



Independent Pricing and Regulatory Tribunal

# Changes in regulated electricity retail prices from 1 July 2011

**Electricity — Final Report**  
June 2011





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ISBN 978-1-921628-96-2                      Det11-1

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# 1 Executive summary

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is responsible for regulating electricity prices for around two-thirds of residential and small business customers in NSW. These are the prices that EnergyAustralia, Integral Energy and Country Energy – the Standard Retailers in this state<sup>1</sup> – charge customers who have not signed a market contract with either them or another retailer.<sup>2</sup>

In March 2010, after a 9-month process that included extensive public consultation and analysis, we made a determination on **the amount** by which each retailer could increase its average regulated price<sup>3</sup> on 1 July 2010, and **estimated the amount** by which it could increase this price on 1 July 2011 and 2012. We stated that we would conduct annual reviews in 2011 and 2012 to update the price increases for these years.

This review is an update to set the 1 July 2011 price increase, using the approach set out in the 2010 determination. We are updating the energy costs, having regard to new information on cost inputs and policy changes made by the Federal Government in relation to its Renewable Energy Target (RET). It does not reset cost allowances for the retail margin or retail operating costs nor does it revisit the regulatory framework. Following from our draft report and public hearing, we have made a final decision on this increase, and also updated our estimate for the 1 July 2012 price increase to give customers a better idea of future prices.

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<sup>1</sup> On 1 March 2011, TRUenergy bought EnergyAustralia and Origin Energy bought both Integral Energy and Country Energy. The new owners are continuing to use the existing brand names (EnergyAustralia, Integral Energy and Country Energy) and we use these brand names in this report.

<sup>2</sup> We only set ‘regulated retail tariffs’ (or prices), which are paid by customers who have not signed a contract with an electricity retailer or who have chosen to return to the regulated price. Customers who are currently on a contract with a retailer pay unregulated prices. However, these market-based prices are influenced by changes in the regulated price, so often these prices change at the same time as the regulated price.

<sup>3</sup> We do not set the level of individual regulated prices. We determine the maximum percentage by which each retailer can increase its **average** regulated prices. The retailers can adjust the level and structure of **individual** prices as they see fit, provided that the average percentage increase is not more than the maximum percentage we set.

In March 2010, we estimated average price changes of 10% to 13% on 1 July 2011<sup>4</sup> and 2% to 11% on 1 July 2012.<sup>5</sup> Over 80% of these price increases were due to increasing costs of transporting electricity from the generators to customers (network costs). Our updated estimates largely confirm our estimates from last year, with the exception of additional costs arising from the Federal Government's changes to its RET scheme.

On 1 January 2011 the Federal Government changed its RET scheme, splitting large and small scale renewable energy. This change has proved costly, adding 6 percentage points to the 1 July 2011 prices.

We welcome the NSW Government's suspension of its Solar Bonus Scheme and its recently announced review of network reliability standards. We also welcome the announcement since our draft report by the Federal Government to reduce the subsidies for installing solar PV, cutting the solar credits multiplier from 5 to 3 (instead of 4) on 1 July 2011. While this change should lower the number of certificates the retailers are required to buy (and therefore their costs), it will not affect regulated prices until 1 July 2012. Over the longer term these policy changes should lower electricity prices.

Nevertheless, as a result of the splitting of the RET scheme, the price increases will be higher than those that we estimated in our determination last year. Average prices across NSW will now increase by 17.3% on 1 July 2011 (including inflation).

Looking at the overall drivers of these 17% price increases, the main reason that electricity prices are increasing is that network costs are increasing significantly adding 9% to final prices (Figure 1.1), consistent with our decision last March. Since then, green schemes have emerged as a new driver of price increases, with the Federal Government's RET scheme adding 6 percentage points to prices.

This 17.3% average price change is consistent with the 17.6% that we announced in our draft report in April 2011 and reflects updated inflation, loss factors, network<sup>6</sup> price estimates and WACC estimates.

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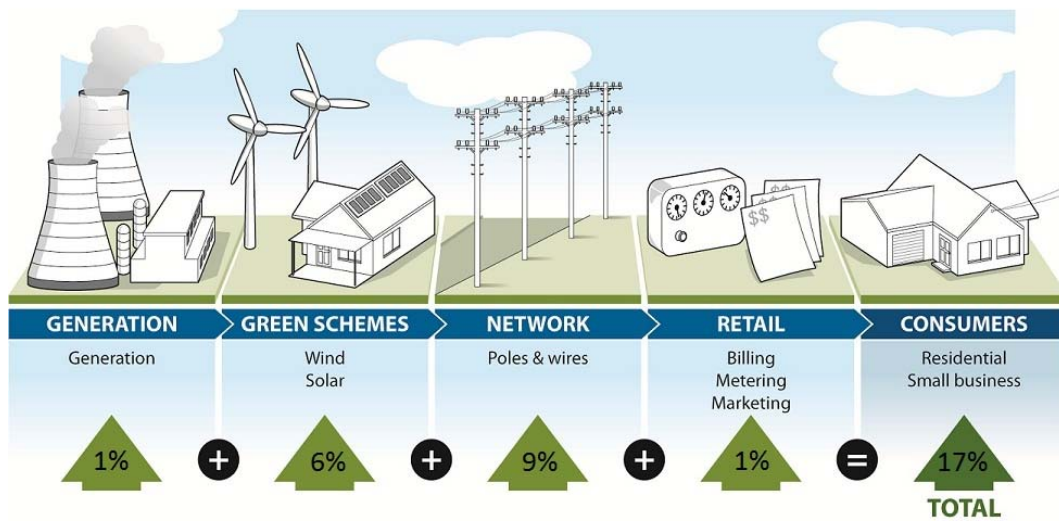
<sup>4</sup> In March 2010, we estimated average price changes on 1 July 2011 of 11%, 10% and 13% for EnergyAustralia, Integral Energy and Country Energy, respectively. These price changes include inflation.

<sup>5</sup> In March 2010 we estimated average price changes on 1 July 2012 of 11%, 2% and 11% for EnergyAustralia, Integral Energy and Country Energy, respectively. These price changes include inflation.

<sup>6</sup> In this final report we use the approved network prices. Country Energy's network prices were slightly higher than we estimated in our draft report while Integral Energy's network prices were lower. EnergyAustralia's remained the same.



**Figure 1.1 Contributions from the supply chain to overall price increases on 1 July 2011**



**Note:** Green Schemes include the Federal Government's RET scheme and the NSW Government's Greenhouse Gas Reduction Scheme and Energy Savings scheme. However it is the changes to the RET scheme that results in higher electricity prices. The generation and retail costs increases are broadly consistent with inflation.

The estimated average price increases on 1 July 2012 are consistent with our original estimates of around 10% for Country Energy and EnergyAustralia customers and 2% for Integral Energy customers.

The purpose of this final report is to explain our final decision on the maximum increase in average electricity prices, how we made the decision, and how such an increase is likely to affect customers' electricity bills. These maximum average price increases for 1 July 2011 are binding on the Standard Retailers. However, our recommendations of measures to ameliorate price increases represent advice to governments.

## 1.1 How will electricity prices change on 1 July 2011?

This update largely confirms our 2010 estimates of the energy purchase costs and network costs. However, the Federal Government made changes to its RET scheme to split it into large scale and small scale schemes. The costs that arise from these changes will increase prices by a further 6 percentage points.

Average regulated electricity prices will increase by around 18.1% for Country Energy customers, 17.9% for EnergyAustralia customers and 15.5% for Integral Energy customers (Table 1.1). These increases come on top of rises of around 7% to 13% in 2010.<sup>7</sup>

<sup>7</sup> These price changes include inflation.

**Table 1.1 Average price increases in each standard supply area, 1 July 2011**

	<b>1 July 2011 Draft decision (%)</b>
EnergyAustralia	17.9
Integral Energy	15.5
Country Energy	18.1

**Note:** These price estimates do not include recovery of the costs of the Solar Bonus Scheme beyond the level of the Climate Change Fund in 2010/11.

We cannot calculate how this increase in the average regulated price will affect an individual customer's annual electricity bill, because this will depend on how much electricity they use in a year, and which individual regulated price they are on. However, to illustrate the **potential** effect on bills, we calculated the annual electricity bill for **indicative households** in each supply area under our final decision (Table 1.2).

**Table 1.2 Indicative annual bill for residential customers in each standard supply area (\$ nominal)**

	<b>2010/11 (current)</b>	<b>2011/12</b>	<b>Change</b>
EnergyAustralia	1,283	1,513	230
Integral Energy	1,391	1,607	216
Country Energy	1,747	2,063	316

**Note:** Bills include GST and climate change levy. Bills calculated using 7,000 kWh of consumption per year, of which 2,100 kWh is on an Off-Peak 1 tariff. Non-off peak portion of the bill calculated using EnergyAustralia's Domestic All-time tariff, Integral Energy's Domestic tariff and Country Energy's Urban Domestic tariff (5700) respectively. Inflation is 3.3%.

We also calculated the annual electricity bill for an **indicative business customer** under the final decision (Table 1.3). It shows that a business consuming 10 MWh in Integral Energy's area will pay less than a business in EnergyAustralia's area. Like residential customers, business customers in Country Energy's area pay the most, reflecting the higher transportation costs (network costs). Regardless of location, all businesses will face higher electricity bills next year.

**Table 1.3 Indicative annual bill for business customers in each standard supply area (\$ nominal)**

	<b>2010/11 (current)</b>	<b>2011/12</b>	<b>Change</b>
EnergyAustralia	2,006	2,365	359
Integral Energy	1,982	2,289	307
Country Energy	2,917	3,445	528

**Note:** Bills exclude GST but include climate change levy. Bills calculated using 10,000 kWh per annum and EnergyAustralia's General Supply All-time tariff, Integral Energy's General Supply tariff and Country Energy's Urban Business tariff (5740). Inflation is 3.3%.

## 1.2 Why are electricity prices increasing by so much on 1 July 2011?

Under our terms of reference for the 2010 determination, we are required by the NSW Government to set regulated electricity prices to enable the Standard Retailers **to recover the full, efficient costs** of providing electricity to customers on these prices. Setting prices to recover the full and efficient costs is intended to ensure that these retailers can remain financially viable in the long term. This is important for customers to ensure a continuous supply of electricity. However, it means that when the costs of supplying electricity go up, the price of electricity also goes up.

While we consider that the policy settings behind some of these cost drivers should be reviewed to improve the affordability of electricity, under our current terms of reference these price increases are required to allow retailers to cover their costs. We welcome the NSW Government's announced review of electricity network licence conditions.<sup>8</sup>

The costs of supplying electricity have 3 components:

- ▼ **Network costs**, which are the costs of transporting electricity from the generators to customers via the transmission and distribution networks.
- ▼ **Energy costs**, which include the costs of:
  - purchasing electricity from generators on the wholesale electricity market
  - complying with several green (or climate change mitigation) schemes, as required by the Federal and NSW Governments.
- ▼ **Retail costs**, which includes the costs of running the retail business (including call centre costs, billing costs, etc) and making an appropriate profit.

This update allows us to revise the energy purchase costs to reflect recent developments in the market by updating the underlying cost and technical assumptions and changes to ownership of generators. As Table 1.4 illustrates, our initial estimates have proved to be reasonably accurate. However, the Federal Government subsequently made changes to its RET scheme, which will increase electricity prices by a further 6 percentage points on 1 July 2011. This includes a pass through of costs incurred from 1 January to 30 June 2011. All else being equal the Federal Government's recently announced reduction in subsidies for installing solar PV should lower retailers' future costs; however it will not affect regulated retail prices until 1 July 2012.<sup>9</sup>

<sup>8</sup> Premier of NSW, Media Release, *Premier announces three point plan to ease power price increase*, 14 April 2011.

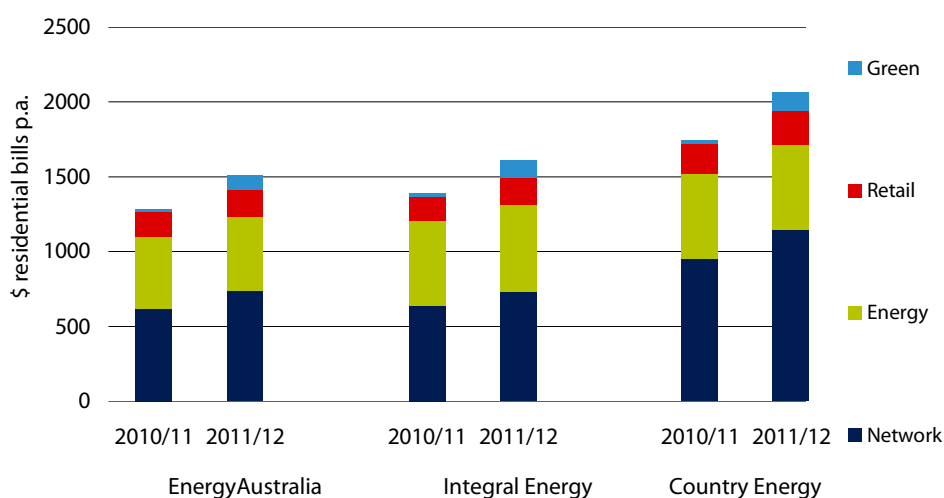
<sup>9</sup> Once the Federal Government's announced changes have been legislated, the Office of the Renewable Energy Regulator (ORER) will take the changes into account in setting future obligations on retailers. We anticipate that this revised obligation will affect prices from 1 July 2012.

**Table 1.4 Indicative increases in regulated electricity prices for 1 July 2011**

	EnergyAustralia (%)	Integral Energy (%)	Country Energy (%)
Increases in network charges	9.6	7.3	10.9
Increases in wholesale energy costs	0.9	1.5	1.2
Increases in retail costs and margin	0.9	0.8	1.0
<i>Subtotal - Increases announced in March 2010</i>	<i>11.4</i>	<i>9.6</i>	<i>13.1</i>
New costs arising from changes to RET	6.0	6.2	5.0
Other changes arising from this update	0.5	-0.2	0.0
<b>Total cumulative increases on 1 July 2011</b>	<b>17.9</b>	<b>15.5</b>	<b>18.1</b>

**Note:** March 2010 increases are exclusive of the CPRS. Columns may not add due to rounding.

Figure 1.2 illustrates that network costs are the largest component of electricity bills, and are increasing significantly. It also shows that bills in Country Energy's area are higher than in the metropolitan area, reflecting higher network costs.

**Figure 1.2 Indicative annual bill for residential customers in each standard supply area – the components and how they will change over the next year (\$ nominal)**

**Note:** Bills include GST and climate change levy. Bills calculated using 7,000 kWh of consumption per year, of which 2,100kWh is on an Off-Peak 1 tariff. Non-off peak portion of the bill calculated using EnergyAustralia's Domestic All-time tariff, Integral Energy's Domestic tariff and Country Energy's Urban Domestic tariff (5700) respectively. Inflation is 3.3%.

### Network costs have increased significantly

Network costs reflect the charges that retailers must pay to transport electricity from the generator to the customer using the transmission and distribution networks. These charges are regulated by the Australian Energy Regulator (AER) and we take these regulated costs and include them in the retail prices. These charges have increased significantly in recent years, and will increase further in the coming years. On 1 July 2011, they will increase in nominal terms by:

- ▼ 20% for EnergyAustralia and Country Energy, and
- ▼ 15% for Integral Energy.

The increases in network costs are driven by the major capital investment programs the network businesses are undertaking to:

- ▼ cope with growing loads and meet rising peak demand as the state's population grows and patterns of energy use change
- ▼ replace aging assets
- ▼ meet more rigorous licensing conditions intended to improve network security and reliability.

We are also concerned that network costs are higher than necessary, due to certain aspects of the current regulatory framework, including the economic regulation of networks under the National Electricity Rules (NER) and the standards for network reliability and security. We have made a range of recommendations to correct inappropriate policy settings in relation to network standards and the economic regulatory framework.

However network charges are an unavoidable cost to retailers and we allow the pass through of the actual charges that the retailers face.

### Energy purchase costs have largely kept pace with inflation

Energy purchase costs reflect the costs each Standard Retailer incurs in buying electricity to meet the load and demand of its customers on regulated prices. Consistent with our draft report, we estimate that these costs have increased modestly in nominal terms since 1 July 2010 by:

- ▼ 1% for EnergyAustralia
- ▼ 3% for Integral Energy, and
- ▼ 2% for Country Energy.

These increases account for around 1% of the total increase in each retailer's average regulated price under the draft decision (Figure 1.2 above).

As we did for the 2010 determination, we calculated each retailer's energy purchase costs based on our estimate of the long run margin cost of electricity supply (LRMC). The terms of reference, issued by the then Minister for Energy, require IPART to set regulated retail prices from 2010 to 2013 based on either the LRMC of electricity supply, or the market-based purchase costs, **whichever is the greater**.

We note that setting the allowance for energy purchase costs in line with the LRMC in 2011/12 results in an allowance that is between \$17 and \$21/MWh higher than it would be if set in line with the market-based purchase cost. This flows through to prices, and results in customer bills being around 8% and 12% higher than they would be if the allowance were set in line with the market-based purchase cost.

However the market-based cost is sensitive to the supply-demand balance and can move significantly from year to year. As a result for some years the market price can be significantly above the LRMC of generation, for example, during the tightening of the supply-demand balance. Therefore this large divergence between the LRMC and market prices that exists at present may not occur in future years. Over the longer term we would expect the market price to reflect the LRMC of generation.

Retailers have submitted that as the LRMC is the cost at which new generation capacity is made available, the terms of reference ensure that the regulated retail price is sufficient to justify further investment in generation. However, if we are given terms of reference to regulate electricity prices beyond 2013, it is our view that we should be given a suitable degree of discretion in relation to the manner in which we make the determination. This would allow us, as the independent regulator, to provide a balanced, flexible regulatory package that is in the long-term interest of customers and facilitates a stable and efficient electricity market.

### Green scheme costs have increased sharply

Green scheme costs reflect the costs of complying with various mandated government schemes designed to mitigate carbon pollution. These costs have increased four-fold since 1 July 2010. This increase is responsible for around one-third of the total increase in average regulated prices under this decision (see Figure 1.2 above).

Most of the increase in green scheme costs stems from the Federal Government's Renewable Energy Target (RET) scheme. This scheme is designed to ensure that 20% of Australia's electricity supply will come from renewable sources by 2020. On 1 January 2011 the Federal Government split the scheme into a large scale Renewable Energy Target (LRET) and a small scale Renewable Energy Scheme (SRES). The costs of complying with this scheme have increased significantly since 2010. This is influenced by the subsidies offered by State and Federal Governments to install solar panels, including the subsidy under the RET (see Appendix C). The increased cost of complying with this scheme adds 6 percentage points to prices in 2011/12.

The Federal Government's changes to the RET scheme were implemented after we released our determination in 2010. These changes took effect on 1 January 2011, but were not included in the prices. The retail businesses have applied to us to recover the costs of meeting the obligations from 1 January to 30 June 2011. Consistent with our draft decision, the price increases on 1 July 2011 also include a 'catch-up' for the costs incurred in the first half of 2011. Since our draft report the Federal Government has announced that it will more rapidly cut its solar credits multiplier. All else being equal this will mean that there are fewer Small-scale Technology Certificates (STCs) that retailers need to buy under the SRES in the future.

The retailers also applied to pass through costs associated with the Federal Government's delays in introducing the carbon pollution reduction scheme (CPRS). Consistent with our draft decision, we have rejected their application for these additional costs because delaying the CPRS does not meet the requirements for a cost pass through event.

The NSW Government offered financial incentives to install solar panels via its Solar Bonus Scheme (or the gross feed-in tariff), however, it has suspended this scheme to new participants. We have not included the costs of this scheme in our estimate of green scheme costs. The NSW Government proposes to offset the costs of the Solar Bonus Scheme against uncommitted funds in the Climate Change Fund.<sup>10</sup>

Retailers have obligations under the NSW Greenhouse Gas Reduction Scheme (GGAS) and Energy Savings Scheme (ESS). These schemes, however, add less than 1% to regulated electricity prices.

### 1.3 What is the impact of the 1 July 2011 price change on customers?

Electricity price rises will lead to different dollar changes in electricity bills for households depending on:

- ▼ the amount of electricity that the household uses, and
- ▼ the specific price that applies to a customer.

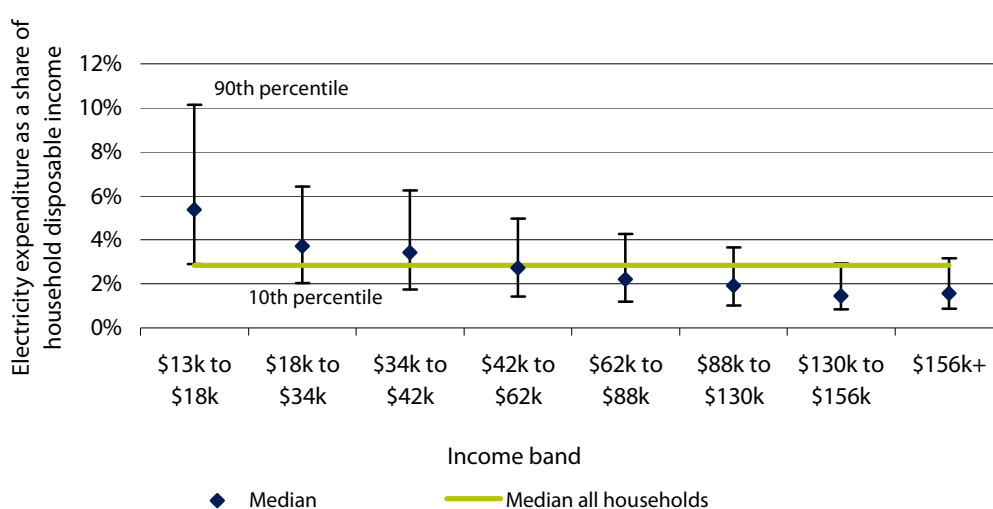
A good measure of electricity affordability is the proportion of household disposable income spent on electricity. From our household survey we have been able to provide analysis of electricity bills as a proportion of disposable income. However, because our household survey has only covered Sydney and the surrounding areas, it excludes Country Energy customers.

<sup>10</sup> NSW Liberals & Nationals, *Plan for an Affordable & Sustainable Energy Industry*, p 11.

While there are some households in Sydney and the surrounding areas for which electricity bills make up more than 10% of their disposable income, for the vast majority of households electricity bills in 2011/12 are likely to make up 4% or less of their disposable income.

However, households in these areas with disposable income below \$18,000 a year spend on average just over 5% of their income on electricity. For these low income houses, there is a large variation in how much of their disposable income they are paying for electricity bills, with some high consumption households paying more than 10% of their income on electricity. We are concerned about electricity affordability for low-income, high consumption households and believe that targeted assistance should be directed to these customers.

**Figure 1.3 Electricity bills as a share of disposable income, Sydney and surrounding areas, 2011/12**



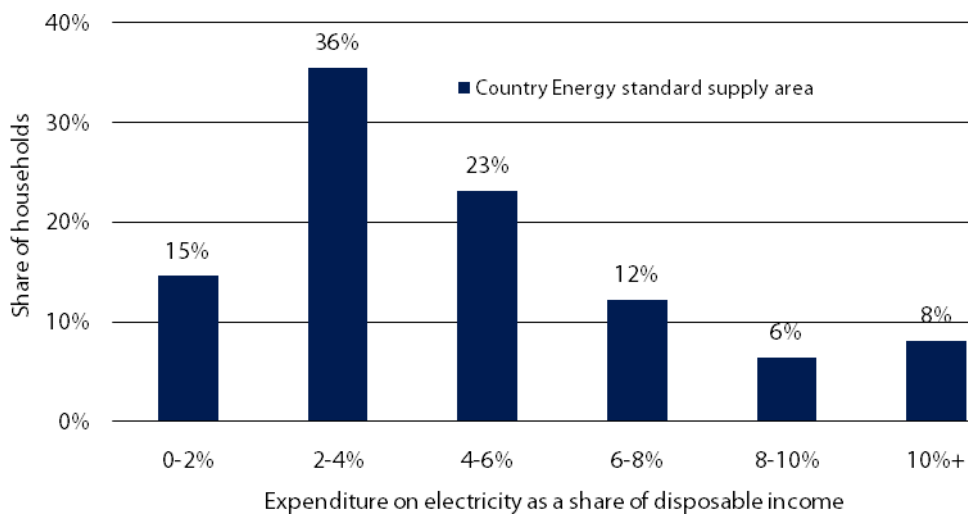
**Note:** The income bands are before tax income in 2010. The income for the middle of each band is used to calculate disposable income. Disposable income as a share of household income is derived from ABS household income distribution data for 2007/08. Incomes for all bands are presumed to rise by 3.9% in 2011/12, in line with the average increase that has occurred over the past 5 years. Distributions are presented without weighting survey responses. A **percentile** is the value below which a certain percentage of observations fall. For example, the 10th percentile is the value below which 10% of the observations may be found. In the above diagram, 10% of customers in each income band would fall below the bottom of the vertical line (paying less than that amount) and 10% of customers would pay more than the top of the vertical line.

**Data source:** IPART Household Surveys, 2010 and 2008.



Because we have not conducted our household survey in Country Energy's area, we have estimated the likely distribution outside Sydney and the surrounding areas through combining information on median electricity use and median disposable income across each postcode in Country Energy's standard supply area.<sup>11</sup> This analysis shows that around 8% of households spend more than 10% of their disposable income on electricity (Figure 1.4).<sup>12</sup>

**Figure 1.4 Electricity bills as a share of disposable income — outside Sydney 2011/12**



**Note:** Distribution based on Sydney distribution adjusted to reflect median income and median electricity bills in each postcode in Country Energy's standard supply area.

**Data source:** ABS Census 2006, Table B02, item B112; Country Energy billing data; ABS Catalogue No. 6302.0: Average weekly earnings, Australia, November 2010; IPART analysis.

#### 1.4 How will prices change on 1 July 2012

As part of this annual review we update our estimate of price increases for 1 July 2012. However, in early 2012 we will repeat this annual review process to set the prices for 1 July 2012.

It is difficult for us to estimate what the price increases on 1 July 2012 will be because the Federal Government has announced that it will introduce a carbon price on this date, but has not set the level of the carbon price. Therefore, we have not included any carbon price in our estimates for 2012/13. Including a carbon price will add to the price increases.

<sup>11</sup> For Country Energy's standard supply area we are not able to consider expenditure on electricity and gas. Gas is a much less used fuel outside of Sydney as access to gas distribution networks is limited.

<sup>12</sup> The distribution of customers by expenditure on income for country areas is based on applying the shape of the distribution for Sydney with adjustments for each postcode according to its median bill and median income.

Our estimates of the 1 July 2012 price changes (without a carbon price) remain consistent with the estimates that we made in March last year (Table 1.5). They are lower than the 2011 increases because network prices do not increase as steeply as this year.

**Table 1.5 Average estimated price increases in each standard supply area, 1 July 2012**

	1 July 2012 Estimated (%)
EnergyAustralia	10.0
Integral Energy	2.0
Country Energy	9.5

To illustrate the **potential** effect on bills, we calculated the annual electricity bill for **indicative households** in each supply area under our final decision, showing that bills will increase further (Table 1.6). Country Energy customers will continue to pay more for electricity than EnergyAustralia and Integral Energy customers.

**Table 1.6 Indicative estimated annual bill for residential customers in each standard supply area (\$ nominal)**

	2011/12	2012/13	change
EnergyAustralia	1,513	1,664	151
Integral Energy	1,607	1,639	32
Country Energy	2,063	2,259	196

**Note:** Bills include GST and the climate change levy at the 2010/11 level. Bills calculated using 7,000 kWh of consumption per year, of which 2,100kWh is on an Off-Peak 1 tariff. Non-off peak portion of the bill calculated using EnergyAustralia's Domestic All-time tariff, Integral Energy's Domestic tariff and Country Energy's Urban Domestic tariff (5700) respectively. Forecast inflation 3.1% 2012/13.

We also calculated the annual electricity bill for a typical business customer under our final decision (Table 1.7). It shows that a business consuming 10 MWh in Integral Energy's area pays less than a business in EnergyAustralia's area. Like residential customers, business customers in Country Energy's area pay the most, reflecting the higher transportation costs (network costs). Regardless of location, all businesses will face higher electricity bills in 2012/13.

**Table 1.7 Indicative estimated annual bill for business customers in each standard supply area (\$ nominal)**

	2011/12	2012/13	change
EnergyAustralia	2,365	2,601	236
Integral Energy	2,289	2,335	46
Country Energy	3,445	3,772	327

**Note:** Bills exclude GST, but include the climate change levy at the 2010/11 level. Bills calculated using 10,000 kWh per annum and EnergyAustralia's General Supply All-time tariff, Integral Energy's General Supply tariff and Country Energy's Urban Business tariff (5740). Forecast inflation 3.1% for 2012/13. Numbers may not add due to rounding.

Table 1.8 illustrates the 2012/13 costs that we estimated in our March 2010 determination and shows that our update increases this estimate by \$2 to \$4/MWh for EnergyAustralia and Integral Energy reflecting updated network and energy costs. The change in the Federal Government's RET scheme adds a further \$6 to \$7/MWh to costs. The pass through component for 1 January to 30 June 2011 is not included in the calculation of the RET scheme in 2012/13.

**Table 1.8 Estimated cost of electricity in 2012/13 – Estimates made in March 2010 compared to our updated estimates (nominal ex-GST, \$/MWh)**

	EnergyAustralia	Integral Energy	Country Energy
Network charges (as determined by the AER)	139	109	186
Wholesale energy costs	78	83	79
Retail costs and margin	29	24	30
<i>Subtotal - \$/MWh announced in March 2010</i>	<i>246</i>	<i>217</i>	<i>295</i>
New costs arising from changes to RET	6	7	7
Other changes arising from this update	4	2	-1
<b>Total \$/MWh</b>	<b>256</b>	<b>226</b>	<b>301</b>

**Note:** Forecast inflation is 3.1% for 2012/13. Numbers may not add due to rounding.

## 1.5 Recommendations to governments to improve electricity affordability

For many households in NSW, electricity bills account for a relatively small percentage of their household expenditure. For example, a **typical** household currently spends between \$25 and \$34 on electricity per week. Some households – including those on low incomes and those that comprise large families – are likely to spend a high percentage of their incomes on electricity, with some spending more than 10% of their disposable income on electricity. Therefore, bill increases of the size outlined in our final decision are likely to have a significant impact on these most vulnerable customer groups.

In an attempt to off-set difficulties in paying these increased prices we recommend that Government should review customer assistance measures to ensure that the package of measures is helping the financially disadvantaged customers that are experiencing difficulty in paying their electricity bills. Our customer impact analysis presented in Chapter 6 confirms that the most vulnerable customers are low income customers that consume a lot of electricity. These include customers in regional NSW. We also recommend that the NSW Government take immediate action to ensure that there are sufficient EAPA vouchers to assist customers that are in unexpected financial distress after the 1 July 2011 price changes and to extend the eligibility for the Low Income Household Rebate to Health Care Card holders who live in retirement villages and are separately metered.

In addition, we consider that inappropriate policy settings might be adding to retailers' costs and therefore customers may be paying more than necessary for electricity.

Participation by consumer groups in this annual review allowed us to identify issues affecting their constituents, particularly low income, elderly and disabled people. This is a critical input into our consultation. However, the retailers are well resourced and provide technical, detailed input to the issues that determine costs and ultimately prices. We will soon release a discussion paper which examines ways to encourage more effective customer engagement in regulatory processes across the industries that we regulate. We recommend that the NSW Government should provide additional funding to consumer groups to allow them to engage more effectively in the network review processes.

We also recommend measures to ameliorate price increases over the long term. Specifically, we recommend that:

- 1 The Australian Energy Market Commission should review the National Electricity Rules to address concerns that these rules may bias the Australian Energy Regulator's decisions in favour of higher network prices and inefficient outcomes. The Rules need to be changed by the end of 2012 to ensure that these changes can be incorporated in the next regulatory determination.
- 2 The Ministerial Council on Energy should revise the merits review process in the National Electricity Law to provide a more balanced appeal process
- 3 The NSW Government should use its recently announced review to satisfy itself that the network licence conditions ensure that the current standards for network reliability and security align with customers' willingness to pay and take steps to ensure that future changes to standards are subject to rigorous cost benefit analysis. This review needs to be completed by mid 2012 to ensure that it can be incorporated in the next regulatory determination.
- 4 The NSW Government should provide additional funding to consumer groups to ensure that they have access to sufficient technical expertise to participate more effectively in these review processes.
- 5 The NSW Government should consider options to limit future increases in green scheme costs by ensuring that only the most cost-effective options are adopted in the future, and consider:
  - advocating that the Federal Government *eliminate* the solar credits multiplier from its Renewable Energy Target scheme
  - requiring electricity retailers to redistribute the financial gains they make from the Solar Bonus Scheme to the NSW Government to offset the costs of the scheme
  - tightening the activities funded under the Energy Savings Scheme and removing the showerhead installation program from the scheme
  - periodically evaluating all green schemes to ensure they remain cost-effective and complement any national price-based carbon reduction scheme.

- 6 To ensure that we set an appropriate, cost reflective price, the NSW Government give IPART more flexibility to determine retailers' efficient costs in the terms of reference in any price determination to apply from 2013 onwards.
- 7 The NSW Government should:
  - Ensure that there are sufficient EAPA vouchers to assist customers experiencing financial distress after the 1 July 2011 price change and to extend eligibility for the Low Income Household Rebate to Health Care Card holders who live in retirement villages and have separately metered electricity supply.
  - Undertake a comprehensive review of the package of customer assistance measures to ensure that these measures are targeted, effective and efficient. IPART can assist Government in this task through our detailed analysis and consultative processes.

## 1.6 What does the rest of this report cover?

The rest of this report is structured as follows:

- ▼ Chapter 2 discusses our approach and process for the review.
- ▼ Chapter 3 discusses the annual review of the total energy cost allowance and explains how we estimate the retailers' energy purchase costs and other associated costs, including those related to renewable energy and other green schemes and loss factors.
- ▼ Chapter 4 discusses the retailers' applications to pass through costs associated with changes to the Federal Government's RET scheme and the delay in introducing the Carbon Pollution Reduction Scheme.
- ▼ Chapter 5 presents the total cost allowances for each Standard Retailer and the resulting regulated retail price controls (R values).
- ▼ Chapter 6 analyses the impacts of this update on small customers.
- ▼ Chapter 7 presents recommendations to governments to improve electricity affordability.

Appendices A to D provide additional background information:

- ▼ Appendix A Terms of Reference.
- ▼ Appendix B Parameters of the Weighted Average Cost of Capital (WACC).
- ▼ Appendix C Paying for solar PV and hot water systems.
- ▼ Appendix D Energy Accounts Payments Assistance (EAPA) vouchers and eligibility for Energy Rebates.
- ▼ Appendix E Overview of key issues raised in submissions and IPART's response
- ▼ Appendix F Summary of financial gain to retailers under the Solar Bonus Scheme.

## 2 | IPART's approach and process for this review

As Chapter 1 noted, when we made the 2010 determination we estimated the amounts by which the Standard Retailers could increase their average regulated electricity prices on 1 July 2011 and 2012. We indicated that we would conduct an annual review in these years to determine the precise amounts by which the retailers could increase these prices, and set out the analytical approach we would use for determining these amounts.

Since we made the determination, there have been a number of major policy, market and regulatory developments in the electricity sector. These developments have resulted in significant changes to the energy industry structure and the renewable energy market. Some of them will affect retail electricity prices in 2011/12 and beyond.

However, the developments do not affect our analytical approach for determining the increase in each retailer's average regulated prices from 1 July 2011. The sections below set out this approach, and our process for conducting the 2011 annual review. Box 2.1 provides more information on the key developments in the electricity sector.

### **2.1 Our approach for determining maximum average price increases from 1 July 2011**

Our approach for determining the maximum amount by which each Standard Retailer can increase its average regulated prices from 1 July 2011 is consistent with the approach set out in the 2010 determination. It includes the following key steps:

1. Conducting the annual review of the total energy cost allowance, including updating the allowances for:
  - a) energy purchase costs
  - b) costs associated with 'green' energy schemes, and
  - c) costs associated with energy losses.
2. Considering the retailers' applications to pass through unforeseen costs resulting from a regulatory or taxation event via the cost pass through mechanism.
3. Confirming the average increase in network tariffs from 1 July 2011 approved by the Australian Energy Regulator and passed through into retail prices.

4. Calculating the change in the retail component (R values), using the decisions at steps 1 and 2 and confirmation of network prices (N values) at step 3 to recalculate the retail margin as set out in the 2010 determination (ie, calculated as 5.4% on the N+R values).
5. Determining revised R values to be used by the retailers in submitting their annual pricing proposals.
6. Analysing the impacts of these increases in average regulated prices on customers, and consider what measures might be required to mitigate these impacts for the most vulnerable groups within the community.

We note that step 1 updates the costs the retailers are forecast to incur over the period 2011/12 to 2012/13. However, step 2 assesses the incremental and efficient costs incurred over 2010/11 resulting from regulatory or taxation changes.

The retailers must submit pricing proposals consistent with this decision. Once the proposals are approved, the retailers can make one set of price changes on 1 July 2011. We considered this to be preferable to having multiple price changes in 2011 because of the cost pass through associated with the splitting of the RET.

## 2.2 Our process for conducting the review

Our process for conducting this annual review includes consultation and analysis. To date, we have:

- ▼ Received the Standard Retailers' cost pass through applications on 31 January 2011.
- ▼ Released fact sheets in February 2011, which explained the purpose, process and approach for the reviews and set out the opportunities for stakeholders to participate in the review.
- ▼ Held a roundtable discussion with stakeholders on affordability and customer issues on 16 February 2011.
- ▼ Engaged Frontier Economics to provide expert advice on the annual review and to assist us in assessing the retailers' cost pass through applications, and made its draft reports available on our website.<sup>13</sup>
- ▼ Released this draft report and draft decision in April 2011.
- ▼ Held a public forum on the draft decision on 2 May 2011.
- ▼ Received 25 public submissions from stakeholders.

We have considered Frontier Economics' final report and all stakeholder comments made in submissions and at the roundtable, and have made our final decision.

The process and timetable for completing this review are summarised in Table 2.1.

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<sup>13</sup> [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au)

**Table 2.1 Process and timetable for completing our review of prices from 1 July 2011**

<b>What</b>	<b>When</b>
Release final decisions and Frontier's final advice	14 June 2011
Receive annual pricing proposals from Standard Retailers	mid June 2011
Approve annual pricing proposals	late June 2011
New regulated retail prices to take effect	1 July 2011



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### Box 2.1 Major developments in the electricity sector

As noted above, since we made the 2010 determination, there have been several major developments in the electricity sector. While some of these developments will affect the level of electricity prices in 2011/12 and beyond, they do not affect our approach to determining the maximum increase in each retailer's average regulated prices from 1 July 2011. In particular:

- ▼ The Federal Government announced in April 2010 that it would delay the implementation of the Carbon Pollution Reduction Scheme (CPRS). Then in February 2011, it announced a framework for a carbon price mechanism. It proposes that this will start with a fixed price period on 1 July 2012 for 3 to 5 years then transition to an emissions trading scheme.<sup>a</sup>
- ▼ The Commonwealth Parliament passed the *Renewable Energy (Electricity) Amendment Act 2010* (Cth), which separated the Renewable Energy Target (RET) scheme into the Small-scale Renewable Energy Scheme (SRES) and the Large-scale Renewable Energy Target (LRET). These new schemes came into effect on 1 January 2011.
- ▼ The NSW Government made reforms in the state's energy sector, including the sale of the 3 Standard Retailers in NSW,<sup>b</sup> the sale of the trading rights to the output of the Eraring and Delta West generation portfolios to Origin Energy and TRUenergy respectively, and the sale of a number of development sites for generation across NSW to the private sector.<sup>c</sup>

Since the release of our draft report, the Federal and NSW Governments have announced reductions to the level of subsidies paid to customers who install solar PV:

- ▼ The NSW Government has suspended its Solar Bonus Scheme to new applicants<sup>d</sup>
- ▼ The Federal Government announced that it will reduce the subsidy for installing solar panels by reducing the Solar Credits multiplier to 3 from 1 July 2011, and to 2 on 1 July 2012 and eliminating it on 1 July 2013.<sup>e</sup>

In addition, Energy Ministers agreed to direct the AEMC to conduct a review of the distribution reliability standards framework in the National Electricity Market, subject to the finalisation of the terms of reference.<sup>f</sup>

**a** Media release - Minister for Climate Change and Energy Efficiency, climate change framework announced, 24 February 2011.

