Retail Price Submission

Tasmanian Department of Treasury and Finance

21 May 2013

Ernst & Young

Contents

1. Executive Summary

Table 1 sets out Ernst & Young's calculation of Notional Maximum Revenue for the period from 1 January 2014 to 30 June 2016.

Table 1: Notional maximum revenue

Cost component	2H2013-14 ($m nominal)	2014-15 ($m nominal)	2015-16 ($m nominal)	Sources
R (energy costs adjusted for loss factors)				
► Energy costs	76.62	150.44	155.70	Tasmanian Government and Aurora
► Cost to serve	20.02	40.56	41.24	Ernst & Young and Aurora
TOTAL	96.64	191.00	196.94	
NC (network charges)	127.88	290.72	299.93	Aurora
AEMO (market fees and ancillary services)	1.15	2.64	2.68	Aurora
REC (renewable energy certificate costs)	8.83	17.20	15.81	Ernst & Young and Aurora
Margin	16.18	34.61	35.56	Ernst & Young
Total NMR	250.68	536.17	550.92	

Adjustment mechanisms

The calculated Notional Maximum Revenue will require *ex-post* adjustment. At the time of preparing this report a number of the inputs were unavailable. The following items are subject to variation and as such, require *ex-post* reset.

- A Transitional Services Agreement (TSA) is to apply for specific retailing services for 18 months from 1 January 2014. We understand that this agreement is still being refined and we have not been advised on the specific services and quantum likely to be included. It is also a policy decision as to how these costs may be recouped. If TSA costs are to be passed on to customers, then an incremental adjustment to the ROC component as calculated in this report will be required as part of the Tasmanian Economic Regulator's electricity pricing determination.

- Network prices for FY2015 and FY2016 are yet to be calculated and are only expected to be published in June 2014 and June 2015 respectively. Aurora has provided estimated network charges to apply for these years. Once network tariffs for FY2015 and FY2016 are finalised, an adjustment to the NC component as calculated in this report will be required as part of the Tasmanian Economic Regulator's electricity pricing determination.

- The Clean Energy Regulator publishes its LGC and STP percentage of liable acquisitions prior to 31 March in the liable year. Once the Clean Energy Regulator has set the percentages, it may be necessary to amend the REC component of Notional Maximum Revenue.

2. Introduction

The Tasmanian Government has committed to energy industry reforms that would, amongst other things, structurally reform Aurora Energy (Aurora) and introduce full retail competition (FRC) from 1 January 2014.

Aurora's retail book will be split in two and sold to private retailers, supported by regulated wholesale energy contracts with Hydro Tasmania. Retail price regulation will be retained until retail competition is considered effective.

We understand one of the catalysts for these reforms is to address fundamental structural issues within the electricity industry that prohibit it from delivering competitively priced choices for customers.

2.1 Tasmania Government Terms of Reference

The Terms of Reference require the Consultant to recommend to Government a Notional Maximum Revenue requirement for the provision of retail electricity services to small customers in Tasmania.

In order to assist in developing the retail price submission, the scope of the consultancy requires the Consultant to analyse retail operating costs, retail margin and prices attributable to certificates under renewable energy schemes.

2.1.1 Ernst & Young engagement

We understand from the Terms of Reference that Ernst & Young is therefore responsible for the calculation of Notional Maximum Revenue for the provision of retail electricity services in the interim pricing period to small customers that currently form Aurora's retail book. We note under the Electricity Supply Industry (Pricing and Related Matters) Regulations 2013, the Regulator is required to approve any changes to regulated tariffs and our advice forms an input for consideration in to that price setting process.

2.1.2 Purpose of our report and restrictions on its use

This report was prepared at the request of the Tasmanian Government solely for the purpose of providing advice to it on the Notional Maximum Revenue requirement. It should not be relied upon for any other purpose. In carrying out our work and preparing our report, we have worked solely on the instructions of the Tasmanian Government.

This report may only be relied upon by the Tasmanian Government pursuant to the terms and conditions referred to in our contract. Any commercial decisions taken by the Tasmanian Government are not within the scope of our duty of care and in making such decisions you should take into account the limitations of the scope of our work and other factors, commercial or otherwise, of which you should be aware of from sources other than our work.

Ernst & Young disclaims all liability to any party other than the Tasmanian Government for all costs, loss, damage and liability that the third party may suffer or incur arising from or relating to or in any way connected with the provision of the deliverables to the third party.

We have not independently verified, or accept any responsibility or liability for independently verifying, any publically available information sourced by us or provided to us by the Tasmanian Government or Aurora Energy, nor do we make any representation as to the accuracy or completeness of the information. We accept no liability for any loss or damage which may result from your reliance on any research, analyses or information so supplied.

2.2 About this report

This report sets out Ernst & Young's advice to the Tasmanian Government on the calculation of Notional Maximum Revenue that retailers in Tasmania would recover from small customers on regulated tariffs over the period 1 January 2014 – 30 June 2016 (the Determination Period).

It is important that the interactions between the variables that are used to calculate Notional Maximum Revenue are considered at the beginning of this project so that the Government is positioned to achieve its long term policy objective of a competitive retail market.

Many of the key terms in the calculation of Notional Maximum Revenue are regulated inputs, for example, network charges and wholesale energy. There are however, a number of other variables that require assessment by us, including retail operating costs, retail margin and prices attributable to certificates under renewable energy schemes.

Our first task has been to investigate efficient retail operating costs for the Determination Period. Our advice to the Tasmanian Government includes an assessment of the efficient level of retail operating costs in Tasmania over this period is based on benchmarking against other regulatory decisions and an assessment of actual and transitional cost data used to determine an efficient retailers cost.

The second task has been to determine an appropriate retail margin to apply to retailing operations in Tasmania. We have determined an efficient retailer's margin based on benchmarks that are reflective of actual margins witnessed in the market.

Finally, we calculate the prices to apply to the calculation of REC using over the counter forward price estimates where appropriate and otherwise regulated clearing house prices.

This report is structured as follows:

- ► Section 3 provides a background setting out the context of the revenue determination
- ► Section 4 set out the building blocks used to derive the Notional Maximum Revenue
- ► Section 5 shows the forecast customer numbers and load
- ► Section 6 calculates the wholesale energy costs based on the Tasmanian Government's proposed regulated wholesale energy price

- Section 7 calculates the network charges based on Aurora's forecast network prices and load
- Section 8 shows the estimated AEMO fees as provided by Aurora
- Section 9 calculates Aurora's costs to comply with renewable energy schemes
- Section 10 provides an overview of our estimation of retail costs to serve based on Aurora's actual costs and benchmarking of similar businesses
- Section 11 provides our estimation of the appropriate retail margin based on benchmarking of similar businesses
- Section 12 outlines competition and pricing issues

3. Background

Under the current electricity retailing arrangements in Tasmania, the monopoly provider of electricity retailing services, Aurora, is Government owned and regulated. The Tasmanian Government has committed to divesting Aurora's retail customer base and introducing full retail contestability. However the Tasmanian Government is still intending on regulating retail electricity prices for small customers (consumption of less than 50MWh per annum) until such time as it can be demonstrated that competition is working effectively.

The process by which the retail prices are to be set for the first determination period includes:

- The Tasmanian Government presents a submission to the Tasmanian Economic Regulator outlining the Government's recommended Notional Maximum Revenue (NMR)
    - This report is to be used to inform the Tasmanian Government's view of the appropriate NMR.
- The Tasmanian Economic Regulator will commence its investigation upon receiving the submission from the Government and will be required to make the determination for the interim pricing period by 31 July 2013.

4. Revenue setting methodology

4.1 Building blocks of Notional Maximum Revenue

The calculation of Notional Maximum Revenue (NMR) for the previous determination period for all small customers (<50MWh per annum) was based on the following formula:

Table 2: Previous Notional Maximum Revenue building blocks

$$NMR_y = (R_y + NC_y + AEMO_y + M_y + REC_y + K_y + Tax_y) * (1+Margin) + CF_y + S_y$$

y	is the relevant period
NMR	is the permitted maximum revenue to be earned from the loads and customer numbers given in the Schedules to the Determination
R	represents the sum of the energy costs, adjusted for network losses, plus cost to serve for non-contestable customers
NC	represents the network charges for non-contestable customers
AEMO	represents the AEMO forecast fees and ancillary services charges for non-contestable customers
M	is the retail meter costs attributable to the notional tariff base
REC	represents the cost of acquiring Renewable Energy Certificates in respect of non-contestable customers
Tax	represents the impact of any allowable tax event
K_y	represents any differences between actual costs and the values for those costs estimated in the Determination in periods 1 and 2
Margin	is the retail margin
CF	represents any over- or under-recoveries of costs in years covered by past determinations
S_y	means the amount of revenue deferred to or from a previous period escalated by the appropriate prescribed inflationary factory

4.1.1 Terms having no value

We are advised by the Tasmanian Government and Aurora that the following terms in the Notional Maximum Revenue formula have no value from 2014 onwards:

- Tax – there are no allowable tax events
- K_{y-p} – allowable adjustments from the 2010 determination were included in 2012/13 NMR calculations
- S – amount of NMR deferred from another period was included in 2012/13 NMR calculations
- M - Retail meter costs was an allowance made in the 2010 Determination for the costs (largely replacement and maintenance) of APAYG meters which continued to be owned by Aurora Retail rather than the Aurora Distribution business. No allowance is made for this cost in future, since these meters are assumed to become owned by the distribution business and these costs factored into its revenue base (AARR).

4.1.2 Applicable building blocks of NMR

Therefore, the building blocks of the NMR to apply throughout this determination period are shown in Table 3.

Table 3: Proposed Notional Maximum Revenue building blocks

$$NMR_y = (R_y + NC_y + AEMO_y + REC_y + K_Y) * (1+Margin)$$

y	is the relevant period
NMR	is the permitted maximum revenue to be earned from the loads and customer numbers given in the Schedules to the Determination
R	represents the sum of the energy costs, adjusted for network losses, plus cost to serve for non-contestable customers
NC	represents the network charges for non-contestable customers
AEMO	represents the AEMO forecast fees and ancillary services charges for non-contestable customers
REC	represents the cost of acquiring Renewable Energy Certificates in respect of non-contestable customers
K_Y	represents any differences between actual costs and the values for those costs estimated in the Determination (where applicable)
Margin	is the retail margin

5. Forecast load and customer numbers

Forecast load and customer numbers are inputs into the following NMR components:

- Network charges
- Wholesale energy costs
- AEMO fees
- Renewable energy costs
- Cost to serve

Aurora has provided Ernst & Young with forecast load and customer numbers as shown in Table 4. Ernst & Young has not attempted to verify this data provided by Aurora.

Table 4: Forecast load and customer numbers

	2H2013-14	2014-15	2015-16
Forecast load (GWhs)	972	2,181	2,164
Forecast customer numbers	262,662	260,184	258,107

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx)

6. Wholesale energy costs

Wholesale energy costs are calculated using the following formula:

$$[\text{Forecast Load} * \text{marginal loss factor} * \text{distribution loss factor} * (\text{energy price} + \text{any energy adjustment})]$$

Wholesale energy costs have been estimated based on the inputs listed in Table 5.

Table 5: Energy cost parameters in 2014

Parameter	Value	Sources
Forecast load		
2H2013/14	972 GWh	Aurora
2014/15	2,181 GWh	Aurora
2015/16	2,164 GWh	Aurora
Marginal loss factor		
2H2013/14	1.0168	Aurora
2014/15	1.0168	Aurora
2015/16	1.0168	Aurora
Distribution loss factor		
2H2013/14	1.0713	Aurora
2014/15	1.0713	Aurora
2015/16	1.0713	Aurora
Energy price		
2H2013/14	7.236 c/kWh	Tasmanian Government
2014/15	6.331 c/kWh	Tasmanian Government
2015/16	6.605 c/kWh	Tasmanian Government

The Tasmanian Government is developing an approach to regulating the wholesale electricity contract price offered by Hydro Tasmania to supply all small customers. As such, the consultancy scope does not include an assessment of the estimated price of wholesale electricity that might be paid by a retailer. Rather, we have been advised on an appropriate wholesale energy price to include in the calculation of NMR.

