed-in-tariff costs.

On this basis, using the final network cost allowance of $89.08 per MWh, the Commission has calculated an implied feed-in-tariff cost allowance of $9.62 per MWh for 2015–16. On average for ACT customers, this translates to $77 per year. This is $0.99 per MWh or 12 per cent higher than the Commission's estimate of feed-in-tariff costs for 2014–15 of $8.63 per MWh.[21]

3.11 Retail margin

The price direction requires the retail margin to be calculated at 6.04 per cent applied to all cost components, excluding the retail margin allowance. This generates an allowance of $10.15 per MWh for 2015–16.

[20] ActewAGL Distribution, 2015: 30.

[21] ICRC, 2014c: 56.

4 Final decision on 2015–16 cost components

This chapter presents the Commission's final decision on the efficient costs and their constituent components and the allowed percentage change that will apply in the weighted average price cap from 1 July 2015.

Table 4.1 sets out the Commission's final decision on the cost components used to determine the maximum change in the regulated retail electricity price for 2015–16.

Table 4.1 Final decision on cost elements, 2015–16

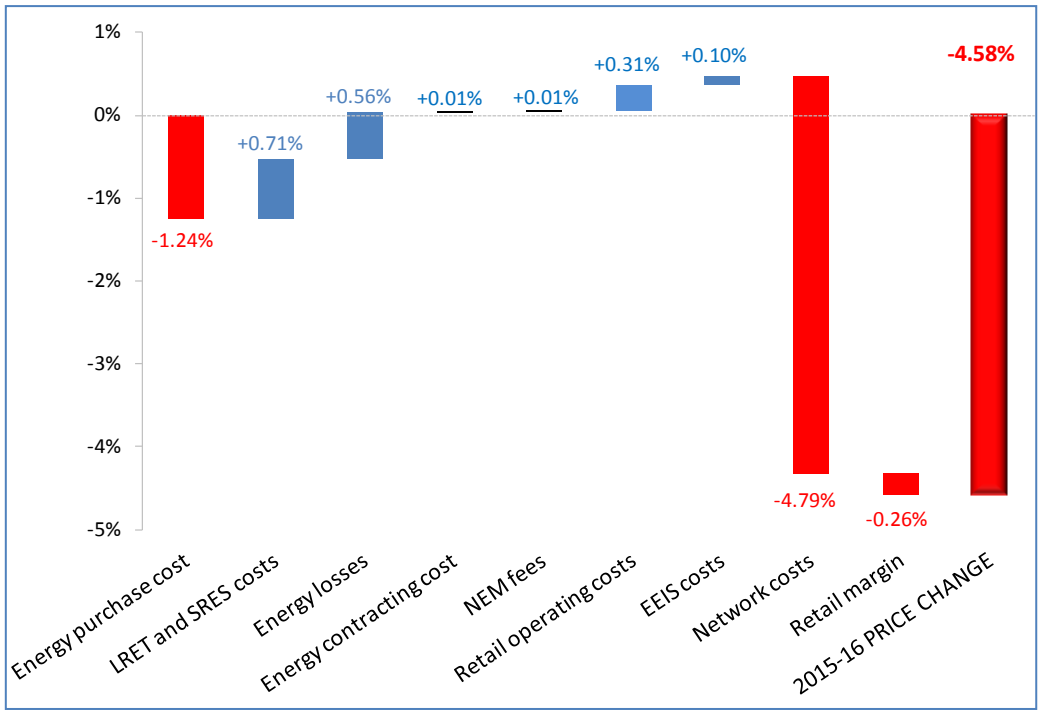
	2014–15 ($/MWh)	2015–16 ($/MWh)	% change
Energy purchase cost[a]	48.58	46.27	-4.76
LRET and SRES costs	8.49	9.82	15.60
Energy losses	0.72	1.76	144.69
Energy contracting cost	0.84	0.86	2.49
NEM fees	0.84	0.86	2.49
Total energy purchase cost	**59.47**	**59.58**	**0.17**
Retail operating costs	13.57	14.15	4.30
Energy Efficiency Improvement Scheme costs	4.92	5.11	3.92
Total retail costs	**18.49**	**19.26**	**4.20**
Network costs	98.02	89.08	-9.12
Total energy + retail + network costs	**175.98**	167.92	-4.58
Retail margin	10.64	10.15	-4.58
Total costs	**186.62**	**178.07**	**-4.58**

Notes: a The 2014–15 energy purchase cost amount has been recalculated from that contained in the 2014–15 price determination due to the change in the forward price averaging period and the Commission's desire to maintain comparability across adjacent years under the index approach. This has consequential impacts on the amounts reported in this table for energy losses and the retail margin compared to the amounts determined in the 2014–15 price determination.

The maximum average percentage change in ActewAGL Retail's basket of regulated tariffs in 2015–16 is a reduction of 4.58 per cent. This change is equivalent to a real (adjusted for inflation) decrease in the regulated retail price of about 7 per cent.

Figure 4.1 shows the contribution of the various cost components to the total change in prices from 2014–15 to 2015–16. The primary driver of the price decrease is the substantial fall in network costs. Increases in LRET and SRES costs, energy losses cost component, retail operating cost allowance and EEIS costs have been almost offset by the fall in energy purchase costs and the retail margin component.

Figure 4.1 Components of the change in regulated retail electricity prices 2014–15 to 2015–16[22]



Source: Commission's calculations.