<http://www.climatechange.gov.au/~media/Files/minister/combet/2011/media/february/mr20110224.pdf>

**b** TRUenergy has bought EnergyAustralia and Origin Energy has bought both Integral Energy and Country Energy. The new owners are continuing to use the existing brand names.

**c** As a result there are 3 large integrated energy participants in NSW (Origin Energy, TRUenergy and AGL) and a number of stand-alone generators and smaller generators and retailers.

**d** Media release - Minister for Resources and Energy, *NSW Government announces closure of solar bonus scheme*, [http://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0006/389544/nsw-govt-announces-closure-solar-bonus-scheme.pdf](http://www.industry.nsw.gov.au/__data/assets/pdf_file/0006/389544/nsw-govt-announces-closure-solar-bonus-scheme.pdf)

**e** Media release - Minister for Climate Change and Energy Efficiency, *Solar credits changes to ease electricity prices*, 5 May 2011.

<http://www.climatechange.gov.au/minister/greg-combet/2011/media-releases/May/mr20110505.aspx>

**f** Ministerial Council on Energy (MCE) - *Communiqué*, 10 June 2011.

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### 3 Annual review of the total energy cost allowance

To supply their customers, electricity retailers must purchase wholesale electricity through the National Electricity Market (NEM), and meet a range of other costs associated with this and the risks it involves. These costs – their total energy costs – represent around 40% of their total cost base.

In making the 2010 determination, we estimated each Standard Retailer's total energy costs in each year of the determination period, and set its total energy cost allowance for each year in line with this estimate. We indicated we would review this allowance in 2011 and 2012 to manage several uncertainties that could affect the level and volatility of wholesale electricity prices and some of the associated costs. In particular, we indicated we would review and update our decisions on the following components of the total energy cost allowance:

- ▼ the energy purchase cost allowance (EPCA)
- ▼ the 'green' cost allowances, including those for:
  - the Renewable Energy Target scheme, which is now divided into the Small-scale Renewable Energy Scheme (SRES) and the Large-scale Renewable Energy Target (LRET)
  - the Greenhouse Gas Reduction Scheme (GGAS), and
  - the Energy Savings Scheme (ESS)
- ▼ the allowance for energy losses.

We also specified the approach we would use for the annual review of the total energy cost allowance.

We applied this approach to make our final decisions on the total energy cost allowance in 2011/12, and to update our estimates of this allowance in 2012/13. The sections below provide an overview of these decisions and estimates, and discuss our findings and analysis on the key components of the allowance.

### 3.1 Overview of final decisions on total energy cost allowance

IPART's final decision on each Standard Retailer's total energy cost allowance for 2011/12 and updated estimate of this allowance for 2012/13 are as shown in Table 3.1

**Table 3.1 Final decisions on total energy cost allowance for 2011/12 and update estimates for 2012/13 (\$2010/11 \$/MWh)**

	2010/11 <sup>a</sup>	Final decision 2011/12	Updated estimate 2012/13
<b>EnergyAustralia</b>			
Energy purchase cost allowance	68.49	66.59	66.08
LRET	1.84	2.63	3.53
SRES	0.00	6.05	4.74
GGAS	0.00	0.00	0.00
ESS	0.72	1.09	1.46
NEM fees and ancillary services <sup>b</sup>	0.83	0.82	0.82
Energy losses	5.08	5.07	5.04
Total energy cost allowance	<b>76.95</b>	<b>82.25</b>	<b>81.67</b>
<b>Integral Energy</b>			
Energy purchase cost Allowance	70.69	69.86	70.08
LRET	1.84	2.64	3.56
SRES	0.00	6.08	4.84
GGAS	0.00	0.00	0.00
ESS	0.72	1.09	1.46
NEM fees and ancillary services <sup>b</sup>	0.83	0.82	0.82
Energy losses	6.39	6.42	6.44
Total energy cost allowance	<b>80.47</b>	<b>86.91</b>	<b>87.20</b>
<b>Country Energy</b>			
Energy purchase cost allowance	63.75	62.60	62.80
LRET	1.84	2.65	3.56
SRES	0.00	6.15	4.90
GGAS	0.00	0.00	0.00
ESS	0.72	1.09	1.46
NEM fees and ancillary services <sup>b</sup>	0.83	0.82	0.82
Energy losses	8.01	6.77	6.79
Total energy cost allowance	<b>75.14</b>	<b>80.08</b>	<b>80.33</b>

<sup>a</sup> The 2010/11 cost allowances are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

<sup>b</sup> NEM fees and ancillary services are not reviewed as part of this annual review, and therefore unchanged in real terms since 2010 determination.

**Note:** The Energy Purchase Cost Allowance has been calculated as the higher of the LRMC and market-based energy purchase cost per MWh of forecast regulated load. Totals may not add due to rounding.

These final decisions reflect the expert advice we received from our consultant, Frontier Economics (Frontier). We are satisfied that the decisions update the key input cost assumptions as required by the 2010 determination, and are consistent with the terms of reference for the 2010 determination.

### 3.2 Energy purchase cost allowance

IPART's final decisions on the energy purchase cost allowance for 2011/12 and updated estimates of this allowance for 2012/13 are as shown in Table 3.2

**Table 3.2 Final decisions on the energy purchase cost allowance (\$2010/11 \$/MWh)**

	2010/11 <sup>a</sup>	Final decision 2011/12	Updated estimate 2012/13
EnergyAustralia	68.49	66.59	66.08
Integral Energy	70.69	69.86	70.08
Country Energy	63.75	62.60	62.80

<sup>a</sup> The 2010/11 cost allowances are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

These final decisions are broadly consistent with our draft decisions. The small decrease in the allowance for 2011/12 reflects a decrease in the discount rate assumption used in our final report (Section 3.2.3 provides further detail).

To reach these final decisions, we used the same methodology and the same regulated load forecasts as we used in making the 2010 determination, and updated the key input cost assumptions as provided for in the determination. Frontier assisted us with this task.

The methodology was designed to meet the terms of reference for the 2010 determination, which required us to:

- ▼ calculate the long run marginal cost (LRMC) of electricity generation and the market-based cost of purchasing electricity
- ▼ include the costs of complying with the proposed Carbon Pollution Reduction Scheme (CPRS) in these costs for 2011/12 and 2012/13, and
- ▼ set the energy purchase cost allowance in line with the higher of the LRMC and market-based cost.

Since the implementation of the CPRS did not go ahead as proposed, and an alternative carbon pricing mechanism has been proposed (see Chapter 2), we also considered how to account for these changes in recalculating the LRMC and market-based costs.

The sections below explain our final decisions on the energy purchase cost allowance in more detail, and cover:

- ▼ how we updated key input cost assumptions, including the capital costs of generation, fuel costs and other operating costs of generation
- ▼ how we took account of the changes in relation to carbon pricing
- ▼ Frontier's updated estimates of the LRMC of generation and the market-based purchase cost, and
- ▼ our conclusions on these estimates, and the implications of this for retail prices.

### 3.2.1 How we updated key input cost assumptions

In making the 2010 determination, we estimated the LRMC and market-based purchase cost using input cost assumptions from ACIL Tasman's 2009 report to the Inter-Regional Planning Committee (the ACIL 2009 report),<sup>14</sup> and Concept Economics' report on the cost of certain renewable technologies, commissioned by the Queensland Competition Authority (QCA).<sup>15</sup>

We specified that in updating the LRMC and market-based purchase cost as part of the annual review of the total energy allowance, we would update only the input cost assumptions that are major drivers of energy purchase costs, and this had an element of uncertainty over the determination period. These included:

- ▼ the capital costs of generation
- ▼ fuel costs
- ▼ other operating costs of generation (taking into account the operating characteristics of generation).

(We also indicated we would update carbon prices; this is discussed in section 3.1.2.)

To update these cost inputs, we considered several sources of publicly available data on the costs and operating characteristics of generation, including:

- ▼ Australian Energy Market Operator's (AEMO's) modelling of the National Electricity Market (NEM) transmission network done as part of its 2010 National Transmission Network Development Plan (NTNDP),<sup>16</sup> and

<sup>14</sup> ACIL Tasman, *Fuel resource, new entrant and generation costs in the NEM*, Final Report, Prepared for the Inter-Regional Planning Committee, April 2009.

<sup>15</sup> Concept Economics, *Review of Inputs to Cost Modelling of the NEM*, Report for the Queensland Competition Authority, May 2009.

<sup>16</sup> AEMO published its first NTNDP in December 2010. The NTNDP is designed to provide a long term view of future power system requirements under a range of possible socio-economic scenarios.

- ▼ ACIL Tasman's 2010 draft report on energy costs for the Queensland Competition Authority (ACIL Report for the QCA).<sup>17</sup>

We found that the AEMO's NTNDP modelling was not sufficient for updating the energy purchase cost allowance (see Box 3.1 for further detail on our findings and responses to stakeholder submissions).

We found that the ACIL Draft Report for the QCA was the most suitable source of data for the purpose of updating the energy cost allowance for the following reasons:

- ▼ Most of this report's input cost assumptions have been updated in a consistent manner with the ACIL 2009 report.
- ▼ The report's input cost assumptions are intended to calculate the energy costs most likely to prevail in 2011/12, rather than under a range of potential scenarios.
- ▼ The report's assumptions on the capital costs of generation are consistent with market evidence presented by industry.<sup>18</sup>

The ACIL Draft Report for the QCA does not provide new entrant coal costs, but only estimates of coal costs for existing generators.<sup>19</sup> As we need new entrant coal costs to update the fuel cost assumptions used in modelling the LRMC and market-based purchase cost, we have estimated these costs for each region of the NEM by escalating the estimated new entrant coal costs for 2010/11 included in the ACIL 2009 report (and used in our 2010 determination) to 2011/12 and 2012/13. We escalated these estimates by 3.7% per year, which is the 10-year average annual change in the coal mining component of the Producer Price Index.

In our view, the indexing approach is appropriate for updating the new entrant coal cost assumptions used in making the 2010 determination. It is practical, simple and understandable, uses publicly available information, and we consider that the movement in the mining cost indexes is a reasonable proxy for movements in the cost of coal. Importantly it is consistent with the approach used in the ACIL 2009 report.<sup>20</sup>

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<sup>17</sup> ACIL Tasman, *Calculation of energy costs for 2011-12 BRCL, Draft Report, Prepared for the Queensland Competition Authority*, December 2010.

<sup>18</sup> For example, refer to Richard McIndoe - CEO TRUenergy, NSW energy privatisation - impacts and implications: Presentation to CEDA, March 2011.

<sup>19</sup> We consider the coal prices set out in the ACIL report for the QCA to be inconsistent with the approach to modelling the LRMC in the 2010 determination (and the approach used by ACIL to develop the coal prices in the ACIL 2009 report).

<sup>20</sup> For example, the South West NSW region has significant coal deposits but no export infrastructure, suggesting any new entrant would face coal costs that are related to the cost of mining. Coal from the South West NSW region was utilised in the LRMC estimates for the 2010 determination.

We note that on 30 May 2011 ACIL released their Final Report for the QCA.<sup>21</sup> This report contains significant changes to the input assumptions used in their modelling of energy costs, primarily the capital costs of generation and the operating and maintenance costs of generation.<sup>22</sup> In particular ACIL has changed its own estimates of key costs to the estimates contained in AEMO's NTNDP Scenario 3. In relation to the significant changes in input costs since its draft report ACIL notes:

The precise reason for the differences is not clear except that the estimates adopted by AEMO for the 2010 NTNDP are engineering estimates provided by EPRI and not based on actual operating costs of generators in Australia. The earlier estimates developed by ACIL Tasman for its 2009 report to AEMO and used in the Draft Decision were based on a variety of information sources including costs reported by generators in Australia and in-house information on generation costs.<sup>23</sup>

We are of the view that these significant changes highlight that:

- ▼ There a range of views in relation to the costs of generation over the modelling period and a range of methodologies and data sources for determining these costs.
- ▼ ACIL has adopted generation costs from the 2010 NTNDP without a clear understanding of the reasons driving the changes.

The ACIL Final Report was released at the end of May 2011 (two weeks before the release of our final report). It is significantly different from the ACIL Draft Report, and we note that there has not been any public consultation on ACIL's Final Report.

We also note that there are significant changes between public reports commissioned by AEMO (ie, from the NTS in 2009 to the NTNDP in 2010, and indeed to the preliminary modelling for the 2011 NTNDP) and we are concerned that these changes may not reflect simply changes in these costs but a range of methodological changes, some of which are not fully understood.

We do not think that the ACIL Final Report for the QCA is appropriate to use in our modelling of energy costs. We are of the view that the input cost assumptions from the ACIL Draft Report for the QCA are a better source of information given that it has been updated using a broadly consistent approach to that of the ACIL 2009 report used in our 2010 determination. This ensures that our annual review is updating movements in input costs, rather than accounting for methodological changes.

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<sup>21</sup> ACIL Tasman, *Calculation of energy costs for 2011-12 BRCL, Final Report, Prepared for the Queensland Competition Authority*, May 2010.

<sup>22</sup> ACIL have sourced the capital costs as well as operating and maintenance costs from the 2010 NTNDP. However, ACIL have chosen to model coal costs rather than use the 2010 NTNDP.

<sup>23</sup> ACIL Tasman, *Calculation of energy costs for 2011-12 BRCL, Final Report, Prepared for the Queensland Competition Authority*, May 2010, p 8-9.

As an alternative to using data from the ACIL Draft Report for the QCA, we also considered indexing each of the input cost assumptions used in making the 2010 determination by the Consumer Price Index (CPI). We decided that the input cost assumptions from the ACIL Draft Report for the QCA is a better source of information given that it is publicly available and has been updated using a broadly consistent approach to that of the ACIL 2009 report used in our 2010 determination. We note that our analysis suggests indexing each of the input assumptions by CPI would have resulted in a broadly similar LRMC of generation for 2011/12 as using data from the ACIL report for the QCA.

We will consider next year whether there is an expert report that provides the required input assumptions for next year's annual review on a basis that is consistent with that used for the 2010 determination. In the absence of such a report we will consider indexing our input assumptions by CPI and any other reasonable or consistent approach to that set out in our 2010 determination.

Frontier's final report provides further detail on the updated input assumptions used for this annual review, including our approach to establishing new entrant coal cost assumptions.<sup>24</sup> Frontier's report also details the updated operating characteristics of generation considered in updating the other operating costs of generation, which were also sourced from the ACIL draft report for the QCA. To enhance the transparency of our decisions, we have provided the full set of key modelling assumptions used by Frontier in its modelling on our website.<sup>25</sup>

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<sup>24</sup> Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

<sup>25</sup> [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au)



### Box 3.1 Why aren't the input costs used for AEMO's modelling sufficient for updating the energy cost allowance?

In our view, the input costs used in AEMO's NTNDP modelling are not suitable for updating the energy purchase cost allowance for the following reasons:

- ▼ The modelling provides 5 scenarios (or 'states of the world') to 2030,<sup>a</sup> and there is a wide range in many of the input costs associated across the scenarios.<sup>b</sup>
- ▼ As with any scenario modelling, the NTNDP modelling was not intended to identify the most likely generation costs in each year of the modelling period. Rather it was intended for use in 'what if' analysis, to test the transmission network in different ways. AEMO note that "all scenarios are addressed equally, with no scenario acting as a base case."<sup>c</sup>
- ▼ The ACIL report for AEMO labelled the capital costs of generation under Scenario 3 to be a 'central case', however the report clearly states that the capital cost estimates are central in the sense that all the other cost estimates have been referenced around this scenario.<sup>d</sup> As noted above this does not make them a base case. In addition, we note there is no 'central case' for fuel and other generation costs that would be presumably be consistent with the estimates of capital costs. Noting the inter-relationships between the variables TRUenergy submit it would not be appropriate to simply change one element of a comprehensive analysis.<sup>e</sup>

In addition, we note that recent evidence presented by industry suggests that there are contrasting views about the current capital and fuel costs of generation, as well as their likely costs over the modelling period.<sup>f</sup>

**a** Each NTNDP scenario describes the Australian energy sector to 2030, and explores a series of plausible outcomes given a series of uncertain parameters, such as domestic and international carbon policy, economics growth etc.

**b** For example, the capital costs of a new entrant CCGT plant in 2011 range from \$1,547/kW (\$2010/11) under scenario 1 to \$1,266 kW under scenario 5 in 2011.

**c** This suggests that AEMO has not formed a view on the most likely outcome and therefore the most likely generation costs. AEMO, National Transmission Network Development Plan, 2010, p 23.

**d** ACIL, Preparation of energy market modelling data for the Energy White Paper – Supply assumptions report: Prepared for AEMO/DRET, September 2010, p 25.

**e** TRUenergy submission to IPART, May 2010, p 6.

**f** For example, refer Richard McIndoe - CEO TRUenergy, *NSW energy privatisation – impacts and implications: Presentation to CEDA*, March 2011, and Simshauser et al, *The entry cost shock and the re-rating of power prices in New South Wales, Australia*, *The Australian Economic Review*, vol. 43, no.2, p 114-35.

### 3.2.2 How we took account of the changes in relation to carbon pricing

In making the 2010 determination, we assumed a carbon price of \$10/tonne of CO<sub>2</sub> in 2011/12 and \$26/tonne in 2012/13 in modelling the LRMC and market-based purchase cost.<sup>26</sup> This was consistent with the terms of reference for the determination, which required us to include the costs of complying with the proposed CPRS in calculating each of these costs.

<sup>26</sup> These carbon price assumptions were taken from Commonwealth Treasury's 2008 forecasts. Federal Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future* (White Paper), 2008.

As Chapter 2 discussed, in April 2010 the Federal Government announced that it would delay the implementation of the CPRS. More recently, it announced a framework for a carbon price mechanism that it proposes will start on 1 July 2012 with a fixed price period of 3 to 5 years then transition to an emissions trading scheme.<sup>27</sup> However, the details of the mechanism have not yet been decided, and the necessary legislation has not yet been passed. Thus, there is still a great deal of uncertainty about when a carbon price will be introduced, and what this price will be initially and in the coming years.

In updating our modelling of the LRMC and market-based cost for this annual review, we need only consider the price of carbon in 2011/12 and 2012/13. However, in updating the modelling of the costs of complying with the RET scheme, we need to make assumptions about this price for each year to 2020. While a carbon price will increase the LRMC of generation and market-based energy purchase costs, it will lower the costs of complying with the RET (all else being equal).<sup>28</sup>

We made a final decision to include a carbon price of zero in the modelling for 2011/12 and 2012/13, and a carbon price consistent with the forecasts developed as part of the White Paper in 2008<sup>29</sup> in the modelling from 2013/14 to 2019/20.

A number of submissions from retailers opposed the assumption of a carbon price in our modelling noting:

- ▼ there is significant uncertainty in relation to whether a carbon price will be introduced and the details of the price<sup>30</sup>
- ▼ the terms of reference do not require us to include a carbon assumption for setting the green cost allowances<sup>31</sup>
- ▼ the interaction between our assumptions used in the modelling and the cost pass through mechanism.<sup>32</sup>

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<sup>27</sup> Media release - Minister for Climate Change and Energy Efficiency, climate change framework announced, 24 February 2011.

<http://www.climatechange.gov.au/~media/Files/minister/combet/2011/media/februarymr20110224.pdf>

<sup>28</sup> A carbon price will increase the black costs of energy as the costs of carbon emissions become part of a generator's marginal costs. All else being equal, increasing the black costs of energy will lower the marginal cost of a Renewable Energy Certificate (REC) by reducing the subsidy renewable generators need to cover their costs.

<sup>29</sup> Federal Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future* (White Paper), 2008.

<sup>30</sup> TRUenergy submission, May 2011, p 7.

<sup>31</sup> TRUenergy submission, May 2011, p 7.

<sup>32</sup> TRUenergy submission, May 2011, p 7; AGL submission, May 2011, p 10.

Our reasons for this final decision include the following:

- ▼ While there is no law at present in relation to a carbon price, the views of the energy industry suggest that a carbon price before 2019/20 (the end of our modelling period) is more likely than not. Therefore, we consider it reasonable for modelling purposes to assume that there will be a carbon price introduced during our modelling period (sometime before 2020).<sup>33</sup> We recognise that because a carbon price is yet to be legislated, any change in policy may not qualify as a pass through event. However we are of the view that our modelling of the cost allowances should include the most plausible assumption regarding the introduction of a carbon price.
- ▼ Despite the Federal Government outlining its intentions to introduce a carbon price from 2012/13, there is significant uncertainty about whether a carbon price will begin in 2012/13, and what the starting price will be. Given this, we consider it prudent to assume that a carbon price will not begin within this determination period. We note that TRUenergy supports this view.<sup>34</sup> If a carbon price is legislated to begin in 2012/13, we will be able to allow for this in the 2012 annual review of the energy cost allowance.
- ▼ As noted, we consider modelling the costs of complying with the RET scheme requires a longer term view on carbon, at least up to 2019/20.<sup>35</sup> Excluding a carbon price from our modelling altogether as is submitted by a number of retailers is likely to produce unrealistic results in relation to green costs, and would overstate the costs of complying with the LRET (refer Frontier's final report for further details on the impact of the carbon price on the costs of complying with the LRET). We consider that 2013/14 – one year after the end of the 2010 determination period – is a reasonable assumption for the starting date of a carbon price. Delaying the introduction of a carbon price for 1-year does not have a significant effect on the RET price.
- ▼ As there is uncertainty about the starting price of carbon and its likely movement through time, we consider it appropriate to assume this price will follow the path forecast by Commonwealth Treasury as part of the White Paper (as we did in making the 2010 determination). We note that this path is broadly consistent with recent proposals put forward by the Federal Government's climate change advisor, Professor Ross Garnaut.<sup>36</sup>

<sup>33</sup> We note that each of the 5 NTNDP scenarios includes a carbon price assumption.

<sup>34</sup> TRUenergy submission, May 2011, p 7.

<sup>35</sup> We model the cost of RECs out to 2020 to allow for banking and borrowing of certificates.

<sup>36</sup> Garnaut Climate Change Review – Update 2011, Australia in the Global Response to Climate Change Summary, May 2011.

### 3.2.3 Frontier's updated estimates of the LRMC of generation

Frontier updated its estimates of the LRMC of generation using the same methodologies it used for the 2010 determination, and the updated input cost assumptions discussed above. It used its *WHIRLYGIG* model, which is designed to identify the least-cost mix of existing and new generation plant to meet the forecast regulated load. It made this calculation on a stand-alone basis, rather than an incremental one. This means Frontier calculated the LRMC by building and pricing a whole new theoretical generation system to supply each Standard Retailer's regulated load for the least cost (without taking account of the current mix of generation plant in the NEM).

In relation to the discount rate, we instructed Frontier to use a pre-tax real discount rate of 7.8% in its modelling. This is a decrease from the discount rate of 8.0% used in our draft report reflecting updated market data. We calculated this rate by updating the market parameters of the Weighted Average Cost of Capital (WACC) used for the 2010 determination, in line with the approach specified in this determination.<sup>37</sup> (See Appendix B for more detail on our analysis for updating the WACC.)

Frontier's updated estimates of the LRMC of generation indicate that the LRMC of generation to meet the Standard Retailers' regulated load in 2011/12 is between \$63 and \$70 per MWh (Table 3.3).

**Table 3.3 Frontier Economics' updated estimates of the LRMC of generation to meet each Standard Retailer's regulated load (\$2010/11 \$/MWh)**

	2010/11 <sup>a</sup>	2011/12	2012/13
EnergyAustralia	68.49	66.59	66.08
Integral Energy	70.69	69.86	70.08
Country Energy	63.75	62.60	62.80

<sup>a</sup> The 2010/11 cost allowances are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

**Source:** Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

Frontier's final advice on the LRMC of generation is slightly lower than its draft advice. This is the result of a lower discount rate which reduces the amortised annual capital costs that need to be recovered. Frontier's 2010 final report provides further detail on how the discount rate is used to amortise the capital costs of generation.<sup>38</sup>

<sup>37</sup> Schedule 2, Clause 3 of the 2010 Determination sets out the components to be updated as part of the annual review of the total energy cost allowance.

<sup>38</sup> Frontier Economics, *Energy Purchase Costs - A final report prepared for IPART*, June 2010.

Frontier's final advice is similar to the estimates of the LRMC for 2010/11 used in making the 2010 determination. This is not surprising, as many of the cost input assumptions for the updated calculation were similar to the assumptions used for the 2010 determination, including those we updated (eg, the capital costs, the discount rate, a carbon price of zero).

### 3.2.4 Frontier's updated estimates of the market-based energy purchase cost

Frontier updated its estimates of the market-based energy purchase cost using the same methodologies as it used for the 2010 determination. That is, it used a portfolio optimisation model to estimate optimal combinations of contract cover and spot price exposure for given levels of risk for each Standard Retailer, and then calculated efficient frontier curves. It used game theory techniques to forecast spot price outcomes in the NEM. In addition, it:

- ▼ used a point in time estimate rather than a rolling average of contract prices
- ▼ based the market-based cost on the conservative point on the efficient frontier curve
- ▼ included a volatility allowance in the market-based cost.

However, for Frontier to apply these modelling techniques, we had to make a series of final decisions. These included decisions to use modelled forward price data and, in modelling this data to:

- ▼ assume that growth in electricity demand in the NEM will be consistent with the medium growth scenario in the AEMO's 2010 Statement of Opportunities, and
- ▼ assume cost input assumptions consistent with the ACIL draft report for the QCA.

The sections below discuss each of these decisions, and set out Frontier's updated estimates of the market-based purchase cost.

### Using modelled forward price data

There are several possible sources of forward price data, including modelled or simulated data, publicly available market data (such as d-Cypha data or the AFMA curve) and retailers' actual forward costs. In our 2010 determination, we noted that publicly available forward price data are an important source of information for estimating the market-based purchase costs, and that we would consider this information as part of our annual review.

We have made a final decision to use modelled forward price data, as we did for the draft decision and the 2010 determination, after considering Frontier's updated modelled data and comparing these to publicly available data from d-Cypha. We note there are significant differences between the updated modelled forward price data for 2011/12 and the original modelled forward price data for this year used in making the 2010 determination. However, we are satisfied that these differences are reasonable, and are due to the following factors:

- ▼ Our final decision to use the medium growth scenario in the 2010 electricity Statement of Opportunities (ESOO) rather than the high growth scenario in the 2009 ES00 as we did for the 2010 determination. This decision, which is discussed in the section below, led to a significantly lower forecast peak energy demand for 2011/12. This resulted in lower forward price data, as the forecast of peak demand is a key driver of these data.
- ▼ Our final decision to assume a carbon price of zero in 2011/12, rather than a price of \$10/tonne of CO<sub>2</sub> as we did for 2010 determination. This decision, which is discussed in section 3.1.3 above, also resulted in lower forward price data.
- ▼ The additional supply in the NEM from new wind sites in South Australia and upgrades to the Eraring station, as well as changes in the ownership structure in Queensland and the sale of the trading rights of the Eraring and Delta West generation portfolios to Origin Energy and TRUenergy. This additional supply also contributed to lower forward price data.
- ▼ Assumed gas prices for existing gas-fired generators in the southern States are generally lower in the draft ACIL Report for the QCA than in the ACIL 2009 Report.<sup>39</sup>

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<sup>39</sup> The lower gas prices have a larger effect in 2012/13.

In addition, we note there are other benefits from continuing to use modelled forward price data in addition to other data sources. In particular, the use of this data makes it easier for us to:

- ▼ understand the drivers of changes in energy costs<sup>40</sup>
- ▼ assess any cost pass through applications.<sup>41</sup>

We note that AGL has concerns with our use of modelled prices. AGL submitted that to realise the benefits of using a modelled approach, such as understanding the drivers of changes, modelled outcomes need to align with those observed in the market.<sup>42</sup> We note that Frontier's updated modelled forward price data are consistent with the d-Cypha data (see Frontier's final report for more detail).

AGL also submitted that movements in modelled prices (for example, changes to Frontier's estimates since the 2010 determination) brings into question the validity of using a modelled approach.<sup>43</sup> We note when there are significant changes to the input assumptions such as energy demand assumptions, there will be changes to the modelled prices. The annual review is explicitly designed to take into account changes to key input assumptions which will then result in changes to the modelled prices. Therefore we consider one of the main benefits of using a modelled approach is that it provides an understanding of the drivers of these changes.

However we also consider publicly available forward price data an important source of information for estimating the market-based purchase costs, and we will consider this information as part of the 2012 annual review. We note that the market based estimates using modelled prices are similar to those based on d-Cypha data.

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<sup>40</sup> In comparison, using d-Cypha or other publicly available information on forward prices would not allow us to so clearly identify the market, physical and regulatory changes affecting market prices. For example, if we used another source of data we would not know the extent to which the forward prices factors in the costs of carbon in 2012/13. This is particularly important given the uncertainty surrounding carbon policy at this time.

<sup>41</sup> A modelled approach allows us to determine the incremental change associated with a Regulatory Change Event. This is demonstrated in our assessment of the Standard Retailers' applications to pass through costs associated with the change in the renewable energy target under the RET scheme, discussed in Chapter 4.

<sup>42</sup> AGL submission, May 2011, p 6.

<sup>43</sup> AGL submission, May 2011, p 6.

**Table 3.4 Frontier Economics' updated estimates of the market-based energy purchase costs for 2011/12 – Modelled forward prices vs d-Cypha price data (\$2010/11 \$/MWh)**

	<b>Modelled forward prices (including volatility allowance)</b>	<b>d-Cypha data (including volatility allowance)</b>
EnergyAustralia	48.05	47.31
Integral Energy	49.96	49.38
Country Energy	45.79	44.12

**Source:** Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

AGL and TRUenergy submitted that the difference between the LRMC estimates and the market based estimates have been overstated in our draft report on the basis that a point in time estimate is not appropriate in assessing market based costs. AGL and TRUenergy would prefer a rolling average of contract prices, which would provide a higher market cost and therefore a smaller difference relative to the LRMC estimates.<sup>44</sup>

We have clearly set out in our 2010 determination and in our draft report that the methodology for determining the market based allowance is not being considered as part of this annual review. However we maintain our view that it is appropriate to refer to the figure of \$17 to \$21/MWh as the difference between the LRMC estimates and the market based estimates. In a competitive retail market, retail offers to customers would reflect the **current** cost of energy, rather than historical costs.

To enhance the transparency of our decisions in relation to forward price data, we have released Frontier's spot price forecasts (the outcomes of its SPARK modelling). These price forecasts are reported on an aggregate basis (ie, an average spot price for each year of the determination). They are also provided in a spreadsheet on a half-hourly basis for each year of the 2010 to 2013 determination.

As noted above, for the 2010 determination we used the high growth case in the 2009 ESOO to source some of the inputs required for Frontier's modelling of forward price information – including the forecast rate of growth in electricity demand in the NEM over the determination period.

<sup>44</sup> AGL submission, May 2011, pp 5-8; TRUenergy submission, May 2011, p 5.



In the 2010 determination, we noted that in most circumstances, we considered the medium growth scenario to be the most appropriate case to use. However, because the 2009 ESOO was developed just after the global financial crisis of October 2008, it reflected a more pessimistic view about economic growth than was generally held at the time of the determination. We considered it more appropriate to use the high growth scenario in that circumstance.

Since then, the AEMO has released the 2010 ESOO, which contains updated information on supply and demand of electricity in the NEM. We have made a final decision to use the medium growth scenario in this ESOO in updating the modelled forward price data, in line with our general view that the medium growth scenario is the most appropriate.

#### Assuming cost input assumptions consistent with the ACIL draft report for the QCA

As discussed in section 3.2.1, we found that the ACIL Draft Report for the QCA was the most suitable source of data for the purpose of updating the energy cost allowance. Therefore, we made a final decision to use input cost assumptions from that report in updating the modelled forward price data.

#### Frontier Economics' updated estimate of the market-based energy purchase cost

Frontier's updated estimates of the market-based energy purchase cost for 2011/12 indicate that this cost is between \$45 and \$50 per MWh (Table 3.5). This is lower than the estimated market-based purchase cost for 2011/12 that was included in the 2010 determination<sup>45</sup> for the reasons discussed above.

The increase in the market-based energy purchase costs between 2011/12 and 2012/13 is due to a tightening of the supply-demand balance.

**Table 3.5 Frontier Economics' updated estimate of the market-based energy purchase cost, including a volatility allowance (\$2010/11 \$/MWh)**

	2010/11 <sup>a</sup>	2011/12	2012/13
EnergyAustralia	45.66	48.05	59.37
Integral Energy	47.41	49.96	62.84
Country Energy	43.70	45.79	57.55

<sup>a</sup> The 2010/11 cost allowances are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

**Source:** Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

<sup>45</sup> This estimated cost was between \$68 and \$74 per MWh.

### 3.2.5 Our conclusions on the updated Energy Purchase Cost Allowance

After considering Frontier's advice on the LRMC of generation and the market-based energy purchase cost, we have decided to accept Frontier's advice on both costs.

As Table 3.6 shows, the LRMC is the higher of these costs. Therefore, we have set the EPCA for each Standard Retailer in 2011/12 in line with Frontier's updated estimates of this cost for this year, as required by our terms of reference.

**Table 3.6 Comparison of Frontier Economics' updated estimates of the LRMC of generation and the market-based energy purchase cost (\$2010/11 \$/MWh)**

	2010/11	2011/12	2012/13
<b>LRMC</b>			
EnergyAustralia	<b>68.49</b>	<b>66.59</b>	<b>66.08</b>
Integral Energy	<b>70.69</b>	<b>69.86</b>	<b>70.08</b>
Country Energy	<b>63.75</b>	<b>62.60</b>	<b>62.80</b>
<b>Market-based cost</b>			
EnergyAustralia	45.66	48.05	59.37
Integral Energy	47.41	49.96	62.84
Country Energy	43.70	45.79	57.55

**Note:** The 2010/11 cost allowances are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

**Source:** Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

We note that setting the EPCA in line with the LRMC in 2011/12 results in an EPCA that is between \$17 and \$21/MWh higher than it would be if set in line with the market-based purchase cost (which has been determined using a point in time approach). This flows through to prices, and results in customer bills in 2011/12 being around 8% and 12% higher than they would be if the EPCA were set in line with the market-based purchase cost.

However the market based cost is sensitive to the supply-demand balance and can move significantly from year to year. As a result for some years the market price can be significantly above the LRMC of generation, for example, during the tightening of the supply-demand balance. Therefore this large divergence between the LRMC and market prices that exists at present may not occur in future years. Over the longer term we would expect the market price to reflect the LRMC of generation.

Retailers have submitted that as the LRMC is the cost at which new generation capacity is made available, the terms of reference ensure that the regulated retail price is sufficient to justify further investment in generation, thereby ensuring long term security of supply.<sup>46</sup> If we are given terms of reference to regulate electricity prices beyond 2013, it is our view that we should be given a suitable degree of discretion in relation to the manner in which we make the determination. This would allow us, as the independent regulator, to provide a balanced, flexible regulatory package that is in the long-term interest of customers and facilitates a stable and efficient electricity market.

### 3.3 Green energy cost allowances

IPART's final decisions on the cost allowances for complying with the Large-scale Renewable Energy Target, Small-scale Renewable Energy Scheme, and the NSW greenhouse and energy efficiency schemes in 2011/12 are as shown in Table 3.7.

**Table 3.7 Final decisions on cost allowances for complying with LRET, SRES, GGAS and ESS (\$2010/11 \$/MWh)**

	2010/11 <sup>a</sup>	Final decision 2011/12	Updated estimate 2012/13
<b>EnergyAustralia</b>			
LRET	1.84	2.63	3.53
SRES	-	6.05	4.74
GGAS	0.00	0.00	0.00
ESS	0.72	1.09	1.46
<b>Integral Energy</b>			
LRET	1.84	2.64	3.56
SRES	-	6.08	4.84
GGAS	0.00	0.00	0.00
ESS	0.72	1.09	1.46
<b>Country Energy</b>			
LRET	1.84	2.65	3.56
SRES	-	6.15	4.90
GGAS	0.00	0.00	0.00
ESS	0.72	1.09	1.46

<sup>a</sup> The 2010/11 cost allowances are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

In line with our terms of reference, we have set these allowances based on our estimates of the efficient costs each Standard Retailer will incur in meeting its obligations under present and future national and state renewable energy, greenhouse gas and energy efficiency schemes.

<sup>46</sup> AGL submission, May 2011, p 4.

We note that these allowances do not include any costs related:

- ▼ to the CPRS or any other carbon pricing scheme (see section 3.2.2 for detail)
- ▼ to the cost pass through applications submitted by the Standard Retailers (see Chapter 4 for detail).

Rather this section considers the efficient costs associated with complying with the green energy schemes in 2011/12.

### 3.3.1 Renewable Energy Target

When we made the 2010 determination, there was a single Renewable Energy Target (RET) scheme, and a target that 20% of Australia's annual electricity consumption (or 45,000 GWh) would come from renewable sources by 2020. Since then, the Federal Government has made changes to this scheme. On 1 January 2011, it was split into 2 parts:

- ▼ the Large-scale Renewable Energy Target (LRET), and
- ▼ the Small-scale Renewable Energy Scheme (SRES).

The LRET is essentially the same as the RET scheme. However, it has new legislated annual targets which require at least 41,000 GWh of electricity per year to come from large-scale renewable electricity generation by 2020. Under the LRET, electricity retailers are obliged to purchase and surrender a certain number of Large Scale Certificates (LGCs) per year, each of which represents 1 MWh of renewable energy generation from large-scale technology. This number is determined by the Renewable Power Percentages (RPP) published by the Office of the Renewable Energy Regulator (ORER) each year, which are derived from the legislated target for that year. The price of the certificates is determined by the market.

The SRES is a new obligation on retailers since the 2010 determination. Under this scheme, retailers are obliged to surrender Small-scale Technology Certificates (STCs) from households and small businesses that take up small-scale technologies like solar panels and solar hot water heaters. Each STC represents 1 MWh of renewable energy from small-scale generation (except for the Solar Credits multiplier effect).<sup>47</sup> The number of STCs that retailers must surrender per year is not capped – rather it depends on the extent to which customers take up small-scale technologies. While the price of each certificate is determined by the market, certificates can be sold through a clearing house for a set price of \$40.<sup>48</sup>

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<sup>47</sup> The Solar Credits multiplier allows more STCs to be created than MWh of renewable energy produced. This means that the number of certificates created exceeds the renewable energy generated.

<sup>48</sup> ORER manages the STC Clearing House.

To update our decisions on the cost allowances for complying with the RET scheme, we asked Frontier to estimate the cost each Standard Retailer is likely to incur in 2011/12 and 2012/13 in complying with the LRET and SRES. The sections below explain Frontier's estimates and our conclusions on these estimates.

### Cost of complying with the Large-scale Renewable Energy Target

Estimating each Standard Retailer's costs in complying with the LRET in 2011/12 and 2012/13 involves:

- ▼ estimating the cost of 1 LGC in each year
- ▼ determining the number of LGCs the retailer will be obliged to surrender in each year based on the relevant RPP
- ▼ calculating the cost of compliance per MWh by multiplying this cost by the relevant RPP.