We understand that the wholesale energy contract price has been applied as a load following swap and calculated with reference to the flat swap price in Victoria. Premiums have been added to account for the load shape and application to the Tasmanian regional reference node.

Based on the inputs listed in Table 5, Ernst & Young has estimated the wholesale energy costs to service the Tasmanian small customer base as outlined in Table 6.

Table 6: Estimated energy costs

	2H2013-14 ($m nominal)	2014-15 ($m nominal)	2015-16 ($m nominal)
Energy costs	$76.62	$150.44	$155.70

7. Network charges

Network charges (NC) are a significant component of total retail electricity prices, typically making up over 45 percent of the total for small customers. Network charges equal the sum of the transmission use of system (TUoS) and distribution use of system (DUoS).

NC is to be estimated by applying the approved network tariffs for the period based on the Australian Energy Regulator's determination to forecast residential loads.

Ernst & Young requested forecast network tariffs from Aurora for the 30 months of this regulatory period. The estimated network tariffs applying to small customers are shown in Table 7 through to Table 9.

Aurora has applied a standard 4% nominal escalation factor to the 2013/14 prices to forecast the prices to apply in 2014/15 and 2015/16. This 4% comprises an assumed 2.5% inflation factor and 1.5% real increase in prices.

Table 7: Small customer network tariffs in 2013/14

Retail Tariff	Network Tariff	Fixed Charges	Energy Step 1	Energy Step 2	Energy Step 3	Demand Step 1	Energy Peak	Energy Shoulder	Energy Off-Peak
		c/day	*c/kWh*	*c/kWh*	*c/kWh*	*$/kW or kVA*	*c/kWh*	*c/kWh*	*c/kWh*
22	N02	50.284	15.505	15.505					
31	N01	46.514	15.505						
34	N02a	50.604	14.993	7.543	7.543				
36c	No2b	29.412							
41	N05	11.562	4.688						
42	N05	11.562	4.688						
43	N05	11.562	4.688						
61	N06	15.634	1.638						
62	N06	15.634	1.638						
73	N08		1.543						
74	N08	203.327	16.016						
75	N08a	203.327					15.287	9.554	1.521
82	N09	213.65	3.028			190.552			
83	N03	229.097	3.936			285.832			
85	N10	199.239	1.7			122.046			
86	N11	214.918	1.962			176.492			

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx)

Table 8: Small customer network tariffs in 2014/15

Retail Tariff	Network Tariff	Fixed Charges	Energy Step 1	Energy Step 2	Energy Step 3	Demand Step 1	Energy Peak	Energy Shoulder	Energy Off-Peak
		c/day	*c/kWh*	*c/kWh*	*c/kWh*	*$/kW or kVA*	*c/kWh*	*c/kWh*	*c/kWh*
22	N02	52.295	16.125	16.125					
31	N01	48.375	16.125						
34	N02a	52.628	15.593	7.845	7.845				

Retail Tariff	Network Tariff	Fixed Charges	Energy Step 1	Energy Step 2	Energy Step 3	Demand Step 1	Energy Peak	Energy Shoulder	Energy Off-Peak
		c/day	c/kWh	c/kWh	c/kWh	$/kW or kVA	c/kWh	c/kWh	c/kWh
36c	No2b	30.588							
41	N05	12.024	4.876						
42	N05	12.024	4.876						
43	N05	12.024	4.876						
61	N06	16.259	1.704						
62	N06	16.259	1.704						
73	N08		1.605						
74	N08	211.46	16.657						
75	N08a	211.46					15.898	9.936	1.582
82	N09	222.196	3.149			198.174			
83	N03	238.261	4.093			297.265			
85	N10	207.209	1.768			126.928			
86	N11	223.515	2.04			183.552			

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx)

Table 9: Small customer network tariffs in 2015/16

Retail Tariff	Network Tariff	Fixed Charges	Energy Step 1	Energy Step 2	Energy Step 3	Demand Step 1	Energy Peak	Energy Shoulder	Energy Off-Peak
		c/day	c/kWh	c/kWh	c/kWh	$/kW or kVA	c/kWh	c/kWh	c/kWh
22	N02	54.387	16.77	16.77					
31	N01	50.31	16.77						
34	N02a	54.733	16.217	8.159	8.159				
36c	No2b	31.812							
41	N05	12.505	5.071						
42	N05	12.505	5.071						
43	N05	12.505	5.071						
61	N06	16.909	1.772						
62	N06	16.909	1.772						
73	N08		1.669						
74	N08	219.918	17.323						
75	N08a	219.918					16.534	10.333	1.645
82	N09	231.084	3.275			206.101			
83	N03	247.791	4.257			309.156			
85	N10	215.497	1.839			132.005			
86	N11	232.456	2.122			190.894			

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx)

Ernst & Young also requested forecast network loads by tariff class from Aurora for the 30 months of this regulatory period. The estimated network loads small customers are shown in Table 7 through to Table 9.

Table 10: Non-contestable loads and billing days for 2H2014

Retail tariff	Billing days	Energy step 1	Energy step 2	Energy step 3	Demand step 1
	Day	*kW/h*	*kW/h*	*kW/h*	*kW or kVa*
22	4,782,758	12,387,685	104,630,622		
31	41,812,721	385,044,958			
34	2,274	4,599	4,565	91177	
36c[1]	912,500				
41	16,250,640	120,970,096			
42	23,227,519	300,245,803			
43	178,107	2,392,031			
61	3,260,698	25,550,071			
62	338,025	2,537,000			
73	405,857	8,897,410			
74	405,857	7,746,473			
75					
82	10,232	855,251			632
83	9,095	734,672			543
85	-	-			0
86	379	19,881			15

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx)

Table 11: Non-contestable loads and billing days for 2015

Retail tariff	Billing days	Energy step 1	Energy step 2	Energy step 3	Demand step 1
	Day	*kW/h*	*kW/h*	*kW/h*	*kW or kVa*
22	9,458,056	27,798,559	234,796,126		
31	82,836,505	864,059,328			
34	4,505	10,321	10,244	204,605	
36c[2]	1,825,000				
41	32,194,657	271,462,690			
42	46,016,772	673,765,961			
43	352,854	5,367,833			
61	6,459,872	57,335,582			
62	669,671	5,693,150			
73	804,056	19,966,213			
74	804,056	17,383,457			
75					
82	20,270	1,919,223			626
83	18,018	1,648,639			538
85	-	-			
86	751	44,613			15

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx)

[1] In order to correctly deal with curtilage discounts, some of the billing days for Tariff 22 have been allocated to a notional Tariff 36c. The values for Tariffs 22 and 36c equal the schedule totals.
[2] In order to correctly deal with curtilage discounts, some of the billing days for Tariff 22 have been allocated to a notional Tariff 36c. The values for Tariffs 22 and 36c equal the schedule totals.

Table 12: Non-contestable loads and billing days for 2016

Retail tariff	Billing days	Energy step 1	Energy step 2	Energy step 3	Demand step 1
	Day	*kW/h*	*kW/h*	*kW/h*	*kW or kVa*
22	9,367,985	27,576,621	232,921,562		
31	82,175,236	857,160,856			
34	4,469	10,239	10,163	202,971	
36c[3]	1,825,000				
41	31,937,653	269,295,388			
42	45,649,429	668,386,753			
43	350,037	5,324,977			
61	6,408,304	56,877,827			
62	664,325	5,647,697			
73	797,637	19,806,807			
74	797,637	17,244,671			
75					
82	20,108	1,903,900			621
83	17,874	1,635,476			533
85	-	-			
86	745	44,257			14

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx)

Network charges, calculated based on the forecast load and network prices as outlined above, are shown in Table 13.

Table 13: Total network costs by period

Cost component	2H2013-14 ($m nominal)	2014-15 ($m nominal)	2015-16 ($m nominal)
Network costs	127.88	290.72	299.93

[3] In order to correctly deal with curtailment discounts, some of the billing days for Tariff 22 have been allocated to a notional Tariff 36c. The values for Tariffs 22 and 36c equal the schedule totals.

8. AEMO – market fees and ancillary services

Aurora provided forecast market fees and ancillary service charges between the second half of 2013/14 and 2015/16. Forecasts are reported in Table 14. Forecasts for AEMO were based on Aurora's estimates of forecast load for non-contestable small customers.

Table 14: Forecast market fees and ancillary service charges

	2H2013-14	2014-15	2015-16	Source
Load Forecast (<50MWh)	972.11	2,181.47	2,164.05	Aurora
Overall Loss Factor (GWh)	1.0893	1.0893	1.0893	Aurora
Budget Unit Cost (c/kWh)	0.1082c/kWh	0.1109c/kWh	0.1137c/kWh	Aurora
Total Cost ($ m nominal)	1.15	2.64	2.68	

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx) and Ernst & Young analysis.

9. Renewable energy costs

Calculating Notional Maximum Revenue also includes estimating the costs a retailer will face in complying with the Large Scale Renewable Energy Target (LRET) and Small Scale Renewable Energy Scheme (SRES).

To deliver on the Commonwealth Government's goal of 20 per cent renewable energy in Australia's electricity supply by 2020, a national Renewable Energy Target (RET) scheme has been established which expands the previous Mandatory Renewable Energy Target (MRET) by over four times to 45,000GWh in 2020.

The RET scheme has two targets, one for small-scale technologies (e.g. solar PV) known as SRES and another known as the LRET. The LRET retains the RET's existing floating price, fixed-quantity structure, and is available only to large-scale power generation, such as hydro, wind, solar, biomass, and geothermal. The LRET target is 41,000GWh of renewable energy by 2020 (4,000GWh less than the total national RET scheme).

9.1 LRET

The LRET places a legal liability on wholesale purchasers of electricity to proportionately contribute towards the generation of additional renewable electricity from large-scale generators. Liable entities support additional renewable generation through the purchase of Large-scale Generation Certificates (LGCs). The number of LGCs to be purchased by liable entities each year is determined by the Renewable Power Percentage (RPP), which is set by the Clean Energy Regulator. The RPP for 2013 has been set at 10.65%.

In order to calculate the cost to a retailer of complying with the LRET, it is necessary to determine the RPP for the retailer (which determines the number of LGCs that must be purchased) and the cost of obtaining each LGC.

The forecast number of LGCs to be settled for 2H2014 to 2015/16 has been provided by Aurora[4] based on the forecast percentage of liable acquisitions determined by the Clean Energy Regulator as outlined in Table 15.

Table 15: Required certificates under the LRET

	2013-14	2014-15		2015-16	
	Jan - Jun	Jul - Dec	Jan - Jun	Jul - Dec	Jan - Jun
Liable MWh	1,049,706	1,335,989	1,040,687	1,324,511	1,032,378
RPP	9.46%	9.46%	10.52%	10.52%	11.96%
Required certificates	99,302	126,385	109,480	139,339	123,472

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx) and Ernst & Young

The Clean Energy Regulator publishes its forecast requirements prior to 31 March of the relevant year. If the prescribed binding percentage varies from that assumed

[4] Note that Ernst & Young has amended the data provided by Aurora to ensure that the calendar year liable MWh between the SRES and LRET align.

by the Clean Energy Regulator the calculation of Renewable Energy Costs (REC) will need to be revised for the change in LGC requirements.