Subsequent to ActewAGL Retail providing the Commission with its proposed schedule of standing offer prices for 2015–16, including the associated weighted average price cap calculations, the Commission will, subject to an assessment that the proposals are consistent with the price direction, approve the proposed prices.

[22] This chart shows the cumulative effect of sequentially introducing the positive or negative contribution of each of the components of the cost-index model to the total change in the index value of minus 4.58 per cent from 2014–15 to 2015–16.

5 Impacts on customers

Table 5.1 presents estimated electricity bills for a range of typical residential customers in 2015-16 resulting from the electricity price reduction of 4.58 per cent.[23] A small customer may be representative of a single person living in an apartment, an average customer of a small family in a townhouse, and a large customer of a large family in a detached house. The annual impact on these typical bills due to the price change ranges from minus $46 for a small customer to minus $113 for a large customer.

Table 5.1 Estimated annual bill changes for residential customers, 2015–16

Customer consumption type	Annual usage (kWh)	Estimated annual bill 2014–15 ($)	Estimated annual bill 2015–16 ($)	Change ($)
Large	12,000	2,473	2,360	-113
Average	8,000	1,741	1,661	-80
Small	4,000	1,009	963	-46

Source: Commission's calculations.

Table 5.2 presents estimates of annual electricity bills for a range of typical non-residential customers resulting from the electricity price reduction of 4.58 per cent. The impact on a typical bill ranges from minus $126 for a small non-residential customer to minus $449 for a large non-residential customer.

Table 5.2 Estimated annual bill changes for non-residential customers, 2015–16

Customer consumption type	Annual usage (kWh)	Estimated annual bill 2014–15 ($)	Estimated annual bill 2015–16 ($)	Change ($)
Large	40,000	9,791	9,342	-449
Average	25,000	6,272	5,984	-287
Small	10,000	2,752	2,626	-126

Source: Commission's calculations.

[23] The Commission has no information on the reduction in electricity consumption that the EEIS has brought about and therefore cannot estimate the impact of the scheme on the bills of customers in 2015–16 who will benefit from this scheme.

Appendix 1 Terms of reference

Australian Capital Territory

Independent Competition and Regulatory Commission (Price Direction for the Supply of Electricity to Certain Small Customers) Terms of Reference Determination 2014

Disallowable instrument DI2014–10

made under the

***Independent Competition and Regulatory Commission Act 1997* ('the Act'), Section 15 (Nature of industry references) and Section 16 (Terms of industry references).**

1. Interpretation

In this instrument:

"***National Energy Retail Law (ACT)***" has the same meaning as in the *National Energy Retail Law (ACT) Act 2012*.

"***small customer***" has the same meaning as in the *National Energy Retail Law (ACT)*.

"***standing offer prices***" has the same meaning as in the *National Energy Retail Law (ACT)*.

"***ActewAGL Retail***" means the partnership of ACTEW Retail Ltd (ACN 074 371 20) and AGL ACT Retail Investments Pty Ltd (ACN 093 631 586).

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2. Reference for investigation under Section 15

Pursuant to section 15(1) of the Act, I refer to the Independent Competition and Regulatory Commission (the 'Commission') the provision of a price direction for the standing offer prices for the supply of electricity to those persons who are a ***small customer***, and who consume less than 100MWh of electricity over any consumption period of 12 consecutive months.

The price direction will be for the period of 1 July 2014 to 30 June 2017 with provision for annual reviews by 30 June 2015 and 30 June 2016. Pursuant to section 15(4) of the

Act, the price direction determined by the Commission under these terms of reference is to apply only to the authorised electricity retailer ***ActewAGL Retail***.

3. ***Terms of reference for investigation under section 16***

Pursuant to section 16(1) of the Act, I require that the Commission consider the following matters in relation to the conduct of the investigation:

1. The Commission should consider the following matters:
    a. The impact on direct electricity costs of changes in government policies and pass through of those costs to regulated prices including, but not restricted to:
        i. the Commonwealth Government's carbon pricing mechanism;
        ii. Commonwealth and ACT retailer obligation energy efficiency schemes;
        iii. the Commonwealth Government's Large-scale Renewable Energy Target and Small-scale Renewable Energy Scheme; and
        iv. any other schemes implemented to address climate change relevant to electricity pricing.
    b. The efficient and prudent cost of managing risk in the cost of purchasing electricity.
2. The Commission must identify and report on the cost allowance of the ACT Feed-in Tariffs (small and large scale) for the year(s) or period for which its determination is being made.
3. The Commission must identify and report on the efficient costs of complying with the *Energy Efficiency (Cost of Living) Improvement Act 2012*.
4. The Commission must produce its final report in time reasonably sufficient to allow ***ActewAGL Retail*** to make any necessary changes to its billing system and to provide information on the new tariff to customers for implementation effective 1 July 2014.

Katy Gallagher MLA

Acting Treasurer

2 February 2014

Abbreviations and acronyms

AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Clean Energy Act	*Clean Energy Act 2011* (Commonwealth)
Commission	Independent Competition and Regulatory Commission
CPI	Consumer price index
EEIS	Energy Efficiency Improvement Scheme
ICRC	Independent Competition and Regulatory Commission
ICRC Act	*Independent Competition and Regulatory Commission Act 1997* (ACT)
kWh	kilowatt hour
LGC	Large-scale Generation Certificate
LRET	Large-scale Renewable Energy Target
MWh	megawatt hour
NEM	National Electricity Market
OTC	Over-the-counter
SRES	Small-scale Renewable Energy Scheme
STC	Small-scale Technology Certificate

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