### Estimating the cost of one LGC

In making the 2010 determination, we used a cost-based approach to estimate the cost of one Renewable Energy Certificate (REC) in each year of the determination period. This involved estimating the cost of one REC (for 1 MWh of renewable generation) based on the LRMC of meeting the overall national target for the relevant year.<sup>49</sup>

To estimate the cost of one LGC in 2011/12 and 2012/13 for this annual review, Frontier used the same approach and:

- ▼ used the new large-scale renewable energy targets for these years
- ▼ excluded small-scale technologies from contributing to the target (ie, only large-scale technologies such as wind are included)
- ▼ updated the estimates of existing LGCs created (ie, certificates that have already been created but not surrendered)
- ▼ used update input cost assumptions, as discussed in section 3.2.1.

This resulted in a cost per certificate ranging from \$36.59 in 2011/12 to \$38.05 in 2012/13. This is more than \$4.70 higher than the cost of 1 REC estimated in the 2010 determination for these years (Table 3.8), but slightly lower than the estimates included in our draft report as a result of the updates to the discount rate.

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<sup>49</sup> The LRMC of meeting the RET is calculated as an output from Frontier Economics' total cost optimisation model. The RET is imposed as a 'constraint' on the model which optimises thermal (non-renewable) and renewable markets concurrently. This means it accounts for any interaction between the wholesale pool price and the Renewable Energy Certificate (REC) price. This ensures that the costs associated with the RET are not double-counted.

**Table 3.8 Frontier Economics' final estimate of the cost of one LGC in 2011/12 and 2012/13 (\$2010/11)**

	2010/11	2011/12	2012/13
Estimated cost per LGC	35.18	36.59	38.05
Estimated cost per REC for the 2010 determination	30.66	31.88	33.16

**Note:** The 2010/11 cost estimates are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

**Source:** Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

The higher cost per LGC is due to:

- ▼ the change in the LRET target
- ▼ higher input costs for large-scale renewable technologies (see section 3.2.1)
- ▼ the removal of small-scale technologies
- ▼ movements in other thermal costs over the period to 2020.

While AGL supports the use of an LRMC approach to estimating the cost of an LGC,<sup>50</sup> TRUenergy propose an alternative approach.<sup>51</sup> As discussed throughout this report, we have updated the LGC price using a consistent methodology (which is described above).

While AGL and TRUenergy have expressed mixed support for the LRMC approach, they have both submitted that the resulting LGC estimates understate the LRMC of meeting the LRET compliance requirement for a retailer. AGL submits that it is concerned about the use of a multi-year approach for green costs which differs from the approach used to estimate the LRMC of generation ('black' costs).<sup>52</sup> TRUenergy is concerned that the resulting estimates are below current market estimates (around \$39) and below the current subsidy required for a wind farm.<sup>53</sup>

As Frontier note in their final report, our approach to estimating the cost of complying with the RET/LRET and GGAS involves a multi-year model given that it is the most effective way of:

- ▼ accounting for increases in the LRET target over time (including the ability to 'bank' and 'borrow' certificates)
- ▼ accounting for the interaction between the LRET market and wholesale energy market

<sup>50</sup> AGL submission, May 2011, p 11.

<sup>51</sup> TRUenergy submission, May 2011, p 9.

<sup>52</sup> AGL submission, May 2011, p 11.

<sup>53</sup> TRUenergy submission, May 2011, p 9-10.

- ▼ recognising that investment decisions in renewable plant (such as wind generation) are made with regards to outcomes over a number of years ie, a potential wind farm investor would not simply consider the revenues in the current year (from current spot prices and LGC prices), but would consider the likely revenues over the life of the asset.<sup>54</sup>

Frontiers' final report provides further detail on its modelling of LGC prices and responses to stakeholder submissions.

We note that Frontier's estimates of the cost of one LGC across the determination period are:

- ▼ Broadly consistent with the Standard Retailers' estimates of this cost in their cost pass through applications (discussed in Chapter 4). For example, Integral Energy's estimate of the cost per REC/LGC is \$37.50.<sup>55</sup>
- ▼ Slightly below current spot prices for LGCs (around \$39).
- ▼ Above the average of LGC prices over the last 6 and 12 months.

#### **Estimating the number of LGCs that retailers will be obliged to surrender**

The annual LRET for 2012 to 2020 are specified in the legislation. ORER determines the RPPs which determine the number of certificates that retailers must surrender per year based on these targets.<sup>56</sup>

The ORER recently published the RPP for 2011 (5.62%).<sup>57</sup> The RPPs for 2012 and 2013 are derived from the revised targets. The RPP for 2011 is lower than the equivalent RPP for this year assumed in the 2010 determination. However, those for 2012 and 2013 are significantly higher than those assumed in the determination. This is because the targets were revised in the legislation that came into effect on 1 January 2011, making the targets higher in 2012 and 2013 but lower in subsequent years.<sup>58</sup>

Frontier converted ORER's published RPP for 2011 and forecast RPPs for 2012 and 2013 to a financial year basis using a simple average. Table 3.9 shows the resulting RPPs and compares them to those we assumed in making the 2010 determination.

<sup>54</sup> Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011, p 49.

<sup>55</sup> Integral Energy cost pass through application, January 2011, p 7.

<sup>56</sup> The RPP is published in the *Renewable Energy (Electricity) Regulations 2001 (Cth)* (regulations) prior to 31 March of the year in which it applies. This allows liable entities time to plan their LGC acquisition strategies. If the RPP for a year is not published prior to 31 March then the default formula in section 39(2)(b) of the *Renewable Energy (Electricity) Act 2001(Cth)* applies and is used to determine the default RPP for the given year.

<sup>57</sup> This is equivalent to 10.6 million LGCs as a proportion of total estimated electricity consumption for the 2011 calendar year.

<sup>58</sup> The number of 'excess' RECs created at the end of 2010 was approximately 8.1 million (8,100 GWh).

**Table 3.9 Renewable Power Percentages**

Financial Year	RPPs published and forecast by ORER	RPPs assumed in 2010 determination
2010/11	5.80%	6.14%
2011/12	7.22%	7.18%
2012/13	9.34%	8.10%

**Source:** ORER and Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

### Calculating the cost of complying with the LRET

Using the inputs set out in Tables 3.7 and 3.8 above, Frontier calculated each Standard Retailer's cost of complying with the LRET (Table 3.10). This cost is around \$0.40/MWh higher than the cost of complying with the RET used in making the 2010 determination in 2011/12, and around \$1.00/MWh higher in 2012/13. This is due to:

- ▼ the higher estimated cost per LGC (relative to the cost per REC used in the 2010 determination)
- ▼ the higher RPPs in 2012/13 as a result of the higher targets specified in the legislation that came into effect on 1 January 2011.

These costs differ marginally from those presented in our draft report as a result of updated modelling of LGC prices and updated transmission loss factors<sup>59</sup>.

**Table 3.10 Frontier Economics' final estimates of the cost of complying with the LRET (\$2010/11 \$/MWh)**

Financial Year	2010/11	2011/12	2012/13
EnergyAustralia	1.84	2.63	3.53
Integral Energy	1.84	2.64	3.56
Country Energy	1.84	2.65	3.56

**Note:** The 2010/11 cost allowances are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

**Source:** Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

We have considered Frontier's calculations, and the reasons for the increase in the cost of complying with the LRET. We have made a final decision to set each Standard Retailer's cost allowance for complying with the LRET in 2011/12 in line with Frontier's estimate of this cost.

<sup>59</sup> Loss factors are applied to reflect the costs Standard Retailers incur when some of the energy they purchase in the NEM is lost as it moves via the transmission and distribution networks to their customers' premises.



### Cost of complying with the Small-scale Renewable Energy Scheme

Estimating each Standard Retailer's costs in complying with the SRES in 2011/12 and 2012/13 involves:

- ▼ deciding on the appropriate cost per STC
- ▼ deciding on the retailers' obligations in relation to surrendering STCs
- ▼ calculating the cost of compliance using these decisions.

#### Deciding on the appropriate cost per STC

Rather than estimate the resource cost of a certificate (as we did with the LGC), we have made a final decision to set the cost per STC in line with ORER's fixed price of \$40 (nominal) for 2011/12 and 2012/13. This is consistent with our draft decision.

While retailers were supportive of this approach<sup>60</sup>, the Australian PV Association submitted that very few certificates have been purchased through the clearing house at the fixed price of \$40, but rather certificates were currently trading below \$30 allowing retailers to make "windfall profits".<sup>61</sup>

Our reasons for setting the cost per STC in line with ORER's fixed price of \$40 (nominal) for 2011/12 and 2012/13 are as follows:

- ▼ It is problematic to determine a cost-based estimate consistent with our approach to the LRET.
- ▼ It is problematic to forecast the market price of certificates over 2011/12 given that it is an emerging market and there are a range of factors that affect the supply that are difficult to forecast including government policy and market participants cost of carrying.
- ▼ While market prices are currently below \$40 reflecting a short term mismatch between supply and demand, we have not seen sufficient evidence to suggest that this is a liquid market. Rather it is likely that a small number of certificates are being sold at these low prices reflecting some participant's cost of carry.
- ▼ Over the longer term we would expect market prices to be consistent with the fixed clearing house price of \$40 given that one of the stated objectives of the SRES is to provide households that have placed their certificates in the clearing house a fixed price of \$40 per certificate. ORER achieves the \$40 fixed price over the longer term by including a 'catch up' element in future binding STPs that equates demand with supply.
- ▼ This is the approach taken by regulators in other jurisdictions (QLD and SA) and is supported by retailers.

<sup>60</sup> TRUenergy submission, May 2012, p 10.

<sup>61</sup> Australian PV Association submission, May 2011, p 3.

### Deciding on retailers' obligations to surrender STCs

ORER has set the Small-scale Technology Percentage (STP) for 2011 at 14.80%, which is equivalent to 28 million STCs as a proportion of total estimated electricity consumption for that calendar year.<sup>62</sup> ORER has also published indicative non-binding STPs (on 31 March 2011) of 16.75% for 2012 and 10.62% for 2013. The 2012 STP includes<sup>63</sup>:

- ▼ an estimated total of 24.7 million STCs to be created in 2012, and
- ▼ an estimated 6.4 million excess STCs over the 28 million estimate used in setting the legislated 2011 STP.

These STPs, in addition to the RPPs for the LRET, represent significantly larger liabilities on retailers than the RET that existed prior to 1 January 2011. For example, retailers will be required to surrender certificates equivalent to around 20% of their eligible load<sup>64</sup> under the combined LRET and SRES.<sup>65</sup> This is significantly larger than the liability of around 6% under the RET for 2010/11. These changes impose large costs on electricity retailers, and ultimately customers.

We have used the binding and non-binding STPs published by ORER (Table 3.11).

**Table 3.11 Small-scale Technology Percentages used in making final decision (% of eligible load)**

Calendar Year	STP
2011	14.80%
2012	16.75%
2013	10.62%

Source: ORER website <http://www.orer.gov.au/stp/index.html>

Subsequent to the release of our draft report the Federal and NSW Governments have announced reductions to the level of subsidies paid to customers who install solar PV.<sup>66</sup> All else being equal, these changes would suggest that the take-up of small scale solar technologies and the number of STCs created will be lower than the forecasts used by ORER in March 2011.<sup>67</sup> Indeed the intention behind the Federal

<sup>62</sup> The STP is published in the *Renewable Energy (Electricity) Regulations 2001 (Cth)* (regulations) prior to 31 March of the year in which it applies. This allows liable entities time to plan their LGC acquisition strategies. If the STP for a year is not published prior to 31 March then the default formula in section 40A(2) of the *Renewable Energy (Electricity) Act 2001(Cth)* applies and is used to determine the default RPP for the given year.

<sup>63</sup> See <http://www.orer.gov.au/stp/index.html>

<sup>64</sup> Eligible load is the estimated total amount of electricity acquired in the year minus the estimated total number of partial exemptions to be claimed in that year.

<sup>65</sup> This includes an STP of 14.8% in 2011 and a RPP of 5.62% in 2011.

<sup>66</sup> The Federal Government announced that it will reduce the subsidy for installing solar panels by reducing the Solar Credits multiplier to three from 1 July 2011, and to two on 1 July 2012 and eliminating it on 1 July 2013. The NSW Government has suspended new applications to its Solar Bonus Scheme.

<sup>67</sup> The non-binding STP for 2012.

Government's changes to the solar credits multiplier was to reduce the number of certificates created thereby reducing pressure on electricity prices.

As a result of these changes ORER has advised us that it will release a revised non-binding STP for 2012 to replace the original figure of 16.75%. However at the time of writing, this has not been released. In the absence of the revised STP we have used ORER's original non-binding STP for 2012. This is supported by retailer submissions.<sup>68</sup>

If the binding STP that is prescribed for 2012 is materially different to the obligation assumed in our determination, the cost pass through mechanism may account for these changes, allowing retailers to recover the costs associated with the **actual** obligations imposed under the SRES. The cost pass through mechanism would allow regulated retail prices to be adjusted upwards or downwards so that they are cost reflective in line with the requirements of our terms of reference. Any cost pass through assessment would occur once the binding STP is prescribed for 2012, and would be run concurrently with the annual review of prices for 1 July 2012. We note that retailers supported IPART managing this risk through the regulatory framework.<sup>69</sup>

### Calculating the cost of complying with the SRES

The compliance obligations for surrendering STCs are based on calendar year quarters, and are weighted towards the first 2 quarters of each year. That is, retailers are obliged to surrender around 35% and 25% of their total year's obligation in Q1 and Q2 of 2011.

Using the final decisions discussed above, Frontier calculated these quarterly costs and tallied them into financial years (Table 3.12). The resulting cost of complying with the SRES is around \$6/MWh in 2011/12 and \$4.80 in 2012/13. Frontier's final advice is broadly consistent with its draft advice.<sup>70</sup>

**Table 3.12 Frontier Economics' estimate of the cost of complying with the SRES (\$2010/11 \$/MWh)**

	2011/12	2012/13
EnergyAustralia	6.05	4.74
Integral Energy	6.08	4.84
Country Energy	6.15	4.90

**Source:** Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011.

<sup>68</sup> TRUenergy submission, May 2012, p 10; Origin Energy submission, May 2012, p 3.

<sup>69</sup> TRUenergy submission, May 2012, p 10; Origin Energy submission, May 2012, p 3; Australian Power and Gas submission, May 2012, p 6.

<sup>70</sup> They have been minor adjustments to the cost of complying with the SRES as a result of updated inflation forecasts and transmission loss factors.

After considering Frontier's advice we have made a final decision to set the allowance for the cost of complying with the SRES in line with this advice.

We note that the cost of complying with the SRES is a significant additional cost to retailers,<sup>71</sup> and will directly lead to higher retail electricity prices. We welcome the announcements by the Federal and NSW Governments to reduce the level of subsidies paid to customers who install solar PV. All else being equal these changes will reduce the costs of complying with the SRES in the future. However we have made a number of additional recommendations that will further help to reduce the costs of complying with the SRES in future years and reduce the pressure on retail electricity prices (refer to Chapter 7).

### 3.3.2 NSW Greenhouse Gas Reduction Scheme

Our 2010 determination included allowances for the costs of complying with the NSW Greenhouse Gas Reduction Scheme (GGAS)<sup>72</sup> in 2010/11 only, based on the expectation that this scheme would be discontinued when the CPRS was anticipated to start on 1 July 2011. The allowance for each Standard Retailer was set at zero, based on the estimated LRMC of meeting the GGAS target.

We asked Frontier to update these allowances using the same methodology as was used in making the 2010 determination, and the updated input cost assumptions discussed earlier in this chapter.

Frontier advised that the updated cost is zero, as the LRMC of complying with the GGAS is still zero. This advice is consistent with Frontier's draft advice.

Retailers submitted that a zero allowance for the costs of complying with GGAS does not reflect:

- ▼ The current market price of NGACs (which are around \$4).<sup>73</sup>
- ▼ Previous agreements entered into with project developers such as Power Purchase Agreements (PPAs).<sup>74</sup>
- ▼ The administrative costs of complying with these schemes.<sup>75</sup>

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<sup>71</sup> ORER originally estimated 28 million small scale certificates will be created across Australia in 2011. At a cost of \$40 per certificate the cost of complying with the SRES across Australia in 2011 will be approximately \$1.12bn. However, ORER now estimates that the number of certificates created in 2011 could be in excess of 34 million certificates.  
<http://www.orer.gov.au/stp/index.html>

<sup>72</sup> The scheme establishes emissions benchmarks or targets for the scheme participants, who must meet these benchmarks by obtaining and surrendering NSW Greenhouse Gas Abatement Certificates (NGACs) based on the size of their share of the electricity market.

<sup>73</sup> AGL submission, May 2011, p 13, TRUenergy submission, May 2011, p 8, Origin Energy, May 2011, p4.

<sup>74</sup> AGL submission, May 2011, p 11.

<sup>75</sup> Australian Power and Gas submission, May 2011, p 4.

- ▼ The uncertainty about the introduction of a carbon price.<sup>76</sup>
- ▼ The potential for Federal Government compensation if a carbon price is introduced.<sup>77</sup>

As noted above our approach to updating the allowance for the costs of complying with GGAS is consistent with the approach used in the 2010 determination; namely a resource cost assessment of the LRMC of meeting the GGAS targets.

Frontier's advice is that even if we assume that the scheme continues to operate past 2013, a carbon price from 1 July 2013 (as opposed to 1 July 2011 assumed in our 2010 determination) and higher gas generation output will ensure that enough certificates are created at zero cost. Therefore, the additional **resource costs** required to meet the GGAS targets will remain at zero, reflecting the significant number of certificates already created at zero additional cost and the number of certificates that will be created at zero additional cost as a result of a carbon price and the RET scheme.

AGL submitted that our modelled LRMC approach is 'deficient' given it does not reflect market prices.<sup>78</sup> Our modelled price is consistent with the set of updated input assumptions discussed in section 3.2.1. However market prices reflect a range of factors some of which are relevant in our analysis (such as the number of surplus certificates, and the potential for a carbon price) and some factors which are not relevant in our analysis (such as Federal Government compensation and previous contracts entered into by retailers). Therefore our modelled prices may not necessarily be consistent with market prices.

We note that the retail cost allowance (which is not being updated as part of this annual review) reflects the efficient operating costs that a retailer would incur in performing a range of retail functions including complying with obligations under green schemes.

After considering Frontier's advice we have made a final decision to set the allowance for the cost of complying with the GGAS consistent with this advice.

### 3.3.3 NSW Energy Savings Scheme

Our 2010 determination included allowances for the cost of complying with the NSW Energy Savings Scheme (ESS). We set this allowance based on the penalty price of \$24.50 per Energy Savings Certificate (ESC) because:

- ▼ the problems involved in estimating the cost of overcoming barriers to the take-up of energy efficiency projects made it difficult to use a cost-based approach to estimate this cost

<sup>76</sup> TRUenergy submission, May 2011, p 8.

<sup>77</sup> AGL submission, May 2011, p 14, TRUenergy submission, May 2011, p 8, Origin Energy, May 2011, p 4.

<sup>78</sup> AGL submission, May 2011, p 11.

- ▼ the absence of historic ESC prices made it difficult to use a market-based approach.

We have committed to maintaining this methodology, and have updated the penalty price to \$25.52/MWh consistent with the CPI methodology outlined in the *Electricity Supply Act 1995*. This equates to an after-tax price of \$36.46/MWh.<sup>79</sup> We note that there is not a considerable difference between assuming the penalty price and a market-based price, given that ESCs are currently trading close to the penalty price.<sup>80</sup>

The ESS targets are defined in proportion of total annual NSW electricity sales and as a proportion of total annual liability sales. Frontier's final report details the annual targets.

Frontier Economics final advice is that the cost of complying with the ESS is \$1.09/MWh in 2011/12 and \$1.46/MWh in 2012/13. These costs are similar to the allowances for these years included in the 2010 determination, given that the ESS targets have not changed and the penalty price has been increased by the CPI as specified in the legislation. Frontier's final advice is consistent with its draft advice.

After consider this advice, we have made a final decision to set the cost allowances for complying with the ESS in 2011/12 in line with this advice.

### 3.4 Energy losses

IPART's final decision on the cost allowance for each Standard Retailer's energy losses in 2011/12 are as shown in Table 3.13

**Table 3.13 Relevant energy loss factors and final decisions on cost allowances for energy losses (% and \$2010/11 \$/MWh)**

	2010/11	Final decision 2011/12	Updated estimate 2012/13
<b>EnergyAustralia</b>			
%	7.06	6.57	6.57
\$/MWh	5.08	5.07	5.04
<b>Integral Energy</b>			
%	8.63	7.97	7.97
\$/MWh	6.39	6.42	6.44
<b>Country Energy</b>			
%	11.93	9.23	9.23
\$/MWh	8.01	6.77	6.79

<sup>a</sup> The 2010/11 cost allowances are those included in our 2010 determination, and indexed to \$2010/11 using inflation of 3.3%.

<sup>79</sup> Frontier Economics, *Energy costs - annual review for 2011/12 and 2012/13, A final report prepared for IPART*, June 2011, p 58.

<sup>80</sup> This reflects industry concerns in relation to sufficient supply of ESCs to meet retailer's obligations.

We have included allowances for the costs Standard Retailers incur when some of the energy they purchase in the NEM is lost as it moves via the transmission and distribution networks to their customers' premises. Retailers charge their customers based on the energy consumption recorded at the customer's meter, but must buy more than this amount of energy to account for losses of transporting this energy to customers. Therefore they incur costs equivalent to the total energy they purchase minus the total energy they bill customers for.

To calculate these costs we use the appropriate loss factor in percentage terms (including both transmission and distribution losses), and apply this to the sum of our final decisions on the EPCA, NEM fees and green energy cost allowances to determine an allowance in \$/MWh.

We committed to updating these allowances as part of our annual review to account for the most recent loss factors published by AEMO.

In our draft report we were unable to include the updated 2011/12 transmission loss factors approved by AEMO. Instead we used the transmission loss factors that were included in our 2010 determination.

Our final decision includes the approved transmission and distribution loss factors for 2011/12. The differences in the total loss factors for Integral Energy and Country Energy are the result of the updated transmission loss factors.

## 4 Cost pass through applications

Since we made the 2010 determination, 2 changes to Federal Government policy have occurred which resulted in Standard Retailers making cost pass through applications, namely:

- ▼ the amendments to the Standard Retailers' obligations under the Renewable Energy Target scheme<sup>81</sup> (RET change), and
- ▼ the Government's announcement on 27 April 2010 that the implementation of the Carbon Pollution Reduction Scheme would be deferred (CPRS deferral), rather than commence on 1 July 2011 as previously proposed.

Country Energy, Integral Energy and EnergyAustralia made cost pass through applications in respect of the RET change. Country Energy and EnergyAustralia also made cost pass through applications in respect of the CPRS deferral.<sup>82</sup>

Under our 2010 determination, the cost pass through mechanism allows retailers to recover the efficient and incremental costs arising from eligible events. Earlier this year we noted publicly that any cost pass through amounts approved for 2010/11 would be added to price changes for 2011/12 arising from the annual review.<sup>83</sup>

The section below sets out our final decisions on the pass through applications and the amounts the retailers can pass through to customers. The following sections explain how we assessed the applications and discuss our findings and decisions in detail.

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<sup>81</sup> On 24 July 2010, the Federal Parliament passed the *Renewable Energy (Electricity) Amendment Act 2010* (Cth), which amended the *Renewable Energy (Electricity) Act 2000* (Cth). The amendments split the RET scheme into the Small-scale Renewable Energy Scheme and Large-scale Renewable Energy Target with effect from 1 January 2011.

<sup>82</sup> We notified Standard Retailers that cost pass through applications were to be lodged by 31 January 2011. We received the cost pass through applications by 31 January 2011. The applications are available from our website at [http://www.ipart.nsw.gov.au/investigation\\_content.asp?industry=2&sector=3&inquiry=251](http://www.ipart.nsw.gov.au/investigation_content.asp?industry=2&sector=3&inquiry=251)

<sup>83</sup> IPART, *Industry Factsheet: 2011 annual review of the total energy cost allowance*, February 2011, p 3.



## 4.1 Overview of final decisions on cost pass through applications

IPART's final decision is that the RET change:

- 1 constitutes a Regulatory Change Event, and therefore a Pass Through Event, for the 2010/11 year, and
- 2 results in Positive Pass Through Amounts for the 2010/11 year for each Standard Retailer as set out in Table 4.1, which may be passed through to customers from 1 July 2011.

IPART's final decision is that the CPRS deferral does not constitute a Pass Through Event in respect of the 2010/11 year for Country Energy and EnergyAustralia because it is not a Regulatory Change Event for the 2010/11 year.

**Table 4.1 Final decision on the pass through amounts for the RET change (\$2010/11, \$/MWh)**

	SRES	LRET	Total pass through amount
EnergyAustralia	4.75	-0.19	4.56
Integral Energy	4.62	-0.18	4.44
Country Energy	4.28	-0.18	4.10

**Note:** Pass through amounts include all additional costs including margin, time value of money for the SRES, and energy losses.

Our final decisions on the cost pass through applications are consistent with our draft decisions. The only change to our draft decisions is that we have updated the pass through amounts for the RET change to include the latest inflation rates, the WACC for electricity retail businesses, and loss factors.

In making the final decision on the pass through amount for the RET change, we considered:

- ▼ the cost pass through applications received from the Standard Retailers<sup>84</sup>
- ▼ stakeholder submissions and
- ▼ expert advice from our consultant, Frontier Economics.

We accepted the expert advice provided by Frontier Economics and have made its final report available on our website.<sup>85</sup> Our response to stakeholder submissions can be found in the relevant sections below.

<sup>84</sup> We note that the Standard Retailers' applications met the notification requirements specified under the Schedule 4, clauses 3.2 and 4.2 of the 2010 determination

<sup>85</sup> [http://www.ipart.nsw.gov.au/investigation\\_content.asp?industry=2&sector=3&inquiry=251](http://www.ipart.nsw.gov.au/investigation_content.asp?industry=2&sector=3&inquiry=251)

## 4.2 Assessment process for cost pass through applications

To assess the cost pass through applications we followed the process set out in the 2010 determination.<sup>86</sup> This process involves determining:

- ▼ whether the event qualifies as a Pass Through Event
- ▼ whether the event results in materially higher or lower costs for the Standard Retailers (ie, the change in costs must pass the materiality threshold test)
- ▼ the appropriate pass through amounts for the event.

In the following 2 sections we outline the definition of a Pass Through Event and materiality threshold test.

### 4.2.1 What is a Pass Through Event?

The first step in the assessment process is to establish whether or not an event qualifies as a “Pass Through Event”. The 2010 determination defines a “Pass Through Event” to mean a “Regulatory Change Event” or “Tax Change Event.” For the RET change and CPRS deferral, the “Regulatory Change Event” is the relevant definition.

An event is a Regulatory Change Event if it meets 2 requirements. The first requirement is that the event must be:

- ▼ a decision made by any Authority, or
- ▼ the coming into operation of an Applicable Law, or
- ▼ the coming into operation of an amendment to or revocation of an Applicable Law.

The second requirement is that the decision or change in Applicable Law must have the effect of substantially varying:

- ▼ the nature, scope, standard or risk of electricity services supplied by Standard Retailers, or
- ▼ the manner in which the Standard Retailer is required to undertake any activity in order to provide those services.

### 4.2.2 What is the materiality threshold test?

Once we are satisfied that a Regulatory Change Event has occurred, we conduct a materiality threshold test to determine whether the incremental costs arising from the event can be passed through to retail customers.

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<sup>86</sup> Schedule 4, clauses 3.2 and 4.2 of the 2010 determination.

The materiality threshold test requires the event to result in a Standard Retailer's efficient, incremental and justified **average annual costs** incurred or saved (or likely to be incurred or saved) over the term of the determination exceeding 0.25% of the Standard Retailer's total revenue arising out of regulated retail tariffs for the year in which the event occurs.

To establish the efficient, incremental and justified costs arising from the event, we:

- ▼ use the same methodology as was used in making the 2010 determination, and
- ▼ hold all modelling input assumptions constant, other than those **directly** related to the Regulatory Change Event.

### 4.3 Our assessment of cost pass through applications in respect of the RET change

Based on our assessment of the Standard Retailers' applications in respect of the RET change, we determined that this change is a Regulatory Change Event, and therefore a Pass Through Event, in respect of the 2010/11 year for each Standard Retailer. We also determined that this Regulatory Change Event passes the materiality threshold test. The sections below discuss our assessment in detail.

#### 4.3.1 The RET change is a Regulatory Change Event

As Chapter 3 discussed, on 1 January 2011, the RET scheme was split into 2 parts: the Small-scale Renewable Energy Scheme (SRES) and the Large-scale Renewable Energy Target (LRET). The LRET is essentially a continuation of the RET scheme as it operated before 1 January 2011, but with new legislated targets and a restriction on the minimum size of generation units that can create large scale generation certificates (LGCs). The SRES is a new obligation on retailers not considered in the 2010 determination.

Our final decision is that RET change qualifies as a Regulatory Change Event because it:

- ▼ involves the coming into operation of amendments to the *Renewable Energy (Electricity) Act 2000* (Cth), which is an "Applicable Law", and
- ▼ has the effect of substantially varying the nature, scope, standard or risk of the Standard Retailers' electricity services, because they now face different obligations under the RET scheme, including new obligations under SRES and decreased targets under LRET.

### 4.3.2 What are the incremental costs as a result of this Regulatory Change Event?

The incremental costs arising from the RET change are the total efficient costs incurred by the retailers from complying with the LRET and SRES from 1 January 2011 less the allowances provided for the costs of complying with the RET scheme in the 2010 determination.

Our approach in determining the costs of complying with the LRET and SRES for the cost pass through mechanism is similar to the approach we take in the annual review. To determine the costs of complying with the LRET and SRES in a given year, we multiply the number of certificates a retailer is required to surrender by the cost of a certificate, such that:

- ▼ Obligation (\$m) = [relevant acquisitions (MWh) x liability (%)] x certificate price.

While we hold all modelling assumptions constant with those that we used in the 2010 determination, the input assumptions that are **directly** related to the LRET and SRES required to calculate the costs of the Standard Retailers' obligations under those schemes are the same as those used in updating green costs for the annual review (see section 3.3.1), including:

- ▼ the appropriate small-scale technology certificate (STC) price for the SRES, and the Small-scale Technology Percentage (STP), which determines the rate of retailers' liability under the SRES, and
- ▼ the LRET targets for determining large scale certificate (LGC) price for the LRET and the Renewable Power Percentage (RPP), which determines the rate of retailers' liability under the LRET.

Consistent with our 2010 determination, we have calculated incremental costs based on each Standard Retailer's forecast regulated load over the term of the 2010 determination. This ensures that costs passed through for the RET change are incremental and reflect only that change (rather than changes to the load forecasts).

In calculating incremental costs for the RET change, TRUenergy submitted that we should use the forecast inflation rate that we used in our 2010 determination of 2.4% to convert RET allowances from \$2009/10 to \$2010/11<sup>87</sup>, rather than use the updated inflation rate of 3.3%.

We consider it to be inconsistent with determining the efficient and incremental costs of the Regulatory Change Event to carry over the inflation 'forecast error' from the 2010 determination into the cost pass through calculations. Therefore, to establish cost pass through amounts we:

- ▼ model the incremental RET costs in \$2009/10 (ie, determine the allowance we would have set in 2010 determination had we known the details of the new RET scheme)

<sup>87</sup> TRUenergy submission, 12 May 2011, pp 4-5.

- ▼ escalate the incremental cost pass through amounts by 3.3% to \$2010/11 (we use the updated March quarter on March quarter ABS figure of 3.3% in our final decision compared to the draft report of 2.7%, which reflected the December quarter on December quarter, which was the most recent inflation figure at the time of releasing the draft report).<sup>88</sup>

We have split our analysis of incremental costs into several parts:

- ▼ we determined the incremental costs arising from the introduction of the SRES as an aggregate amount (\$m) and then as an amount expressed in \$/MWh
- ▼ we determined incremental costs arising from the transitioning of the RET scheme to the LRET as an aggregate amount (\$m) and then as an amount expressed in \$/MWh
- ▼ then we added additional costs for a retail margin (for incremental costs arising from the LRET and SRES) and time value of money (for the SRES only).

#### The incremental and efficient SRES costs

The incremental and efficient costs of complying with the SRES over the term of the 2010 determination for each Standard Retailer are presented in Table 4.2. We have calculated SRES compliance costs on a financial year basis in a way that is consistent with OREER's compliance requirements. For example, the SRES obligation for 2010/11 (from 1 January to 30 June 2011) is calculated as:

- ▼ 60% of 2010 calendar year load x 14.8% (the 2011 STP) x \$39.36 (the 2011 STC price in \$2010/11).

**Table 4.2 Frontier Economics' final estimates of the efficient and incremental SRES costs incurred by Standard Retailers (\$2010/11, \$m)**

	2010/11	2011/12	2012/13	Average annual cost
EnergyAustralia	26.63	40.78	29.82	<b>32.41</b>
Integral Energy	14.07	22.54	16.98	<b>17.86</b>
Country Energy	17.81	30.82	24.19	<b>24.27</b>

**Note:** Figures may not add up due to rounding.

**Source:** Frontier Economics, *Cost pass through applications for LRET and SRES: A final report prepared for IPART*, June 2011.

All compliance costs associated with the SRES represent incremental costs because the SRES is a new obligation on retailers that was not provided for in the 2010 determination. EnergyAustralia's cost of complying with the SRES is significantly larger due to its larger load. When converted to \$/MWh the differences between the Standard Retailer's are relatively small (see Table 4.8).

<sup>88</sup> The determination specifies that we use the ABS's March quarter on March quarter inflation rate, which is 3.3%.

We note that the SRES has increased the cost of complying with the RET scheme significantly because obligations under the SRES are uncapped and there has been a strong demand for eligible small-scale technologies, predominantly caused by a range of favourable State and Federal Government incentives such as:

- ▼ feed-in tariffs (eg, the NSW Solar Bonus Scheme)
- ▼ the SRES scheme allowing all certificates created over the life of the small scale technology to be credited up-front<sup>89</sup>
- ▼ the Federal Government's Solar Credit Multiplier which increases the number of certificates created up-front (ie, such that certificates significantly outweigh the renewable energy generated), and
- ▼ Federal and State Government rebates for solar hot water.

The interaction between these government programs that encourage the uptake of small-scale technologies is outlined in detail in Appendix C.

#### The incremental and efficient LRET costs

We have used the same approach as used for the annual review to estimate the cost of an LGC (representing 1 MWh of large scale renewable generation), which involves updating the LRMC model to:

- ▼ include the renewable targets for the LRET (effective from the scheme's commencement on 1 January 2011), and
- ▼ exclude small scale technologies from being able to contribute to the target (ie, only large scale technologies are included - wind, hydro, geothermal, biomass).

However, unlike the annual review, we held constant all other input assumptions underpinning the LRMC model from the 2010 determination, especially with respect to black and green cost inputs. Importantly, we held constant assumptions regarding the CPRS given that RET allowances in the 2010 determination were calculated on a carbon inclusive basis.

We have also held the supply of Renewable Energy Certificates (RECs) in the LRMC model constant from the 2010 determination to ensure that we isolate the incremental costs of the RET change. Therefore, we have not updated the LRMC model to include the 'excess' certificates in the market (those already created but not surrendered) as at 1 January 2011 of about 43 million, because these surplus certificates are not a direct product of the RET change (unlike the adjusted targets which directly reflect the new scheme obligations).

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<sup>89</sup> If installed by a company accredited by the Clean Energy Council.

We note that excluding the current surplus of RECs in the LRMC will inflate REC prices (ie, LGC prices), relative to including the larger current surplus. We also note that holding all other input assumptions constant means that the LGC prices derived for the cost pass through mechanism differ to those established under the annual review (see section 3.3.1).

Table 4.3 presents estimates of the RPPs and LGC prices for 2010/11 to 2012/13 (and compares them to those used for 2010 determination). We have converted the RPPs to a financial year basis using a simple average. Unlike the financial year conversions undertaken for the SRES, we have used a simple average because the LRET obligations are not weighted across the calendar year.

**Table 4.3 Frontier Economics' final estimates of the costs associated with LRET compared to those included in the 2010 determination (\$2010/11)**

Financial year	2010 determination (RET scheme)			Cost pass through review (LRET scheme)		
	RPP	REC price (\$/certificate)	RET allowance (\$/MWh)	RPP	LGC price (\$/certificate)	LRET allowance (\$/MWh)
2010/11	6.14%	\$30.66	<b>\$1.84</b>	5.80%	\$26.98	<b>\$1.53</b>
2011/12	7.18%	\$31.88	<b>\$2.23</b>	7.22%	\$28.06	<b>\$1.98</b>
2012/13	8.10%	\$33.16	<b>\$2.62</b>	9.34%	\$29.19	<b>\$2.66</b>

**Note:** The allowances in the table are presented at the node (rather than the connection point) and so are deflated by the 2.5% transmission loss factor from the 2010 determination - ie, Allowance = [RPP x REC price]/ [1.025]. Figures may not add up due to rounding.

**Source:** Frontier Economics, *Cost pass through applications for LRET and SRES: A final report prepared for IPART*, June 2011.

The incremental costs of the LRET are the total costs of complying with the LRET less the total costs of complying with the RET scheme provided for by the 2010 determination. These costs are presented in Table 4.4 for each Standard Retailer.

**Table 4.4 Frontier Economics' final estimates of the efficient and incremental LRET costs incurred by Standard Retailers (\$2010/11, \$m)**

	2010/11	2011/12	2012/13	Average annual cost
EnergyAustralia	-1.12	-1.76	0.26	<b>-0.87</b>
Integral Energy	-0.60	-0.97	0.14	<b>-0.48</b>
Country Energy	-0.79	-1.32	0.20	<b>-0.63</b>

**Note:** Figures may not add up due to rounding.

**Source:** Frontier Economics, *Cost pass through applications for LRET and SRES: A final report prepared for IPART*, June 2011.

### Why are the incremental LRET costs negative?

Table 4.4 shows that on average the estimated LGC prices and updated RPPs lead to a decrease in costs relative to the allowances made for the RET scheme in the 2010 determination. For 2010/11, the decrease in incremental costs is due to:

- ▼ **A decrease in the RPP.** The 2010/11 RPP has decreased to 5.80% from 6.14% because the 2011 LRET has come down by about 4,000 GWh (from 14,825 GWh to 10,600 GWh) to reflect removal of small-scale technology from the target, now catered for by the SRES.<sup>90</sup> Therefore, the Standard Retailers are required to purchase a lower volume of certificates under the LRET for 2010/11.
- ▼ **A decrease in certificate price relative to those used in the 2010 determination** (shown in Table 4.3). The 2010/11 certificate price has decreased from \$30.66 to \$26.98 because the change in the LRET (which has fallen by 4,000 GWh) is larger than the change in the assumed contribution of small scale generation to reaching the target that we included in the 2010 determination.<sup>91</sup>

The retailers submitted to us that a negative incremental cost for the LRET is inconsistent with the intention of the RET change and actual market price outcomes for LGCs.<sup>92</sup> In particular, they consider that the modelled LGC price should be higher than the original REC price because the removal of cheaper small scale technology from the LRET increases the cost of meeting the lower target at the margin (ie, the shift in the cost curve should outweigh any dampening effect that the reduction in the target has had on LGC prices). Indeed, this was the Federal Government's intention behind separating the small and large scale schemes - that is, to provide greater incentive for investment in large scale projects through a higher REC price (ie, the price of LGCs).

As noted in our draft report, since we made the 2010 determination small scale solar uptake has increased rapidly due to generous government schemes and falling capital costs. Therefore, the 2010 determination included less output from small-scale generation technology than our current estimate of at least 4,000 GWh.

<sup>90</sup> In the subsequent 2 years the RPP for LRET increases in line with the old RPPs because LRET in these years have been increased in the legislation.