The cost to a retailer of obtaining LGCs can be determined either based on the resource costs associated with creating LGCs or the price at which LGCs are traded.

We use published forward prices for LGCs as a basis for estimating the cost of obtaining LGCs. The use of published prices for LGCs is arguably more transparent than using an LRMC approach.[5] The following table shows the total cost of the LRET on Tasmanian retailers based on the required certificates (calculated in Table 15) and publically available LRET forward prices as determined by the Australian Financial Markets Association for 2 May 2013.

Table 16: Liability under the LRET

	2H2013-14	1H2014-15	2H2014-15	1H2015-16	2H2015-16
Requirements	99,302	126,385	109,480	139,339	123,472
Price	37.16	37.16	38.91	38.91	40.82
Total LRET cost	3,690,068	4,696,450	4,259,877	5,421,661	5,040,145

Source: Australian Financial Markets Association

9.2 SRES

The SRES places a legal liability on wholesale purchasers of electricity to proportionately contribute towards the costs of creating small-scale technology certificates (STCs). The number of STCs to be purchased by liable entities each year is determined by the Small-scale Technology Percentage (STP).

Owners of STCs can sell STCs either through the open market (with a price determined by supply and demand) or through the STC Clearing House (with a fixed price of $40 per STC). The STC Clearing House works on a surplus/deficit system so that sellers of STCs join a transfer list and have their trade cleared (and receive their fixed price of $40 per STC) on a first-come first-served basis. The STC Clearing House effectively provides a floor to the STC price: as long as a seller of STCs can access the fixed price of $40, the seller would only sell on the open market at a price below $40 to the extent that doing so would reduce the expected holding cost of the STC.

In order to calculate the cost to a retailer of complying with the SRES, it is necessary to determine the STP for the retailer (which determines the number of STCs that must be purchased) and the cost of obtaining each STC.

The forecast number of LGCs to be settled for 2H2014 to 2015/16 has been provided by Aurora based on the forecast percentage of liable acquisitions determined by the Clean Energy Regulator as outlined in Table 15.

[5] We also note that the forward market three years out may have limited liquidity, however in the absence of a clearly more appropriate data set, Ernst & Young considers that the quoted forward market is the best indicator of future LRET prices.

Table 17: Required certificates under the SRES

	2013-14	2014-15		2015-16	
	Jan - Jun	Jul - Dec	Jan - Jun	Jul - Dec	Jan - Jun
Liable MWh	1,431,417	954,278	1,419,118	946,079	1,407,788
STP	8.98%	8.98%	8.49%	8.49%	3.79%
Required certificates	128,541	85,694	120,483	80,322	53,355

Source: Aurora (Notional Maximum Revenue calcs 2014 - 2016 info request (2)_BJG.xlsx)

The Clean Energy Regulator publishes its forecast requirements prior to 31 March of the relevant year. Historically, the non-binding forecast STP varies significantly from the actual binding STP. For example, the 2013 STP has recently been set at 19.70%, approximately twice the non-binding estimate set a year earlier.[6] If the prescribed binding percentage varies from that currently forecast by the Clean Energy Regulator the calculation of SRES will need to be revised for the change in STC requirements.

The cost to a retailer of obtaining STCs is assumed to be $40 based on the STC Clearing House prices. We note market discounts to $40 are available. In our view, this discount reflects the benefit to the seller of receiving payment for the STC at an earlier date. In effect, the retailer would achieve the discount by taking on this holding cost itself (that is, by acquiring the STC at an earlier date).

For the purposes of calculating Notional Maximum Revenue, we have applied this clearing house price of $40.00 per STC across the entire regulatory period. The total cost of complying with the SRES over the regulatory period is estimated in Table 18.

Table 18: Liability under the SRES

	2H2013-14	1H2014-15	2H2014-15	1H2015-16	2H2015-16
Requirements	128,541	85,694	120,483	80,322	53,355
Price	40.00	40.00	40.00	40.00	40.00
Total SRES cost	5,141,649	3,427,766	4,819,326	3,212,884	2,134,207

9.3 Total renewable energy costs

The total cost for the electricity retailer(s) in Tasmania complying with the SRES and LRET is estimated in the following table.

Cost component	2H2013-14 ($m nominal)	2014-15 ($m nominal)	2015-16 ($m nominal)
Renewable energy certificate costs	8.83	17.20	15.81

[6] http://ret.cleanenergyregulator.gov.au/For-Industry/Liable-Entities/stp, accessed 19 March 2013.

10. Costs to serve

The cost to serve retail electricity customers comprises two components:

- Retail operating costs (ROC)
- Customer acquisition and retention costs (CARC).

This chapter sets out Ernst & Young's recommendation of the ROC and the CARC that an efficient retailer would face to estimate the overall cost to serve. This process involved:

- Undertaking a review of the historical and forecast ROCs provided by Aurora
- Undertaking a benchmarking study of regulated ROCs and CARCs in other NEM jurisdictions.

The analysis showed that the forecast ROC of Aurora is broadly consistent with the benchmarks of ROCs in other jurisdictions once characteristics of the Tasmanian retail market are accounted for. In addition to the ROC, the commencement of full retail contestability in Tasmania from 1 January 2014 means that the retailers in Tasmania will incur customer acquisition and retention costs and therefore, the CARC is required to be included in their overall cost to serve. Finally, as the Tasmanian Government is mandating a TSA from 1 January 2014 to 30 June 2015, the incremental costs imposed by the TSA should be added to the efficient costs to serve.

10.1 Definitional issues

10.1.1 Representative retailer

The Tasmanian Government requires that electricity retail operating costs for small customers be assessed on the basis of the costs that an efficient retailer would be expected to incur. This section provides our estimate of these efficient costs. But first, we must define what is meant by an efficient retailer. For our purposes, we have considered an efficient retailer is one that is stand-alone operating solely in Tasmania, subject to a Transitional Services Agreement (TSA). Given this definition, it is reasonable to consider a representative retailer as lacking economies of scale.

Given that non-contestable customers can only be supplied by the incumbent retailer, or a retailer subject to the TSA, the initial focus will be the efficient costs that an incumbent retailer would incur. However, as Aurora's retail customer base is to be divested and FRC will be introduced on 1 January 2014, it is important to consider whether new entrant retailers, subject to the TSA, will be able to achieve similar retail operating costs, given their smaller customer bases. This will also be addressed.

10.1.2 Retail operating costs

To estimate retail operating costs, it is first necessary to consider the categories of cost that should be allowed for as retail operating costs in Tasmania. Retail operating costs are generally considered to consist of:

- Billing and revenue collection costs
- Call centre costs
- Customer information costs
- Corporate overheads
- Energy trading costs
- Regulatory compliance costs
- Marketing costs.

These costs reflect the activities that an efficient electricity retailer must undertake in supplying energy to its customers.

In addition, other costs – including depreciation, customer acquistion costs and FRC-related costs – are in some cases included in the allowance for retail operating costs in other jurisdictions. The treatment of these costs is discussed in the sections that follow.

This section provides a brief overview of our approach to estimating efficient retail operating costs.

10.1.3 Retail operating costs for different customers

The evidence suggests that retail operating costs will vary across different tariff classes. In order to estimate retail operating costs, therefore, it is necessary firstly to identify which groups of customers will have similar retail operating costs, and then to match these groups of customers to particular tariffs.

The evidence suggests that small customers – generally speaking, those customers that consumer less than 160 MWh per annum – have similar retail operating costs. This is reflected in the available evidence from regulatory decisions of other jurisdictions.

For this reason, we will estimate a single allowance for retail operating costs for the relevant non-contestable customers in this case. We recommend that the estimate of efficient retail operating costs for non-contestable customers be incorporated into those tariffs for which a majority of customers are below the contestability threshold: our understanding is that this includes the 22, 31, 34, 41, 42, 43, 61, 62, 73, 74, 82, 83 and 86 tariffs.

10.2 Approach

Our approach to this aspect of work involves:

- Assessing the actual retail operating costs reported by Aurora
- Benchmarking retail operating costs against allowances in other regulatory decisions and against public information on these costs.

This approach is consistent with the approach adopted by other regulators in Australia.

Where forecast data provided by Aurora and Department of Treasury and Finance is reported in nominal terms, we have deflated all forecasts and report all cost data in real 2011/12$. We have applied actual CPI reported by ABS for Australia where possible and in its absence, applied the mid-point of the Reserve Bank of Australia's inflation target of 2.5 percent.

10.2.1 Methodology for determining retail operating costs

Regulators in other jurisdictions have tended to determine an appropriate allowance for retail operating costs using one or both of two approaches:

- Assessing the actual retail operating costs of existing retailers
- Benchmarking against allowances for retail operating costs in other regulatory decisions and against public information on these costs.

The relative weight given to these two approaches is driven, in part, by practical considerations. Where regulators have limited access to useful data on actual retail operating costs, or where there are concerns about the appropriate allocation of common retail operating costs, benchmarking is typically used as the basis for determining an appropriate allowance for retail operating costs.

Benchmarking is also used because it provides guidance on the efficient costs of retailing.[7] These may not be the same as the actual costs of incumbent retailers. Benchmarking helps ensure that incumbent retailers are neither rewarded for inefficiency nor penalised for efficiency.

In estimating the retail operating costs for non-contestable customers, we consider evidence on actual costs in Tasmania, as well as benchmarks from other jurisdictions, assessed for relevance to Tasmania:

- Aurora provided, on a confidential basis, actual 2011/12 retail operating costs and end-of-year forecasts for 2012/13 (in nominal terms)
- Aurora also provided estimated costs allowed for under the draft Transitional Services Agreement (TSA)
- Regulators in other jurisdictions in Australia regularly estimate retail operating costs for mass market customers for the purposes of retail price determinations.

[7] See, for instance, ESCOSA, *2007 Review of Retail Electricity Price Path*, Draft Inquiry Report and Draft Price Determination, August 2007, page A-65:
"The Commission observes that, in comparing an actual cost approach to a benchmarking approach, benchmarking is more likely to be consistent with the Commission's statutory objectives of promoting efficiency and providing incentives to reduce costs. The Commission therefore intends to place significant weight on its benchmarking analysis. It will have regard to the actual costs of AGL SA only to ensure that the results of the benchmarking produce sensible outcomes, or where benchmarking is itself not reliable (e.g. due to lack of data)."

10.3 Aurora's forecast retail operating costs

As part of the assessment, Department of Treasury and Finance has requested data from Aurora on historic and forecast retail operating costs.

Aurora has provided internal documents in relation to their actual total electricity retail operating costs split between regulated (customers with consumption of less than 50MWh per annum) and unregulated customers (customers with consumption of greater than 50MWh per annum) between 2008/09 and 2011/12 and their projected end-of-year electricity retail operating costs for 2012/13 as well as those costs in 2014 subject to the TSA.

There currently exists two retail operating cost methodologies employed by Aurora:

- A Business-as-Usual operating cost model
- A Transitional Services Cost model.