<sup>91</sup> The removal of the subsidised small-scale technology from the LRET modelling to calculate the LGC price has not offset the dampening effect on prices that the reduction in the LRET has caused.

<sup>92</sup> TRUenergy submission, pp 10-11; Origin Energy submission, p 5; AGL submission, May 2011, p 15. The Standard Retailers submitted a similar view in their cost pass through applications that although the lower RPP under the LRET has reduced their liability for 2010/11 the cost of this liability has increased (EnergyAustralia negative cost pass through application, January 2011, p 10; Integral Energy cost pass through application, February 2011, p 7).



In response to our draft report AGL submitted that the 2010 determination included too little generation from small scale technology. However, we consider that it would be inconsistent with determining the efficient and incremental costs as a result of the RET change to revise upwards our assumption regarding the contribution of subsidised small scale technology in the LRMC and recalculate original RET allowances provided for in the 2010 determination.

We also consider it inappropriate to use the market price for LGCs to determine incremental and efficient LRET costs because it:

- ▼ is inconsistent with the methodology adopted in the 2010 determination (ie, the LRMC approach)
- ▼ is difficult to isolate the impact of the regulatory change given the numerous factors that affect market prices
- ▼ would introduce scope for double counting.

In addition, we note that although market prices for RECs did increase immediately after the announcement of the RET change, over the past 12 months there has been no evidence of a sustained step change in the market price (ie, over the past year RECs/LGCs have increased and then decreased and have broadly been in the range of \$30 to \$40<sup>93</sup>).

Origin further commented that it expected the LRMC of the LRET for the cost pass-through applications to be closer to the respective estimate for the annual review. We consider the difference between the two estimates to be reasonable as it reflects the updated modelling assumptions for the annual review, including the carbon price (the difference between the LRET allowances range between around \$0.60-\$0.90/MWh).

Frontier Economics' final report provides further detail on its modelling of the incremental costs of the LRET.

#### What are the additional costs to consider?

The Standard Retailers have applied for the following items to be added to the 2010/11 incremental costs arising from the RET change:

- ▼ a retail margin (5.4% in line with the 2010 determination)
- ▼ the time value of money (9.1% WACC used in the 2010 determination).

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<sup>93</sup> [http://www.nges.com.au/index.php?option=com\\_content&view=article&id=101&Itemid=117](http://www.nges.com.au/index.php?option=com_content&view=article&id=101&Itemid=117)

### **Including a retail margin**

In our 2010 determination, we set a 5.4% gross (EBITDA) margin. The margin applies to all the retailers costs, including the energy purchase costs (which includes the RET costs), the network costs and retail costs. Consistent with this, we have applied the 5.4% margin to the incremental costs arising from the change in the RET – ie, we have included an additional 5.4% to the incremental costs for the SRES and LRET set out in Table 4.2 and Table 4.4, respectively.

### **Including the time value of money**

The Standard Retailers have submitted that they should be compensated for the time value of money arising from the delay between their incurring of liability for costs arising from the RET change and their recovery of costs in the 2011/12 financial year. The Standard Retailers have proposed calculating the time value of money using a WACC of 9.1%, which is the real pre-tax WACC for an electricity retailer from the 2010 determination. This is broadly consistent with our updated WACC for an electricity retailer of 8.9% (Appendix B).

We consider that providing compensation for the time value of money for the SRES costs is appropriate because the 2010/11 obligation for the SRES costs arises before any of the costs could be recovered through 2011/12 prices.<sup>94</sup> These costs would have been recovered through 2010/11 prices if the changes to the scheme were known at the time of making our 2010 determination.

For simplicity, we assume a nine month delay between the 2010/11 SRES liability arising and its cost recovery. We have not based the compensation for the delay in recovering the SRES costs on a full financial year because the costs are recovered from the start of the 2011/12 financial year.

In contrast to the SRES, we consider that the LRET obligations for 2010/11 do not require compensation for the time value of money because these costs are incurred in February 2012, after the 1 July price change.

In summary, we have decided to compensate Standard Retailers for the delay in their passing through into prices additional costs incurred for the SRES before 1 July 2011:

- ▼ using a real pre-tax WACC for an electricity retailer of 8.9%, and
- ▼ assuming a nine month delay between the liability arising and recovery of costs.

We decided not to provide an allowance for the time value of money for additional costs incurred for the LRET scheme.

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<sup>94</sup> SRES certificates for Qtr 1 2011 must be surrendered by end April and for Qtr 2 2011 by end July.

### The incremental and efficient costs of the RET change including the retail margin and time value of money

The total incremental and efficient SRES and LRET costs adjusted for the retail margin and time value of money are presented in Table 4.5 and Table 4.6, respectively. We have considered Frontier Economics' advice on the efficient and incremental costs of complying with the SRES and LRET costs and have made a final decision to accept this advice.

**Table 4.5 Frontier Economics' final estimates of the efficient and incremental SRES costs including margin and time value of money by Standard Retailer (\$2010/11, \$m)**

	2010/11	2011/12	2012/13	Average annual cost
EnergyAustralia	29.92	42.98	31.43	<b>34.78</b>
Integral Energy	15.81	23.76	17.89	<b>19.15</b>
Country Energy	20.01	32.49	25.50	<b>26.00</b>

**Note:** Figures may not add up due to rounding.

**Source:** Frontier Economics modelling. Approach outlined in Frontier Economics, *Cost pass through applications for LRET and SRES: A final report prepared for IPART*, June 2011.

**Table 4.6 Frontier Economics' final estimates of the efficient and incremental LRET costs including margin by Standard Retailer (\$2010/11, \$m)**

	2010/11	2011/12	2012/13	Average annual cost
EnergyAustralia	-1.18	-1.85	0.27	<b>-0.92</b>
Integral Energy	-0.63	-1.02	0.15	<b>-0.50</b>
Country Energy	-0.83	-1.39	0.21	<b>-0.67</b>

**Note:** Figures may not add up due to rounding.

**Source:** Frontier Economics, *Cost pass through applications for LRET and SRES: A final report prepared for IPART*, June 2011.

#### 4.3.3 The RET change satisfies the materiality threshold test

We determined that the RET change satisfies the materiality threshold test and therefore qualifies as a Positive Pass Through Event for each Standard Retailer. Table 4.7 shows that the average annual incremental costs arising from the RET change range between 1.9% and 2.1% of the Standard Retailers' notional revenue for 2010/11 (the year in which the RET change took effect). This exceeds the materiality threshold set in the 2010 determination of 0.25% of total revenue for that year.

The average annual incremental costs presented in Table 4.7 are a sum of the average annual SRES compliance costs and the average annual incremental LRET costs presented in Table 4.5 and Table 4.6 above (ie, adjusted for the retail margin and time value of money). The total revenue used for the materiality threshold test is the

notional revenue arising out of Regulated Retail Tariffs for 2010/11 taken from the Annual Pricing Proposal, which is consistent with the requirements of the 2010 determination.<sup>95</sup>

**Table 4.7 Materiality threshold test for the RET change (\$2010/11)**

	Average annual incremental cost (\$m)	Notional Revenue for 2010/11 (\$m)	Proportion of Total Revenue (%)
EnergyAustralia	33.86	1,667.75	2.0%
Integral Energy	18.65	881.02	2.1%
Country Energy	25.33	1,361.89	1.9%

**Note:** Figures may not add up due to rounding.

#### 4.3.4 The efficient and incremental costs of the RET change incurred in 2010/11 to be passed through in 2011/12

The RET allowance for any given year is calculated on a \$/MWh basis by dividing the incremental costs (\$m) by the load in the financial year in which the costs are passed through to customers. However, the incremental costs estimated for 2010/11 (in \$m) for the RET change are retrospective and will be recovered by the Standard Retailers in 2011/12 prices. Therefore, the 2010/11 cost pass through amounts for each Standard Retailer are derived by dividing the total incremental costs (in dollar terms) estimated for 2010/11 by the load forecast for 2011/12.

The Positive Pass Through Amounts that we determined for the 2010/11 year for each Standard Retailer are set out in Table 4.8. These Positive Pass Through Amounts may be passed through to customers from 1 July 2011.

**Table 4.8 Final decision on the pass through amounts for the changes made to the RET (\$2010/11, \$/MWh)**

	SRES	LRET	Total pass through amount
EnergyAustralia	4.75	-0.19	4.57
Integral Energy	4.62	-0.18	4.44
Country Energy	4.28	-0.18	4.10

**Note:** Pass through amounts include all additional costs including retail margin, time value of money, and energy losses. Figures may not add up due to rounding.

We have used the load measured at customer's premises in determining the cost pass through amounts above to allow for the value of energy losses. Since our draft report, we have updated the loss factors applicable to each Standard Retailer to reflect those approved by AEMO for 2011/12. Including compensation for energy losses is consistent with our approach in the 2010 determination and with the Standard Retailers' applications. It reflects the costs that the retailers will face.

<sup>95</sup> Schedule 4, clause 2(c) of 2010 determination.

The allowances for the costs of complying with the RET change for 2011/12 and 2012/13 are determined as part of the annual review (see Section 3.3.1).

#### 4.4 Our assessment of cost pass through applications in respect of the CPRS deferral

Based on our assessment of EnergyAustralia and Country Energy's applications in respect of the CPRS deferral, we have determined that this is not a Regulatory Change Event (and therefore not a Pass Through Event) because it does not meet the requirements of the 2010 determination.

First, the deferral did not involve an Applicable Law coming into operation or being amended or revoked, and was not a decision made by any Authority. TRUenergy submitted<sup>96</sup> that the decision to defer the CPRS Bill was made by the former Prime Minister and Cabinet, who are Authorities for the purposes of the 2010 determination. However, we maintain our view that once a bill has been introduced into Parliament, the progress of that bill through Parliament becomes subject to Parliament's processes. It was Parliament, who is not an "Authority" under the 2010 determination, who decided to defer the CPRS Bill.

TRUenergy's alternative submission was that the definition of "Authority" in the 2010 determination includes Parliament because it is government or an instrumentality of government.<sup>97</sup> However, we do not consider that "Authority" includes Parliament for the purposes of the 2010 determination.

Secondly, if the CPRS had proceeded, GGAS would only have discontinued from 1 July 2011. Therefore, we consider that the CPRS deferral did not have the effect of substantially varying the nature, scope, standard or risk of electricity services supplied by Standard Retailers in 2010/11 or the manner in which they had to undertake any activity to provide those services.

In making our final decision, we also considered the manner in which the review mechanisms provided for in the 2010 determination, in particular the cost pass through mechanism, were directed at major non-systematic risks such as changes to green energy obligations that Standard Retailers may face.

We reiterate that the CPRS deferral is an unusual circumstance in that it was a policy proposal that had not received Parliamentary support. Therefore, we do not consider that our decision to reject the CPRS deferral as a Regulatory Change Event is inconsistent with the purpose of the cost pass through mechanism as submitted by the retailers.<sup>98</sup> Future schemes affecting Standard Retailers' obligations are likely to be implemented through legislation, such as the RET change. The legislative change in those situations would more likely qualify as a Regulatory Change Event.

<sup>96</sup> TRUenergy submission, 12 May 2011, p 12 and Appendix A.

<sup>97</sup> TRUenergy submission, 12 May 2011, p 12 and Appendix A.

<sup>98</sup> TRUenergy submission, 12 May 2011, p 12; Origin Energy submission, 12 May 2011, p 6.

In addition, we note that the annual review of wholesale energy costs was also designed to capture certain Regulatory Change Events, including the impact of key changes in the allowances for complying with 'green' schemes (ie, to account for forecast error associated with key input assumptions). Indeed, Integral Energy did not apply for costs resulting from the CPRS deferral because it would rely on the annual review to accommodate the CPRS deferral and provide GGAS allowances for 2011/12 and 2012/13.<sup>99</sup> We have considered the additional obligations that the Standard Retailers face in 2011/12 and 2012/13 from the continuation of GGAS (due to the CPRS deferral) as part of the annual review (see section 3.3.2).

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<sup>99</sup> Integral Energy cost pass through application, January 2011, p 4. Integral Energy also did not apply for costs resulting from the CPRS deferral because it had sufficient NGACs on hand to meet its GGAS obligations for the year 2010/11.

## 5 Average price increases from 1 July 2011

We regulate retail tariffs using a weighted average price cap (WAPC) that allows the Standard Retailers to set individual regulated retail tariffs subject to this cap. Under this approach we determine the maximum average percentage by which the Standard Retailer can increase its regulated tariffs (weighted by the relevant quantity) in each year of the determination period.

The WAPC is calculated using N values which are based on actual network charges imposed by the network businesses and approved by the AER, and R values (or retail price controls) that we determine. The retailers must use these N and R values to calculate the maximum annual amount by which they can increase their regulated retail tariffs under the WAPC form of regulation.

Please note that the N values in the WAPC are set to allow each Standard Retailer to fully recover the actual costs it incurs in paying the network fees and levies. These network charges will be approved by the AER and are not affected by our 2010 determination.

The R values within the WAPC are set to allow each Standard Retailer to fully recover the total efficient costs that we have allowed in the 2010 determination and this update (Chapter 3). There are separate R values for the fixed and variable components of regulated tariffs. The fixed R values are expressed as \$ per customer, while the variable R values are expressed as \$ per MWh.

This chapter sets out:

- ▼ Our final decisions on the updated R values for each Standard Retailer for 2011/12 and 2012/13. These R values replace those that were included in the 2010 determination. The retailers must use these R values (and the relevant N values) to calculate the maximum annual amount by which they can increase their regulated retail tariffs.
- ▼ Network charges approved by the AER.
- ▼ The resulting average increases in regulated retail electricity prices from 1 July 2011.

## 5.1 Overview of final decision on the R values

IPART's final decision is to set the regulated retail price controls (R values) as shown in Table 5.1

**Table 5.1 Final decision on the R values for 2011/12 and 2012/13 (\$2010/11)**

	2010/11	2011/12	2012/13
<b>EnergyAustralia</b>			
Fixed R - \$ per customer	93.7	95.2	96.7
Variable R - \$ per MWh	89.1	96.4	96.9
<b>Integral Energy</b>			
Fixed R - \$ per customer	93.7	95.2	96.7
Variable R - \$ per MWh	92.3	100.5	100.9
<b>Country Energy</b>			
Fixed R - \$ per customer	93.7	95.2	96.7
Variable R - \$ per MWh	89.2	96.4	97.9

### 5.1.1 How we set the R values

Our final decision on the R values reflects the increases resulting from:

- ▼ Our final decisions on the total energy cost allowance (see Chapter 3).
- ▼ Our recalculation of the retail margin on the updated retail cost allowances and average change in network tariffs forecast for 2011/12.

Our 2010 determination set the retail margin as a fixed percentage of each retailer's total costs (retail and network) for the determination period. We calculated this allowance in dollar terms for the purpose of setting the R values, and made a decision to update this calculation at each annual review to reflect updates in total costs. We have therefore recalculated the allowance for the retail margin to provide a margin in dollar terms equal to 5.4% of the updated retail and network costs.

In determining the R values we disaggregated each of the efficient cost allowances into their fixed and variable components, and calculated the cost per unit for each group of components. This approach to setting the R values is consistent with the 2010 determination.



The determination sets out the R values in \$2011/12 in contrast to the R values in Table 5.1 above which are in \$2010/11. In escalating the R values to \$2011/12 we have used inflation of 3.3% as is required by our determination. TRUenergy<sup>100</sup> submitted that in escalating the fixed and variable R values to \$2011/12 we should account for the 'inflation error' that was included in the previous determination.<sup>101</sup> We note that the fixed R values are not for review as part of this annual review and therefore we do not have the scope to update these fixed R values to account for this inflation error.<sup>102</sup> Other cost allowances that were updated as part of this annual review (including the input assumptions) have been escalated to \$2010/11 using the actual inflation of 3.3%.

In submitting their annual pricing proposals the Standard Retailers will need to use:

- ▼ these R values and the relevant N values
- ▼ approved cost pass through amounts.

## 5.2 Network component (N values or tariffs)

As noted above, the WAPC is calculated using the:

- ▼ N values which are based on actual network charges imposed by the network businesses and approved by the AER. Therefore the N values in the WAPC are set to allow each Standard Retailer to fully recover the actual costs it incurs in paying the network fees and levies. These network fees are determined by the AER and are not affected by our final decisions on the total energy cost allowance.
- ▼ R values which are based on the efficient retail cost allowances that we determine (see Section 5.1).

As Table 5.2 shows the average nominal increases in network tariffs for small customers<sup>103</sup> from 1 July 2011 are significant, ranging from 14.6% to 20.3%.

**Table 5.2 Average nominal increases in network tariffs (%)**

	2011/12	2012/13
EnergyAustralia	20.2	20.5
Integral Energy	14.6	4.6
Country Energy	20.3	15.8

**Note:** Forecast inflation is 3.3% for 2011/12 and 3.0% for 2012/13.

**Source:** EnergyAustralia, Integral Energy, Country Energy.

<sup>100</sup> TRUenergy submission, May 2011, p 4.

<sup>101</sup> Our 2010 final decision on the cost allowances were made in \$2009/10 with the R values in the determination set in \$2010/11. To escalate the R values to \$2010/11 we used an inflation assumption of 2.4%. Actual inflation over the period 2009/10 – 2010/11 as measured by the March 2011/March 2010 CPI was 3.3%.

<sup>102</sup> The fixed R values are set in \$2010/11 and the determination specifies the methodology that should be used to escalate them to \$2011/12.

<sup>103</sup> Small customers are defined as those consuming less than 160 MWh per annum.

The rises in network costs are the largest driver of the price increases from 1 July. We are concerned about the rapid increase in network tariffs and we recommend that governments address the primary drivers of rising network costs to limit the future growth in these costs and the associated increases in retail electricity prices. In particular, we propose that governments take action to limit future increases in network costs by reviewing key aspects of the regulatory framework to ensure they promote the long-term interests of customers. For example, we are recommending that the AEMC initiate a review of the National Electricity Rules to address concerns that these rules may bias the Australian Energy Regulator's decisions in favour of higher network prices and inefficient outcomes. This review needs to be undertaken and completed in a timely manner to ensure that it can be incorporated in the next regulatory determination (see Chapter 7). We welcome the Premier's recent announcement of a review of electricity network licence conditions and recommended that it undertaken and completed in a timely manner.

While we are concerned about the significant increases in network charges it is important that we pass through these actual network charges into retail prices. This will ensure that retailers, who must pay these charges to the network businesses, are able to fully recover these costs.

### 5.2.1 Solar Bonus Scheme and Climate Change Fund

The NSW Government offers financial incentives to install solar panels via its Solar Bonus Scheme ('feed in' tariff).

We have not included the costs of this scheme in our estimate of green scheme costs.

The increases in network tariffs in Table 5.2 therefore assume that:

- ▼ The Solar Bonus Scheme will **not** be recovered via a network levy.
- ▼ The Climate Change Fund levy on network tariffs in 2011/12 will be similar to 2010/11 levels (ie, the levy will continue to provide \$140 to \$150m per year).

### 5.3 Overview of average increases in regulated electricity prices (N+R)

Table 5.3 shows the resulting nominal average increases in regulated retail prices from 1 July 2011. These increases range from 15.5% for Integral Energy to 18.1% for Country Energy. Our indicative estimates of nominal average increases from 1 July 2012 are significantly smaller.

**Table 5.3 Average nominal increases in regulated retail electricity prices (%)**

	2011/12	2012/13
EnergyAustralia	17.9	10.0
Integral Energy	15.5	2.0
Country Energy	18.1	9.5

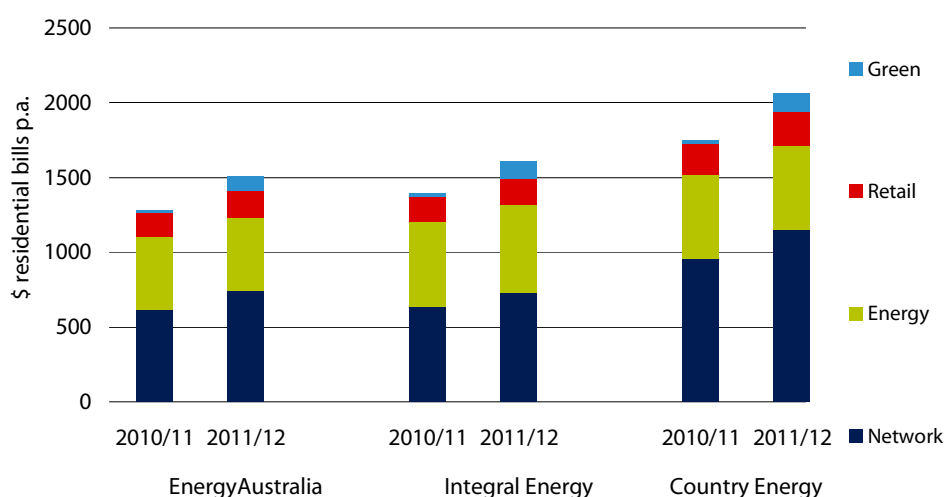
**Note:** Forecast inflation is 3.3% for 2011/12 and 3.0% for 2012/13.

It is important to emphasise that these are average increases in tariffs. Under the WAPC Standard Retailers are able to change the prices of individual tariffs as long as the average increase in their tariffs does exceed the WAPC. Therefore customers' tariffs (and their bills) may face increases that are more or less than this amount.

Figure 5.1 shows the increase in customer's bills from 2010/11 to 2011/12. It shows that:

- ▼ the increases in network tariffs leads to the largest increase in dollar terms
- ▼ the increases in green scheme are the fastest growing in percentage terms.

**Figure 5.1 Indicative annual bill for residential customers in each standard supply area – the components and how they will change over the next year (\$nominal)**



**Note:** Bills include GST and the climate change levy at the 2010/11 level. Bills calculated using 7,000 kWh of consumption per year, of which 2,100kWh is on an Off-Peak 1 tariff. Non-off peak portion of the bill calculated using EnergyAustralia's Domestic All-time tariff, Integral Energy's Domestic tariff and Country Energy's Urban Domestic tariff (5700) respectively. Inflation is 3.3%.

Table 5.4 summarises our final decisions on the updated retail allowances, including the network costs to be passed through into retail prices, and compares these final decisions to the allowance for 2010/11 included in our 2010 determination.

**Table 5.4 Change in the cost components of regulated retail electricity prices from 2010/11 to 2012/13 (\$2010/11, \$/MWh)**

	EnergyAustralia			Integral Energy			Country Energy		
	2010/11	2011/12	2012/13	2010/11	2011/12	2012/13	2010/11	2011/12	2012/13
Electricity purchase cost	69.3	67.4	66.9	71.5	70.7	70.9	64.6	63.4	63.6
Green costs	2.6	9.8	9.7	2.6	9.8	9.9	2.6	9.9	9.9
Energy losses	5.1	5.1	5.0	6.4	6.4	6.4	8.0	6.8	6.8
Retail operating cost allowance	14.1	14.2	14.4	11.4	11.5	11.7	13.2	13.3	13.6
Network costs	97.6	112.6	131.5	91.2	100.3	101.8	133.7	154.3	173.3
Total retail + network costs	<b>188.6</b>	<b>209.0</b>	<b>227.6</b>	<b>183.1</b>	<b>198.7</b>	<b>200.7</b>	<b>222.1</b>	<b>247.8</b>	<b>267.2</b>
Retail margin (EBITDA 5.4% of total costs) <sup>a</sup>	10.8	11.9	13.0	10.4	11.3	11.5	12.7	14.1	15.3
Pass through amount for RET change	-	4.6	-	-	4.4	-	-	4.1	-
Total retail price	<b>199.3</b>	<b>225.5</b>	<b>240.6</b>	<b>193.5</b>	<b>214.5</b>	<b>212.1</b>	<b>234.8</b>	<b>266.0</b>	<b>282.5</b>

<sup>a</sup> The cost pass through amount includes a 5.4% retail margin. Therefore the retail margin reported in this table is 5.4% of total retail costs less the pass through amount. The retail margin reported in this table plus the retail margin on the pass through amount total 5.4% EBITDA. The energy purchase costs reported in this table include NEM fees.

**Note:** This table provides a breakdown of the final retail price in 2010/11- 2012/13 in real terms (\$2010/11). Customer bills are typically expressed as c/kWh (ie, divide the \$/MWh figures above by 10). Typical residential consumption is 7,000 kWh (7MWh) per annum. Numbers may not add due to rounding. The cost allowances for 2010/11 have been escalated from \$2009/10 using inflation of 3.3%, rather than inflation of 2.4% that was assumed in setting the 2010/11 prices. Therefore the annual retail price increases from 2010/11 to 2011/12 presented in this table will be understated compared to the increases reported elsewhere in this report.

## 6 Impact of our decisions on customers

To understand the likely impact on customers of our decisions on average increases in regulated retail electricity prices in 2011/12 and our updated estimates of increases in 2012/13, we have done a range of analyses. However, we could not identify the specific impact on individual households and small business customers, as this impact will vary depending on a range of factors, including:

- ▼ how much electricity the customer uses
- ▼ which standard supply area they are located in, which regulated tariff they are on, and how their retailer decides to apply the regulated average change across all its individual regulated tariffs
- ▼ whether or not they are on a controlled load tariff (typically used for off-peak off-water systems),<sup>104</sup> and
- ▼ how they respond to the price increases (ie, whether or not they reduce their usage to manage their bills).

In addition, the extent to which the price increases will affect customers' ability to accommodate price increases also varies, depending on how much the customer earns, whether their earnings increase over the same period, and whether they have access to the NSW Low Income Household Rebate.

Given this, we have analysed the impact of our decisions on annual electricity bills for 'typical' customers for each Standard Retailer, and also examined the different factors that influence the size and significance of the impact on individual customers. In addition, we have used this analysis to try to identify which customers are most likely to experience genuine financial hardship as a result of the increases in electricity prices.

The sections below summarise our key findings then discuss our analysis in detail.

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<sup>104</sup> Controlled load is supply is switched on and off by the electricity distributor (not the households) during specified periods, usually overnight. Controlled load electricity is mainly used for hot water.

## 6.1 Overview of key findings on impact on customers

Our analysis indicates that our final decisions are likely to increase the annual bills of 'typical' customers – those with median electricity usage for the area that they live in – by about \$190 to \$315 for residential customers, and about \$345 for small business customers in 2011/12.<sup>105</sup> These increases are sizeable in dollar terms, and many households will notice their impact on their household budget, particularly as they come on top of significant price increases in 2010/11.

A range of measures show that household incomes have generally increased by more than the cost of living (which includes electricity prices) over the past 10 years. In addition, the incomes of many of the households traditionally considered least able to afford electricity price increases (such as age pensioners) are either directly or indirectly linked to the cost of living. Further, some of these households also receive energy rebates on their bills, which mitigate the impact of the price increases.

At the same time, however, we have identified some types of households that will most likely struggle to afford the higher electricity prices as a result of these prices. These households are those that have low household incomes as well as some of the following characteristics:

- ▼ high non-discretionary electricity usage – for example, because they have a larger household size, live in a larger free-standing dwelling, live in an area with more extreme temperatures, and/or have older inefficient appliances
- ▼ no access to the NSW Low Income Household Rebate – because they don't hold one of the concession cards used to define eligibility
- ▼ higher housing costs – because they are still paying off their home or renting
- ▼ higher spending on electricity as a proportion of their disposable income.<sup>106</sup>

For these households, the electricity price increases are likely to have a large and possibly long-term impact on their household budget and standard of living. We consider that governments should focus particular attention on these households when considering funding measures to assist customers with electricity bills.

<sup>105</sup> The comparisons in Chapter 1 compare bills for customers consuming 7,000 kWh (the state average consumption for regulated residential customers) with EnergyAustralia, Integral Energy and Country Energy. The analysis in this chapter compares the average consumption within **each** territory. Therefore, customer bills reflect differences in both price and quantities between retailers in Chapter 6 whereas only price varies in the Chapter 1 comparisons.

<sup>106</sup> Disposable income means income after tax.

## 6.2 How will our decisions affect the annual bills of 'typical' residential and small business customers?

We analysed the impact of our final decisions and updated estimates on the annual electricity bills for 3 types of typical customer for each Standard Retailer: residential customers with controlled load, residential customers without controlled load, and small business customers. We defined 'typical' as having the median annual electricity usage for customers of the same type who are supplied by the same retailer on a regulated tariff.<sup>107</sup>

The results of this analysis (Table 6.1) indicate that typical residential customers with a controlled load will face an increase of up to around \$315 in their annual electricity bill in 2011/12, and a likely additional increase of around \$35 to \$195 in 2012/13, depending on their retailer.

Typical residential customers without a controlled load will face smaller increases of around \$190 to \$265 for 2011/12, and likely additional increases of around \$30 to \$165 in 2012/13. This is because the median consumption of these customers is lower than for customers with controlled load – largely because a higher proportion use gas or live in semi-detached dwellings and apartments, which are associated with lower energy consumption.

Typical small business customers face increases of up to around \$345 in their bills in 2011/12 and are likely to face additional increases of around \$50 to \$230 in 2012/13.

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<sup>107</sup> This differs from Chapter 1 where we hold consumption constant across the areas for comparative purposes.

**Table 6.1 Impact of final decisions and updated estimates on indicative annual bills for typical customers**

Distributor	Electricity usage (MWh/year)	Final decision 2011/12			Updated estimate 2012/13		
		Bill (\$/year)	Increase (\$/year)	Increase (%)	Bill (\$/year)	Increase (\$/year)	Increase (%)
<b>Residential</b>							
<i>Dwellings with controlled load</i>							
EnergyAustralia	8.0	1,700	258	17.9	1,870	170	10.0
Integral Energy	8.1	1,805	242	15.5	1,841	36	2.0
Country Energy	7.0	2,063	316	18.1	2,259	196	9.5
<i>Dwellings without controlled load</i>							
EnergyAustralia	4.7	1,261	191	17.9	1,387	126	10.0
Integral Energy	5.1	1,468	197	15.5	1,497	29	2.0
Country Energy	4.7	1,743	267	18.1	1,908	166	9.5
<b>Business</b>							
EnergyAustralia	9.6	2,284	347	17.9	2,512	228	10.0
Integral Energy	10.8	2,465	331	15.5	2,514	49	2.0
Country Energy	5.7	2,158	331	18.1	2,363	205	9.5

**Note:** Electricity bill is calculated based on regulated tariffs and with the price increase applied equally to the daily supply charge and the charge for the amount of electricity used. Figures are in nominal dollars. Forecast inflation is 3.3% and 3.1% in 2011/12 and 2012/13 respectively. The volume for each supply area is the median consumption for the particular customer group in 2009/10. Residential customer bills include GST, but business customer bills exclude GST – both bills include the climate change levy at the 2010/11 level.

**Sources:** EnergyAustralia, Integral Energy and Country Energy; IPART calculations.

This analysis also shows that among typical residential customers, those in the Country Energy supply area (which covers non-metropolitan NSW) face the largest dollar increases in their annual electricity bills. This is because these customers have higher existing prices, are facing the largest proportional increase in prices and typically use more electricity than other households in NSW.<sup>108</sup>

### 6.3 What factors influence the size and significance of the impact on individual residential customers?

The analysis discussed above clearly shows that electricity prices are increasing by a considerable amount. But the size and the significance of the impact on individual households will vary quite widely, depending on a combination of factors including:

- ▼ the amount of electricity the household uses, and
- ▼ their ability to accommodate the higher price by reducing discretionary electricity use and/or adjusting discretionary spending, and

<sup>108</sup> A higher proportion of Country Energy's customers have controlled load tariffs than EnergyAustralia's or Integral Energy's customers (around 70% compared to around 40%).



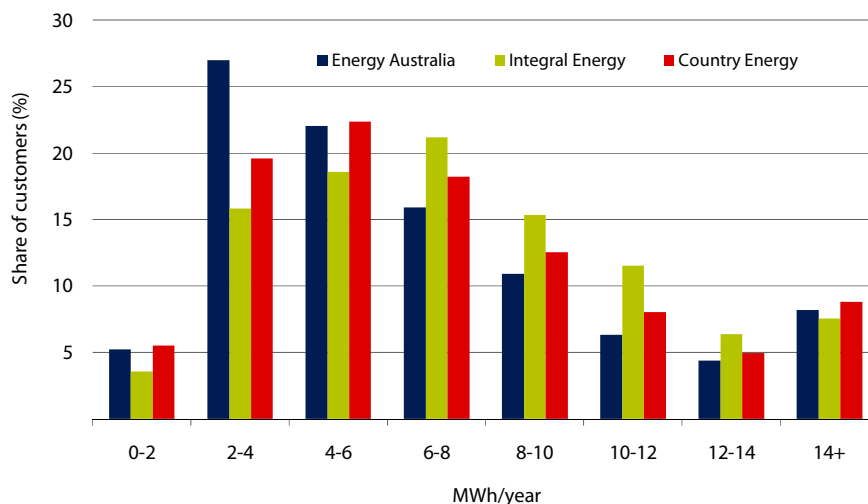
- ▼ the extent to which their income increases to accommodate higher electricity prices.

The sections below explore a range of questions related to these factors to help us understand the diversity of the impacts on residential customers, and identify which customers will be most seriously affected by the price increases and therefore are most in need of government assistance.

### 6.3.1 How does household energy usage vary, and how does this affect the size of the bill increase they face?

Household electricity usage varies widely in NSW (Figure 6.1). Most households use between 2 MWh and 10 MWh per year, but a considerable proportion use more than this.

**Figure 6.1 Residential electricity usage — NSW standard supply areas**



**Note:** Holiday homes have been excluded from the IPART Household survey data for EnergyAustralia and Integral Energy standard supply areas. Customers using less than 1 MWh per year and more than 40 MWh have been excluded from Country Energy data.

**Data source:** IPART Household Survey, 2010; Country Energy data.

Households with usage in the lower end of the range will face smaller increases in their annual bills than those with median usage (discussed above), while those with usage in the higher end will face larger increases.

It is reasonable to expect that households that use less electricity and so face smaller bill increases will be better able to accommodate these increases in their budget than those who face larger increases. It may also be possible for some households to reduce their electricity usage.

### 6.3.2 What drives a household's electricity usage?

A household's ability to reduce electricity usage in response to higher prices depends largely on what drives their current usage, and the extent to which this is within their control. For example, we know from our household surveys that some of the major factors that drive a household's electricity usage relate to its:

- ▼ **characteristics**, such as the number of people in the household, the household structure (eg, family with young children, or older adults with no children at home, etc), and dwelling type (eg, a detached house, or a semi-detached dwelling or apartment)
- ▼ **choices**, such as the number, type and efficiency of large energy-using appliances they own, how often they use them, whether some run on gas rather than electricity.

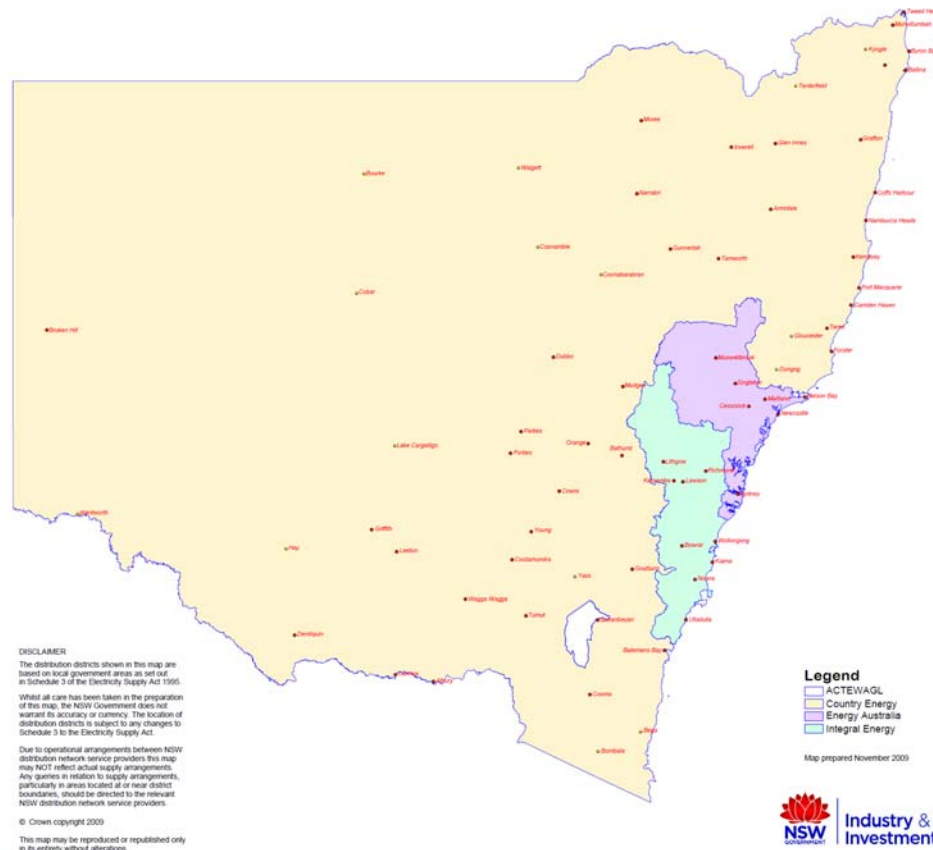
Some of these factors are within households' control, and some are not. In addition, some are only within *some* households' control, due to their relative incomes. (For example, some households can afford to replace inefficient appliances while others cannot.)

Another factor that drives a household's electricity usage is home location. This is because different areas of NSW have different temperatures in winter and summer, and this influences the amount of energy required for heating and cooling. In addition, only some areas have access to reticulated natural gas. Access to mains gas is associated with lower electricity usage, although energy bills (including gas) may be similar or higher.<sup>109</sup>

Home location also affects the price a household pays for electricity. Regulated electricity prices vary with the location of a household due to the different costs in buying and transporting electricity to customers in different locations. For example, in 2011/12, a household using 7,000 kWh of electricity will face a bill of around \$1,513 in the EnergyAustralia standard supply area (shown on Figure 6.1). However, households using the same amount of electricity will pay about 6% more in the Integral Energy area, and about 36% more in the Country Energy area.

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<sup>109</sup> For most low income households the reduction in energy bills from using mains gas is less than their gas bills.

**Figure 6.2 NSW electricity standard supply areas**

**Source:** Department of Trade and Investment NSW.

### 6.3.3 How do household electricity usage, electricity bills and income vary across NSW?

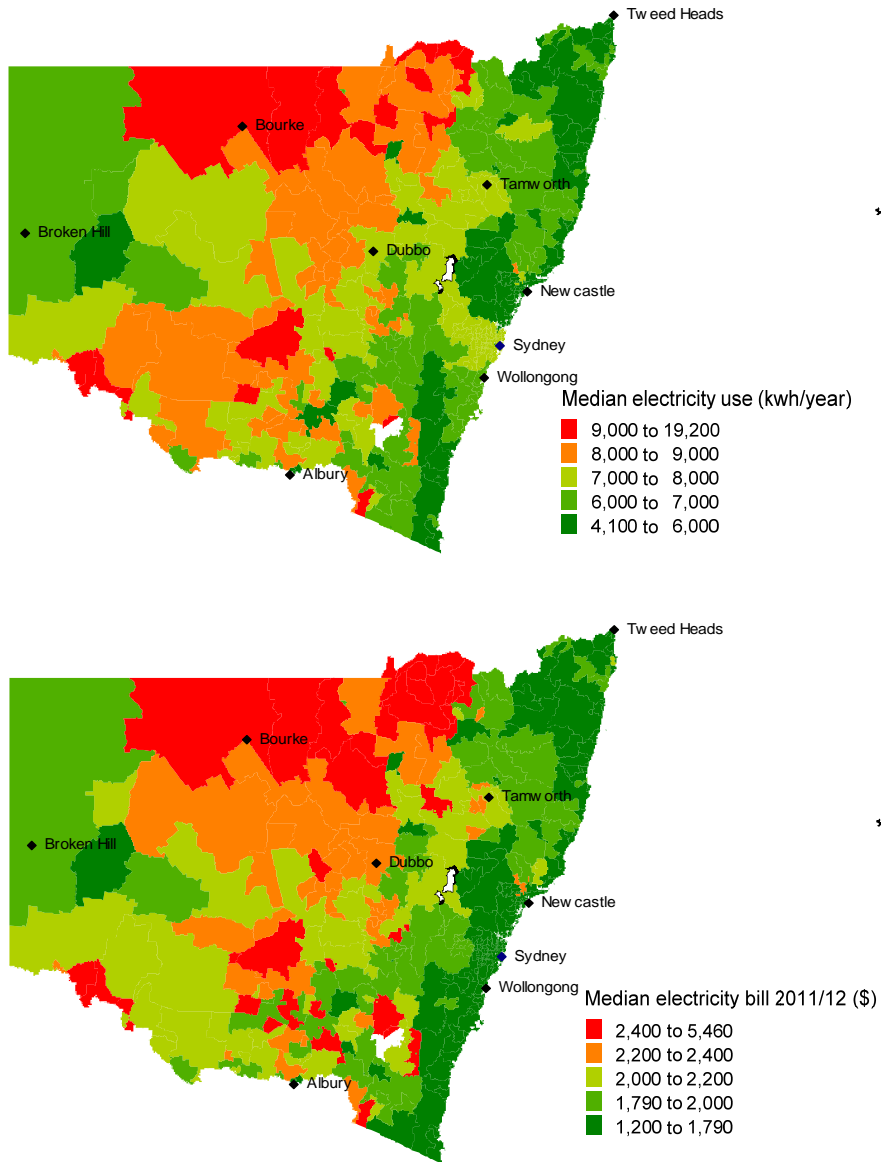
To help understand whether households living in certain locations are likely to face more significant impacts than those living in other locations, we examined how electricity usage, electricity bills and income vary across NSW using information on the median household in each postcode.<sup>110</sup> As Figure 6.3 shows, median household electricity usage tends to be highest in some of the inland areas. Median household bills are also highest in some of the inland areas, partly due to higher consumption and partly because electricity prices in country NSW are higher than those in Sydney and surrounding areas.

We expect that higher energy use in inland areas partly reflects colder winters and hotter summers and also partly reflects larger house sizes and the predominance of detached houses.<sup>111</sup>

<sup>110</sup> For Sydney and surrounding areas, electricity use and bills are for a single local government area or a statistical division rather than for each post code area.

<sup>111</sup> In Sydney and surrounding areas, detached dwellings made up 67% of the dwelling stock in 2006, while outside of Sydney these dwellings made up 84% of the dwelling stock.

**Figure 6.3 Electricity use and bills across NSW**



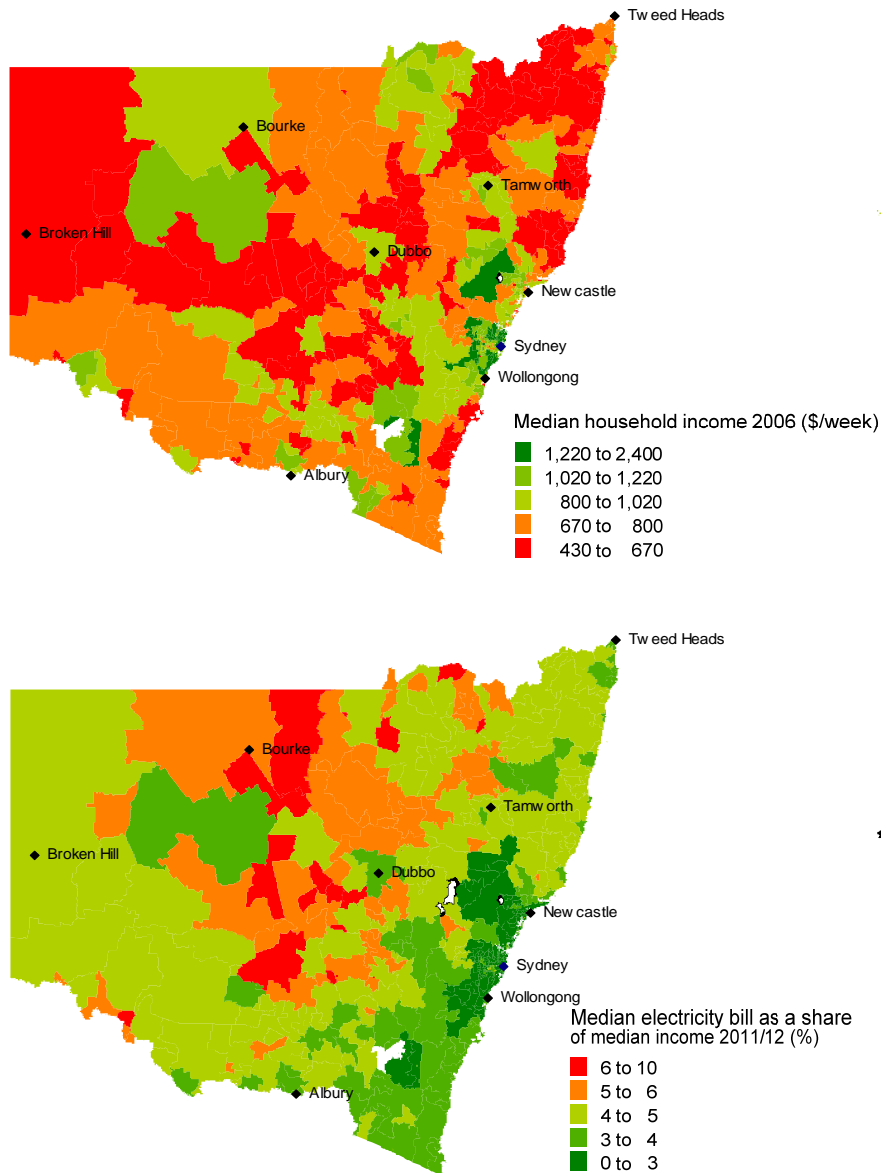
**Note:** Electricity use is the median for each postcode for Country Energy standard supply area and for larger regions in the EnergyAustralia and Integral Energy standard supply areas.

**Data source:** Country Energy data, IPART Household Survey, ABS Census 2006.

Figure 6.4 shows median household income and median electricity bills as a proportion of the median income across the state. It indicates that median household income in inland areas is among the state's lowest, while as noted above bills are amongst the highest. The combination of low median incomes and high median bills means that, in a small number of these inland areas, the median bill represents more than 6% of the median disposable household income. This compares to less than 3% in most areas in Sydney, where incomes are higher and bills are lower.

This analysis suggests that, due to the combination of higher electricity usage, higher electricity prices and lower incomes, the impact of increasing electricity prices is likely to be more significant for households in inland areas than for those in coastal areas. We note that there are also factors in country NSW that may offset this impact, the most important of these is lower housing costs. However, even after accounting for median housing costs from the 2006 Census, our analysis suggests that country areas continue to spend more of their remaining incomes on electricity than households in Sydney and surrounding areas.

**Figure 6.4 Median household income and indicative electricity bills as a proportion of household income across NSW**



**Note:** Electricity use is the median for each postcode for Country Energy standard supply area and for larger regions in EnergyAustralia and Integral Energy standard supply areas. Median income is income for 2006 from the ABS Census inflated to 2011/12 using the change in average weekly earnings. Forecasts for average weekly earnings for 2011 and 2012 are based on the trend over the past 5 years.

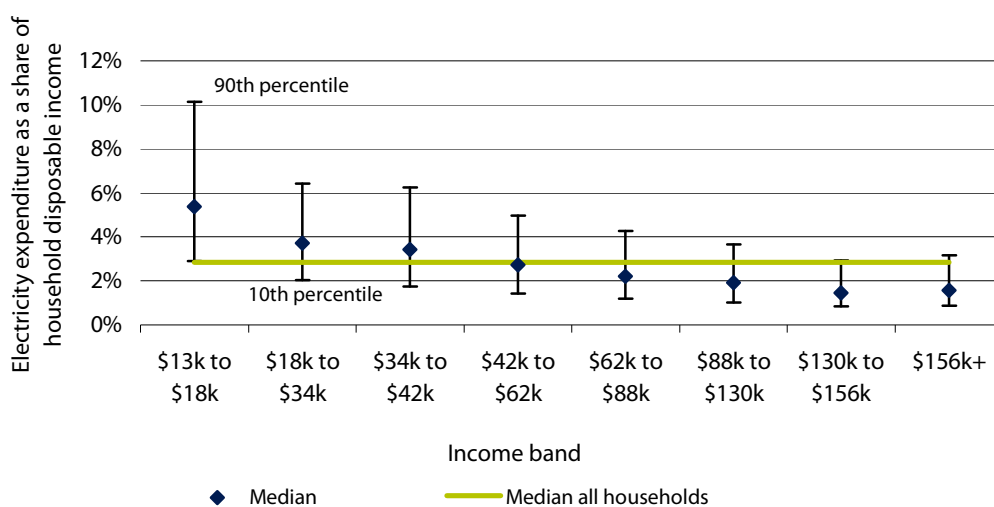
**Data source:** Country Energy data, IPART Household Survey, ABS Census 2006; ABS Catalogue No. 6302.0: Average weekly earnings, Australia, November 2010.

### 6.3.4 How do energy bills as a share of household disposable income vary in Sydney and surrounding areas?

Our recent household surveys in the Sydney, Blue Mountains, Illawarra, Hunter and Central Coast areas provide a good profile of electricity (and gas) use according to different household characteristics in these areas. The survey data indicate that after electricity prices increase on 1 July 2011, households with high electricity use that are in the lowest income category (\$13,000 to \$18,000 per year) may spend 10% or more of their disposable income on electricity in 2011/12. However, even in this income category, there is substantial variation between households. For example, median households are likely to spend just over 5% of their disposable income on electricity, while those in the 10th percentile will spend less than 3%, and those in the 90th percentile will spend more than 10% on electricity.

In all the other income categories (\$18,000 or more per year), the majority of households will spend less than 4% of their disposable income on electricity (Figure 6.5)

**Figure 6.5 Indicative electricity bills for residential customers as a share of disposable income — Sydney and surrounding regions 2011/12**



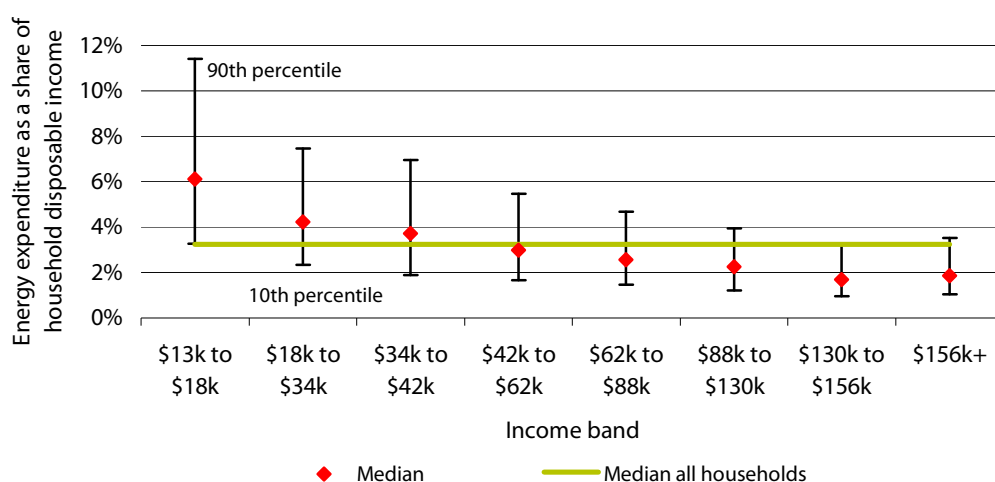
**Note:** The income bands are before tax income in 2010. The income for the middle of each band is used to calculate disposable income. Disposable income as a share of household income is derived from ABS household income distribution data for 2007/08. Incomes for all bands are presumed to rise by 3.9% in 2011/12, in line with the average increase that has occurred over the past 5 years. Distributions are presented without weighting survey responses. Customer bills are net of any NSW Low Income Household Rebate.

A **percentile** is the value below which a certain percentage of observations fall. For example, the 10th percentile is the value below which 10% of the observations may be found. In the above diagram, 10% of customers in each income band would fall below the bottom of the vertical line (paying less than that amount) and 10% of customers would pay more than the top of the vertical line.

**Data source:** IPART Household Surveys, 2008 and 2010.

When we look at energy bills – ie, both electricity and gas bills – households tend to spend a slightly higher share of their disposable incomes on energy. A small proportion of households in the lowest income category will spend more than 10% of their disposable income on electricity and gas in 2011/12 (see Figure 6.6).

**Figure 6.6 Indicative energy bills for residential customers as a share of disposable income — Sydney and surrounding regions 2011/12**



**Note:** The income bands are before tax income in 2010. The income for the middle of each band is used to calculate disposable income. Disposable income as a share of household income is derived from ABS household income distribution data for 2007/08. Incomes for all bands are presumed to rise by 3.9% in 2011/12, in line with the average increase that has occurred over the past 5 years. Distributions are presented without weighting survey responses. Customer bills are net of any NSW Low Income Household Rebate.

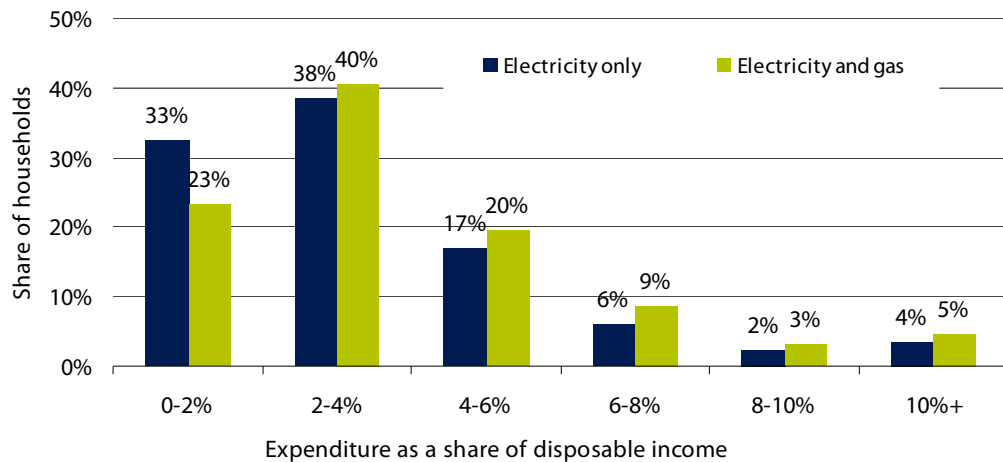
A **percentile** is the value below which a certain percentage of observations fall. For example, the 10th percentile is the value below which 10% of the observations may be found. In the above diagram, 10% of customers in each income band would fall below the bottom of the vertical line (paying less than that amount) and 10% of customers would pay more than the top of the vertical line.

**Data source:** IPART Household Survey, 2008 and 2010.

However, the vast majority of households in Sydney and surrounding areas will spend less than 6% of their disposable income on energy bills in 2011/12 and more than 60% will spend less than 4% on these bills (Figure 6.7).



**Figure 6.7 Electricity and gas bills as a share of disposable income — Sydney and surrounding areas 2011/12**



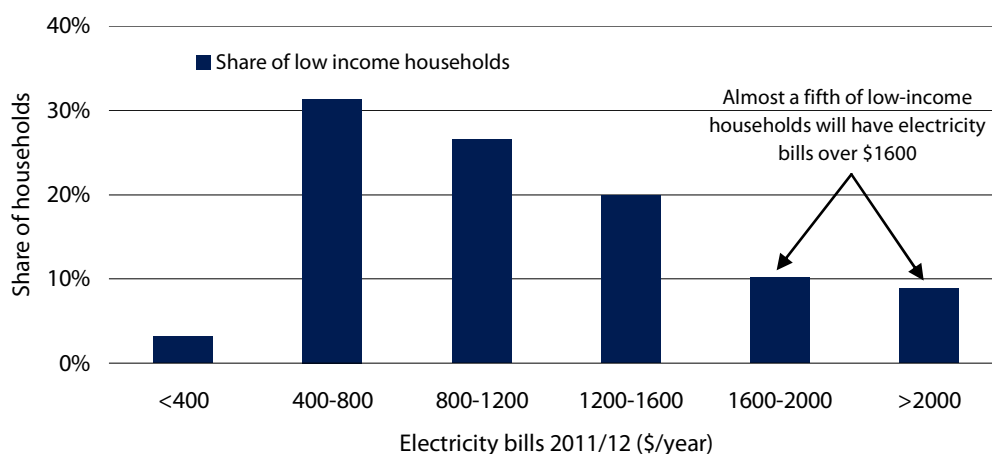
**Note:** The income bands are before tax income in 2010. The income for the middle of each band is used to calculate disposable income. Disposable income as a share of household income is derived from ABS household income distribution data for 2007/08. Incomes for all bands are presumed to rise by 3.9% in 2011/12. Survey responses are weighted. Many households who spend less than 2% of their income on electricity also use gas. For these households, the combined electricity and gas bill frequently exceeds 2% of their disposable income. Customer bills are net of any NSW Low Income Household Rebate.

**Data source:** IPART Household Surveys, 2008 and 2010.

### 6.3.5 How do electricity bills for low-income households vary in Sydney and surrounding areas?

In 2011/12, annual electricity bills for the majority of low-income households – defined as households with income before tax below \$33,800 in 2010– will range from \$400 to \$1200. However, for about one-fifth of these households, their annual bill is likely to be more than \$1600 (Figure 6.8).

**Figure 6.8 Indicative electricity bills for residential customers as a share of disposable income — Sydney and surrounding areas 2011/12**



**Note:** Low income households are those whose annual household income at the time of the surveys was less than \$33,800. Survey responses are weighted. Customer bills are net of any NSW Low Income Household Rebate.

**Data source:** IPART Household Survey.

### 6.3.6 How do electricity bills as a share of household disposable income vary in country NSW?

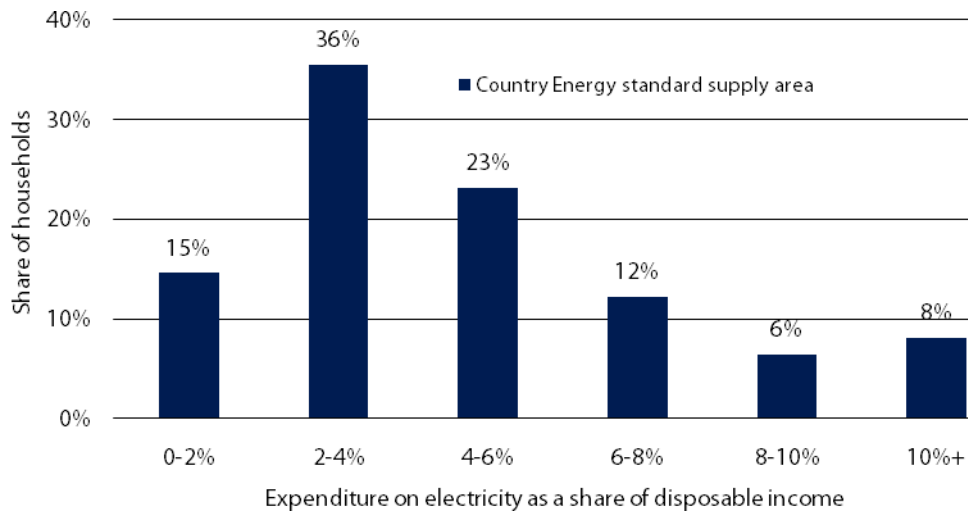
Because we have not conducted household surveys in areas outside of Sydney and surrounding areas, we do not have detailed income and consumption data for households in country NSW. Therefore, to assess the affordability of electricity we combined information on median electricity use and median disposable income across each postcode in the Country Energy standard supply area to estimate the share of household income electricity bills represent across this area.<sup>112</sup> The results of this analysis indicates that a significantly higher proportion of households (27%) are likely to spend more than 6% of their disposable income on electricity in country NSW than in Sydney and surrounds (12%).<sup>113</sup> Around 8% of households in country NSW are likely to spend more than 10% of their disposable income on electricity (Figure 6.9).<sup>114</sup>

<sup>112</sup> For the Country Energy standard supply area we are not able to consider expenditure on electricity and gas. Gas is a much less used fuel outside of Sydney as access to gas distribution networks is limited.

<sup>113</sup> About 17% of households in Sydney and surrounds spend more than 6% of their disposable income on energy (electricity and gas). A higher proportion of households in Sydney and surrounds than in country areas have gas.

<sup>114</sup> The distribution of customers by expenditure on income for country areas is based on applying the shape of the distribution for Sydney with adjustments for each postcode according to its median bill and median income.

**Figure 6.9 Indicative electricity bills for residential customers as a share of disposable income — outside Sydney 2011/12**



**Note:** Distribution based on Sydney distribution adjusted to reflect median income and median electricity bills in each postcode in Country Energy's standard supply area. Customer bills are net of any NSW Energy Rebate.

**Data source:** ABS Census 2006, Table B02; Country Energy data; ABS Catalogue No. 6302.0: Average weekly earnings, Australia, November 2010; IPART analysis.

We also examined electricity usage and bills in the 10 local government areas in NSW with the lowest income. This analysis indicates that in 2011/12, median annual electricity bills are likely to increase by between \$230 and \$370 in these areas, and represents as much as 6.5% of the median household disposable income in one of the areas (Table 6.3). In 2012/13, median annual bills will increase by a further \$140 to \$230 in these low-income areas, and represents as much as 6.8% of the median disposable income.

However, we note there is likely to be significant variation around this median, with some households spending more and others spending less on electricity as a share of disposable income.

**Table 6.2 Electricity use and indicative bills for residential customers in low income areas (\$ nominal)**

Lowest income LGAs	2006		2011/12			2012/13		
	Median household income	Median electricity use	Median bill	Increase	Share of disp. Income	Median bill	Increase	Share of disp. Income
	\$/week	kWh/year	\$/year	\$/year	%	\$/year	\$/year	%
Nambucca	562	5,220	1,590	240	4.4	1,740	150	4.6
Walgett	582	8,410	2,410	370	6.5	2,640	230	6.8
Tenterfield	583	5,370	1,690	260	4.5	1,850	160	4.8
Central Darling	596	6,270	1,860	280	4.9	2,040	180	5.1
Kyogle	599	5,770	1,740	270	4.5	1,900	170	4.8
Weddin	602	7,300	2,090	320	5.4	2,290	200	5.7
Warrumbungle Shire	609	7,150	1,990	310	5.1	2,180	190	5.4
Great Lakes	611	4,870	1,520	230	3.9	1,660	140	4.1
Gwydir	612	6,850	1,960	300	5.0	2,140	190	5.3
Glen Innes Severn	613	5,900	1,700	260	4.3	1,860	160	4.5

**Note:** Income from the 2006 Census for each LGA is inflated by NSW average weekly earnings. Bills represent actual amounts paid after any NSW Low Income Household Rebate. Figures may not add due to rounding.

**Data source:** ABS Census 2006, Table B02, item B112; Country Energy data; ABS Catalogue No. 6302.0: Average weekly earnings, Australia, November 2010; IPART analysis.

### 6.3.7 How have incomes changed relative to electricity prices over the past 10 years?

Electricity prices have increased by more than 40% (in real terms) over the past 10 years and will continue to increase over the next 2 years and potentially beyond. However, household incomes have also increased – and for most NSW households, the increase in their income is likely to have been higher than the increase in the aggregate cost of living (which includes the cost of electricity) over this period.

For example, average weekly earnings in NSW have grown by 44% in the 10 years to March 2011. The Consumer Price Index (CPI) – which captures prices of a representative bundle of goods and services in Sydney – has increased by only 33%.<sup>115</sup> In addition, other cost of living measures that include housing<sup>116</sup> and account for the goods and services purchased by particular groups of people indicate that the average cost of living for employees, age pensioners, other government

<sup>115</sup> ABS Catalogue No. 6302.0: Average Weekly Earnings Australia, Table 11A; ABS Catalogue No. 6401.0: Consumer Price Index, Australia, Table 5.

<sup>116</sup> Which is not captured by the CPI.

transfer recipients and self-funded retirees has increased by 34% to 39% in this period.<sup>117</sup>

Over shorter periods, the average cost of living can increase more quickly than average wages and incomes, particularly when interest rates are rising. For example, over the last year the cost of living measure for employees and government transfer recipients other than age pensioners has risen by more than the growth in average weekly earnings, largely because of rising mortgage payments.<sup>118</sup> Such lags between increases in the cost of living and incomes can cause short-term budget problems for some households, particularly for those with little income left after paying housing costs and bills.

For some households, their income is directly linked to a measure of the cost of living. These households are directly compensated (although with a lag) for increases in the cost of living (including electricity prices). For example, the pension increases every year according to the maximum of the increase in the CPI and the change in the Pensioner and Beneficiaries Living Cost Index. In addition, the pension must be at least 27.7% of average male weekly earnings.

For other households, income is indirectly linked to the cost of living through legislation governing the setting of minimum and award wages and through wage negotiations. For example, in setting the minimum wage, Fair Work Australia is required to consider the relative living standards and needs of the low paid.<sup>119</sup> Many wage decisions are linked to changes in the CPI.

For these reasons it is reasonable to expect that, on average, household incomes are likely to outpace cost of living increases for many households, including cost of living increases arising from increases in electricity prices. It should be noted that this is not necessarily true for self-funded retirees and the self-employed.

#### **6.4 Which households are likely to be most significantly affected by the electricity price increases under our final decision?**

The analysis discussed above strongly suggests that most households will be able to make changes to their usage and household budget to accommodate the price increases, but a specific group of households is likely to struggle. This is the households that have:

- ▼ low disposable incomes, where disposable income is measured as income after accounting for tax, and
- ▼ high non-discretionary electricity use.

<sup>117</sup> ABS Catalogue No. 6463.0: *Analytical Living Cost Indexes for Selected Australian Household Types*, Table 7.

<sup>118</sup> ABS Catalogue No. 6463.0: *Analytical Living Cost Indexes for Selected Australian Household Types*, December 2010.

<sup>119</sup> *Fair Work Act 2009*, S134.

More specifically, analysis of our household survey energy consumption data indicates that the households that will be most significantly affected by the price increases are low-income households that also have one or more of the following characteristics:

- ▼ larger households – an extra adult<sup>120</sup> adds \$350 a year to energy bills and an extra child adds \$200 per year<sup>121</sup>
- ▼ live in a detached dwelling – adds about \$260 per year to the energy bill
- ▼ live in the Country Energy supply area – adds about \$450 a year to the electricity bill due to higher costs in transporting electricity from generators to customers in this area (network charges)
- ▼ don't have access to the NSW Low Income Household Rebate – adds the amount that the Government sets as the rebate, which is \$145 for 2010/11.

We have refined our analysis since the draft report, and excluded the number of bedrooms from our analysis. However, our revised analysis shows that one of the reasons why living in a detached house is likely to add to energy bills is because houses tend to have more rooms than semi-detached dwellings or flats. Also, the rooms in houses tend to be larger and houses have more external walls. These features affect heat absorption and loss, and therefore the energy required for heating and cooling. Also, households in detached houses are also more likely to have energy-using appliances such as second fridges, air conditioners and dishwashers.<sup>122</sup>

In addition, some low-income households pay a large part of their disposable income in housing costs.<sup>123</sup> These households are likely to have the most trouble accommodating higher electricity bills in their budgets. For example, our 2010 household survey found that 24% of low-income households that are paying off mortgages had approached their electricity supplier because they had experienced financial difficulties paying their electricity bills over the past year.<sup>124</sup> For low-income renters, the corresponding figure was 18%, while only 5% of low-income households that have paid off their home had approached their electricity supplier.

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<sup>120</sup> An adult is defined as a person 16 years or older.

<sup>121</sup> The draft report showed the extra cost of *electricity* per adult and child, whereas this report shows the extra cost of *energy*, ie, electricity and gas (for households that have gas).

<sup>122</sup> For example, our 2010 household survey found that 53% of low-income households in detached dwellings in Sydney had a 2<sup>nd</sup> fridge and 68% had an air conditioner. In contrast, only 18% of low-income households in flats had a 2<sup>nd</sup> fridge and 30% had an air conditioner. IPART, *Residential energy and water use in Sydney, the Blue Mountains and Illawarra: Results from the 2010 household survey, Electricity, Gas and Water – Research Report*, December 2010, p 57.

<sup>123</sup> For example, 17% of Sydney households in this income category were renting privately, and 5% were paying off their home in 2010 (IPART 2010, *Residential energy and water use in Sydney, the Blue Mountains and Illawarra: Results from the 2010 household survey, Electricity, Gas and Water – Research Report*, December, Appendix E Table 1).

<sup>124</sup> IPART, *Residential energy and water use in Sydney, the Blue Mountains and Illawarra: Results from the 2010 household survey, Electricity, Gas and Water – Research Report*, December 2010, Figure 8.5, p 141.

## 6.5 Impacts on small business

Businesses using less than 160 MWh of electricity per year are eligible to be on a regulated price.

For most of these businesses, electricity use does not make up a major component of their business costs. For instance, the Australian Industry Group recently conducted a survey of 144 businesses, many of which would be eligible for a regulated price. This survey found that electricity expenditure amounted to more than 6% of sales for only about 12% of respondents.<sup>125</sup> The survey also found that few of these businesses were interested in dedicating scarce management resources to reducing electricity consumption to date, reflecting the low significance of electricity costs as a share of business costs.<sup>126</sup>

Electricity distributors have provided us information on the share of businesses using different amounts of electricity. Most businesses that could access regulated tariffs (ie, with consumption of less than 160 MWh/year) are small users of electricity. Median usage varies from 5.7 MWh/year in the Country Energy supply area to 10.8 MWh/year in the Integral Energy supply area. For all areas, more than two-thirds of businesses use less than 20 MWh/year.

**Table 6.3 Small business electricity use**

Supply area	Median MWh/year	0-20	20-40	40-80	80-160
		MWh/year % of businesses	MWh/year % of businesses	MWh/year % of businesses	MWh/year % of businesses
EnergyAustralia	9.6	69	15	11	6
Integral Energy	10.8	70	16	10	4
Country Energy	5.7	77	12	8	4

**Data source:** EnergyAustralia, Integral Energy and Country Energy.

We have estimated the price impacts for small businesses with a range of electricity usage in each standard supply areas for 2011/12 and 2012/13 (Table 6.4). However, in line with data shown in Table 6.3, most of these businesses will face price increases less than those shown for the 20MWh/year usage level.

<sup>125</sup> Australian Industry Group, *Energy shock: confronting higher prices*, February 2011, p 9.

<sup>126</sup> Australian Industry Group, *Energy shock: confronting higher prices*, February 2011, p 14.

**Table 6.4 Changes in indicative annuals bills for business customers in each standard supply area (\$ nominal)**

Distributor	10 MWh/year \$/year	20 MWh/year \$/year	40 MWh/year \$/year
<b>2011/12</b>			
EnergyAustralia	360	790	1,660
Integral Energy	310	600	1,190
Country Energy	530	990	1,900
<b>2012/13</b>			
EnergyAustralia	240	520	1,090
Integral Energy	50	90	180
Country Energy	330	610	1,180

**Note:** Electricity bill is calculated based on a continuous load regulated tariff and with the price increase applied equally to the daily supply charge and the charge for the amount of electricity used. Bills exclude GST.

**Data source:** Regulated continuous business tariffs applying from 1 July 2010 from retailer's web sites; price increases determined by IPART.

Different types of businesses use different amounts of energy, including electricity, to produce a value of goods and services.<sup>127</sup> Energy intensity is highest for the manufacturing and transport sectors while it has remained consistently low for service sectors and construction.<sup>128</sup> However, the large energy intensive businesses in these sectors are not covered by regulated prices, and transport businesses typically use sources other than electricity.

<sup>127</sup> The Australian Bureau of Statistics calculates energy intensity for major industries in gigajoules of energy consumed per million dollars of Industry Gross Value Added (GJ/\$m IGVA). ABS 2009, Energy Account Australia 2006-07 Cat No. 4604.0, p 11.

<sup>128</sup> Other Services includes the following industries: Wholesale Trade; Retail Trade; Accommodation, Cafes and Restaurants; Communication Services; Finance and Insurance; Property and Business Services; Government Administration and Defence; Education; Health and Community Services; Cultural and Recreational Services; and Personal and Other Services.



## 7 Recommended actions to improve electricity affordability

At the time of the 2010 determination, we estimated that the regulated price of electricity would increase by around 11%, 10% and 13%<sup>129</sup> for EnergyAustralia, Integral Energy and Country Energy respectively on 1 July 2011, and by a further 11%, 2% and 11% for EnergyAustralia, Integral Energy and Country Energy respectively on 1 July 2012. More than 80% of this estimated increase was due to forecast rises in network costs.

This annual review indicates that changes to the Federal Government's RET scheme will increase regulated prices by an additional 6 percentage points in 2011, taking this year's price increases to 16% to 18%.<sup>130</sup> These increases continue the rising trend in NSW electricity prices over the past 5 years.

The sections below provide an overview of our recommended actions, then discuss these actions in detail and set out our specific recommendations.

### 7.1 Overview of recommended actions

In our view, policy changes related to both network regulation and green scheme design can be made to limit future cost increases to more appropriate levels. We welcome decisions made since our draft report by NSW Government to suspend its Solar Bonus Scheme to new applicants and to review the network reliability standards and by the Federal Government to reduce its solar credits multiplier more rapidly.

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<sup>129</sup> Including inflation.

<sup>130</sup> Depending on the retail area.

The biggest drivers of the electricity price increases are network costs and the costs of meeting changing green schemes. Therefore, we continue to make recommendations to review the policies behind these cost drivers. In particular, we propose that:

- ▼ Actions be taken to limit future increases in network costs to more appropriate levels by reviewing key aspects of the regulatory framework, including the National Electricity Rules and the standards under the NSW licence conditions. These reviews need to be undertaken and completed in a timely manner. Further, Government should provide funding to consumer organisations to ensure that they have access to sufficient technical expertise to participate effectively in the review processes.
- ▼ Actions be taken to limit future increases in green scheme costs by ensuring that only the most cost-effective options are adopted in the future, and improving the cost-effectiveness of existing schemes. We welcome the changes made by both the State and Federal governments to limit the subsidies for solar PV installation.

Nevertheless, network and green scheme costs will drive price increases on 1 July 2011 and in the immediate years ahead. Our customer impact analysis (see Chapter 6) shows that the customers that are in most need of assistance are low-income customers with high consumption. These customers are particularly concentrated in rural areas (including the north west of NSW), where customers already spend a large proportion of their income on electricity. However, we recognise that customers with low consumption may experience hardship as well.

Different measures can target different types of customers and it is important to ensure that the suite of customer assistance measures is appropriate. In response to the increased prices, from 1 July 2011 the NSW Government is increasing funding for rebates to low-income households and families. We are recommending that the NSW Government also:

- ▼ Take immediate action to ensure that there are sufficient EAPA vouchers to meet increased demand arising from the 1 July price changes and to extend the eligibility for the Low Income Household Rebate to Health Care Card holders that live in retirement villages and are separately metered.
- ▼ Review its package of customer assistance measures to ensure that it is efficient and effective. IPART can assist Government with this review through its analysis and consultative processes.

Our recommendations on network and green schemes are largely consistent with the recommendations that we made in our draft report.

## 7.2 Take action to limit future increases in network costs

As Chapter 1 discussed, the increase in retail electricity prices is being driven primarily by significant growth in electricity network costs. We are concerned that network costs are higher than necessary, due to certain aspects of the current regulatory framework, including the economic regulation of networks under the National Electricity Rules (NER) and the standards for network reliability and security.

To address these concerns, and thereby limit future increases in network costs to appropriate levels, we recommend that:

- ▼ The Australian Energy Market Commission (AEMC) review the NER to ensure the Rules better enable the AER to promote efficient and prudent costs underpinned by realistic demand expectations.
- ▼ The NSW Government satisfy itself that the network licence conditions for network reliability and security align with customers' willingness to pay, and take steps to ensure that future changes in standards are subject to thorough analysis. We welcome the Premier's recent announcement of an 'immediate review of the electricity network licence conditions to halt any over-spending which may be forcing up power prices'.<sup>131</sup> The NSW Government should provide funding to consumer organisations to ensure that they have access to sufficient technical expertise to participate effectively in the review processes.

These reviews will need to be undertaken and completed in a timely manner to ensure that any changes to the NER and licence conditions can be considered as part of the next price determination by the AER.

### 7.2.1 The Australian Energy Market Commission should review of the economic regulation arrangements in the National Electricity Rules

The Australian Energy Regulator (AER) is responsible for regulating network prices in accordance with the NER. We are concerned that the cumulative effect of the economic regulation aspects of the NER skews the AER's decisions towards higher prices and potentially inefficient outcomes. We consider that the NER should be changed to address these concerns.

While a number of consumer organisations gave general support to our draft recommendations to review the economic regulation provisions in the NER, network businesses vigorously defended the current NER. They argued that many of the issues we raised were considered in developing the NER. We recognise that the provisions were subject to analysis and consultation at the time that they were made. However, these provisions have now been applied in all jurisdictions and the

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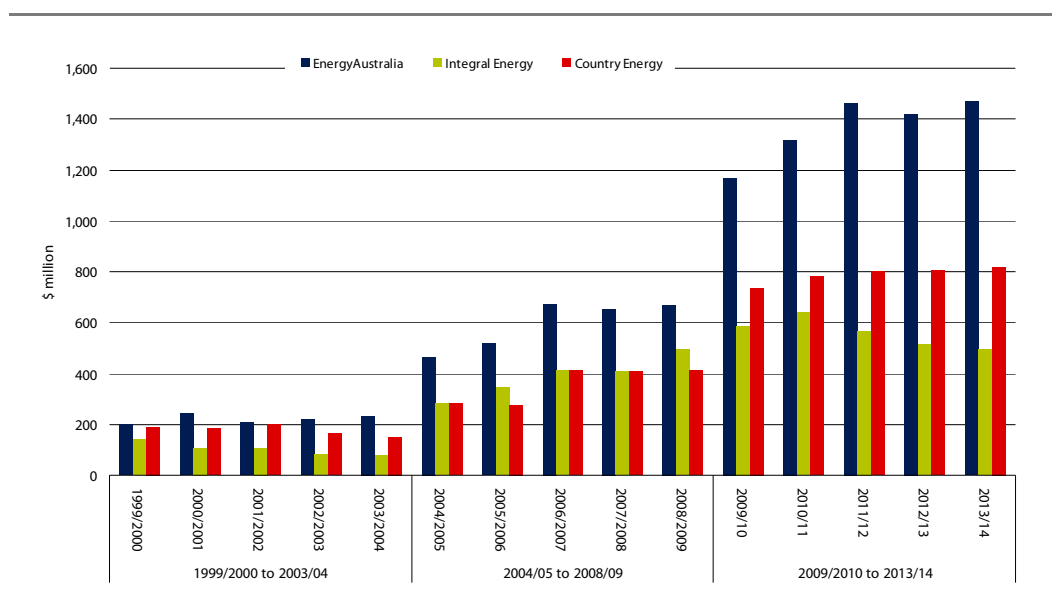
<sup>131</sup> Premier of NSW, Media Release, *Premier announces three point plan to ease power price increase*, 14 April 2011, <http://www.premier.nsw.gov.au/sites/default/files/110414-ThreePointPlan.pdf>

outcomes of their application suggest that it is time to review the framework and the incentives that it is providing.

The allowed expenditure levels under the current regulatory framework are significantly above the levels under the previous regulatory framework, particularly for capital expenditure in NSW (see Figure 7.1).