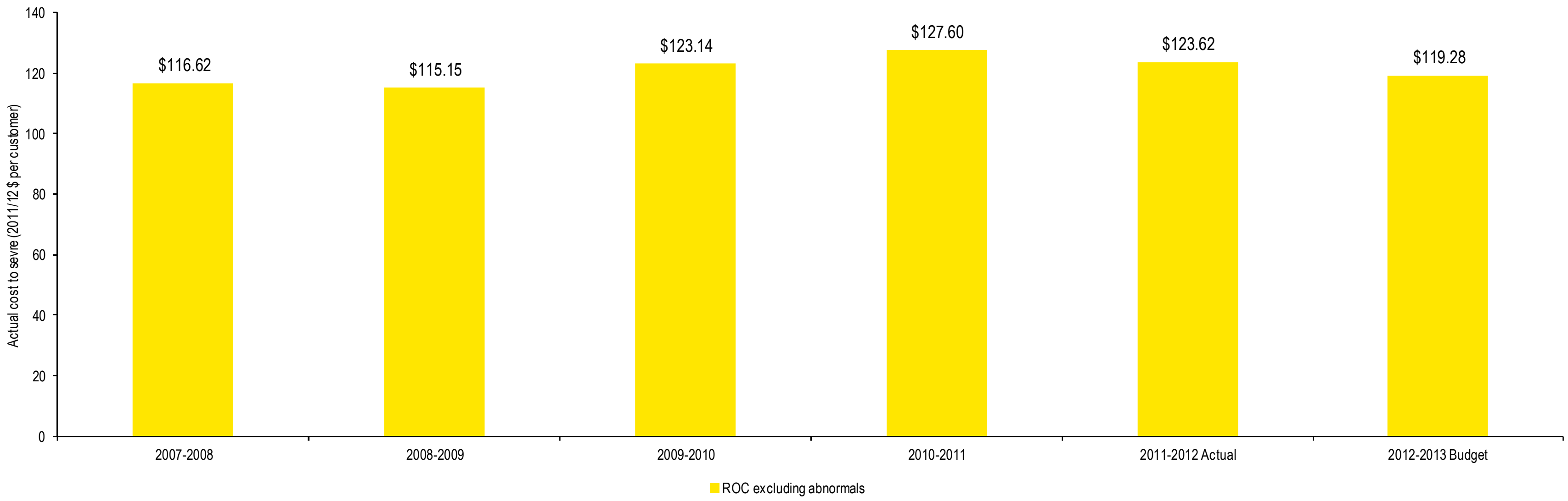
The Business-as-Usual model contains actual and end-of-year 2012/13 cost data, but no forecast information.

The transitional cost model is premised on the splitting and sale of Aurora. This model assumes a subset of operating services is transitioned to the successful bidders for a period of 18 months. This model uses past period actual results and current period budgets and forecasts to calculate the likely expenses. The model is still being refined and this process is not yet complete as detailed design of transitional services continues. Given these limitations, neither the Business-as-Usual nor the transitional cost models are independently suitable for estimating retail operating costs.

10.3.1 Business-as-usual

Aurora has provided Ernst & Young with historical electricity retail operating costs for small customers from 2008 to 2013. These are shown in Figure 1.

Figure 1: Historical, actual and year-end ROC excluding abnormals (2011/12$)



Source: Aurora data and Ernst & Young analysis

Aurora reports that actual retail operating costs for an average small customer in 2012/13 is $119 (2011/12$) per customer.

Figure 1 shows retail operating costs (excluding abnormals) per small customer have historically been quite flat. This is consistent with the historical trend in total operating costs and customer numbers, which have both been relatively flat over the reported period.

The allocation of the total electricity operating costs across forecast customer numbers is the basis for Aurora's forecasts of retail operating costs per customer. Aurora has provided internal documents in relation to this allocation of total electricity operating costs to different categories of customers. Aurora's documentation reports that, under their allocation methodology, those costs that can be directly attributed to particular categories of customers are directly attributed to those customers. Costs that are common across customers are, for the most part, allocated to categories of customers based on the number of bill accounts.

We have reviewed Aurora's allocation process, having investigated end-of-year retail operating costs, customer numbers and its cost allocation between contestable and non-contestable customers. We note that under Aurora's allocation methodology a number of Aurora's retail costs are being allocated based on the number of bill accounts. As such, for a large number of cost centres that are identified as common, a residential customer faces the same cost as a large account managed customer. It is unclear if Aurora's approach has been adopted in other regulatory decisions in other jurisdictions. We note, however, that if the allocation of retail operating costs were based on another metric, say energy consumption, the cost allocation would be different, with residential customers bearing a lower proportion of total retail operating costs.

10.3.2 Drivers of retail operating costs

Aurora reports that total electricity operating costs have historically been volatile in response to internal factors.

Total electricity operating costs have varied considerably year-on-year when abnormal are taken into account while customer numbers have remained reasonably stable.

Aurora has provided the cost stack underpinning the calculation of electricity retail operating costs. It is apparent abnormal events between 2009/10 and 2011/12 have influenced operating costs per customer. These events comprised:

- Write off of 'old' billing system in 2009/10
- Labour redundancies in 2010/11 and 2011/12[8].

While a detailed investigation of Aurora's costs is beyond the scope of this review, we note internal costs reported by Aurora are similar to those that have been incurred by comparably sized retailers operating across jurisdictions in competitive environments. This suggests that these internal factors causing variability in

[8] In total, the abnormal expenses were as follows: 2009/10 - $76 million; 2010/11 - $59 million; and 2011/12 - $9 million. There were no abnormal expenses recorded in the other years analysed.

operating costs are unlikely to explain why efficient costs in Tasmania should be set higher than efficient costs in other jurisdictions.

10.3.3 Costs under TSA

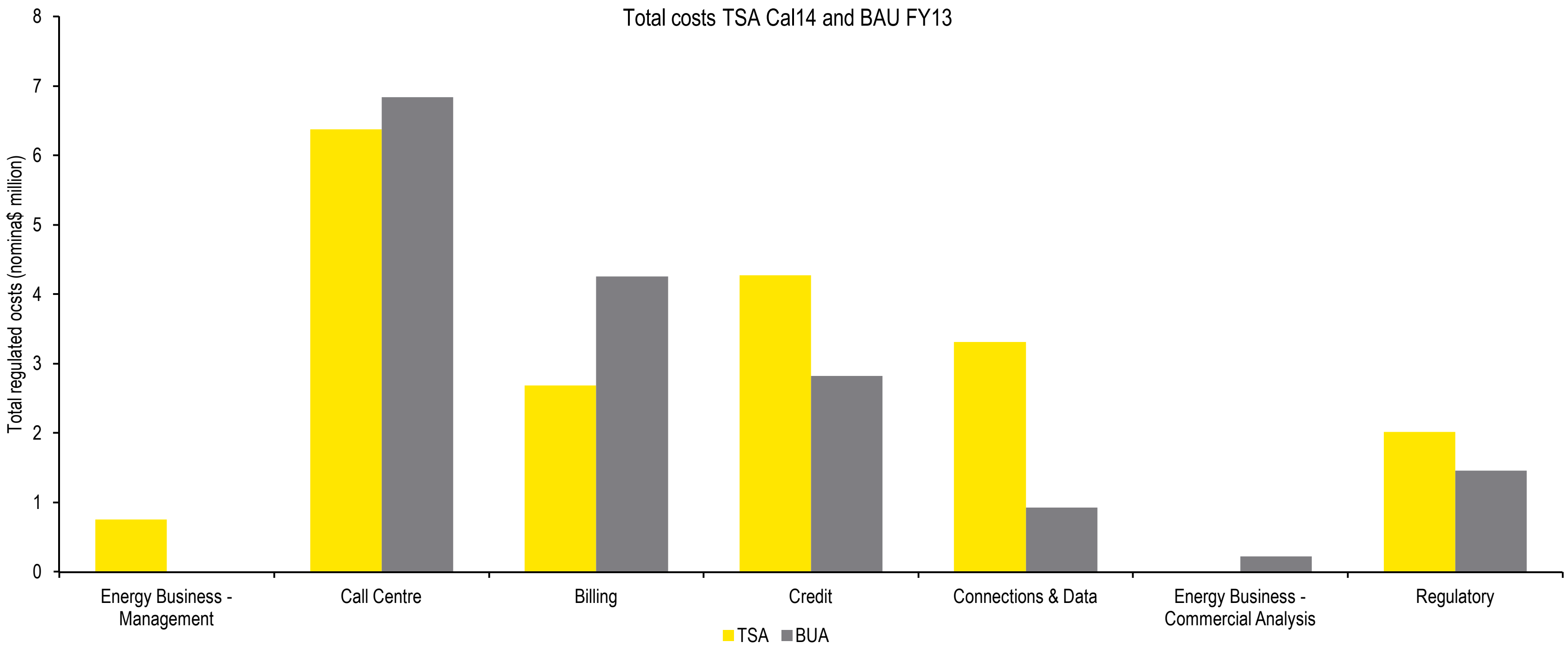
As part of the TSA, a number of services will be transitioned to the successful bidders of Aurora's retail customer base, allowing the continuation of uninterrupted operations.

Aurora provided Ernst & Young with its draft cost model which has been used to estimate the operating costs from 1 January 2014. The model uses past period actual results and current period budgets and forecasts to calculate the likely expenses. The model is still being refined with Aurora performing reconciliations and comparisons.

With the detailed design of transitional services continuing we are unable to rely on Aurora forecasts in calculating operating costs. We note however, that incremental retail operating costs may need to be reviewed once the TSA is complete.

The departments and costs included in the TSA are still being refined. Figure 2 shows the incremental changes in operating costs from 2012/13 for each department currently included in the draft TSA.

Figure 2: Retail operating cost comparison - Business as Usual vs TSA (2012/13$)



Source: Aurora data and Ernst & Young analysis

The incremental changes in costs from Business as Usual in 2012/13 to the draft TSA for 2014 differ between departments.

Total TSA costs account for only a portion of electricity retail operating costs and cannot be solely relied upon to estimate a cost to serve per customer. Importantly, incremental changes in departmental costs subject to the TSA are uncertain, with the TSA still being refined as detailed design of the transitional services is not yet complete.

We note that treatment of TSA costs and its recovery is a policy decision for Government. If however, these incremental costs are to be passed through to customers, the costs to serve per customer will likely need to be higher than that estimated in this report.

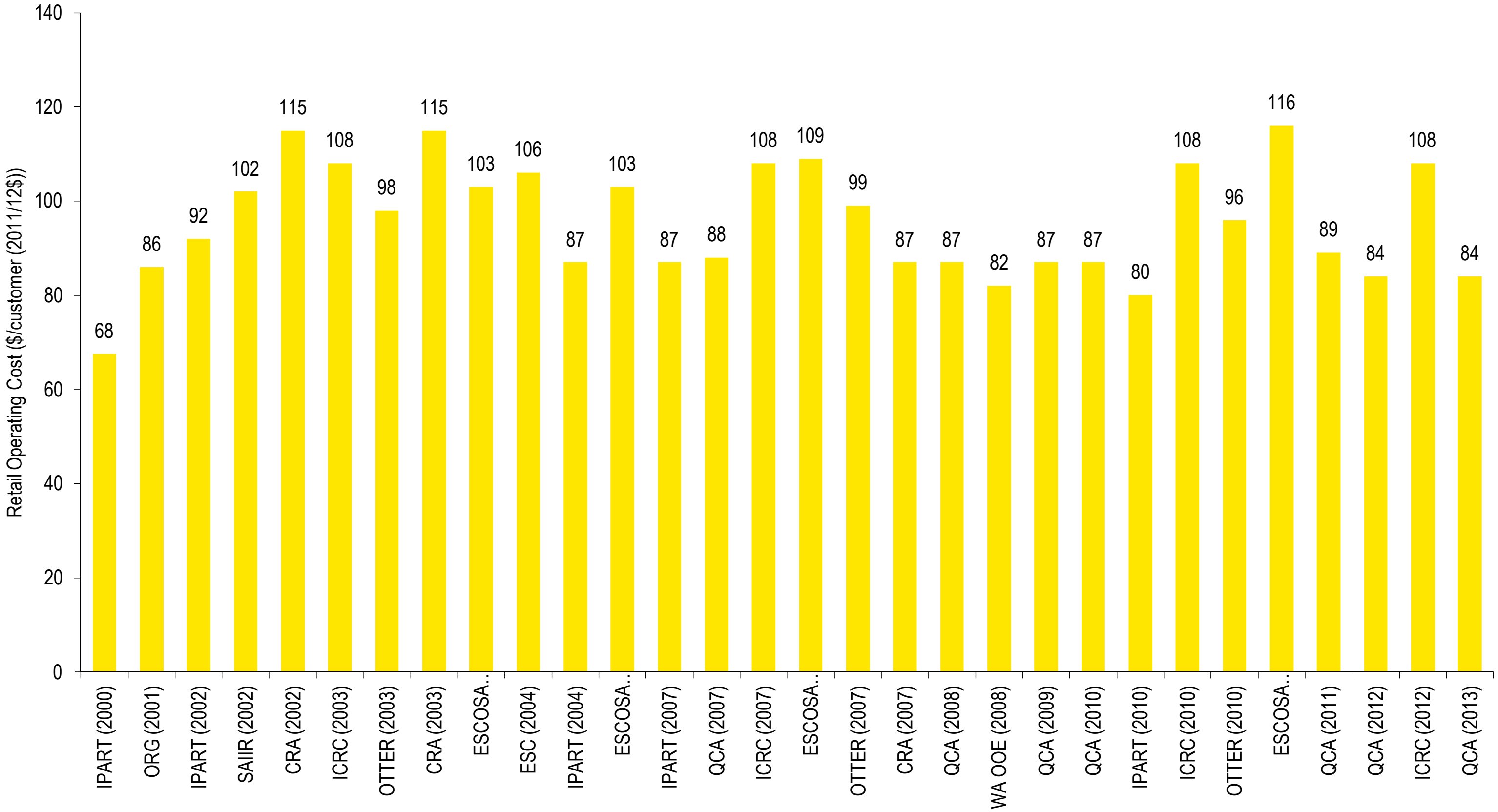
Despite the data provided by Aurora, Ernst & Young is of the view that the most appropriate way to assess efficient retail operating costs for small customers in Tasmania is through benchmarking against regulatory decisions in other jurisdictions. This is because the Tasmanian Economic Regulator is bound to consider the costs of an efficient retailer, which Ernst & Young has previously defined to mean an efficient standalone retailer operating solely in Tasmania. It is not possible in the context of this study to establish whether Aurora is currently operating as an efficient retailer, and therefore it is necessary to benchmark against other retailers throughout the NEM regions.

10.4 Benchmarking against regulatory allowances

Appendix A provides an overview of the assessment of retail operating costs in regulatory decisions in other jurisdictions in Australia, with Figure 3 showing these results graphically.

As seen in Figure 3, the range across the benchmarks is between $68 per customer and $116 per customer (including FRC costs), with an average of $95 per customer.

Figure 3: Retail operating cost benchmarks ($/customer, 2011/12$)



Source: OTTER, IPART, QCA, ESCOSA, ICRC, ORG, SAIIR, CRA, ESC, WA OOE; and Ernst & Young analysis

In order that the benchmark values for retail operating costs set out in Figure 3 provide guidance as to efficient retail operating costs for non-contestable customers in Tasmania, it is important to consider whether depreciation, customer acquisition costs and FRC-related costs have been included.

10.4.1 Depreciation

Depreciation costs can be included as a line item in retail costs, or as a component of the retail margin. For the purposes of this report, depreciation will be treated as a component of the retail margin.

The treatment of depreciation is important for the benchmarking exercise. Where depreciation is treated differently, the retail operating costs in Table 24 should not be directly compared.

For some of the determinations considered in Table 24, the treatment of depreciation is clear:

- IPART's earlier determinations explicitly include depreciation in retail operating costs
- The most recent determinations by IPART and OTTER exclude depreciation from retail operating costs
- ESCOSA's determinations exclude depreciation from retail operating costs.

For other determinations the treatment of depreciation is unclear. Due to this uncertainty, the allowances for retail operating costs set out in Table 24 will not be adjusted to account for differences in the treatment of depreciation. However, it is important to recognise that those regulatory determinations that include depreciation as a line item in retail operating costs – including IPART's early determinations and likely including other determinations – overstate the retail operating costs that are relevant for this assessment.

An indication of the magnitude of this overstatement is provided in work undertaken for IPART's 2007 retail pricing determination. IPART's consultant noted that the average cost of depreciation reported and forecast by the standard retailers in NSW over the period 2002/03 to 2009/10 was between \$8 per customer and \$9 per customer.[9]

10.4.2 Customer acquisition costs

Customer Acquisition and Retention Costs (CARC) are incurred by retailers in competitive markets, with new entrants endeavouring to attract customers away from incumbents, and incumbents endeavouring both to retain existing customers and to attract new customers. Customer acquisition costs are primarily marketing costs (typically direct marketing costs), but also include the costs of transferring customers between retailers.

[9] Frontier Economics and SFG Consulting, *Mass market new entrant retail costs and retail margin, Public Report prepared for the Independent Pricing and Regulatory Tribunal*, March 2007.
Estimates are in nominal terms

Customer acquisition costs include the costs of marketing to and transferring new customers, including the costs of:

- Sales agents, commissions, and telesales
- Marketing materials, such as stationery, information booklets, and confirmation packs
- Processing customer information and transfers, including credit checking
- Communications costs, such as telecommunications costs.

Estimating CARC requires an assessment of an (incumbent) retailer's acquisition, transfer and retention activities and costs in:

- Transferring a new customer from another retailer
- Transferring existing customers from a regulated to a market contract.

In the past, customer acquisition costs were not explicitly included in regulatory allowances for retail operating costs (although some allowance was typically made for general marketing costs). This has changed with IPART including an allowance for customer acquisition costs in its recent determinations, and the QCA and ESCOSA following suite in allowing for customer acquisition costs.

Importantly, retailers face customer acquisition costs only in competitive markets. Where markets have not been opened to competition, retailers do not face the same costs of marketing to customers or transferring customers. Clearly then, customer acquisition costs will be relevant to the retail operating costs for customers in Tasmania from 1 January 2014 once FRC commences.

In Table 24 the specific allowances for customer acquisition costs have been excluded from the retail operating cost allowances in IPART's 2007 and 2010 determinations and the QCA's 2007 and 2011 determinations. That is, the CARC and ROC are reported separately.

Table 19 below presents the IPART and QCA estimated CARC allowances. The range of allowances is between $38 and $42 (in 2011/12 dollars).[10]

Table 19: Regulated CARC allowance, 2011/12$

	2010	2011	2012	2013
IPART	$38.00			
QCA		$42.41	$42.41	$42.41
ESCOSA		$42.40		

Source: IPART, QCA and ESCOSA regulatory determinations.

For ESCOSA's 2007 and 2011 determinations, in which customer acquisition costs were allowed, but the magnitude of these costs was not specified, no adjustment has been made. As a result, the retail operating cost allowance from ESCOSA's

[10] This allowance does not reflect the costs of acquiring a customer, because it applies to all customers. In establishing a baseline CARC allowance per customer for the 2010-11 BRCI, the QCA used an estimate of $188 ($2010-11) per customer switch to a new retailer and $109 ($2010-11) per customer transferring onto a market contract and multiplied these estimates by the proportion of customers switching and transferring.

2007 and 2011 determinations overstate the costs that are appropriate to Tasmania for estimating ROC. ESCOSA's consultant noted separately estimated customer acquisition costs of $42 per customer (in 2011/12$).

For ICRC's determinations, an allowance for Customer Acquisition Costs (CAC) and CARC is excluded. ICRC notes that its allowance for ROC is greater than the allowance set out in the determinations from IPART and the QCA.

The ICRC is of the view that by including CAC, compliance with one component of the terms of reference (encouraging competition) would be enhanced, while compliance with another component (consumer protection) would be reduced. On balance, the ICRC has decided to exclude an allowance for CAC and CARC in retail operating costs.

When the Australian Energy Market Commission investigated the degree of competition in the ACT retail electricity market, its consultant concluded that inclusion of an allowance for CAC/CARC in ROC was appropriate.[11]

We estimate an efficient retailer's customer acquisition costs of $42 per customer for Tasmania, which is consistent with the benchmarks estimated by QCA and ESCOSA. We are also of the view that the allowance for CARC should be combined with the ROC such that the overall retail cost allowance is $150 per customer for the non-contestable load.

10.4.3 FRC-related costs

FRC-related costs are the additional capital and operating expenses that retailers face as a result of the introduction of FRC. Costs to retailers associated with FRC include project management costs, capital costs associated with updating retail systems and enabling retail interfaces, and additional operating costs.

With FRC commencing on 1 January 2014, it is necessary to account for these costs in the costs to serve.

The allowances for FRC-related costs in other jurisdictions will be reflective of the costs that retailers in Tasmania would face. Allowances for FRC-related costs in the more recent determinations are in the order of $10 per customer per annum (including both the capital costs of preparing for FRC and the costs of transferring customers).[12]

10.4.4 Relevance of benchmarks to Tasmania

An important part of benchmarking retail operating costs is considering the relevance to Tasmania of cost estimates from other jurisdictions. On the introduction of FRC in Tasmania, retailers will face the same categories of retail operating costs as do retailers in other jurisdictions. This still leaves the question of the extent to which retail activities in other jurisdictions, and the costs of these activities, are similar to Tasmania.

Broadly speaking, retailing activities are similar across different jurisdictions. This accounts for the wide use of the benchmarking approach for determining an

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[11] Allens Consulting Group (2010), *Review of the effectiveness of competition in the electricity retail market in the ACT*, page 16.
[12] See for example, ICRC (2010) and QCA (2007).

appropriate allowance for retail operating costs. Nevertheless, there can be differences between retailers in terms of the customers to whom they supply energy and the scale and scope of their activities. These differences may lead to differences in costs. There may also be differences in retail operating costs across jurisdictions if the costs of inputs into retailing vary across jurisdictions.

10.4.5 Scale of retailers

Regulatory decisions in other jurisdictions suggest that there are some economies of scale available in electricity retailing. With a significant proportion of retail operating costs being fixed,[13] the average retail operating cost per customer is likely to fall as customer numbers increase.

Economies of scale available to retailers in other jurisdictions should be reflected in the retail operating costs allowed in pricing determinations in these jurisdictions. In benchmarking retail operating costs, therefore, consideration must be given to the scale of retailers in each jurisdiction. The available evidence suggests that an efficient stand-alone retailer in Tasmania, retailing to only half of the total non-contestable customers, would be able to achieve lower economies of scale as incumbent retailers in other jurisdictions.

First, it is clear that the retail market in Tasmania is sufficiently small that a retailer cannot operate at a comparable scale to retailers in other jurisdictions. Aurora currently supplies approximately 263,550 small retail customers. To encourage competition, the Government proposes to split Aurora in two portfolios of approximately 130,000 small customers. This compares with the number of small retail customers supplied by the standard retailers in New South Wales (between approximately 600,000 and 1,000,000 in 2008/09) and the number of customers supplied by the incumbent retailers in Queensland prior to the introduction of FRC (PowerDirect had approximately 430,000 customers at the time of its sale to AGL, and Sun Retail had approximately 830,000 customers at the time of its sale to Origin Energy). In other jurisdictions, the number of customers supplied by retailers is significantly less, but still larger than half of Aurora: AGL SA supplies approximately 200,000 small retail customers on regulated tariffs in South Australia, and ActewAGL supplies approximately 165,000 small retail customers in the ACT.[14]

Second, the evidence suggests that once above a threshold level, the average cost curve for retailing activities is quite flat over a reasonably wide range of customer numbers. For instance, evidence from NSW indicates that, despite differences in the scale of standard retailers, their actual retail operating costs per customers were

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[13] For example, in work undertaken for IPART's 2007 retail electricity pricing determination, Frontier Economics estimated that 75 per cent of retail operating costs are fixed costs. This was based on cost data provided by the standard retailers in NSW. Frontier Economics and SFG Consulting, *Mass market new entrant retail costs and retail margin, Public Report prepared for the Independent Pricing and Regulatory Tribunal*, March 2007, pages 8-9

[14] Retailers in the NEM increasingly supply customers in several jurisdictions, enabling them to increase their customer base beyond that achievable in any single jurisdiction. In particular, both AGL and Origin Energy have substantial customer numbers: AGL supplies approximately 1.9 million electricity customers and 1.4 million gas customers across the NEM, and Origin Energy supplies approximately 4.6 million electricity and gas customers across the NEM. This may enable these large retailers to achieve greater economies of scale in retailing than other retailers. However, there is little to suggest that any economies of scale achieved by retailers of the size of AGL and Origin have been reflected in regulatory decisions. Energy retailers in the UK are much larger still.

similar.[15] That the average cost curve is flat over a reasonably wide range of customer numbers is also supported by the entry and survival of smaller retailers operating, apparently profitably, for some time. In the NEM, for instance, several new entrant retailers are operating successfully at a scale below the incumbent retailers: Lumo Energy has reached over 400,000 customers[16]; and Simply Energy has 300,000 customers; and Red Energy 200,000 customers.[17] These new entrant retailers however, benefit from an economies of scale not afforded to a split of Aurora at 130,000 customers.