IPART regulated the NSW distribution businesses in the 1999/2000 to 2003/04 and the 2004/05 to 2008/09 regulatory periods under the National Electricity Code. The AER is regulating the network businesses in the 2009/10 to 2013/14 regulatory period under the Transitional Rules, which are similar to the current NER.<sup>132</sup>

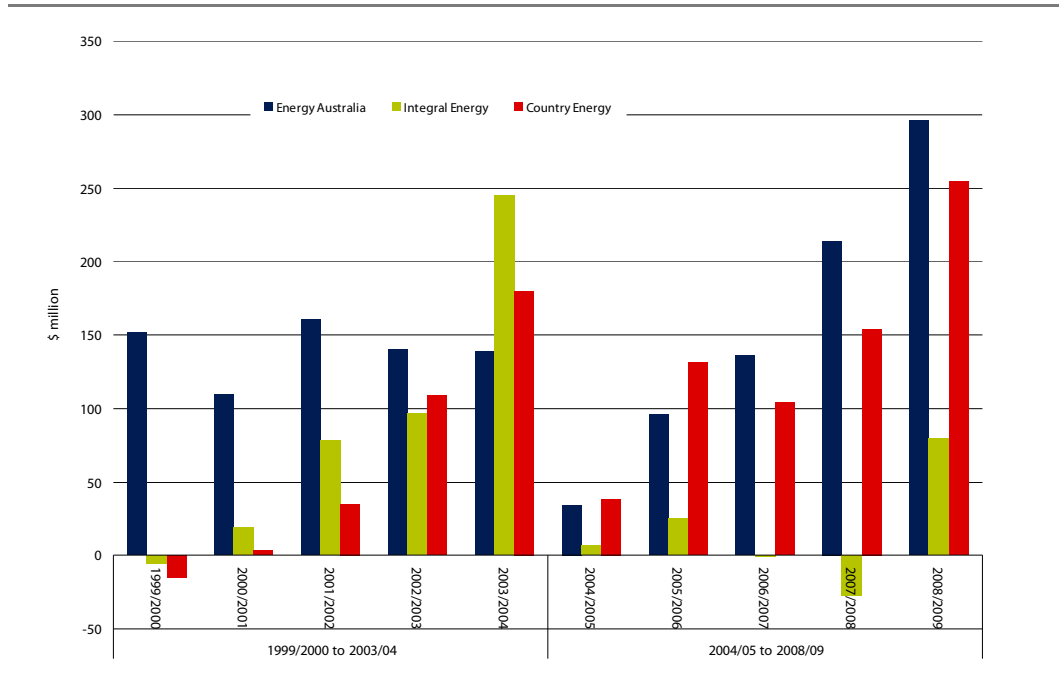
**Figure 7.1 Capital expenditure allowances in regulatory determinations for NSW distribution businesses (\$2009/10)**



In addition, in the last 3 years of the 2004/05 to 2008/09 regulatory period, the NSW distribution businesses' actual capital expenditure was significantly higher than the regulatory allowances, which are determined prospectively (see Figure 7.2). For example, EnergyAustralia invested around \$350m to \$500m in capital per annum in excess of the regulatory allowances over the last 3 years of this period. The process to establish the economic regulation provisions of the NER commenced in 2005 and the Transitional Rules were put in place in 2007 to provide certainty to the NSW businesses about their upcoming regulatory framework.

<sup>132</sup> Transitional Rules were put in place in 2007 so that the NSW distribution businesses had certainty over the upcoming regulatory framework.

**Figure 7.2 Difference between actual capital expenditure and regulatory allowances by NSW distribution business (overspends are positive amounts) (\$2009/10)**



In part the higher expenditure levels reflect the NSW distribution businesses obligations to meet reliability of supply conditions imposed by the former NSW Government.

However we are of the view that the cumulative effect of the economic regulatory provisions of the NER is rapidly increasing network prices, which flow through to retail prices and customer bills. In our view, the current regulatory framework:

- ▼ may constrain the AER's ability to apply what it considers to be the best estimate of the efficient operating and capital costs
- ▼ may provide strong incentives for network business to invest capital in the network because the prescriptive requirements of the NER may lead to excessive returns
- ▼ allows the businesses to earn a return on all capital invested regardless of its efficiency and prudence, by requiring the AER to roll all capital expenditure into the asset base without any ex post review
- ▼ provides opportunities for the businesses to target particular issues through the appeal process.

The objective of the National Electricity Law (NEL), which governs the AEMC's considerations in making Rules changes, is:

...to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –

- price, quality, safety, reliability, and security of supply of electricity; and
- the reliability, safety and security of the national electricity system.<sup>133</sup>

We are concerned that the current regulatory arrangements may not best meet this NEL objective because they could be promoting investment in excess of efficient levels. Paying higher prices than necessary is not in the long-term interest of customers.

We note that the AER has commenced a review of its experiences with the regulatory regime and is considering what changes may be necessary to better meet the regime's underlying objective – to promote efficient investment in and use of electricity services for the long-term interests of consumers.<sup>134</sup> The AER is also considering ways to enhance efficiency incentives applicable to network businesses and ways to improve the administrative efficiency of decision-making processes.

In order to have any Rule change proposals considered in time for the next NSW distribution determination, the AER's review would need to be completed and any Rule changes would need to be finalised by the AEMC before the end of 2012.

Any substantial change to the NER would need to be initiated by any person, the Ministerial Council on Energy (MCE) or the Reliability Panel.<sup>135</sup>

#### The National Electricity Rules do not enable the Australian Energy Regulator to impose its best estimate of efficient costs

Under the NER's 'propose-respond' model, the AER is precluded from making a decision that it considers to be its *best* estimate of a business' efficient costs. This is because the AER must accept the spending forecasts proposed by the network companies if it is satisfied that the proposals "reasonably reflect" efficient, prudent and realistic costs.<sup>136</sup>

In our draft report we described this issue as 'placing an unusually high burden of proof on the regulator'. The network businesses responded by submitting that, in technical legal terms, there is no burden of proof on the AER. We were not using that phrase in a technical sense but to generally describe the difficulties that the regulator faces in determining a balanced regulatory decision. Our view on this issue remains the same.

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<sup>133</sup> National Electricity Law, s7.

<sup>134</sup> AER, *AER Communication No. 390 – AER Customer Consultative Group discusses current challenges in energy*, 21 March 2011

<sup>135</sup> S91, National Electricity Law.

<sup>136</sup> National Electricity Rules, clauses 6.5.6(c) and 6.5.7(c).

The Australian Competition Tribunal, in deciding an appeal by AusGrid (previously EnergyAustralia) against the AER's decision on operating expenditure for the 2009/10-2013/14 period, highlighted the nature of the AER's role in making decisions. The Tribunal stated:<sup>137</sup>

Clause 6.5.6(c) of the Transitional Rules<sup>138</sup> is clear – the role of a DNSP is to provide the AER with an opex forecast that reasonably reflects the three opex criteria and the AER must accept the forecast if it is satisfied that the total of the forecast reasonably reflects the three criteria. **EnergyAustralia is correct to submit that it is not the AER's role to simply make a decision it considers best.** [Emphasis added] It is also correct for it to say that the AER should be very slow to reject a DNSP's proposal backed by detailed, relevant independent expert advice because the AER, on an uninformed basis, takes a different view. Nor, as EA submits, may the AER reject such a proposal merely because it has an expert opinion.

In practice, there is often a wide range of reasonable estimates for a business' operating and capital expenditure requirements. Under the NER's 'propose-respond' model, if a business presents a spending proposal that lies in the upper bound of that range, which it has every incentive to do, the AER must approve it if it is satisfied that it is "reasonable," even though its best estimate is a lower forecast. If the AER refuses to approve expenditure proposed by a network company, it can only amend that expenditure to the **minimum extent necessary** to enable it to be approved in accordance with the NER.<sup>139</sup> This brings the expenditure within the reasonable range of estimates, but it may not impose the AER's best estimate of efficient costs.

The effect of these Rules is that it is difficult for the regulator to provide a balanced determination. The AER notes:<sup>140</sup>

Under the propose-respond model, the AER must accept a regulatory proposal for higher levels of capital and operating expenditure when it represents a reasonable estimate of the efficient costs of a prudent operator. The AER may amend a proposal only to conform with a reasonable estimate. The regulator thus has a substantial evidentiary burden if challenging a proposal.

The AER's task is made more difficult because the monopoly network businesses will always have better information on their business than the regulator, placing the AER at a disadvantage. This information asymmetry does not arise from the Rules per se, as the Rules empower the AER to request further information. Rather, the AER faces a substantial burden in processing large amounts of information provided by the businesses in a short prescribed timeframe.

<sup>137</sup> Australian Competition Tribunal, Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009) [2009] ACompT 8 (12 November 2009, last updated 4 December 2009, s190).

<sup>138</sup> Clause 6.5.6(c) of the 'Transitional Rules' is identical to Clause 6.5.6(c) of the National Electricity Rules.

<sup>139</sup> Clause 6.12.3(f) of the National Electricity Rules.

<sup>140</sup> Australian Energy Regulator, *State of the Energy Market 2010*, 2010, p 6.

We consider these aspects of the NER create risks of bias towards higher network prices rather than balanced and efficient prices, and outcomes favouring the commercial interests of the monopoly businesses rather than customers' interests and efficient overall outcomes. We consider that they should be reviewed to ensure that the AER has sufficient powers to ensure that network expenditure is efficient.

#### The National Electricity Rules are overly prescriptive in relation to determining network businesses' returns

The NER is overly prescriptive about the approach for determining the network businesses' regulated returns (the weighted average cost of capital, or WACC). While we support the businesses earning a commercial return on their investments, we are concerned that an overly prescriptive WACC can lead to excessive returns. For example, the NER prescribes the use of Australian corporate bonds when setting the nominal risk free rate and debt risk premium (2 of the components of the WACC)<sup>141</sup> but only allows the WACC parameters to be reset at intervals not exceeding 5 years, with departures permitted only in limited circumstances. This limits the AER's ability to respond to changes in market conditions by adjusting the WACC appropriately.

AusGrid submitted that our assertion that the NER is overly prescriptive is incorrect because the NER allows the AER to depart from the WACC parameters where a material change in circumstances would make the previously determined WACC inappropriate. However, this does not allow the AER to set its **best estimate** of the WACC; the AER can only change the parameters where they would be inappropriate, noting that there are still prescribed limits on the scope of these changes. Further, the AER must use a single point estimate which limits its discretion to tailor outcomes to the specific circumstances. Where the AER exercised discretion in regard to the averaging period, it was appealed by the NSW and Tasmanian network businesses and the Australian Competition Tribunal ruled that the AER has only limited grounds not to accept the averaging periods proposed by the businesses.<sup>142</sup> The practical outcome of the appeal on this selected narrow issue was to increase allowed revenue by over 10%.

<sup>141</sup> Clause 6.5.2(c), (d) and (e) of the National Electricity Rules.

<sup>142</sup> Australian Competition Tribunal, Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009) [2009] A Comp T8 (12 November 2009) at [104].



### The National Electricity Rules force the Australian Energy Regulator to include all capital expenditure spent in the asset base

Under the NER, the AER must allow all capital expenditure incurred in a regulatory period to be included in the opening regulatory asset base for the subsequent period.<sup>143</sup> This means that if inefficient or imprudent capital expenditure is spent, it must be included in the asset base and the network businesses will earn a return on and of that expenditure in future years, increasing electricity prices for many years.

It could be argued that businesses do not have the incentive to spend money on inefficient capital projects because they are not being funded for them in the current regulatory period. However, that disincentive is much weaker and likely reversed towards the end of a regulatory period.

We support setting ex-ante levels of efficient operating and capital expenditure, but also consider that this regime can be strengthened by incorporating an ex-post review. We are concerned that the current Rules result in some businesses spending significantly more than the levels of capital expenditure set ex-ante, particularly government-owned businesses. In our view, the regulatory framework provides strong incentives for network business to invest capital in the network, but it imposes little discipline on the businesses to ensure that this expenditure is efficient or prudent and valued by the customer. In our view a review of the NER should consider the current incentives for capital expenditure.

In responses to our draft recommendations, AusGrid and Energy Networks Association raised concerns that an ex-post review of expenditure increases the regulatory risk to the business. We recognise that any ex-post review needs to be appropriately defined, but consider that it imposes an important discipline on the regulated monopolies to ensure that their expenditure is prudent. Having regulated distribution businesses under an ex-post review framework, we are confident that it works in practice without materially jeopardising investment certainty, particularly under a well-designed framework. For example, the ex-post review could ensure that in making investment decisions, the businesses applied a rigorous expenditure approval process, which could be specified in a guideline. Alternative mechanisms could be considered as part of a review of the NER.

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<sup>143</sup> Schedule 6.2, Clause 6.2.1(c)(2) and (e) of the National Electricity Rules.

In 2010 IPART commissioned PricewaterhouseCoopers to undertake a comparative analysis of the design, application and impact of regulatory tests for capital expenditure that we and other regulators use, including the observable impact on incentives for efficiency and investment risk. This report acknowledged the informational disadvantage of the regulator and focused on whether regulators should undertake capital expenditure reviews. It identified the importance of testing:<sup>144</sup>

Whether the 'need' for investment was properly articulated, the full range of options and sensitivities were considered and the process for assessment and delivery was consistent with best practice, including that risks were identified and appropriately managed.

PricewaterhouseCoopers made the following comments on the international experience of ex-post reviews:<sup>145</sup>

Even in the UK, where financial incentives for cost-efficiency are the most developed and it has been more than 25 years since their major privatisation, the water and energy regulators retain the discretion to undertake an ex post review of efficiency and disallowances have occurred. The US has been regulating privately owned infrastructure firms for more than a century, and yet administrative testing of the efficiency of capital expenditure remains a central component of the regime.

### **7.2.2 The merits review process should be changed in the National Electricity Law**

The review process provided by the National Electricity Law (NEL) allows the network businesses to seek review of specific aspects of the AER's determination to achieve more favourable outcomes. To date, the businesses have sought review of elements of every decision the AER has made on their regulated returns. In NSW, the distribution network businesses sought review of the averaging period for the risk free rate of return in their WACC calculation, which resulted in an additional \$1.9 billion in allowed revenue over 5 years (out of a total of \$18 billion).

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<sup>144</sup> PricewaterhouseCoopers, *Review of Regulatory tests for capital expenditure, Final Report*, 10 August 2010, p 5.

<sup>145</sup> PricewaterhouseCoopers, *Review of Regulatory tests for capital expenditure, Final Report*, 10 August 2010, p 13.

The review process involves the Australian Competition Tribunal reconsidering the merits of the AER's decision. This review is limited to particular grounds and can only be made with the Australian Competition Tribunal's leave.<sup>146</sup> We recognise that a limited merits review – in contrast to a wholesale (de novo) review – has the benefit of focusing on the issues in dispute. However, it means that the Australian Competition Tribunal is not able to properly consider the merits of individual component decisions in the context of the AER's whole determination, or the effect that modifying these decisions may have on outcomes, in particular electricity prices. Therefore, it cannot consider, for example, whether the businesses will still face appropriate incentives regarding infrastructure investment from other aspects of the AER's decision. In our view, the review process may be too confined in certain circumstances, and may skew decisions towards higher prices and away from efficient outcomes.

We consider that where a business contests a specific regulatory decision, the review body should in appropriate circumstances be able to consider this decision in the context of the whole determination, and not be confined to the specific item(s) contested by the business or interveners. This would give further incentive to the network businesses in considering whether they could end up worse off rather than, as at present, knowing that they will be neutral or better off, as a result of a review. We also note that the requirements to seek leave for review, which are linked to the business' allowed revenue, do not appear to be particularly onerous.<sup>147</sup> This further encourages the businesses to cherry pick and seek review of certain aspects of the AER's determination in their own interests.

In their submissions in response to our draft report, AusGrid and Energy Networks Association argued that the review process is not unbalanced because user or consumer interveners can raise grounds not raised by the applicant for review, and because the AER can also raise matters that relate to the grounds of review and possible outcomes or effects of the appeal on its decision that it believes should be considered. Energy Networks Association supports the current merits review framework on the basis that it 'creates incentives for reasonable and soundly based regulatory decision-making, free from regulatory errors and the efficient resolution of merits-based reviews'.<sup>148</sup>

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<sup>146</sup> National Electricity Law, Part 6, Division 3A, Subdivisions 1 and 2.

<sup>147</sup> The contested amount must meet a materiality threshold, ie, it must exceed the lesser of \$5 million and 2% of the business' average annual regulated revenue: National Electricity Law, s 71F.

<sup>148</sup> ENA submission, May 2011, p 7.

Customers are undoubtedly at a disadvantage in the review processes because they almost invariably have fewer resources available to them than the network businesses. Although they can also seek review of a decision, they are yet to do so successfully. Further, although the energy Minister of the relevant state or territory can intervene to argue grounds in favour of end users or consumers, customers remain dependent on the Minister deciding to take this course of action. Moreover, while interveners have participated in the appeals process, each appeal has nonetheless resulted in higher prices.

We maintain our view that the **limited nature** of the merits review framework may lead to an unbalanced process and that the Ministerial Council on Energy should make changes to it by amending the NEL.

### 7.2.3 The outcomes of the current National Electricity Rules and merits review process

Box 7.1 illustrates how the current prescriptive Rules and review process have delivered higher network prices. This is illustrated in the context of the Australian Competition Tribunal deciding an appeal by the NSW electricity network businesses against the AER's WACC determination. In its decision, the Australian Competition Tribunal noted that:

...the regulatory framework may be said to err on the side of allowing **at least** the recovery of efficient costs.<sup>149</sup> [emphasis added].

While some degree of conservatism may be appropriate, in practice the upward bias resulting from this approach has been quite large. This is due to the significant uncertainty that surrounds forecasts of future efficient costs and the NER provisions that require the regulator to accept the estimates provided by the network businesses unless they can be shown to be unreasonable. In this case the Australian Competition Tribunal found that the AER had limited grounds upon which to withhold agreement to the network businesses's preferred averaging period. The question was not whether the AER's preferred option was better in principle or practice. Rather the AER had to show that it was reasonable for it to reject the option chosen by the network businesses, including that it would provide a biased forecast of interest rates.

While in this case the impact of the choice of periods was magnified because the periods overlapped the global financial crisis which created considerable volatility and uncertainty of interest rates, it serves to highlight the potential practical impact of these provisions on prices.

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<sup>149</sup> Australian Competition Tribunal, Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009)[2009] ACompT 8 (12 November 2009), paragraph 82.

### Box 7.1 Illustrative example of the regulatory package delivering higher prices due to the prescriptiveness of the NER and the review process

In 2009, the NSW distribution businesses sought the Australian Competition Tribunal's (ACT) review of the AER's decision on a number of matters, including the averaging period for the WACC.<sup>a</sup> There were no interveners in this aspect of the review.

Initially the distribution businesses had proposed an averaging period of 15 days, starting 2 June 2008. The AER rejected this averaging period because the starting date of the proposed averaging period was almost 12 months prior to the commencement of the regulated period and was, therefore, too far removed from the date of the AER making its decision. The AER proposed an averaging period of 15 days starting from 2 March 2009.

The ACT said that the question was not whether the original proposed averaging period was unreasonable, but whether the AER was unreasonable in rejecting it. The AER cannot withhold consent only on the basis that it has a different preferred averaging period. It had to consider factors such as whether the proposed averaging periods were likely to produce a biased risk free rate, and if National Electricity Rules and pricing principles would not be achieved. However the NER otherwise only gave the AER limited discretion to reject a proposed averaging period. The ACT ultimately found that the AER did not have sufficient reason to believe that the proposed averaging periods were unlikely to produce an unbiased estimate and therefore withheld its consent unreasonably.

As a result of this successful appeal of a prescriptive regulatory framework, network prices increased **significantly** to recover an additional \$1.9 billion. The network price represents almost half of the total retail price.

Business	Decision	2009/10 (%)	2010/11 (%)	2011/12 (%)	2012/13 (%)	2013/14 (%)
<b>AusGrid (formerly EnergyAustralia)</b>	Price increase under AER original decision	18	12	12	12	8
	Price increase after WACC appeal	18	18	18	18	-1
<b>Endeavour Energy (formerly Integral Energy)</b>	Price increase under AER original decision	13	7	7	2	0
	Price increase after WACC appeal	13	13	13	0	-2
<b>Essential Energy (formerly Country Energy)</b>	Price increase under AER original decision	13	13	12	12	0
	Price increase after WACC appeal	13	18	18	15	-4

We note that in May 2011 Energex, Ergon and ETSA successfully appealed the AER's decision on gamma (the value of tax credits). The successful appeal will allow an additional \$842 million in revenue<sup>b</sup> and sets a precedent for pending appeals for 6 more companies. The Queensland Government has announced it will direct Energex and Ergon not to recover the additional revenue through higher prices in 2011/12.<sup>c</sup>

<sup>a</sup> Australian Competition Tribunal, Application on EnergyAustralia and Others (includes corrigendum dates 1 December 2009) (2009) ACompT 8 (12 November 2009).

<sup>b</sup> <http://www.aer.gov.au/content/index.phtml/itemid/746945>

<sup>c</sup> <http://www.cabinet.qld.gov.au/mms/StatementDisplaySingle.aspx?id=74911>

#### **7.2.4 The NSW Government satisfy itself that the current standards for network reliability and security align with customers' willingness to pay**

On 1 August 2005, in response to a number of outages across the state, the then NSW Government introduced a new condition to the network businesses' operating licences that established more stringent standards of reliability and security.<sup>150</sup> To meet these higher standards, the network businesses have substantially increased their expenditure on infrastructure. This expenditure has been an important driver of recent increases in retail electricity prices, and will continue to drive higher prices in the coming years.

Ideally, the quality of network standards – their reliability and security – should reflect what customers value and are willing to pay for. Given public concern about rising electricity prices, it is unclear whether the community considers that the reduced risk of failure as a result of the higher standards represents 'value for money'.

We consider that the NSW Government should satisfy itself that existing standards are appropriate, including whether long-term savings could be achieved if the standards were altered to reflect levels of reliability and security acceptable to the community. In addition, it should test customers' willingness to pay for network reliability before making additional changes to the standards in the future. In general, it should ensure that proposed changes to reliability standards and other licence conditions are subject to transparent and rigorous cost-benefit analyses.

We welcome the Premier's announcement of an "immediate review of the electricity network licence conditions to halt any over-spending which may be forcing up power prices".<sup>151</sup> This review will need to be conducted and completed by mid 2012 to ensure that any changes can be included in the next regulatory period.<sup>152</sup>

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<sup>150</sup> As an example of the new network reliability standards, the new licence condition requires EnergyAustralia to meet an N-2 security of supply standard for the Sydney CBD. This means that its network must be reconfigured so that customer interruption times are less than 1 minute for a first unplanned outage, and less than 1 hour for a second unplanned outage (NSW Government, *Design, Reliability and Performance Licence Conditions imposed on Distribution Network Service Providers by the Minister for Energy and Utilities*, 2005).

<sup>151</sup> Premier of NSW, Media Release, *Premier announces three point plan to ease power price increase*, 14 April 2011, <http://www.premier.nsw.gov.au/sites/default/files/110414-ThreePointPlan.pdf>

<sup>152</sup> While a change in licence conditions could potentially be dealt with through a cost pass through mechanism, we believe that it would be better for the standards to be reviewed prior to the regulatory review.

### 7.2.5 Consumer group participation in network reviews

Consumer groups provide valuable input into consultative processes, focussing on issues affecting customers as a result of pricing determinations. However, the retailers are well resourced and provide technical, detailed input to the issues that determine costs and ultimately prices. On these matters the consultative process tends to be unbalanced.

These network reviews will require strong consumer representation that can address detailed and technical issues to ensure that customer interests are represented. Therefore, we recommend that the NSW Government provide additional funding to consumer groups to allow them access to sufficient technical expertise to participate more effectively in the review processes.

#### Recommendation

- 8 The Australian Energy Market Commission should review the National Electricity Rules to address concerns that these rules may bias the Australian Energy Regulator's decisions in favour of higher network prices and inefficient outcomes. The Rules need to be changed before the end of 2012 to ensure that it can be incorporated in the next regulatory determination.
- 9 The Ministerial Council on Energy should revise the merits review process in the National Electricity Law to provide a more balanced appeal process.
- 10 The NSW Government should use its recently announced review to satisfy itself that the network licence conditions ensure that the current standards for network reliability and security align with customers' willingness to pay and take steps to ensure that future changes to standards are subject to rigorous cost benefit analysis. This review needs to be completed by mid 2012 to ensure that it can be incorporated in the next regulatory determination.
- 11 The NSW Government should provide additional funding to consumer groups to ensure that they have access to sufficient technical expertise to participate more effectively in these review processes.

### 7.3 Take action to limit future increases in green scheme costs

The cost of retailers complying with green schemes will increase fourfold on 1 July 2011. A number of schemes have interacted to increase these costs. For example, a large number of certificates have been created under the Federal Government's RET scheme from solar PV installations. Several factors are driving this large number of certificates, including:

- ▼ Aspects of the RET scheme design, including the solar credits multiplier and that the renewable energy produced over 15 years can be claimed upon installation of the system<sup>153</sup> (see Appendix C).
- ▼ The interaction between the RET scheme and the NSW Solar Bonus Scheme (and feed in tariffs in other States), which has led to a low payback period for installation of PV panels and a rapid uptake of PV systems. We note that the NSW Government has suspended new applications to its Solar Bonus Scheme, however, units that will be eligible under the scheme are still being installed.

Both the Federal and NSW Government's schemes have encouraged the installation of rooftop solar generation units that promote very high-cost abatement. The carbon reduction achieved by these schemes will cost electricity customers and taxpayers significantly more than if the same level of reduction was achieved by an alternative, less expensive means. AGL estimates that the long run marginal cost of the output of a 1.5 kW system over its 25 year life is \$422/MWh, compared to \$120/MWh for wind and \$135/MWh for biomass.<sup>154</sup> This demonstrates that there is a large cost difference between types of renewable energy.

The difference in carbon abatement costs between small-scale solar and other forms of abatement is even larger because abatement could be achieved by, for example, improving the thermal efficiency of coal-fired generators or undertaking energy efficiency measures at substantially lower abatement costs than solar PV.

We welcome the recent decision by the Federal Government to lower the subsidies for installing solar PV by more rapidly reducing its solar credits multiplier. However, we remain concerned that the multiplier increases the costs of the scheme without representing renewable energy generated. We also welcome the NSW Government's decision to close its Solar Bonus Scheme.

In our view, the NSW Government should:

- ▼ advocate the **elimination** of the Federal Government's solar credits multiplier
- ▼ require electricity retailers to redistribute the financial gains they make from the Solar Bonus Scheme to the NSW Government to offset the costs of the scheme
- ▼ consider tightening the rules on activities eligible for funding under the Energy Savings Scheme to ensure they lead to genuine energy savings, and

<sup>153</sup> If the unit is installed by a company accredited by the Clean Energy Council.

<sup>154</sup> AGL Applied Economic and Policy Research, Working Paper No. 25 – FIT, *Australian residential solar Feed-in-Tariffs: industry stimulus or regressive form of taxation?* March 2011, p 90.



- ▼ periodically evaluate all its other green schemes to ensure that they continue to be cost-effective.

### 7.3.1 Advocate the elimination of the Federal Government's solar credits multiplier

The costs of meeting obligations under the Federal Government's RET scheme are passed onto customers through higher prices. As noted above, changes to this scheme since we made the 2010 determination have resulted in a sharp increase in these costs, adding around 6 percentage points to the prices on 1 July 2011. This underlines the importance of ensuring that only the most cost-effective options for reducing carbon emissions be adopted in the future, and improving the cost-effectiveness of existing schemes.

The NSW Solar Bonus Scheme (and feed in tariffs in other States) interacted with the Federal Government's RET scheme, as it provided participants with an income stream while the RET provides them with a rebate to subsidise the capital costs of installation. This RET rebate provides an up-front subsidy by allowing the creation on installation of credits for 15 years worth of future renewable energy production.<sup>155</sup>

As part of the RET scheme, customers that install small generation units before 30 June 2013 benefit as the number of certificates created is multiplied up by a factor determined by the Federal Government (the solar credits multiplier). The solar credits aim to provide support to households, businesses and community groups that install small-scale solar PV, wind and micro-hydro systems by multiplying the number of RECs that can be created for eligible installations.<sup>156</sup>

The solar credits multiplier means that there are more certificates created than there is actual renewable energy generated. OREER sets the obligation on the retailers to buy all the certificates created under this scheme and therefore, the solar credits multiplier increases the cost of compliance to retailers, which in turn increases the price of electricity paid by customers. In addition, by creating 15 years worth of credits up-front, current electricity consumers are paying for renewable energy production over the next 15 years. With the addition of the solar credits multiplier, current consumers are also paying for 'phantom' renewable energy generation over the next 15 years (or renewable energy generation that will not be produced).

<sup>155</sup> Solar PV systems are eligible to create a number of renewable energy certificates based on the amount of renewable energy they can produce over 15 years if they are installed by a firm accredited with the Clean Energy Council (Clean Energy Council, *consumer guide*, Volume 7: 23 March 2011, p 7).

<sup>156</sup> Department of Climate Change, *The treatment of 'Solar Credits' Renewable Energy Certificates under the RET*, Discussion Paper 5, p 3.

In our draft report we recommended that the NSW Government advocate that the Federal Government eliminate the solar credits multiplier from its RET. The Federal Government has subsequently announced that it intends to reduce more rapidly its solar credits multiplier. It will fall from its current factor of 5 to a factor of 3 on 1 July 2011 (instead of falling to a factor of 4 on 1 July 2011) and will then fall by 1 each year until it is eliminated. We welcome this more rapid reduction, but still consider that the solar credits multiplier should be eliminated because it increases costs to retailers (and consumers) without representing additional renewable energy generated.

Further, we note that the small-scale RET scheme (known as SRES) will undergo a statutory review next year. We consider that the following issues should be included in the scope of that review:

- ▼ Whether the scheme design best meets clearly defined scheme objectives - it is important to be clear about what the SRES is trying to achieve and then to make sure that the scheme design is optimal in meeting those objectives.
- ▼ The uncapped nature of the SRES - as already demonstrated, the uncapped nature of the scheme can significantly increase the amount of renewable energy certificates required to be purchased by the retailers, thereby increasing the total subsidy that needs to be recovered through higher electricity prices.
- ▼ The up-front creation of certificates that represent renewable energy generated over 15 years - this increases today's electricity prices by providing the subsidy for 15 years of production up-front.
- ▼ The timing of publishing the small-scale technology percentage (STP) - this obligation is published part-way through a financial year, when retailers typically change prices only once a financial year. This introduces an element of uncertainty into the retailers' pricing.

### **7.3.2 Require electricity retailers to redistribute the financial gains that they make from the Solar Bonus Scheme to the NSW Government to offset the costs of the scheme**

The NSW Solar Bonus Scheme pays eligible customers for electricity generated from small-scale solar PV systems that they install. It commenced in January 2010 and runs until 2016.

The NSW Government has suspended applications to the Solar Bonus Scheme to new participants. We consider that the costs of this scheme can be further cut by requiring electricity retailers to redistribute the financial gains they make from the Solar Bonus Scheme to the NSW Government to offset the costs of the scheme.

The Solar Bonus Scheme is currently structured so that retailers receive a financial benefit. This is because although they earn revenue from customers for *gross* consumption, they pay the market operator (AEMO) on a *net* consumption basis (that is after netting off energy supplied by the solar panels).<sup>157</sup> This benefit goes to retailers, regardless of whether their customers are on the 60 or 20 c/kWh rate.

Requiring retailers to transfer some of the financial benefit they receive under the scheme to distributors (who pay the feed-in tariff to the customer), would reduce amount of funds required to be recovered from customers, or foregone by taxpayers, to pay for the scheme. It is important to note that the other gross feed-in tariff scheme in Australia, the ACT Scheme, requires retailers to contribute 6c/kWh towards the cost of the scheme.<sup>158</sup>

In their submission in response to our draft report, retailers generally acknowledged that they could contribute to the cost of the scheme, but stated that it could necessitate reducing or eliminating the premium feed-in tariffs they currently pay to customers. The Electricity Supply Association of Australia also acknowledged the premiums that retailers currently pay to Solar Bonus Participants.<sup>159</sup> This is consistent with our recommendation and it was our intention to use that financial benefit to contribute to the scheme costs at the expense of further subsidising scheme participants.<sup>160</sup> Figure 7.3 provides an illustrative example of the financial flows and benefit to retailers under the Solar Bonus Scheme under the gross arrangements. Further details are provided in Appendix F.

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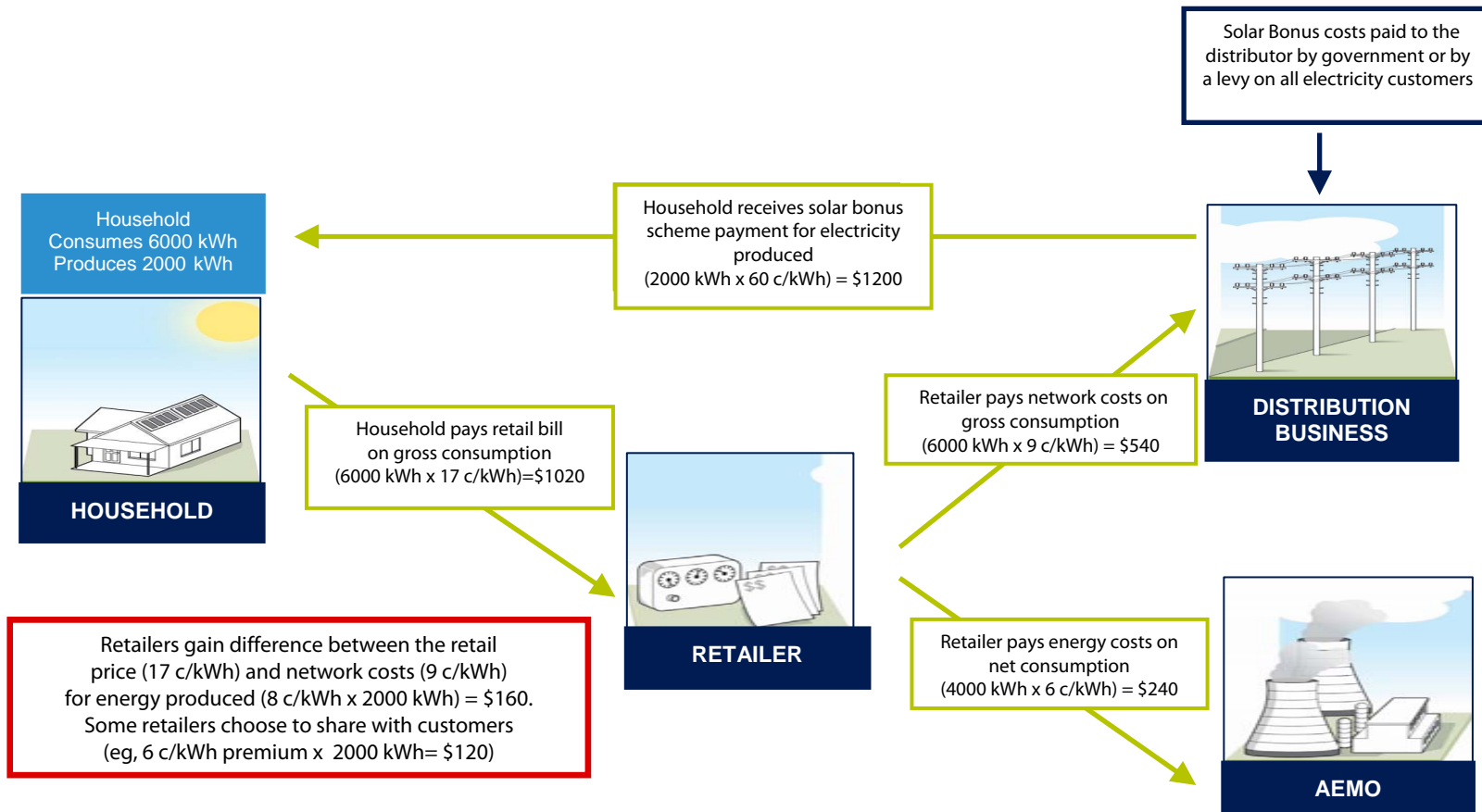
<sup>157</sup> The retailer charges a customer for its total consumption on the relevant tariff. It pays the distributor on the total consumption. However, AEMO sums the generation and consumption and only charges the retailer for the net amount of energy consumed. The retailer therefore earns the whole retail tariff from the customer but only faces energy costs for the net amount. Retailers have been sharing this financial benefit with customers through the premium rates offered on the feed-in-tariff. Solar Bonus Scheme participants can opt for a net feed in tariff but we expect that the vast majority of customers are on the gross feed in tariff and have focused our comments on those arrangements.

<sup>158</sup> Independent Competition and Regulatory Commission, *Electricity Feed-in Renewable Energy Premium: Determination of Premium Rate – Final Report*, March 2010, p 37.

<sup>159</sup> ESAA submission, p 3.

<sup>160</sup> Currently some retailers offer a premium to the 60 c/kWh feed in tariff of around 6-8 c/kWh. This is funded by the financial benefit that the retailers accrue under the gross feed in tariff arrangements.

**Figure 7.3 An illustrative example of financial flows under the Solar Bonus Scheme under gross metering arrangements**



### 7.3.3 Tighten the rules on eligible activities under the NSW Energy Savings Scheme

The Energy Savings Scheme (ESS) aims to address the market failures that prevent households and businesses from taking up otherwise cost-effective opportunities to improve the efficiency of their energy use. However, for this scheme to be effective, the activities it funds must be carefully chosen and designed to ensure they lead to genuine energy savings. Some of the existing activities may not meet these criteria.

For example, we are concerned that the showerhead installation program – which involves replacing showerheads connected to electric hot water systems with more efficient versions – may have become a ‘giveaway program’ that will not realise its intended savings. Despite recent changes to improve the integrity of the program, it is unclear whether households that receive the showerheads will actually install them and therefore save energy.

As indicated below, we recommend that the NSW Government consider tightening the rules around activities eligible for the ESS. We also note that if a carbon price is introduced, the Government will need to periodically assess whether market failures remain that justify continuation of the Scheme.

### 7.3.4 Evaluate green energy schemes to ensure they remain cost-effective and complement any national carbon price

Given the impact of green schemes on retail electricity prices and developments in green technologies, we consider that the governments should periodically evaluate all these schemes to ensure they continue to be cost-effective compared to other means of reducing carbon emissions. This would involve analysing the cost per tonne of abatement to ensure that schemes do not promote high cost abatement. The cost per tonne of abatement should also be compared to any carbon pricing mechanism.

In addition, if the Federal Government introduces a national price-based carbon reduction mechanism, it will be important to evaluate state-based and national schemes (including the RET) to remove those that are not cost-effective in the context of this mechanism, and do not complement this mechanism.

We note that the NSW Government has announced that Greenhouse Gas Reduction Scheme (GGAS) will cease once a national carbon pricing mechanism is in place. If there are delays in implementing the national pricing mechanism or ceasing GGAS, the NSW Government should consider enhancing the current GGAS.

Drawing on our previous experience with reviewing NSW climate change measures, IPART could assist with any future cost-effectiveness assessments.

#### Recommendation

- 12 The NSW Government should consider options to limit future increases in green scheme costs by ensuring that only the most cost-effective options are adopted in the future, and consider:
- advocating that the Federal Government *eliminate* the solar credits multiplier from its Renewable Energy Target scheme
  - requiring electricity retailers to redistribute the financial gains they make from the Solar Bonus Scheme to the NSW Government to offset the costs of the scheme
  - tightening the activities funded under the Energy Savings Scheme and removing the showerhead installation program from the scheme
  - periodically evaluating all green schemes to ensure they remain cost-effective and complement any national price-based carbon reduction scheme.