As has been noted by the ICRC, its allowance is greater than the allowance set out in the determinations from IPART and the QCA. The ICRC commented that the recovery of similar fixed costs across a larger customer base could account for some of the difference. Once adjusted for economics of scale, the ICRC considered its allowance for retail operating costs for the 165,000 small customers supplied by ActewAGL is consistent with those in other jurisdictions.

10.4.6 Scope of retailers

As well as economies of scale, there may be some economies of scope available to retailers in other jurisdictions. Economies of scope may be particularly relevant where retailers are able to provide their customers with dual-fuel offerings and thereby reduce the variable costs of retailing.

However, the available evidence suggests that regulatory benchmarks from other jurisdictions do not reflect economies of scope. This is because regulators have tended to base their cost estimates on stand-alone electricity retailers. For instance, in Queensland, the *Electricity Industry Act 1994* (as amended by the *Electricity and Other Legislation Amendment Act 2006*) required that the allowance for retail costs was based on an efficient retail business that "is carried on separately from any other business". In its report for the QCA, CRA International noted that this is likely to result in a cost allowance that is in excess of the actual retail costs of the incumbent retailers in Queensland, which have retailing interests outside Queensland and are dual fuel retailers in Queensland.[18] More recently, as part of its new retail electricity pricing methodology, the QCA defined a representative retailer as an incumbent stand-alone business that retails across the NEM. In New South Wales, IPART's final report on 2010-13 regulated retail prices aimed to establish the costs of an incumbent stand-alone retailer serving customers across the NEM.[19]

In any case, economies of scope in retailing are unlikely to be substantial. Frontier Economics, in advising IPART on its 2007 retail price determination, noted that a dual fuel retailer might enjoy some economies that are not available to a stand-alone electricity retailer, but concluded that the available evidence indicated that these economies would be unlikely to have a material effect on costs.[20]

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[15] See, for example: IPART, *Regulated Retail Prices for Electricity to 2004*, Final Report, December 2000; IPART, *Mid-term Review of Regulated Retail Prices for Electricity to 2004*, June 2002; Frontier Economics and SFG Consulting, *Mass market new entrant retail costs and retail margin*, *Public Report prepared for the Independent Pricing and Regulatory Tribunal*, March 2007, pages 8-9.
[16] Lumo Energy (formerly Victoria Electricity, Queensland Electricity, NSW Electricity and South Australia Electricity) web site: http://www.lumoenergy.com.au/about-us
[17] APG, FY 2010 Investor Presentation, 18 August 2010, page 7.
[18] CRA International, *Calculation of the Benchmark Retail Cost Index for 2006-07 and 2007-08*, Final Report, May 2007, page 42.
[19] IPART, *Final report 2010-13*
[20] Frontier Economics and SFG Consulting, *Mass market new entrant retail costs and retail margin, Public Report prepared for the Independent Pricing and Regulatory Tribunal*, March 2007, pages 8-9.

10.4.7 Retail operating costs of new entrants

With Aurora's retail customer base being divested, it is also important to consider whether a new mass market retailer would be able to achieve similar operating costs. On introduction of FRC, new entrants will find it difficult to compete for customers if the regulated tariff is based on an allowance for retail operating costs that they cannot achieve.

The principal issue in regard to the retail operating costs of new entrant retailers is whether they would have the scale to achieve retail operating costs that are comparable to those of the incumbent. The available evidence suggests that they would be able to do so.

New entrant retailers have been able to enter the retail markets in other jurisdictions without investing in systems that are as complex as the incumbent retailers' legacy systems. One strategy that smaller retailers have successfully adopted is to out-source key retailing functions and, in this way, avoid some of the fixed costs that incumbent retailers have traditionally incurred in developing customer information systems and billing and revenue systems. For instance, Australian Power & Gas reports that it out-sources to third-party service providers the following functions: sales, customer transfer and billing, and service and payment functions.[21] Australia Power & Gas pays for these outsourced services on a per customer basis, meaning that these costs are variable rather than fixed.

That smaller new entrants are able to achieve cost levels comparable to incumbent retailers is indicated by the ability of smaller retailers to successfully compete with incumbents. As discussed earlier, several smaller new entrant retailers have been successfully operating in the NEM at a much smaller scale than the incumbent retailers.

This suggests that an allowance for retail operating costs that is based on the costs that an efficient incumbent would incur is likely to also be relevant for new entrant retailers in the event that FRC is introduced in Tasmania.

10.5 Conclusion on retail operating costs for non-contestable customers

Despite the data provided by Aurora, Ernst & Young is of the view that the most appropriate way to assess efficient retail operating costs for small customers in Tasmania is through benchmarking against regulatory decisions in other jurisdictions. This is because the Tasmanian Economic Regulator is bound to consider the costs of an efficient retailer, which Ernst & Young has previously defined to mean an efficient standalone retailer operating solely in Tasmania. It is not possible to know whether Aurora is currently operating as an efficient retailer, and therefore it is necessary to benchmark against other retailers throughout the NEM regions.

Based on the benchmark decisions on retail operating costs set out in Figure 3, we estimate that an efficient retailer in Tasmania would incur retail operating costs at the upper bound of the reported range, consistent with that calculated by ICRC of

[21] See Australian Power & Gas Investor Presentation, 5 December 2007. Available from Australian Power & Gas web site: http://www.australianpowerandgas.com.au/index.cfm?s=5C8592F0-157E-DAE8-81305CC2A2D1CF85&m=E9442EC1-C2D1-AB8B-CECB10D32F6F4000. Outsourcing business model also noted in APG's, Investor Presentation, 18 August 2010, page 8.

$108 per customer per annum in 2014 (in 2011/12 dollars) for non-contestable customers, exclusive of CARC. Based on the benchmarking, we estimate a CARC of $42 per customer (in 2011/12 dollars) would be incurred by an efficient retailer in Tasmania.

First, $108 per customer per annum is broadly consistent with the budget costs of $119 per customer (less abnormals) estimated by Aurora for the end of year 2012/13.

Second, we consider that $108 per customer per annum is a reasonable reflection of the most recent retail operating cost benchmarks from other regulatory decisions. As was seen in Figure 3, the range across the benchmarks from 2010/11 was from $78 per customer to $116 per customer (including FRC costs), with an average of $95 per customer. However, the benchmarks from the lower end of this range – from IPART and the QCA – are less relevant benchmarks. The upper end of the range, from ICRC and OTTER are more relevant:

- QCA and IPART report costs for an efficient incumbent stand-alone retailer operating across the NEM that benefits from economies of scale and scope
- ESCOSA's estimate of $115 per customer includes an amount for customer acquisition costs. ESCOSA's consultant estimated retail operating costs would be approximately $77 and separately estimated CARC at around $42 per customer. The ROC estimate is therefore comparable to QCA and IPART at the lower end of the cost range
- The estimates from the ICRC and OTTER reflect, in part, the smaller scale of retailers in these jurisdictions, with both regulators having explicitly recognised economies of scale as accounting for the higher costs in these jurisdictions. As discussed, an efficient retailer in Tasmania (acquiring half of Aurora's small customer base) is likely to operate at this smaller scale.[22]

The estimated retail operating costs for an efficient retailer in Tasmania is at the upper end of the range across the most recent benchmarks, reflecting the fact that retailers in the other jurisdictions benefit from economies of scale.

Third, $108 per customer per annum is within the range across all the benchmarks set out in Figure 3. The range across all the benchmarks is from $68 per customer to $116 per customer, with an average of $95 per customer. While $108 per customer is significantly above the lowest benchmarked costs these lower benchmarks are of less relevance to Tasmania.

Fourth, the 2007 and 2010 ICRC and OTTER decisions in Figure 3 are in some ways the most relevant for an efficient retailer in Tasmania. These decisions reflect the operations of retailers with fixed costs spread over a small customer base and include marketing costs associated with competitive markets. The costs associated with customer acquisition and retention, however, should be appropriately included in efficient retail operating costs in Tasmania on introduction of FRC. A retail operating cost of $108 per customer in 2011/12$ and $42 per customer for CARC

[22] ICRC, Final Decision, Retail Prices for Non-contestable Electricity Customers 2010-2012, June 2010, pp. 39-40; OTTER, Investigation of Maximum Prices for Declared Retail Electricity Services on Mainland Tasmania ,Draft Report, August 2010, p. 71; and OTTER, Investigation of Maximum Prices for Declared Retail Electricity Services on Mainland Tasmania, Final Report, October 2010, p. 77.

is consistent with these four decisions (once adjusted for the exclusion of depreciation).

Finally, it is considered appropriate to set the allowance at the high end of the benchmarked range for the following reasons:

- Aurora, compared to many retailers operating in other jurisdictions, has an extra cost to serve for customers in isolated regions
- Aurora has a number of customers that are pensioners or concession card holders. These customers generate increased Call Centre time and generally require a greater level of management than average customers
- On the introduction of FRC, there will be a need to educate and assist Tasmanian customers in preparing for retail market and tariff changes.

The available evidence suggests that an efficient retailer in Tasmania would require retail operating costs at the higher end of the benchmark. Therefore, the cost to serve has been calculated at $150 per customer per annum (2011/12$) for all non-contestable customers. This estimate excludes the incremental costs incurred under the TSA. The table below shows the nominal cost to serve, the total forecast customer numbers, and the overall allowance for the cost to serve.

Table 20: Cost to serve allowance[23]

Cost component	2H2013-14	2014-15	2015-16
Cost to serve per customer ($ nominal/customer)	$76.20	155.87	159.77
Customer numbers	262,662	260,184	258,107
Total cost to serve ($m nominal)	20.02	40.56	41.24

[23] Note that for escalating the benchmarked values, Ernst & Young used June 2012 as the base date for the 2011/12 financial year. In escalating these values forward, we have adopted Aurora's and the Tasmanian Economic Regulator's standard practice of applying a base date of December of the prior year (i.e., the base date for the 2013/14 financial year is December 2012).

11. Retail Margin

Retailers face a range of risks over the determination period. Some of these are risks associated with supplying electricity to small customers on regulated tariffs. These risks include:

- The risk of variation in their regulated load profile due to changes in economic conditions that affect the demand for electricity

- The risk of variation in wholesale electricity spot and contract prices due to changes in economic conditions and demand. This may mean their actual energy purchase costs are different to those assumed in setting regulated tariffs. We note retailers in Tasmania may not face the same wholesale price risk with the government regulating wholesale energy costs, however the mitigation strategies are also more limited

- General business risk due to changes in economic conditions. This may mean that their actual costs and revenues are different to those assumed in setting regulated tariffs.