#### **7.4 Provide IPART with greater flexibility in making future electricity price determinations if regulation continues beyond 2013**

The Minister for Energy is responsible for issuing IPART with the terms of reference for any retail price determination. We are bound by the terms of reference that we received to set regulated prices from 2010 to 2013, and applied these terms in making our March 2010 determination and this annual update. We will also apply them in making the 2012 update.

We support removing price regulation where there is effective competition. However, if we are given terms of reference to regulate electricity prices beyond 2013, it is our view that we should be given a suitable degree of discretion in making the determination. This would allow us, as the independent regulator, to provide a balanced, flexible regulatory package that is in the long-term interest of customers and facilitates a stable and efficient electricity market.

Among other things, our existing terms of reference require us to base the retailers' energy purchase cost allowance on the higher of market prices and the long run marginal cost of energy (LRMC). We note that setting this allowance in line with the LRMC in 2011/12 has resulted in it being between \$17 and \$21/MWh higher than it would have been if were set in line with the market-based purchase cost. This flows through to prices, and results in customer bills being around 8% and 12% higher than they would be if the energy purchase cost allowance was set in line with the market-based purchase cost.

However, we note that the market-based cost is sensitive to the supply-demand balance and can move significantly from year to year. As a result, in some years the market price can be significantly above the LRMC of generation – such as when there is a tightening of the supply–demand balance. Therefore the large divergence between the LRMC and market prices that exists at present may not occur in future years. Over the longer term, we would expect the market price to reflect the LRMC of generation.

In their submissions in response to the draft report, retailers and the ESAA expressed concern with giving the regulator discretion in the terms of reference because it would reduce certainty. AGL called for criteria to apply in exercising discretion.

We agree that criteria are necessary. In our view, it is appropriate to set prices to recover the cost of supply. Setting prices below the level of the underlying costs (in total) would mean that retailers were either facing a reduced or negative margin in serving regulated customers. This would have adverse implications for regulated business and the competitive market. Within the constraint of ensuring financial viability, there could be circumstances where using a LRMC estimate of costs would deliver a more stable price path for customers. Cost reflective prices will also promote retail competition and investment.

We maintain our view that if we are given a terms of reference to regulate electricity prices beyond 2013, we should be given a suitable degree of discretion in relation to the manner in which we make the determination. This would allow us, as the independent regulator, to provide a balanced, flexible regulatory package that is in the long-term interest of customers and facilitates a stable and efficient electricity market.

#### Recommendation

- 13 The NSW Government should give IPART more flexibility in determining retailers' efficient costs in the terms of reference for any price determination to apply from 2013 onwards.

## 7.5 Reviewing customer assistance measures

Electricity prices will have increased by 59% in real terms in the 5 years to 1 July 2011. As set out in Chapter 6, some customers are now spending a significant proportion of their disposable income (10% or more) on electricity. We consider that the NSW Government should conduct a review of its customer assistance measures to ensure it is targeting the customers most in need of assistance and the whole package of measures is efficient and effective. It should also address the range of specific concerns raised by customer and welfare advocacy groups during the consultation for this annual update.

### 7.5.1 Ensuring the measures target the customers most in need of assistance

Our analysis presented in Chapter 6 illustrates that the most vulnerable customers are those households that not only have low incomes but also have high levels of non-discretionary energy consumption – due to factors such as a high number of household members, inefficient appliances and low-quality housing stock. Some of these households spend more than 10% of their disposable income on electricity alone. They are the least able to accommodate rising electricity bills within their household budget, and most likely to face genuine financial hardship as a result of the price increases. The analysis also identifies that customers in a number of rural areas, including north-western NSW, spend a large proportion of their income on electricity.

In comparison, the analysis shows that most households in the Sydney and surrounding regions earn between \$33,800 and \$130,000 per annum, and for these middle-income households electricity bills make up less than 6% of their disposable income. For higher income households (those earning \$130,000 or more per annum) these bills make up less than 4% of their disposable income.

However, we recognise that some low income households with low consumption may also experience financial hardship, and it is important to ensure that these households do not miss out on assistance. For example, in response to our draft report, stakeholders noted that some low-income households forego non-discretionary use of electricity (for example, by not lighting their house properly or avoiding cooking fresh food) to reduce their electricity bills.<sup>161</sup> Further, PIAC highlighted the impact of increasing electricity prices on people with physical disabilities who, in its experience, tend to control energy costs to the point of under-consuming.<sup>162</sup>

### 7.5.2 Ensuring the package of measures is efficient and effective

Currently, a range of customer assistance measures fit together to target customers facing hardship in a variety of ways and it is important to consider them as a package. For example, the Low Income Household rebate assists eligible customers to pay their electricity bills. Other programs, such as the Home Power Saver, help low-income households to cut their usage. The No Interest Loans Schemes run by community groups help low-income households replace energy-intensive appliances. The Energy Accounts Payment Assistance scheme assists customers who are facing unexpected financial distress. These schemes all operate to offer assistance to a range of vulnerable customers. Appendix D provides further details of some of these measures.

<sup>161</sup> Combined Pensioners and Superannuants Association submission, 13 May 2011, p 4, PIAC submission, p 9, NCOSS submission, p 2.

<sup>162</sup> PIAC submission, p 9.



We recognise that the NSW Government has committed to increasing the Low Income Household Rebate to \$235 a year by 2014, and providing a Family Energy Rebate of up to \$150 a year by 2014 to families that receive the Family Tax Benefit Part A or Part B. Households eligible for both these rebates (ie, low-income families) will receive up to \$250 a year from 2014.<sup>163</sup> It also committed to review the Family Energy Rebate after 5 years.

In his submission in response to our draft report, the Minister for Energy highlighted the increases in the Low Income Household Rebate and the introduction of the Family Energy Rebate. He also highlighted that the government is:<sup>164</sup>

- ▼ initiating a review of the electricity network licence conditions (discussed above)
- ▼ writing to the Federal Government to request compensation for NSW households for the costs of the Federal RET with effect from 1 July 2011
- ▼ limiting the costs of the NSW Solar Bonus Scheme
- ▼ considering options to assist better consumer understanding of factors contributing to higher household electricity prices, and
- ▼ facilitating consumer feedback on their views on funding renewable energy expansion through electricity price increases.

We also note that prior to the 2011 election, the former NSW Government commenced a review of the Energy Accounts Payments Assistance (EAPA) scheme. Stakeholders have called for the outcomes of this review to be released.<sup>165</sup> We consider that EAPA should be reviewed in conjunction with all assistance measures to ensure that they collectively deliver effective and efficient measures for customers in hardship.

### 7.5.3 Addressing customer assistance issues raised in consultation

During our consultative processes stakeholders raised concerns that there were currently insufficient EAPA vouchers available and were concerned that after the 1 July price increases the situation will worsen. Budget figures indicate that the 2009/10 EAPA funding was \$12 million.<sup>166</sup> While we recognise that EAPA is for households in unexpected financial distress, we note that \$12 million would only have been sufficient to provide vouchers to about 2% of all households in NSW, or 5% of households in the lowest 2 income quintiles.<sup>167</sup>

<sup>163</sup> *Plan for an Affordable and Sustainable Energy Industry* ([www.nsw.liberal.org.au/policies/cost-of-living/plan-for-an-affordable-and-sustainable-energy-industry.html](http://www.nsw.liberal.org.au/policies/cost-of-living/plan-for-an-affordable-and-sustainable-energy-industry.html), accessed March 2011).

<sup>164</sup> Minister for Energy submission, p 1.

<sup>165</sup> PIAC submission, p 14; NCOSS submission, p 3.

<sup>166</sup> NSW Government 2010/11 Budget Estimates, Budget Paper 2, Appendix E, Table E18, p E-29.

<sup>167</sup> Assuming that each household on average received vouchers to the value of \$240 per year (which is half of the maximum assistance available).

We recommend that the NSW Government ensure that there are sufficient EAPA vouchers to assist vulnerable customers that experience unexpected financial distress after the 1 July 2011 price increases and to ensure that the distribution of vouchers targets those areas where customers are most in need, including rural areas where low income customers are paying a greater proportion of their disposable income on energy bills.

In addition, stakeholders raised the issue of extending eligibility for the Low Income Household Rebate to pensioners living in retirement villages.<sup>168</sup> These customers would otherwise be eligible for the rebate. The regulations were recently changed to extend eligibility to residents who live in caravan parks and are separately metered but where the electricity bill is not in their name.

We consider that the NSW Government should ensure that otherwise eligible, separately metered customers living in retirement villages can access the Low Income Household Rebate even if the electricity bill is not in their name.

However, we consider they could also be included in the broader review of the customer assistance package, along with other issues that have been raised by stakeholders, including:

- ▼ reformulating the Low Income Household Rebate to pay the electricity and gas supply charges and 15% of consumption charges for a year<sup>169</sup>
- ▼ indexing rebates to energy prices rather than CPI<sup>170</sup>
- ▼ extending the Life Support Rebate Schedule of Approved Equipment to motorised wheelchairs under certain circumstances<sup>171</sup>
- ▼ indexing the Life Support Rebate and specifying the indexation in a ministerial direction<sup>172</sup>
- ▼ introducing a service to property charge rebate<sup>173</sup>
- ▼ reviewing options to introduce a social tariff for eligible low-income and vulnerable electricity consumers<sup>174</sup>
- ▼ piloting an augmented No Interest Loans Scheme to assist eligible people purchase energy efficient appliances<sup>175</sup>
- ▼ introducing inter-governmental energy efficiency retro-fit programs for pensioners and low-income households, including insulation, replacing electric hot water systems and energy intensive appliances

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<sup>168</sup> PIAC submission, p 13, EWON submission, p 2, NCOSS submission, p 2.

<sup>169</sup> CPSA submission, pp 8-9.

<sup>170</sup> PIAC submission, p 12.

<sup>171</sup> PIAC submission, p 14.

<sup>172</sup> PIAC submission, p 12.

<sup>173</sup> EWON submission, p 3.

<sup>174</sup> PIAC submission, p 11.

<sup>175</sup> PIAC submission, p 15.

- ▼ introducing prepayment meters into the NSW market under the National Energy Customer Framework (NECF)<sup>176</sup>
- ▼ conducting research into community service obligations across jurisdictions<sup>177</sup>
- ▼ providing information on consumption in a variety of formats and providing more information to consumers in a variety of formats<sup>178</sup>
- ▼ requiring distribution companies to contribute to retailers' hardship programs<sup>179</sup>
- ▼ considering the use of energy monitors to help customers reduce energy usage.<sup>180</sup>

We consider that community welfare organisations are experienced in identifying customers that need assistance, and could provide invaluable input to a review of customer assistance measures through consultative processes.

The review should be undertaken by Government. IPART can assist Government through our detailed analysis and consultative processes.

Box 7.2 sets some issues to consider in conducting such a review.

#### Recommendation

##### 14 The NSW Government should:

- Take immediate action to ensure that there are sufficient EAPA vouchers to assist customers experiencing unexpected financial distress after the 1 July 2011 price change and to extend eligibility for the Low Income Household Rebate to Health Care Card holders who live in retirement villages and have separately metered electricity supply.
- Undertake a comprehensive review of the package of customer assistance measures to ensure that these measures are targeted, effective and efficient. IPART can assist Government through our detailed analysis and consultative processes.

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<sup>176</sup> EWON submission, p 3.

<sup>177</sup> EWON submission, p 4.

<sup>178</sup> PDCN submission, p 5.

<sup>179</sup> PDCD submission, p 5; EWON submission, pp 4-5.

<sup>180</sup> OPPower submission, p 2.

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**Box 7.2 Reviewing customer assistance measures**

A review of customer assistance measures should consider customer impact information and involve public consultation to draw on the experience of community welfare organisations.

It should develop eligibility criteria to ensure that customer assistance measures are well-targeted and should consider a range of issues, including:

- ▼ How best to gauge whether households face financial hardship due to the cost of energy and water bills. More specifically, what proportion of household income must utility bills represent to be considered 'unaffordable'?
- ▼ Is this proportion likely to differ across NSW as a result of geography or other factors?
- ▼ To what extent are customers facing financial hardship reducing expenditure on other essential items (such as food and medical supplies) to pay their utility bills?
- ▼ What is a typical level of non-discretionary energy and water consumption for households across a range of different household characteristics?
- ▼ What is the inter-relationship between State and Federal Government assistance measures for utility bills for eligible customers?

The customer assistance measures differ significantly between utilities and jurisdictions and all the measures should be considered.

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## **Appendices**



## A Terms of Reference

**Terms of Reference for an investigation and report by the Independent Pricing and Regulatory Tribunal on regulated retail tariffs and regulated retail charges to apply between 1 July 2010 and 30 June 2013 under Division 5 of Part 4 of the *Electricity Supply Act 1995*.**

### **A.1 Reference to IPART under section 43EA**

The Minister refers to IPART for investigation and report under section 43EB of the Act:

The determination of regulated retail tariffs and regulated retail charges to apply to small retail customers in each standard retail supplier's supply district in New South Wales for the period from 1 July 2010 to 30 June 2013.

#### **A.1.1 Background**

In accordance with its commitment to retain the offer of regulated retail tariffs at least until 2013, the Government has extended the current scheme for regulated retail tariffs and charges to apply to small retail customers supplied under a standard form contract. A regulatory amendment will be made for these purposes under section 43EJ of the *Electricity Supply Act 1995* to allow IPART to make a further determination of regulated retail tariffs and charges that will apply from 1 July 2010 to 30 June 2013.

Since January 2002, every electricity customer in NSW has had the option to negotiate a retail supply contract with any licensed retailer. Small retail customers who do not seek supply from the competitive market are deemed to receive electricity under a 'standard form' customer supply contract from their 'standard retail supplier'. Customers can also switch backwards and forwards between these alternatives. These arrangements were designed to encourage customers to test the market by providing an assurance that they can return to regulated retail tariffs. Approximately 900,000 NSW customers have now moved on to negotiated tariffs.

While retail competition has delivered benefits for those participating in the market, the majority of residential and some small business customers have chosen to remain on standard form customer supply contracts which impose regulated retail tariffs and charges determined by IPART.

The NSW Government considers the reliable provision of electricity to be an essential service. It is therefore important that the financial viability of Standard Retail Suppliers is preserved, in order to ensure that they are able to continue to provide electricity to NSW customers. Network charges and energy purchase costs represent a significant proportion of the costs faced by retailers in the provision of electricity.

To promote retail competition and investment, regulated retail tariffs have been progressively moved toward fully cost-reflective levels over the course of the last 3 retail tariff determinations by IPART. The 2007 determination aimed to achieve regulated retail tariffs by 30 June 2010 that fully reflect the market-based costs of meeting each Standard Retail Supplier's obligations to their regulated customers.

This review should ensure the aims and approach of the 2007 determination are preserved. IPART's approach should result in prices that are based on the efficient cost of supplying small retail customers, including customers who revert from negotiated tariffs.

In carrying out the review, IPART should provide advice to the Government regarding the impact of the determination on small consumers.

#### **A.1.2 Matters that must be taken into account**

For the purposes of section 43EB(2) of the *Electricity Supply Act 1995*, in undertaking the review from 1 July 2010 to 30 June 2013, IPART should ensure its determination is consistent with the Government's policy aim of reducing customers' reliance on regulated prices. Regulated tariffs should reflect the efficient costs faced by a Standard Retailer Supplier meeting the forecast demand of the regulated customers they are obliged to serve.

IPART's determination for the period from 1 July 2010 to 30 June 2013 should:

- ▼ result in prices that recover the efficient costs of supplying small retail customers, and
- ▼ apply any change to regulated tariffs on 1 July 2010 and annually thereafter on 1 July or on a date determined by IPART.

These Terms of Reference refer to 3 distinct cost components for Standard Retail Suppliers:

- ▼ Energy Costs
- ▼ Retail Costs, and
- ▼ Retail Margin.



## Energy Costs

Energy costs include energy purchases from the National Electricity Market (NEM), greenhouse and renewable energy costs, NEM fees and energy losses.

For energy purchases, IPART should determine a target Energy Purchase Cost Allowance for 30 June 2013 and an Energy Purchase Cost Allowance for each year of the determination. The Energy Purchase Cost Allowance should be set, using transparent and predictable methodology, at a level that would allow a Standard Retail Supplier to recover the efficient costs of managing the risks associated with purchasing electricity from the NEM (including the Carbon Pollution Reduction Scheme). Additionally, IPART should have regard to the efficient costs of meeting any obligations that Standard Retail Suppliers must comply with, including the costs of complying with greenhouse and energy efficiency schemes (including present and future State and Commonwealth schemes).

The Energy Purchase Cost Allowance for each year must not be lower than the least cost mix of generating plant (based on those plants earning an economic return on their market value), including any plant that would be required to meet any regulatory obligation, (using generation technology that is available in the NEM for the relevant year/period), to efficiently meet each Standard Retail Supplier's forecast regulated load.

IPART should allow for a periodic review of the Energy Purchase Cost Allowance, including the costs of complying with greenhouse and energy efficiency schemes.

IPART should allow for energy losses as published by the Australian Energy Market Operator (AEMO).

IPART should allow for market fees and ancillary fees as imposed by AEMO under the National Electricity Rules.

## Retail Costs

Standard Retailers incur retail operating costs in supplying electricity customers, which include the costs associated with customer service (eg, operating call centres, billing and collecting revenue), finance, IT systems, and regulation (eg, licence fees).

IPART will determine an allowance for retail operating costs based on efficient costs. IPART will take into account NSW Standard Retailers' efficient costs and other available information on efficient operating costs for retailers.

IPART should also ensure regulated retail tariffs are set at a level which encourages competition in the retail electricity market by including customer acquisition costs in the retail cost allowance.

## Retail Margin

IPART will determine an appropriate retail margin giving consideration to any risks not compensated elsewhere arising from supplying regulated customers.

### A.1.3 Consultation

IPART should consult with stakeholders, conduct public hearings or workshops and consider submissions, within the timetable for the investigation and report. IPART must make its report available to the public.

### A.1.4 Timing

IPART is to investigate and provide a report of its Draft Report and Draft Determination of regulated retail tariffs and charges within 6 months of receiving the terms of reference and a Final Report and determination within 3 months of releasing the Draft Determination. IPART is also to publish an Issues Paper and methodology paper within 2 months of receiving the terms of reference.

### A.1.5 Definitions

*Regulated retail tariff* means a tariff for or in relation to the supply of electricity required to be charged to a small retail customer under a standard form customer supply contract, being a tariff specified in a determination in force under Division 5 of Part 4 of the *Electricity Supply Act 1995*.

*Small retail customer* means a customer that consumes electricity at less than 160 MWh per year as prescribed in clause 7 of the *Electricity Supply (General) Regulation 2001*. A small retail customer is eligible for supply under a standard form customer supply contract.

*Standard retail supplier* means a retail supplier to whose retail supplier's licence is attached a standard retail supplier's endorsement. A standard retail supplier must impose tariffs and charges for or in relation to supplying electricity under a standard form customer supply contract in accordance with any relevant determination of IPART under Division 5 of the *Electricity Supply Act 1995*.

*Standard form customer supply contract* means a contract entered into under Division 3 of Part 4 of the *Electricity Supply Act 1995*.

## B | WACC

The rate of return or return on capital is used as a discount rate assumption in the modelling of the energy costs. As part of the annual review we are updating the market-based parameters of the weighted average cost of capital (WACC), using the same methodologies that were used in making the 2010 determination.<sup>181</sup> We have updated the WACC valuation for electricity generation and retail, which we use to determine:

- ▼ the discount rate to be used in modelling the LRMC of generation and
- ▼ the time value of money to be used in assessing the retailers' cost pass through applications.

### **B.1 Overview of final decision on the WACC for electricity generation and retailing**

Our final decision is to use a real pre-tax WACC of 7.8% and 8.9% to apply to electricity generation and retail respectively to update the energy cost allowance for 2011/12.

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<sup>181</sup> IPART, *Final Decision - Review of regulated retail tariffs and charges for electricity 2010-2013*, March 2010, p 146.

**Table B.1 Decision for the electricity generation and retail WACC compared to the 2010 determination**

WACC Parameters	2010 determinations		Annual Review - Draft Report		Annual Review - Final Report	
	Generation	Retail	Generation	Retail	Generation	Retail
Nominal risk free rate	5.50%	5.50%	5.60%	5.60%	5.40%	5.40%
Inflation	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Market risk premium	5.5% – 6.5%	5.5% – 6.5%	5.5% - 6.5%	5.5% - 6.5%	5.5% - 6.5%	5.5% - 6.5%
Debt margin	2.0% - 3.7%	2.0% - 3.7%	1.4% - 4.1%	1.4% - 4.1%	1.7% - 3.8%	1.7% - 3.8%
Debt to total assets (gearing)	50%	30%	50%	30%	50%	30%
Gamma	0.5 – 0.3	0.5 – 0.3	0.5 – 0.3	0.5 – 0.3	0.5 - 0.3	0.5 - 0.3
Tax rate	30%	30%	30%	30%	30%	30%
Equity beta	0.9 - 1.1	0.9 - 1.1	0.9 – 1.1	0.9 – 1.1	0.9 - 1.1	0.9 - 1.1
Cost of equity (nominal post-tax)	10.5% - 12.7%	10.5% - 12.7%	10.6% - 12.8%	10.6% – 12.8%	10.4% - 12.6%	10.4% - 12.6%
Cost of debt (nominal pre-tax)	7.5% - 9.3%	7.5% - 9.3%	7.0% - 9.7%	7.0% - 9.7%	7.2% - 9.2%	7.2% - 9.2%
WACC range (real pre-tax)	6.8% - 9.4%	7.7% - 10.8%	6.5% - 9.6%	7.6% – 10.9%	6.4% - 9.2%	7.4% - 10.5%
WACC mid-point (real pre-tax)	8.00%	9.10%	8.00%	9.10%	7.80%	8.90%

**Source:** IPART, *Final Decision - Review of regulated retail tariffs and charges for electricity 2010-2013*, March 2010, p 233, Bloomberg.

We have updated the market-based parameters using the same methodology as was applied in the 2010 determination. These parameters were sampled over the 20-day trading period to 19 May 2011. The market-based parameters are the:

- ▼ risk free rate
- ▼ inflation adjustment
- ▼ debt margin.

We have used the valuation that was used in the 2010 determination for all other parameters. The resulting WACC valuations are the same as were applied in the 2010 determination for electricity generation and retail.

### B.1.1 Risk free rate and inflation adjustment

As was the case for the 2010 determination we:

- ▼ estimated the 10-year nominal risk free rate from the 20-day average of the yield on nominal Commonwealth Government bonds
- ▼ used swap market data over a 20-day sampling period to derive a 10-year forecast of inflation.

### B.1.2 Debt margin

In response to our draft report TRUenergy raised concern that the Bloomberg 7-year BBB fair value curve is at the upper end of the sample when it would be more logical for it to be near the midpoint<sup>182</sup>. AGL submitted that the sample of securities used to set the debt margin does not accurately represent the debt costs for electricity generation projects or efficient retail businesses. They also consider that the debt raising cost is at the lower end of the range of expected debt transactions in the electricity sector<sup>183</sup>. Our annual review has only updated the market-based parameters using the same methodology as was applied in the 2010 determination.

Due to changes in the Australian bond market since we made the 2010 determination, we have not been able to set the debt margin using the same sample of bonds. However, we have applied the same principles as were used in the 2010 determination to update the debt margin valuation. We have selected a sample of securities from the Australian bond market with a credit rating of BBB to BBB+ and have at least 2 years to maturity. We have also included the Bloomberg 7-year BBB fair value curve in our sample. As was the case in the 2010 determination, the upper, lower and midpoint values derived from this sample of securities are inputs to our WACC calculator. These yields are expressed as a margin over the risk free rate and include 12.5 basis points for debt raising costs. The composition of the sample used to set the debt margin is detailed in Table B.2. The upper and lower bounds of the debt margin were set by the Bloomberg fair value curve and the Santos bond respectively.

<sup>182</sup> TRUenergy submission, May 2011, p 6.

<sup>183</sup> AGL submission, May 2011, p 9.

**Table B.2 Composition of the sample of securities used to set the debt margin for 2011/2012**

Security	Ticker	Average yield over the sampling period  (basis points)
Bloomberg 7 year BBB fair value curve	C3567Y index	366.36
Leighton Finance	EH911249 Corp	307.76
Mirvac	EI195249 Corp	217.31
Sydney Airport	EI308853 Corp	234.09
Santos	EF102609 Corp	162.16
GAIF	EI675822 Corp	252.61
Mirvac	EI414696 Corp	264.11
New Terminal Finance	EF641357 Corp	318.26
Dexus Finance	EI223256 Corp	272.88
Brisbane Airport	EI620440 Corp	260.69

**Note:** Excludes debt raising costs. GAIF (EI675822 Corp) is a newly issued bond. There are only 5 prices available.

**Source:** Bloomberg.

## C Paying for solar PV and hot water schemes

A number of State and Federal Governments programs encourage households and small businesses to install solar photo voltaic (PV) systems<sup>184</sup> and solar hot water systems (see Box C1).

These programs are funded either by electricity customers through higher electricity prices or by taxpayers. The generosity of the combination of State and Federal programs has led to an unexpectedly high take up of these solar technologies, particularly solar PV systems. This is one of the factors driving up electricity prices (and also placing a greater burden on taxpayers).

### C.1 Solar generation (PV) subsidies

Both the State and Federal Governments offer subsidies to customers that install a solar PV system, including:

- ▼ The Federal Government provides an upfront subsidy to off-set the installation costs of eligible solar PV systems through the Renewable Energy Target (RET) scheme.
- ▼ The NSW Government provides a payment for all electricity generated by eligible solar PV systems until 2016 through its Solar Bonus Scheme (SBS).

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<sup>184</sup> Solar PV cells convert sunlight into low voltage electricity. The electricity generated can be supplied into the electricity grid or into homes and businesses. Customers with grid-connected PV systems can draw from the grid when the solar cells are not providing enough power to meet consumption.

In our draft report we noted that these subsidies were too generous and that together with decreases in the installation costs of these systems had reduced the payback period for solar PV systems to as little as 2 years.<sup>185</sup> This had encouraged rapid growth in their take up— for example, the total capacity of solar PV systems installed in NSW<sup>186</sup> rose from 25 MW<sup>187</sup> in January 2010 to 272 MW on 6 May 2011.<sup>188</sup> This rapid growth is increasing electricity prices as well as the burden on taxpayers.

Since the release of our draft report, the Federal and NSW Governments have announced reductions to the level of subsidy paid to customers who install solar PV:

- ▼ The Federal Government announced that it will reduce the subsidy for installing solar panels (the solar credits multiplier) from 1 July 2011 and phase out this support by 1 July 2013.
- ▼ The NSW Government has suspended new applications to its the Solar Bonus Scheme.

These changes are explained in greater detail below.

While we welcome these recent decisions by the Federal and State Governments to reduce the level of subsidy paid to customers that install solar PV, we are still concerned about the high relative costs of solar PV systems to promote renewable energy (and a very high cost relative to other forms of greenhouse gas abatement). This view is shared by the Department of Trade and Investment NSW (formerly I&I NSW), which has noted that:

[Solar PV] is an expensive power supply option in comparison to other renewable energy technologies.<sup>189</sup>

Therefore, as set out in chapter 7 we recommend that the NSW Government advocate that the Federal Government eliminate its solar credits multiplier for eligible solar PV systems. We also recommend that the NSW Government periodically evaluate all green schemes to ensure they remain cost-effective and complement any national price-based carbon reduction scheme.

### C.1.1 The Federal Government's RET scheme

The Federal Government's RET scheme requires that at least 20% of Australia's electricity come from renewable sources by 2020. From 1 January 2011 the RET scheme was split into large-scale and small-scale schemes.

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<sup>185</sup> I&I NSW, *NSW Solar Bonus Scheme, Statutory Review*, Report to the Minister for Energy, October 2010, Table 1, p 10.

<sup>186</sup> Under the Solar Bonus Scheme.

<sup>187</sup> I&I NSW, *NSW Solar Bonus Scheme, Statutory Review*, Report to the Minister for Energy, October 2010, Table 1, p 10.

<sup>188</sup> <http://www.industry.nsw.gov.au/energy/sustainable/renewable/solar/solar-scheme/applications>

<sup>189</sup> <http://www.industry.nsw.gov.au/energy/sustainable/renewable/solar>, 21 March 2011.



Solar PV systems could be eligible for financial incentives under the small-scale scheme. Solar PV systems are then eligible to create a number of renewable energy certificates<sup>190</sup> based on the amount of renewable energy they can produce over 15 years if they are installed by a firm accredited with the Clean Energy Council.<sup>191</sup> This means that the subsidy for 15 years' worth of renewable energy is paid up-front to households and businesses.

The Federal Government also applies a Solar Credit Multiplier to the certificates created on the first 1.5 kW of capacity installed of eligible solar PV systems. Until 1 July 2011, each certificate created for eligible capacity is multiplied by a factor of 5. On 1 July 2011 the multiplier will fall to a factor of 3 and reduce annually by 1, until 1 July 2013 when there is no multiplier.<sup>192</sup>

This Solar Credit Multiplier means more certificates are created than abatement achieved. It also adds to the number of certificates that retailers must buy to meet their obligations. In our draft report we recommended that the NSW Government advocate the removal of the Solar Credit Multiplier because it adds to the costs of electricity without lessening greenhouse gas emissions. Since that time, the Federal Government announced a more rapid decline in the multiplier, as outlined above. Nevertheless, we still recommend that the solar credits multiplier be eliminated (see Chapter 7).

Each certificate created is worth \$40 if traded through the clearing house.<sup>193</sup> However, certificate holders can also trade them through a broker. At the moment, certificates are trading at a discount to the \$40 that is available through the clearing house, as it could be some time until the queue of certificates in the clearing house is cleared. For more discussion, please see chapter 3.

Until 1 July 2011 eligible customers who install a 1.5 kW solar PV system in Sydney are currently able to create 153 certificates upon installation at a guaranteed price of \$40 per certificate through the clearing house. This provides \$6,120 towards the costs of installing the system. The certificates must be purchased by electricity retailers to meet their obligations under the small-scale scheme and therefore add to the cost of electricity. As the multiplier reduces, the subsidy available under this scheme will reduce.

The RET scheme is paid for through higher electricity prices and – as highlighted in this report – recent changes to the RET will increase retail prices by around 6 percentage points on 1 July 2011.

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<sup>190</sup> Certificates created under small scale scheme are called Small Scale Technology certificates (STCs).

<sup>191</sup> Clean Energy Council, *consumer guide*, Volume 7: 23 March 2011, p 7.

<sup>192</sup> <http://www.orer.gov.au/sgu/solarcredits.html>

<sup>193</sup> Any certificates created from solar PV panels installed prior to 1 January 2011 must be created under the LRET. This means that they will trade at the market price for the large scale certificates. In the past decade, when the certificates were traded via a market, the spot price of a certificate has varied between \$15 and \$60.

### C.1.2 The NSW Solar Bonus Scheme (feed-in tariff)

The NSW Government's Solar Bonus Scheme relates to eligible roof-top solar PV systems or small-scale wind turbines (up to 10 kW capacity) connected to the grid.<sup>194</sup> It aimed to:<sup>195</sup>

- ▼ encourage and support small electricity customers who want to generate renewable energy as a response to climate change
- ▼ develop jobs in the renewable energy sector by assisting renewable energy generation to compete with non-renewable energy generation
- ▼ increase public exposure to renewable energy technology to encourage the whole community to respond to climate change.

In May 2011, NSW Government suspended its Solar Bonus Scheme to new applicants. For existing participants, the scheme credits eligible customers with a gross feed-in-tariff for each kWh of electricity the unit generates:<sup>196</sup>

- ▼ Customers that applied for connection prior to 18 November 2010 will receive 60 c/kWh for each unit of output produced.
- ▼ Customers applying for connection between 19 November 2010 and 29 April 2011 will receive 20 c/kWh for every unit of output produced.

A 1.5 kW solar PV system operating in Sydney produces an average of 5.85 kWh per day.<sup>197</sup> Customers receiving the 60c/kWh feed-in tariff would receive around \$1,280 pa.

The feed-in-tariff is paid by the distribution company to the relevant retailer, who passes it onto the customer. The retailer charges the customer for all electricity consumed, in the same way that it would if the customer did not have the unit.

The distribution company needs to recover the amount of money that it has paid out under the gross feed-in-tariff. The NSW Government has proposed that it will use uncommitted funds from the Climate Change Fund to pay for the costs of the Solar Bonus Scheme.<sup>198</sup>

We consider that the costs of the scheme can be limited by requiring the retailers to contribute to the cost of the scheme because they make a financial gain from customers on the gross feed-in tariff (explained in detail in Chapter 7).

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<sup>194</sup> Where applications were placed with the network businesses by 29 April 2011.

<sup>195</sup> I&I NSW, *NSW Solar Bonus Scheme, Statutory Review*, Report to the Minister for Energy, October 2010, p 41.

<sup>196</sup> Customers have the option to be on a gross or net feed in tariff under the Solar Bonus Scheme.

<sup>197</sup> Clean Energy Council, *consumer guide v 7*, 23 March 2011, p 4.

<sup>198</sup> NSW Liberals and Nationals, *Plan for an Affordable and Sustainable Energy Industry*, 2011, pp 11-12. We note that the National Electricity Rules (NER) provide a mechanism for recovering those funds from customers by a levy - Clause 6.18.7A.

## C.2 Solar hot water subsidies

Water heating is the largest single source of greenhouse gas emissions from the average Australian home, with electric storage hot water systems accounting for around 23% of household emissions.<sup>199</sup>

Both the State and Federal Governments offer subsidies to customers to replace electric hot water systems with solar hot water systems, including:<sup>200</sup>

- ▼ upfront payments for creating renewable energy certificates of up to \$2,280 through the Federal Government's RET scheme
- ▼ a rebate of \$1,000 through the Federal Government's Renewable Energy Bonus Scheme
- ▼ a rebate of \$300 from the NSW Government.

### C.2.1 The Federal Government's RET scheme

A customer installing a solar hot water system could be eligible to create certificates under the Federal Government's RET scheme (as described above for solar PV systems). The number of certificates a particular solar hot water model is entitled to create will depend on its installation date and geographic location identified through the customer's postcode.<sup>201</sup>

In Zone 3, which applies to most customers in NSW, the maximum number of certificates that can be created is 57,<sup>202</sup> with a typical system creating around 30. If the unit is installed this year, the certificates will be created under the small-scale scheme and can be submitted through the clearing house for \$40 per certificate.

All certificates created from solar hot water systems must be purchased by electricity retailers to meet their obligations under the SRES and therefore add to their costs and thus to retail electricity prices.

<sup>199</sup> <http://www.climatechange.gov.au/en/government/programs-and-rebates/solar-hot-water.aspx>

<sup>200</sup> Some of these subsidies also apply to heat pump or gas hot water systems that replace existing electric hot water systems.

<sup>201</sup> <http://www.orer.gov.au/swh/register.html>

<sup>202</sup> For a system up to and including 700 litres.

### **C.2.2 Federal Government's Renewable Energy Bonus Scheme – Solar Hot Water Rebate**

The Federal Government's Renewable Energy Bonus Scheme – Solar Hot Water Rebate offers rebates of \$1,000 for replacing an existing electric hot water system with an eligible solar hot water system.<sup>203</sup> Households can apply for rebates for solar hot water systems installed from 20 February 2010 and until a date is notified on the Program's website.

The Renewable Energy Bonus Scheme – Solar Hot Water Rebate is paid for by taxpayers.

### **C.2.3 NSW hot water system rebate**

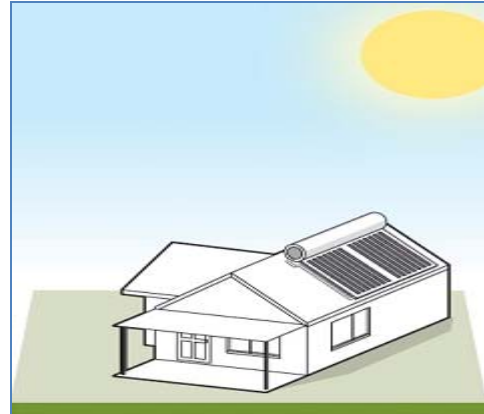
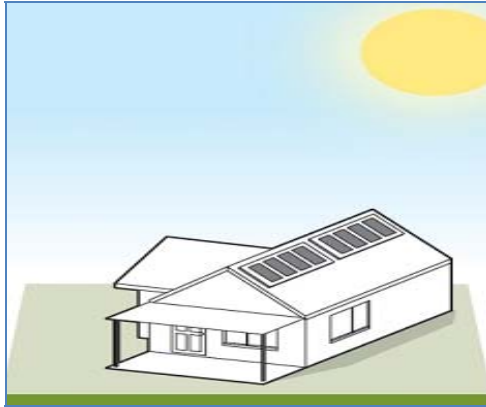
The NSW Government also provides a \$300 rebate for solar hot water systems that replace existing electricity water heaters.<sup>204</sup> This rebate is available to customers who purchase and install eligible hot water systems between 15 January 2010 and 30 June 2011.

The NSW hot water system rebate is paid for by taxpayers.

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<sup>203</sup> A \$600 rebate is available for a heat pump hot water system. A system is eligible if it creates at least 20 Renewable Energy Certificates (RECs) at the time and place of installation and is installed by a suitably qualified person (for example an electrician or plumber).

<sup>204</sup> The rebate is also available for heat pumps of gas systems that replace electricity hot water. To obtain the \$300 rebate the solar hot water system must be eligible for 20 RECs.

**Box C.1 Federal and State Government Financial incentives for small scale solar****Solar PV incentives**

For a 1.5 kW system (as an example):

- ▼ Total value of certificates created over life of system is provided upfront by the Federal Government's RET (around \$1,200)
- ▼ The RET solar multiplier increases this total value by 5 until 30 June 2011 (to around \$6,000). The multiplier will reduce to 3 on 1 July 2011.
- ▼ NSW Solar Bonus Scheme (Feed-in tariff) provides around:
  - \$1,280 per year until 2016 for customers receiving the 60c rate
  - \$430 per year until 2016 for customers signing to the current 20c rate.

**Solar hot water incentives**

- ▼ Total value of certificates created over life of system is provided upfront (up to \$2,280) by the RET
- ▼ Federal Government rebate of \$1,000 if replacing a electric hot water system
- ▼ NSW Government rebate of \$300 if replacing a electric hot water system

## D Further details on the customer assistance measures

Chapter 7 discussed recommendations to Government to improve electricity affordability. This appendix provides further detail on the Low Income Household Rebate eligibility, the Energy Accounts Payment scheme and programs to help low income customers reduce their consumption.

### D.1 Low Income Household Rebate eligibility for Health Care Card Holders living in retirement villages

The Low Income Household Rebate (previously the Energy Rebate) provides financial assistance to low-income households by providing a rebate on their electricity bills. On 1 July 2011 the rebate will increase from \$145 a year to \$200 a year.

However, the Low Income Household Rebate is not available to Health Care Card Holders who reside in retirement villages and are separately metered, but where the electricity bill is not in their name. These customers would otherwise be eligible for the Low Income Household Rebate.

The regulations were recently changed to extend eligibility to residents who live in caravan parks and are separately metered but where the electricity bill is not in their name.

We consider that the NSW Government should ensure that otherwise eligible, separately metered customers living in retirement villages can access the Energy Rebate even if the electricity bill is not in their name. This was well supported by stakeholders in submissions.

### D.2 Energy Accounts Payment Assistance scheme

The EAPA scheme is a voucher-based scheme administered by community welfare organisations on behalf of the Government.<sup>205</sup> It is designed to assist customers who are financially disadvantaged and experience difficulty in paying a particular home gas and/or electricity bill because of an emergency or crisis. It targets households that are experiencing unusual or unexpected financial stress, and is not intended to

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<sup>205</sup> Country Energy has trialed a program of retailer's distributing the vouchers.

offer continuing income support. Currently, the value of an individual EAPA voucher is \$30, and customers can receive vouchers to a maximum value of \$480 per year.