We consider it appropriate to compensate retailers for the systematic risks they face through the retail margin allowance, and recommend an appropriate retail margin that takes account of these risks.

11.1 Approach to estimating retail margin

The retail margin allowance is relative to the retailers' EBITDA (earnings before interest, tax, depreciation and amortisation) and this approach is consistent with that applied by regulators in other jurisdictional determinations, including OTTER, IPART, QCA and ICRC. We consider this to be more appropriate than a margin based on EBIT (earnings before interest and tax), as the retail operating cost allowance does not include depreciation and amortisation costs. All references to the retail margin in this report are based on EBITDA unless otherwise stated.

We note at least three options to calculating an appropriate retail margin for Aurora, either using:

- **Expected returns** - whereby the retail margin is set such that the distribution of returns in above and below average economic conditions is consistent with an estimate of the appropriate cost of capital for the defined entity

- **Benchmarking** - conducted with reference to listed energy utilities and retail firms

- **Bottom-up** - whereby the retail margin is a function of an estimated asset base, including the retailer's intangible assets, and its estimated cost of capital.

Given time and information constraints, it has not been possible to undertake an analysis of retail margin using expected returns or bottom-up approaches. We also note the numerous assumptions and judgements that have to be relied upon in developing a retail margin using the bottom-up and expected returns approaches.

By contrast, the benchmarking approach involves examining reported margins of comparable listed firms to establish a range of the retail margin. The underlying assumption of this approach is that the retail margin for an electricity retail business should be broadly consistent with those for other comparable retail businesses. We have relied on benchmarking electricity regulatory determinations of other jurisdictions in Australia and internationally.

The strength of the benchmarking approach is that it provides an estimated range that reflects the profit margins observed in the market.

We select an appropriate retail margin from within this benchmark range, and recommend setting the margin as a fixed percentage total sales

11.2 Retail margin benchmarks in Australia

Table 21 details recent regulatory decisions made in other jurisdictions on retail margins for electricity. There is a general consensus of 5.4% of total sales.

Table 21: Retail margin as percentage of total sales

	2007	2008	2009	2010	2011	2012
OTTER	4.0%	5.0%		3.8%		5.4%
IPART	5.0%	5.0%	5.0%	5.4%	5.4%	5.4%
QCA				5.0%		
ICRC	4.0%	5.0%	5.0%	5.4%		
ESCOSA(1)	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%

Source: OTTER, IPART, QCA, ICRC and ESCOSA final determinations
(1) ESCOSA reports a retail margin of 10% applying to wholesale energy cost and retail operating cost. Other jurisdictions apply a retail margin to these components as well as network use of system. Adjusting for this difference in application, ESCOSA allowed an electricity retail margin of 5.4% of total sales.

While we note the benchmark estimate of 5.4% is verified by bottom-up approaches undertaken for IPART and ESCOSA,[24] we are also aware the 5.4% calculation was originally established by IPART based on a weighted average of the three different approaches (expected returns, benchmarking and bottom-up analysis).[25]

In the Tasmanian market, characterised by its small size, a retail margin needs to be of sufficient size in order to ensure that a retailer can cover its relatively large scale fixed capital-related costs. We are of the view that benchmarking retail margin against IPART's decisions is inappropriate for Tasmania as its decisions relate to retailers benefiting from economies of scale. Accordingly, we are of the view that a broader based benchmarking of the retail margin against more comparable businesses is needed.

11.3 Retail margin benchmarks international experience

In its 2010 electricity determination, IPART had its consultant undertake an international benchmarking study that examined data from a large number of

[24] ESCOSA, http://www.escosa.sa.gov.au/library/101208-ElectricityStandingContractPrice-FinalPriceDetermination-PartA.pdf, page A-92.
IPART (2010), Review of regulated retail tariffs and charges for electricity 2010-2013, pages 133-134.
[25] IPART (2010), Review of regulated retail tariffs and charges for electricity 2010-2013, page 136.

retailers in Australia, the United States and the United Kingdom – in total, over 300 retail firms across six (6) sub-industries.[26]

In IPART's opinion, it was important to consider data from a large number of comparable firms as it improves the statistical reliability of the estimates.

The estimated range for the retail margin using the benchmarking approach is presented in Table 22:[27]

Table 22: Benchmark retail margins, international experience

	Low	Mid	High
Retail margin	6.4%	6.7%	6.9%

Source: SFG, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, March 2010, pp 25-27.

The estimated range for the retail margin using the benchmarking approach was compared by IPART's consultant with the profit margins of retail energy businesses in Australia. It was found that the actual profit margins were consistent with the estimated range of 6.4% to 6.9%.[28]

The Victorian retail energy market is the only retail market where prices have been fully deregulated (i.e. for small users). While the Tasmanian reforms do not contemplate price deregulation at this stage, recent developments in the Victorian market highlight the challenges it raises.

Recently, CLSA, an independent stock market research company, estimated that Victorian retail market net margins are about 15%.[29] It expects similar developments to occur in other markets that deregulate prices (e.g. SA). These margins appear to be well above those typically allowed for by regulators.

This appears to accord with other anecdotal evidence, including our interactions with market participants.[30]

It is not clear whether this is a temporary phenomenon or can be sustained, but it suggests that in a completely deregulated market, retailers may be earning significantly higher margins than those indicated in previous benchmarking studies.

11.4 Conclusion on retail margin

The range of retail margin estimates is between 5.4% and 6.9% and potentially much higher based on more recent but more anecdotal evidence.

Since the Tasmanian Government is to regulate wholesale energy prices in the shorter term, this reduces a retailer's risk and therefore the need to compensate a retailer for that risk. However, there is strong evidence to support the upper end of the benchmark range in retail margin. It was also found that actual profit margins of

[26] SFG, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, March 2010
[27] SFG, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, March 2010, pp 25-27.
[28] SFG, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, March 2010, pp 29-30.
[29] Australian Financial Review, 'Retailers hope for fewer controls' 10 January 2013, p 28. It is also worth noting that average bills have increased considerably over this period.
[30] This includes work undertaken by Ernst & Young. See Ernst & Young, Victorian Domestic Electricity Prices: The contribution of network costs, September 2011.

efficient retailers operating in Australia were within this estimated benchmark range.

We estimate that an efficient retailer operating in Tasmania would need a margin of 6.9%, at the upper end of the international benchmark range.

Providing such a margin would also be more consistent with the objectives of the Tasmanian government's reform process, which include encouraging both private entry into electricity retailing in Tasmania and greater competition in retailing over time, whilst providing price protection for small users as the new market evolves.

Consistent with this, over time the reform objectives also imply greater reliance on competition rather than wholesale and retail price regulation to protect the interests of small users.

Section 12 and 13 briefly address these issues.

Based on a margin of 6.9%, the retail margin to be earned by the Tasmanian retailers is shown in Table 23.

Table 23: Retail margin allowance

Cost component	2H2013-14 ($m nominal)	2014-15 ($m nominal)	2015-16 ($m nominal)
Retail margin	15.49	34.61	35.56

12. Competition issues

The Tasmanian Government is committed to maintaining regulated standing offer prices in the short to medium term. Normally, the challenge (and risk) of retail price regulation is the calculation of wholesale energy costs. We note however, that the Government is developing a mechanism to manage this risk in the shorter term.

It is important however, that the interaction between wholesale and retail prices is considered by the Tasmanian Economic Regulator in calculating standing offer prices so that the Government is positioned to achieve its long term policy objective of a competitive retail market. The approach to reform being adopted in Tasmania means there will be trade-offs in the calculation and setting of regulated standing offer prices. For instance, if both the regulated wholesale energy price and regulated retail margin are set too low it is likely to limit customer switching in an FRC environment as retailers will have insufficient 'headroom' to provide discounted offers. By contrast, if the regulated wholesale energy price is set more appropriately, this may provide retailers with an opportunity to offer price discounts to customers over time and encourage retail competition.

This implies that for Tasmania the level of margin should be a key consideration in assessing the attractiveness of the market to new entrants, particularly given:

- The regulated wholesale price, which is likely to reduce the scope of competition to retail costs and margins, but also reduce retail risk in the shorter term

- The relatively small size of the market and the more generous margins that may currently be available from incremental investment in other larger markets.

These represent key considerations to take into account by the Tasmanian Economic Regulator in developing a regulated standing offer price path that meets the Government's reform objectives.

12.1 Pricing impacts

We have been engaged by the Tasmanian Government to calculate NMR from January 2014 to June 2016. While determining the price impacts to small electricity customers is outside the scope of our engagement we can make some general observations.

Based on the estimated NMR's and load forecasts, we understand that Aurora has estimated that aggregated average regulated standing offer prices will:

- decrease by approximately 2% from the prior period to the second half of 2013/14

- decrease a further approximately 3% from the second half of 2013/14 to 2014/15
- increase approximately 4% from 2014/15 to 2015/16.[31]

[31] Ernst & Young has not validated these pricing impacts.

Appendix A Benchmarked retail operating costs

Table 24: Electricity retail operating cost allowance in other regulatory decisions

Decision	State	Regulatory period	Retail cost per customer (nominal $)	Retail cost per customer (2011/12$)	Comments
IPART (2000)	NSW	Jan 2001 *to* Jun 2004	$40 – $60	$54 – $82	Based on actual retail costs of standard retailers and relevant benchmarks. Includes an allowance for FRC capital costs of $5 per customer per annum. Does not include projected increases in marketing costs (above those incurred for a regulated service) because IPART determined that those are not appropriate for a regulated service.
ORG (2001)	VIC	2002	$50 – $80	$66 – $106	Based on actual retail costs and relevant benchmarks. Includes an allowance for FRC costs of $5 – $10 per customer per annum, which was consistent with cost forecasts provided by retailers. Includes only minor allowances for basic marketing and no allowance for customer acquisition costs (since these are not necessary for customers on regulated tariffs). ORG noted that the potential for larger NSW retailers to access economies of scale may justify a greater allowance for retail costs in Victoria than in NSW.
IPART (2002)	NSW	Aug 2002 *to* Jun 2004	$45 – $75	$61 – $102	Based on actual retail costs of standard retailers and relevant benchmarks. This included an allowance for FRC costs, but the amount of FRC costs was not separately identified. This included depreciation costs, but did not include allowances for marketing and promotion.
SAIIR (2002)	SA	2003	$80	$102	Based on AGL's actual costs in South Australia and relevant benchmarks. Includes a $10 per customer allowance for the costs of FRC. SAIIR noted that AGL SA is larger than any Victorian retailer and larger in aggregate than any other electricity company. SAIIR suggested that AGL SA's costs should therefore be lower.
CRA – Victoria (2002)	VIC	2003	$90	$115	CRA's cost allowance was based on Victorian retailers' reports of their retail costs for standing offer customers, as reported to ORG during its 2001 investigation of retail pricing.
ICRC (2003)	ACT	Jul 2003 *to* Jun 2006	$85	$108	Based on ActewAGL's actual costs and relevant benchmarks. Includes an allowance for the costs of FRC. ActewAGL claimed FRC costs of $8.33 per customer, but the ICRC did not separately identify the amount for FRC costs. ICRC considered that diseconomies of scale justified an increased allowance for retail costs relative to Victoria and South Australia.

Decision	State	Regulatory period	Retail cost per customer (nominal $)	Retail cost per customer (2011/12$)	Comments
OTTER (2003)	TAS	Jan 2004 *to* Dec 2006	$77	$98	Based on Aurora's actual costs and relevant benchmarks. Aurora reported actual costs of $77 per customer (in June 2002 dollars). Does not include an allowance for the costs of FRC (as FRC had not been introduced in Tasmania). OTTER considered that only a small proportion of marketing expenses should be allowed, as the returns to these lie in the potential for increased sales. OTTER recognised the importance of economies of scale, but considered that Aurora should be able to achieve comparable costs to a retailer in SA or the ACT, and so adopted the amount from the ICRC's 2003 decision, less FRC costs of $8.33 per customer.
ESCOSA (2003)	SA	2004	$82	$103	ESCOSA considered that its analysis from 2002 remained relevant, but increased the $80 allowance to reflect inflation.
CRA (2003)	VIC	Jan 2004 *to* Dec 2007	$92	$115	CRA considered that its analysis from 2002 remained relevant, but adjusted this by CPI-1 (to allow for some productivity gain).
ESC (2004)	VIC		$85	$106	In assessing net margins in its review of the effectiveness of retail competition in gas and electricity, ESC assumed that retail operating costs were $85 per customer. This was based on work that the ESC had done for its investigation of retail tariff amendments in December 2003.
IPART (2004)	NSW	Jul 2004 *to* Jun 2007	$70	$87	IPART based its allowance on actual retail operating costs provided by retailers. IPART noted that these estimates were lower than retail operating costs allowed for in other jurisdictions, but considered that the use of higher benchmark costs is inconsistent with determining efficient costs. Includes FRC costs, but there was no specific allowance made for FRC costs. IPART's consultants – NERA – noted that FRC costs continue to be reflected in operating costs such as IT or billing costs. Also includes depreciation costs. Retailers argued that retail costs per customer would increase with FRC as customers churned to other retailers. IPART did not allow for an increase in retail costs to reflect this.
ESCOSA (2005)	NSW	Jan 2005 *to* Dec 2007	$84	$103	Based on AGL's actual costs in South Australia and relevant benchmarks. ESCOSA undertook a review of AGL SA's retail costs and concluded that as the results of the cost audit were sufficiently similar to its previous benchmarking exercises there was no justification for replacing the benchmarked results. Includes costs associated with FRC, but excludes depreciation costs (which were considered as part of the retail margin). ESCOSA increased the $82 allowance from its 2003 decision to reflect inflation. ESCOSA allowed a CPI+2% increase in the allowance for retail operating costs over the determination period, to accommodate increased costs per customer as more customers switched to market contracts.

Decision	State	Regulatory period	Retail cost per customer (nominal $)	Retail cost per customer (2011/12$)	Comments
IPART (2007)	NSW	Jul 2007 *to* Jun 2010	$75	$87	Based on actual retail costs of standard retailers and relevant benchmarks. NSW standard retailers' actual retail costs over the period 2002/03 to 2005/06 were in the range of $64 to $84 per customer (adjusted to July 2007 dollars). Does not include an explicit amount for FRC costs, but these continue to be reflected in operating costs. Does not include depreciation costs. IPART allowed a separate amount for recovery of customer acquisition costs ($35 per customer in 2006/07 dollars or $40 per customer in 2011/12 dollars).
QCA (2007)	QLD	Jul 2007 *to* Jun 2008	$78	$88	Based on relevant benchmarks. This included $10 per customer for FRC costs. The QCA also separately allowed $2 per customer for customer acquisition costs. Retail costs were assumed to increase by 3.9% between 2006/07 and 2007/08, reflecting increases in the wage index and the CPI, weighted according to a split of 60 per cent labour costs and 40 per cent other costs. No improvements in productivity.
ICRC (2007)	ACT	Jul 2007 *to* Jun 2008	$95	$108	Based on relevant benchmarks. The ICRC adopted an allowance equivalent to the inflation-adjusted allowance from its 2003 decision. Noting that its allowance is greater than the allowance set out in the draft determinations from IPART and the QCA, the ICRC commented that the recovery of similar fixed costs across a larger customer base could account for some of the difference.
ESCOSA (2007)	SA	Jan 2008 *to* Dec 2010	$97	$109	Allowance based on previous regulatory allowance of $84, escalated at CPI+2% to 2008 dollars. ESCOSA noted that analysis of AGL SA's actual operating costs attributable to the standing contract retail business reveals that the allowance of $97 is sufficient to cover all AGL SA's retail operating costs and the majority of customer acquisition costs. ESCOSA noted that AGL SA and other retailers are undertaking significant capital expenditure to improve retail operations, and that this will lower retail costs. ESCOSA considers that an efficient retailer would pass on some of these cost savings. Based on information provided by AGL SA, ESCOSA concluded that the allowance for retail operating costs should vary by CPI-4.1% over the regulatory period.
OTTER (2007)	TAS	Jan 2008 *to* Jun 2010	$85	$99	Based on Aurora's actual costs and relevant benchmarks. Aurora advised OTTER that its actual cost to serve in 2005/06 was $106 per customer (adjusted to 2010/11 dollars), including depreciation. OTTER's allowance for retail costs excludes depreciation costs. OTTER considers that FRC costs are implicitly included, as they are in other jurisdictions. OTTER noted that costs of marketing and customer acquisition are not typically included in allowances for non-contestable customers.

Decision	State	Regulatory period	Retail cost per customer (nominal $)	Retail cost per customer (2011/12$)	Comments
CRAI (2007)	VIC		$75	$87	Based on relevant benchmarks, CRAI estimated that retail operating cost for electricity businesses in Victoria are $75 per customer. This excluded any allowance for customer acquisition costs.
QCA (2008, remade 2009)	QLD	Jul 2008 *to* Jun 2009	$80.96	$87	Based on relevant benchmarks. This included FRC costs. The QCA also separately calculated customer acquisition costs of $18 in 2008/09. Retail costs were assumed to increase by 3.65% between 2007/08 and 2008/09, reflecting increases in the wage index and the CPI, weighted according to a split of 60 per cent labour costs and 40 per cent other costs. No improvements in productivity. The June 2009 remade decision does not report a change in retail costs per customer but, does note a 3.99% change in operating costs between 2007/08 and 2008/09.
WA OOE (2008)	WA	Jul 2008 *to* Jun 2012	$75	$82	Based on actual and benchmark costs. No allowance for FRC and customer acquisition costs.
QCA (2009)	QLD	Jul 2009 *to* Jun 2010	$83.19	$87	Based on relevant benchmarks. This included FRC costs. The QCA also separately calculated customer acquisition costs. Retail costs were assumed to increase by 2.8% between 2008/09 and 2009/10, reflecting increases in the wage index and the CPI, weighted according to a split of 60 per cent labour costs and 40 per cent other costs. No improvements in productivity.
QCA (2010)	QLD	Jul 2010 *to* Jun 2011	$85.89	$87	Based on relevant benchmarks. This included FRC costs. The QCA also separately calculated customer acquisition costs. Retail costs were assumed to increase by 3.18% between 2009/10 and 2010/11, reflecting increases in the wage index and the CPI, weighted according to a split of 60 per cent labour costs and 40 per cent other costs. No improvements in productivity.
IPART (2010)	NSW	Jul 2010 *to* Jun 2013	$75.30	$80 to $84	Based on actual retail costs of standard retailers. Actual retail operating costs in 2009/10$ ranged between $75.30 and $79.20. Excludes customer acquisition costs of $38 per customer in 2011/12 dollars. An additional $2.30 per customer was deducted from the total retail operating cost allowance for double counting of late payments fees. No separate FRC costs were provided for, but these are reflected in retail operating costs. Depreciation was not accounted for, but included in the retail margin.

Decision	State	Regulatory period	Retail cost per customer (nominal $)	Retail cost per customer (2011/12$)	Comments
ICRC (2010)	ACT	Jul 2010 *to* Jun 2012	$105	$108	Based on relevant benchmarks. The ICRC adopted an allowance equivalent to the inflation-adjusted allowance from its 2007 decision. CPI was estimated at 1.82% from 2009-10 to 2010-11. The retail operating cost estimate includes FRC costs of $10.57 per customer. No allowance was made for customer acquisition costs. Noting that its allowance is greater than the allowance set out in the determinations from IPART and the QCA, the ICRC commented that the recovery of similar fixed costs across a larger customer base could account for some of the difference. Once adjusted for economics of scale, the ICRC considered its allowance for retail operating costs is consistent with those in other jurisdictions.
OTTER (2010)	TAS	Jul 2010 *to* Jun 2013	$94	$96	Based on Aurora's actual costs and relevant benchmarks. Aurora sought $105 per customer for 2010/11. OTTER's allowance for retail costs excludes depreciation costs, which are accounted for in the retail margin. OTTER considers that FRC costs are not appropriate as FRC is yet to be adopted in Tasmania. OTTER noted that costs of marketing and customer acquisition are not typically included in allowances for non-contestable customers.
ESCOSA (2010)	SA	Jan 2011 *to* Jun 2014	$115	$116	Based on AGL's actual costs in South Australia and relevant benchmarks. Customer acquisition costs are not explicitly provided for, but included in the retail operating cost estimate. ESCOSA's consultant, LECG, estimated retail operating costs at $76.60 and separately estimated customer acquisition costs at $41.90 per customer (or $42.40 per customer in 2011/12 dollars). Excludes $12.55 per customer for the Renewable Energy Efficiency Scheme.
QCA (2011)	QLD	Jul 2011 *to* Jun 2012	$88.83	$89	Escalated benchmark approach applied since the 2007-08 decision. Retail operating costs estimated to increase by 3.43% based on increases in the wage index and the CPI, weighted according to a split of 60 per cent labour costs and 40 per cent other costs. No improvements in productivity. The retail operating cost estimate includes FRC-related costs. Excludes $41.91 ($42.41 in 2011/12$) per customer for customer acquisition costs and a further $1.16 per customer for regulatory fees.
QCA (2012)	QLD	Jul 2012 to Jun 2013	$86	$84	Benchmark approach applied, but unlike since the 2007-08 decision it is not escalated by the wage index and the CPI. The retail operating cost excludes $43.17 (nominal) per customer for customer acquisition costs. In real 2011/12$ the CARC allowance was $42.41 per customer. The retail operating cost allowance excludes $1.21 (nominal) in regulatory fees.

Decision	State	Regulatory period	Retail cost per customer (nominal $)	Retail cost per customer (2011/12$)	Comments
ICRC (2012)	ACT	Jul 2012 to Jun 2014	$112	$108	Based on relevant benchmarks. The ICRC adopted an allowance equivalent to the inflation-adjusted allowance from its 2010 decision. The ICRC estimated a retail operating allowance of $11.23/MWh or equivalent to approximately $112 per customer. No allowance was made for CAC or CARC.
QCA (2013) Draft Decision	QLD	Jul 2013 to Jun 2014	$88	$84	Benchmark approach applied as in the 2012-13 decision. The retail operating cost excludes $44.25 (nominal) per customer for customer acquisition costs. In real 2011/12$ the CARC allowance is $42.41 per customer. The retail operating cost allowance excludes $1.28 (nominal) in regulatory fees.

Note: * IPART allowed $75 per customer for retail operating costs and $35 per customer for customer acquisition costs, but considered that there may be some double-counting and so reduced the total amount to $105 per customer.

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Retail Price Submission – Erratum - 18 June 2013

This erratum refers to Ernst & Young's report for the Tasmanian Government titled *Retail Price Submission* (The Report), dated 21 May 2013.

The erratum should be read in conjunction with the entire Report including its limitations and disclaimers.

Footnote 8

We note that footnote 8 on page 24 of the Report detailing the cost of abnormal items in the cost to serve contains erroneous data. The erroneous figures and the correct figures are presented in the table below.

Abnormal costs included in cost to serve

Year	Originally reported abnormals	Correct abnormals
2009/10	$76 million	$20.1 million
2010/11	$59 million	$15.5 million
2011/12	$9 million	$2.3 million