Information from our 2008 survey in the Hunter, Gosford and Wyong areas<sup>206</sup> shows that EAPA vouchers are mostly used by lower income households. Also, households with children are more likely to receive EAPA vouchers than households without children living at home. Households that access EAPA vouchers used a similar amount of electricity than households that did not access EAPA vouchers. Box D.1 describes our findings in more detail.

In 2010 the Department of Trade & Investment, Regional Infrastructure & Services NSW (formerly I&I NSW)<sup>207</sup> commenced a review of the EAPA scheme. It released a consultation paper that focused on specific options for improving the allocation and distribution of EAPA vouchers, including:<sup>208</sup>

- ▼ introducing a voluntary scheme for retailer delivery of EAPA to complement the existing delivery of EAPA by community welfare organisations (CWOs)
- ▼ examining voucher payment parameters, including the \$30 value of EAPA vouchers, the maximum customer limits and the current restriction for not placing bills in credit
- ▼ extending EAPA access to households that are connected to liquid petroleum gas for heating or cooking purposes (excluding BBQs and outdoor heating)
- ▼ extending EAPA access to customers of exempt suppliers (caravan parks, retirement villages) who are individually metered and receive a separate energy bill
- ▼ improving administrative requirements surrounding surrendering the EAPA vouchers, revising the guidelines for CWOs and introducing a CWO accreditation and review framework.

Stakeholders have queried the status of this review and whether the additional funding announced by the NSW Government in 2009 of \$55 million for EAPA vouchers over 5 years has been implemented. Budget figures indicate that the 2009/10 EAPA funding was \$12 million.<sup>209</sup> We note that \$12 million would only have been sufficient to provide vouchers to about 2% of all households in NSW, or 5% of households in the lowest 2 income quintiles.<sup>210</sup>

<sup>206</sup> Further information about our 2008 household survey is available on our website at [http://www.ipart.nsw.gov.au/investigation\\_content.asp?industry=6&sector=17&inquiry=146](http://www.ipart.nsw.gov.au/investigation_content.asp?industry=6&sector=17&inquiry=146)

<sup>207</sup> Department of Trade and Investment NSW is the NSW Government agency responsible for energy.

<sup>208</sup> I&I, *Review of the Energy Accounts Payment Assistance (EAPA) Scheme: Consultation Paper*, December 2010, p 4.

<sup>209</sup> NSW Government, *2010/11 Budget Estimates, Budget Paper 2*, Appendix E, Table E18, p E-29.

<sup>210</sup> Assuming that each household on average received vouchers to the value of \$240 per year (which is half of the maximum assistance available).

Stakeholders also raised other issues relating to the EAPA scheme, including:

- ▼ What arrangements are appropriate for the distribution of EAPA vouchers and will ensure that this scheme is accessible to those who most need assistance?
- ▼ Should the eligibility criteria be more prescriptive (as in Victoria) or should those delivering the vouchers have the discretion to consider the customer's individual circumstances?

We note that stakeholders expressed concern that there are insufficient EAPA vouchers to meet current demand. We consider it likely that the coming price increase will add to the demand for vouchers and therefore increase the shortfall.



### Box D.1 Who uses EAPA vouchers and why? Findings from the 2008 household survey

The 2008 survey in the Hunter, Gosford and Wyong areas asked respondents whether they had used EAPA vouchers in the past 3 years and if not, why not.

#### Who uses EAPA vouchers?

We found that households with (gross) incomes below \$52,000 per year were more likely to have used EAPA than households with higher incomes. Additionally, low-income households were more likely to need vouchers but were uncomfortable about approaching a charity (Table D.1). We also found that households with children were more likely to have used EAPA vouchers than other households (Table D.2)

**Table D.1 Proportion of households that had received, or needed EAPA vouchers in the 3 years prior to the survey (%)**

Income	Received EAPA vouchers	Needed vouchers but felt uncomfortable approaching a charity	Total
\$/year	%	%	%
Less than \$10,400 <sup>a</sup>	6	5	11
\$10,400 to \$31,200	11	3	14
\$31,201 to \$52,000	10	4	14
\$52,001 to \$78,000	6	3	9
\$78,001 to \$104,000	4	2	7
more than \$104,000	3	1	4

<sup>a</sup> Most households (87%) who reported incomes below \$10,400 per year were mature-aged single households.

**Note:** Numbers may not add due to rounding.

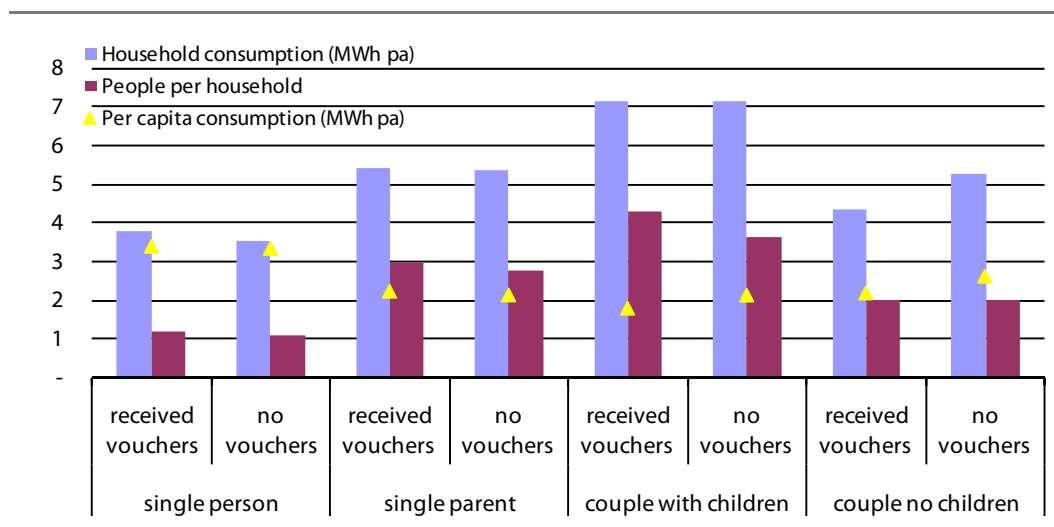
**Table D.2 Proportion of households that had received EAPA vouchers in the 3 years prior to the survey, by household type (%)**

Household type	Proportion that had received EAPA vouchers
single person (mainly people living alone)	8
single parent	20
couple with children living at home	15
couple with no children living at home	5

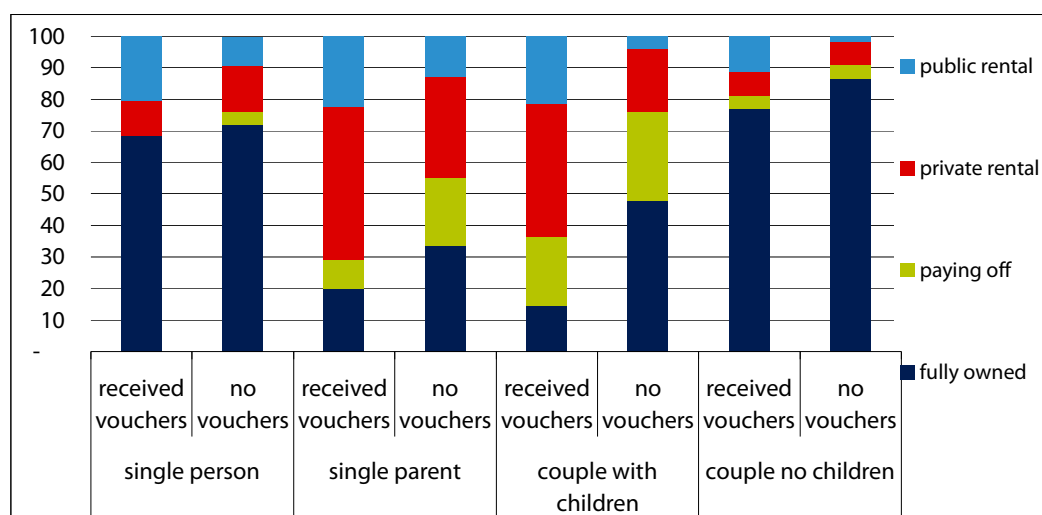
### Why did households need EAPA vouchers?

We found that households that had received vouchers used a similar amount of electricity on average than similar households that had not received them (Figure D.1). We also found that renters were more likely to have received EAPA vouchers than households who owned their own homes (Figure D.2).

**Figure D.1 Average electricity consumption and number of occupants of households that had received EAPA vouchers and those that had not**



**Figure D.2 Home ownership status of households that had received EAPA vouchers and those that had not (%)**



**Source:** IPART analysis of data from the 2008 household survey in the Hunter, Gosford and Wyong areas. Further information is available on our website at: [http://www.ipart.nsw.gov.au/investigation\\_content.asp?industry=6&sector=17&inquiry=146](http://www.ipart.nsw.gov.au/investigation_content.asp?industry=6&sector=17&inquiry=146)

### **D.3 Programs aimed at helping low-income households reduce their energy consumption**

Stakeholders we consulted identified several programs as being particularly cost-effective in assisting customers in financial difficulty, including:

- ▼ the No Interest Loans Schemes
- ▼ the Home Power Savings Program
- ▼ financial counselling services.

Unlike rebates and payment vouchers, these programs provide practical assistance to low-income households to help them reduce their energy consumption and improve the financial management skills. Thus they provide continuing, rather than one-off assistance. These are described in Box D.2.

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## **Box D.2 Examples of programs to help low-income households reduce energy consumption and improve financial management skills**

### **No Interest Loans Schemes**

The No Interest Loan Schemes (NILS) are community-based programs to help people on low incomes people reduce their energy consumption by replacing inefficient, high-energy-using household appliances, such as old washing machines and fridges, with new energy-efficient models. A typical NILS loan is for around \$600 to \$1,200 and is repaid over 12 to 18 months. As loans are repaid, the money is re-lent to other people.

### **Home Power Savings Program**

The NSW Department of Environment, Climate Change and Water (DEECW) provide a free Home Power Savings Program to assist vulnerable households manage their power use and reduce power bills. Eligible households receive a:

- ▼ Home power assessment by an energy expert to identify ways to save power in the home.
- ▼ Power Savings Kit which includes a range of practical items help save power in the home.
- ▼ Personal Power Savings Action Plan.

To be eligible for the program customers must live in NSW and contribute to the power bills for the property. At least one person in the household must be a recognised energy utility hardship customer, or hold one of 4 specified Centrelink or Department of Veterans' Affairs concession or health care cards.

### **Financial counselling**

In 2009 the NSW Government announced \$600,000 in funding over 2 years to the Financial Counsellors' Association of NSW to assist in the training of financial counsellors for energy matters. These counsellors provide a free service to assist consumers experiencing financial problems. The service involves support and education on financial matters, including:

- ▼ an assessment of the client's financial situation, including regular income and expenditure, assets and liabilities
  - ▼ information on entitlements to government assistance and programs
  - ▼ information and options for change and improvement
  - ▼ negotiation on behalf of the client with credit providers, government agencies and other business providers.
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## E | Key issues raised in submissions

**Table E.1 Key issues raised in submissions and IPART's response**

Key issues raised in submissions	IPART's consideration
<p><b>Inflation assumptions</b> – Retailers note that as part of the original determination cost allowances in \$09/10 were converted into R values in \$10/11 using a forecast inflation of 2.4% , which is inconsistent with the actual inflation of 3.3% from 2009/10 to 2010/11 (March 10 to March 11) (TRUenergy and AGL). They submit that:</p> <ul style="list-style-type: none"> <li>▼ Input assumptions in \$09/10 should be converted to \$10/11 using actual inflation (TRUenergy)</li> <li>▼ The fixed Rs which are included in the determination in \$10/11 (based on the 2.4% inflation) should be revised to account for actual inflation over the 2009/10 to 2010/11 period. (TRUenergy)</li> </ul> <p>Cost pass through calculations should use the original inflation figure of 2.4% to bring the allowance provided for in the 2010 determination into \$10/11. Retailers consider the incremental costs should be based on what was actually passed through into prices in 2010/11 (TRUenergy).</p>	<p>We have updated the input assumptions from \$09/10 to \$10/11 using actual inflation of 3.3% (March 11/March10).</p> <p>The <b>fixed R values</b> in \$10/11 included in the 2010 determination are not reviewed as part of this annual review. The annual review updates a limited number of cost allowances. Therefore the 2.4% inflation that is 'locked in' to the fixed Rs (and included in the determination in \$10/11) is not reviewed. The fixed R values are set in \$2010/11 and the determination specifies the methodology that should be used to escalate them to \$2011/12.</p> <p>All the cost allowances in \$10/11 including the pass through amounts and the fixed R values have been escalated to \$11/12 for prices starting on 1 July using inflation of 3.3% as set out in the 2010 determination.</p> <p>In terms of determining the <b>cost pass through amounts</b> we have undertaken 2 steps:</p> <ul style="list-style-type: none"> <li>▼ We have use the same input assumptions and the new RET targets to model the incremental cost in \$09/10 (i.e. determine the allowance we would have set in 2010 had we known the details of the new scheme).</li> <li>▼ Escalate this CPT amount by 3.3% to \$10/11. To include the 'inflation error' in this calculation is not consistent with determining the efficient and incremental costs as a result of the event.</li> </ul>
<p><b>Input assumptions for LRM</b>C– Retailers consider the 2010 NTNDP to be the most appropriate and robust source of input data for updating the LRM estimates because:</p> <ul style="list-style-type: none"> <li>▼ it is the most updated information on input costs that has been critically evaluated by industry</li> <li>▼ that Scenario 3 is the central case and therefore appropriate to use. (AGL, TRUenergy, Origin Energy).</li> </ul>	<p>In our view, the input costs used in AEMO's NTNDP modelling are not suitable for updating the energy purchase cost allowance for the following reasons:</p> <ul style="list-style-type: none"> <li>▼ The modelling provides 5 scenarios (or 'states of the world') to 2030, and there is a wide range in many of the input costs associated across the scenarios.</li> <li>▼ As with any scenario modelling, the NTNDP modelling was not intended to identify the most likely generation costs in each year of the modelling period. Rather it was intended for use in 'what if' analysis, to test the transmission network in different ways. AEMO note that "all scenarios are addressed equally, with no scenario acting as a base case."</li> </ul>

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**Key issues raised in submissions**
**IPART's consideration**

- ▼ The ACIL report for AEMO labelled the capital costs of generation under Scenario 3 to be a 'central case', however the report clearly states that the capital cost estimates are central in the sense that all the other cost estimates have been referenced around this scenario. As noted above this does not make them a base case. In addition, we note there is no 'central case' for fuel and other generation costs that would be presumably be consistent with the estimates of capital costs.
- ▼ We note that there are significant changes between public reports commissioned by AEMO (ie, from the NTS in 2009 to the NTNDP in 2010, and indeed to the preliminary modelling for the 2011 NTNDP) and we are concerned that these changes may not reflect simply changes in these costs but a range of methodological changes, some of which are not fully understood (as highlighted by ACIL's Final Report to the QCA).
- ▼ We note that recent evidence presented by industry suggests that there are contrasting views about the current capital and fuel costs of generation, as well as their likely costs over the modelling period.

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**Market based estimates of energy purchase costs** - Retailers submit that this approach and the resulting estimates:

- ▼ are not consistent with market prices
- ▼ are not stable over time
- ▼ are not consistent with market reality in terms of retailers hedging strategy
- ▼ underestimates market based costs incurred by a prudent retailer and therefore the gap between the LRMC and market estimates.

We note that:

- ▼ Frontier's updated modelled forward price data are consistent with the d-Cypha data.
  - ▼ One of the main benefits of using a modelled approach is not that the prices are stable, but that a modelled approach provides an understanding of the drivers of the changes. When there are significant changes to the input assumptions such as energy demand assumptions, there will be changes to the modelled prices. The annual review is explicitly designed to take into account changes to key input assumptions which will then result in changes to the modelled prices.
  - ▼ AGL and TRUenergy's concerns that the difference between the LRMC estimates and the market based estimates has been overstated appear to stem from their concern over the use of point in time estimate in assessing market based costs. We note that AGL and TRUenergy prefer a rolling average of contract prices which would provide a higher market cost and therefore a smaller difference relative to the LRMC estimates. We have clearly set out in our 2010 determination and in our draft report that the methodology for
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Key issues raised in submissions	IPART's consideration
	<p>determining the market based allowance is not being considered as part of this annual review (i.e. we considered a point in time approach to be appropriate when we made the 2010 determination). However we maintain our view that it is appropriate to refer to the figure of \$17-21/MWh as the difference between the LRMC estimates and the market based estimates. In a competitive retail market, retail offers to customers would reflect the <b>current</b> cost of energy, rather than historical costs.</p>
<p><b>WACC assumption</b> – Retailers submit that :</p> <ul style="list-style-type: none"> <li>▼ the sample of securities used as part of the debt margin calculation does not reflect the longer term maturity profiles observed in the NEM (TRUenergy and AGL)</li> <li>▼ Independent power producers do not have access to the debt described in the sample (AGL)</li> <li>▼ Debt raising costs is at the lower end of the range expected for debt transactions in the electricity sector (AGL).</li> </ul>	<p>Our annual review has only updated the market-based parameters using the same methodology as was applied in the 2010 determination.</p> <p>Due to changes in the Australian bond market since we made the 2010 determination, we have not been able to set the debt margin using the same sample of bonds. However, we have applied the same principles as were used in the 2010 determination to update the debt margin valuation.</p>
<p><b>GGAS allowance</b> – Retailers submit that a zero allowance for the costs of complying with GGAS does not reflect:</p> <ul style="list-style-type: none"> <li>▼ The current market price of NGACs (which are around \$4)</li> <li>▼ Previous agreements entered into with project developers such as Power Purchase Agreements (PPAs)</li> <li>▼ The administrative costs of complying with these schemes</li> <li>▼ The uncertainty about the introduction of a carbon price</li> <li>▼ The potential for Federal Government compensation if a carbon price is introduced.</li> </ul> <p>AGL requested further detail on the assumptions around supply/demand of NGACs.</p>	<p>Our approach to updating the allowance for the costs of complying with GGAS is consistent with the approach used in the 2010 determination; namely a resource cost assessment of the LRMC of meeting the GGAS targets.</p> <p>In addition we note that:</p> <ul style="list-style-type: none"> <li>▼ While AGL submits that our modelled LRMC approach is 'deficient' as it does not reflect market prices, our modelled price is consistent with the set of updated input assumptions discussed in section 3.2.1. Market prices reflect a range of factors some of which are relevant in our analysis (such as the number of surplus certificates, and the potential for a carbon price) and some factors which are not relevant in our analysis (such as Federal Government compensation and previous contracts entered into by retailers). Therefore our modelled prices may not necessarily be consistent with market prices.</li> <li>▼ Our regulatory framework is not designed for retailers to pass through their actual cost of complying with GGAS (such as contracts entered into in the past).</li> </ul>



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**Key issues raised in submissions**


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**IPART's consideration**

**Carbon price assumption (used in LRET and GGAS modelling)** – Retailers opposed the assumption of a carbon price in our modelling noting:

- ▼ There is significant uncertainty in relation to whether a carbon price will be introduced and the details of the price.
- ▼ The terms of reference do not require IPART to include a carbon assumption for setting the green cost allowances.
- ▼ The inter-action between our assumptions used in the modelling and our decisions on the cost pass through mechanism. Retailers submit that we are including a policy position that we know cannot trigger a cost pass through event should it prove to be incorrect.
- ▼ That their preference is for us to exclude a carbon price until it is legislated because, once legislated, it would qualify as a cost pass through event.

- ▼ Frontier's advice is that even if we assume that the scheme continues to operate past 2013, a carbon price from 1 July 2013 (as opposed to 1 July 2011 assumed in our 2010 determination) and higher gas generation output will ensure that enough certificates are created at zero cost. Therefore, the additional resource costs required to meet the GGAS targets will remain at zero, reflecting the significant number of certificates already created and the number of certificates that will be created at zero additional cost as a result of a carbon price and the RET scheme. Our considerations in relation to a carbon price assumption are discussed in section 3.2.2.
- ▼ We note that the retail cost allowance (which is not being updated as part of this annual review) reflects the efficient operating costs that a retailer would incur in performing a range of retail functions including complying with obligations such as green schemes.
- ▼ Frontier's final report provides further detail on the assumptions around supply/demand of NGACs.

We have made a final decision to include a carbon price in our modelling from 2013, consistent with the path forecast by Commonwealth Treasury as part of the White Paper. Our reasons for this final decision include the following:

- ▼ Our modelling of the cost allowances should include the most plausible set of assumptions over the modelling period. We are of the view that the introduction of a carbon price during the modelling period is more likely than not. We note that this is consistent with the views of the energy industry (for example, all 5 scenarios within the 2010 NTNDP include a carbon price).
  - ▼ Excluding a carbon price from our modelling altogether as is submitted by a number of retailers is likely to produce unrealistic results in relation to green costs, and would significantly overstate the costs of complying with the LRET. Current market prices for LGCs are likely to factor in the potential for the introduction of a carbon price.
  - ▼ We recognise that there is significant uncertainty about whether a carbon price will begin in 2012/13, and what the starting price will be. Given this, we consider it prudent to assume that a carbon price will not begin within this determination period. In any event, if a carbon price is legislated to begin in 2012/13, we will be able to allow for this in the 2012 annual review of the
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Key issues raised in submissions	IPART's consideration
<p><b>Small scale technology certificate (STC) price used in the SRES allowance calculation</b> – Stakeholders offered mixed views on our draft decision to assume an STC price of \$40:</p> <ul style="list-style-type: none"> <li>▼ Retailers supported our approach of using the \$40 fixed price.</li> <li>▼ The Australian PV Association submitted that the fixed price of \$40 overstates actual market STC prices being incurred by retailers at present.</li> </ul>	<p>energy cost allowance.</p> <ul style="list-style-type: none"> <li>▼ We consider that 2013/14 – one year after the end of the 2010 determination period – is a reasonable assumption for the starting date of a carbon price. Delaying the introduction of a carbon price for 1 year does not have a significant effect on the RET price, but does have a significant affect on the black costs of energy.</li> <li>▼ As there is uncertainty about the starting price of carbon and its likely movement through time, we consider it appropriate to assume this price will follow the path forecast by Commonwealth Treasury as part of the White Paper and consistent with recent proposals put forward by the Federal Government's climate change advisor, Professor Ross Garnaut.</li> </ul> <hr/> <p>We have made a final decision to set the cost per STC in line with ORER's fixed price of \$40 (nominal) for 2011/12 and 2012/13, consistent with our draft decision. Our reasoning is as follows:</p> <ul style="list-style-type: none"> <li>▼ It is problematic to determine a cost-based estimate consistent with our approach to the LRET.</li> <li>▼ It is problematic to forecast the market price of certificates over 2011/12 given that it is an emerging market and there are a range of factors that affect the supply of STCs that are difficult to forecast including government policy and market participants' cost of carry ('holding costs').</li> <li>▼ While market prices are currently below \$40 reflecting a short term mismatch between supply and demand, we have not seen sufficient evidence to suggest that this is a liquid market. Rather it is likely that a small number of certificates are being sold at these low prices reflecting some participant's cost of carry.</li> <li>▼ Over the longer term we would expect market prices to be consistent with the fixed clearing house price of \$40 given that one of the stated objectives of the SRES is to provide households that have placed their certificates in the clearing house a fixed price of \$40 per certificate. ORER achieves the \$40 fixed price over the longer term by including a 'catch up' element in future binding STPs that equates demand with supply.</li> <li>▼ This is the approach taken by regulators in other jurisdictions (QLD and SA) and is supported by retailers.</li> </ul>

**Key issues raised in submissions**

**Managing the risk associated with the STP assumptions used in our annual review** - We have used ORER's 2011 binding STP and its 2012 non-binding STP to determine the costs of complying with SRES in 2011/12. There is a risk that ORER's update to the 2012 STP in March 2012 will result in a materially different obligation being imposed on retailers in 2012 (relative to the assumption used as part of this annual review). Retailers submitted that this risk should be managed through either the annual review or cost pass through mechanism.

**IPART's consideration**

Subsequent to the release of our draft report the Federal and NSW Governments have announced reductions to the level of subsidies paid to customers who install solar PV. All else being equal, these changes would suggest that the take-up of small scale solar technologies and the number of STCs created will be lower than the forecasts used by ORER in March 2011.

At the time of writing ORER has not released a revised STP for 2012. In the absence of the revised STP we have used ORER's original non-binding STP for 2012 of 16.75%.

To the extent that the binding 2012 STP released by ORER in March 2012 is materially different to the obligation assumed in our determination, the cost pass through mechanism may account for these changes, allowing retailers to recover the costs associated with the actual obligations imposed by ORER. The cost pass through mechanism would allow regulated retail prices to be adjusted upwards or downwards so that they are cost reflective in line with the requirements of our terms of reference. This is consistent with the intention of the cost pass through mechanism which is to manage changes in costs that:

- ▼ are the result of a decision by an 'authority' and/or change in law
- ▼ are beyond the control of retailers (i.e. they can do little to manage this risk)
- ▼ are beyond IPART's ability to estimate accurately
- ▼ may be material.

**LRET allowance for 1 Jan – 30 June 2011** – Retailers submit that a negative incremental LRET pass through amount is inconsistent with the Federal Government's rationale for splitting the RET scheme and actual market price outcomes for LGCs - that is, the RET scheme was split in two to provide greater incentives for investment in large scale projects through a higher REC price.

AGL submits that in the derivation of REC prices in the 2010 determination we included too little generation from small scale technology and the amount was not disclosed.

The LGC certificate price estimated for the cost pas through has decreased because the change in the LRET (which has fallen by 4,000 GWh) is larger than the change in the assumed contribution of small scale generation to reaching the target that we included in the 2010 determination.

The forecast of the number of RECs created by small scale generators assumed to contribute to the RET in the 2010 determination was sourced from the BSCE report which was a members only report.

We consider that it would be inconsistent with determining the efficient and incremental costs as a result of the RET change to:

- ▼ revise upwards our assumption regarding the contribution of subsidised small scale technology in the LRMC, and

Key issues raised in submissions	IPART's consideration
<p><b>Regulatory requirement for cost pass through</b> – retailers submit that there is no requirement to adopt the same methodology used in the 2010 determination to assess cost pass through applications, particularly if holding certain assumptions results in modelling that contradicts expectations (Origin Energy).</p>	<ul style="list-style-type: none"> <li>▼ recalculate original RET allowances provided for in the 2010 determination.</li> </ul> <p>We also consider it inappropriate to use the market price for LGCs to determine incremental and efficient LRET costs because it:</p> <ul style="list-style-type: none"> <li>▼ is inconsistent with the methodology adopted in the 2010 determination (the LPMC approach)</li> <li>▼ is difficult to isolate the impact of the Regulatory Change Event given the numerous factors that affect market prices</li> <li>▼ would introduce scope for double counting.</li> </ul> <hr/> <p>To establish the efficient, incremental and justified costs arising from a Pass Through Event, we consider it reasonable and necessary to use the same methodology as was used in making the 2010 determination and to hold all input assumptions constant other than those directly related to the Pass Through Event.</p> <p>As noted above, we consider that using a market price to determine incremental and efficient LRET costs has its own set of problems and introduces scope for double counting.</p>
<p><b>Decision regarding the CPRS deferral</b> - TRUenergy submits that this decision is legally incorrect and inconsistent with the purpose of a cost pass through because:</p> <ol style="list-style-type: none"> <li>1. The decision to defer the CPRS Bill was made by the PM and Cabinet (each an "Authority") not by Parliament, because Parliament does not have the power to defer legislation. Alternatively, if the decision was made by Parliament, Parliament is an "Authority" because it is "government" or an "instrumentality of government."</li> <li>2. Saying that "decision made by any Authority" affects legal rights and obligations introduces an additional requirement into the definition.</li> </ol> <p>The deferral "substantially varies" the nature, scope, standard or risk of services because the 2010 determination assumed that CPRS would be introduced. The increased costs from complying with GGAS were not included in the cost allowances for the 2010 determination.</p>	<p>We restate our position that the CPRS deferral is not a Regulatory Change Event as it does not meet the requirements of the 2010 determination, in particular:</p> <ol style="list-style-type: none"> <li>1. The CPRS deferral did not involve an Applicable Law coming into operation or being amended or revoked, and was not a decision made by any Authority.</li> <li>2. Once a bill is introduced into Parliament, the progress of that bill through Parliament becomes subject to Parliament's processes. It was Parliament (which is not an Authority) who decided to defer the Bill.</li> <li>3. The CPRS deferral did not satisfy the "substantially vary" requirement because GGAS would only have discontinued from 1 July 2011 if CPRS had proceeded.</li> </ol> <p>We reiterate that the CPRS deferral is an unusual circumstance in that it was a policy proposal that had not received Parliamentary support. Therefore, we do not consider that our decision to reject the CPRS deferral as a Regulatory Change Event is inconsistent with the purpose of the cost pass through mechanism.</p>

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**Key issues raised in submissions**

**Assessing network expenditure** - AusGrid, TransGrid and Energy Networks Association (ENA) disagree that there is an unusually high burden of proof on the regulator. AusGrid states that this is demonstrated in the AER reducing expenditure in all cases.

TransGrid provides legal advice from Gilbert & Tobin, which states that it is incorrect to say that the Rules place a “burden of proof” on the AER because it is not the AER’s task to prove or disprove matters.

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**IPART’s consideration**

Under the NER’s ‘propose-respond’ model, the AER is precluded from making a decision that it considers to estimate a business’ efficient costs. This is because the AER must accept the spending forecasts proposed by the network companies if it is satisfied that the proposals “reasonably reflect” efficient, prudent and realistic costs.<sup>211</sup>

In our draft report we described this issue as ‘placing an unusually high burden of proof on the regulator’. The network businesses responded by submitting that there was not a technical legal burden of proof. We were not using that phrase in a technical sense but to generally describe the difficulties that the regulator faces in determining a balanced regulatory decision. Nevertheless, the issue remains.

We consider that aspects of the NER create risks of bias towards higher, rather than balanced and efficient, network prices, and outcomes favouring the commercial interests of the monopoly businesses rather than customers’ interests and efficient overall outcomes. We consider that they should be reviewed to ensure that the AER has sufficient powers to ensure that network expenditure is efficient.

We still consider that customers should pay for only prudent capital expenditure and that the Rules require review in this respect.

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**Appeals process for network regulation** - AusGrid does not agree that there is an unbalanced appeals process because merits review is available in particular circumstances and because users or consumer interveners can raise grounds not raised by the applicant for review. The AER can also raise matters not raised by the DNSP or intervener and a possible outcome or effect of the decision that it believes should be considered.

ENA supports the current merits review framework because it creates incentives for reasonable and soundly based regulatory decision making, free from regulatory errors and the efficient resolution of merits-based reviews. ENA considers that there is down-side risk to appealing a decision, including an adverse ruling, others intervening in an appeal, costs and relationships.

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The review process provided by the National Electricity Law (NEL) allows the network businesses to seek review of specific aspects of the AER’s determination to achieve more favourable outcomes. To date, the businesses have sought review of elements of every decision the AER has made on their regulated returns. In NSW, the distribution network businesses sought review of the averaging period for the risk free rate of return in their WACC calculation, which resulted in an additional \$1.9 billion in allowed revenue over 5 years (out of a total of \$18 billion).

We reiterate our point that customers are at a disadvantage in the review processes because they generally have fewer resources available to them than the network businesses. Although they can also seek review of a decision, they are yet to do so successfully. Further, although the energy Minister of the relevant state or territory can intervene to argue grounds in favour of end users or consumers, customers remain dependent on the Minister deciding to take this

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<sup>211</sup> National Electricity Rules, clauses 6.5.6(c) and 6.5.7(c).

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**Key issues raised in submissions**
**IPART's consideration**

course of action. Moreover, while interveners have participated in the appeals process, each appeal has resulted in higher prices.

We maintain our view that the limited nature of the merits review framework may lead to an unbalanced process and should be reconsidered as part of a review of the regulatory arrangements. This review should consider the merits review process in conjunction with the perceptiveness of the rules and should examine the review process for other regulated industries and in other countries.

**Setting the regulated return for network businesses** - AusGrid argue that our assertion that a prescriptive WACC leads to excessive returns is incorrect because the Rules allow the AER to depart from the WACC parameter if it would be inappropriate. They also assert that we ignore downside risk.

ENA suggests that codification provides regulatory certainty and that the AER does have some discretion to change the parameters for changing market circumstances.

The NER does not allow the AER to set its *best estimate* of the WACC; the AER can only change the parameters where they would be inappropriate, noting that there are still prescribed limits on the scope of these changes. Further, the AER must use a single point estimate which limits its discretion to tailor outcomes for specific circumstances. Where the AER exercised discretion in regard to the averaging period, it was appealed by the NSW and Tasmanian network businesses and the Tribunal ruled that the AER has only limited grounds not to accept the averaging periods proposed by the businesses.

**Reviewing network expenditure before including it in the regulatory asset base** - AusGrid submit that no ex-post review of expenditure is appropriate and that the current framework leads to lower prices because it lowers regulatory risk to the business.

ENA submits that the MCE, the ACCC and the AEMC all believe that ex-post reviews are not appropriate. They consider the current framework provides regulatory certainty, avoids an intrusive regulatory framework and avoids a 'chilling impact' on undertaking efficient investment.

Under the NER the AER must allow all capital expenditure incurred in a regulatory period to be included in the opening regulatory asset base in the subsequent period. This means that if inefficient or imprudent capital expenditure is spent, it must be included in the asset base and the network businesses will earn a return on and of that expenditure in future years, increasing electricity prices for many years.

We remain of the view that the while the regulatory framework provides strong incentives for network business to invest capital in the network it imposes little discipline on the businesses to ensure that this expenditure is efficient or prudent and valued by the customer. We think that the Rules need to look at the incentives around expenditure.

**Reviewing the NER** - AusGrid submits that there should be no review of the National Electricity Rules because they were deemed to have met the national electricity objective when they were made.

ESAA submits that the regulatory framework should be reviewed periodically and that the AER is conducting a review of the economic regulation provisions in the NER.

We recognise that the provisions were subject to analysis and consultation at the time that they were made. However, these provisions have now been applied in all jurisdictions and it is time to review the framework and the incentives that it is providing. The AER has indicated that it is reviewing the NER after completing its first round of regulatory price determinations.

NCOSS welcome the review and PIAC supports the review of the NERs and that

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Key issues raised in submissions	IPART's consideration
this be done as a priority.	
<b>Considering customers' ability to pay for network upgrades</b> - PIAC requests we consider expanding our recommendation on network licence standards to ensure that customers are willing <b>and able</b> to pay for them	We note that the Premier has announced an 'immediate review of the electricity network licence conditions to halt any over-spending which may be forcing up power prices'.
<b>Financial benefit to retailers from customers participating in the Solar Bonus Scheme</b> - The Australian PV Association calls for IPART to openly and transparently value the financial gain to retailers from PV generation.  Australian Power & Gas do not agree that there is a retailer benefit to the Solar Bonus Scheme. They believe that the benefits are in network deferral and only exist with vertically integrated distribution/retail companies.	We provide further explanation of the financial benefit to retailers in Chapter 7 and Appendix F but consider that quantifying the benefits would require a review.  We note that Australian Power and Gas are offering a premium feed in rate to customers participating in the Solar Bonus Scheme.
<b>Terms of reference for future retail price regulation</b> - Origin Energy do not support the Tribunal having discretion in the terms of reference in relation to the energy purchase cost allowance because it lessens regulatory certainty.  AGL supports LRMC as a floor – AGL would be concerned if discretion resulted in removal of the LRMC floor – they would like to understand the criteria IPART would seek to apply in exercising discretion.  TRU believes this recommendation adds to regulatory risk and costs and a detriment to competition.  CPSA call for IPART to continue to regulate retail prices.	We consider that it is appropriate to set prices to recover the cost of supply. Setting prices below the level of the underlying costs (in total) would mean that retailers were either facing a reduced or negative margin in serving regulated customers. This would have adverse implications for regulated business and the competitive market. Within the constraint of ensuring financial viability, there could be circumstances where using a LRMC estimate of costs would deliver a more stable price path for customers. Cost reflective prices will also promote retail competition and investment.  We maintain our view that if we are given a terms of reference to regulate electricity prices beyond 2013, we should be given a suitable degree of discretion in relation to the manner in which we make the determination. This would allow us, as the independent regulator, to provide a balanced, flexible regulatory package that is in the long-term interest of customers and facilitates a stable and efficient electricity market.
<b>Additional modelling of prices under specified network expenditure levels</b> - The Minister for Energy has requested that IPART provide modelling of retail tariffs out to 2015 under a range of network driven scenarios.	Analysis will be provided in a separate report.
<b>Energy affordability and customer assistance measures</b>  EWON wants IPART to call on the AEMC to facilitate a national forum on energy affordability.  EWON would like research into customer assistance measures across jurisdictions, including comparisons of disconnection rates.	We recognise the wide range of customer assistance measures raised by stakeholders and recommend that the NSW Government consider them as part of a broad review of customers assistance measures.

Key issues raised in submissions	IPART's consideration
<p>EWON, NCOSS and PIAC support the extension of the Energy Rebate to customers in retirement homes.</p> <p>EWON support expanding the EAPA scheme.</p> <p>NCOSS note that the EAPA review has not progressed and recommend that IPART recommend its completion to the Government.</p> <p>PIAC and CPSA call for the findings and actions of the EAPA review to be public.</p> <p>PIAC contends that without sizable and on-going injections of funds energy rebates and EAPA will not provide an adequate safety net for low-income and vulnerable households.</p> <p>EWON supports introducing a service to property charge rebate, similar to the Victorian rebate, to provide assistance to low income households with low consumption.</p> <p>EWON supports introducing voluntary pre-payment meters.</p> <p>PIAC call for:</p> <ul style="list-style-type: none"> <li>▼ An investigation into a social tariff.</li> <li>▼ Energy rebates to be linked to energy prices instead of the CPI.</li> <li>▼ Life Support Rebate be indexed.</li> <li>▼ The Life Support Rebate include motorised wheelchairs for people totally dependent on it for mobility.</li> <li>▼ Expansion of the NILs program in a plot scheme</li> </ul> <p>CPSA recommends that the energy rebate be paid as 100% of electricity and gas supply charges and 15% of electricity consumption per year.</p> <p>OPPower (Energy Monitor) propose that we should recommend expanding consumer assistance measures to include the installation of Energy Monitors, and that the Home Power Savings Program consider the benefits of using an energy monitor.</p> <p>NCOSS are concerned about under-consuming low income customers and wants customer assistance measures to be flexible enough to cover all houses that need assistance. They highlight schemes including the Home Power Savings Program, EAPA, additional energy efficiency measures, NILs, Energy Grants Schemes.</p>	



Key issues raised in submissions	IPART's consideration
<p>NCOSS supports an expansion of the Home Power Savings Program and better energy efficiency in public housing stock. CPSA recommends that the NSW Government work with the Federal Government and retailers to roll-out energy efficiency retrofit programs for pensioners and low-income households.</p> <p>The Physical Disability Council of NSW call for:</p> <ul style="list-style-type: none"> <li>▼ Provision of information on power consumption in a variety of formats.</li> </ul> <p>Providing information through facts sheets, community organisations, doctors surgeries, and shopping centres.</p> <p>EWON would like the distributors to contribute to the hardship programs of retailers.</p> <p>Australian Power and Gas support recommendations to enhance customer assistance measures but cautions that any changes to existing schemes will require retailers to make changes to their customer management and billing schemes and that these costs will need to be recovered from customers.</p> <p>CPSA call for electricity price increases to be applied to usage charges only because the fixed charge is unavoidable and increasing the usage charges will encourage demand management.</p>	<p>The form of regulation established for the 2010-2013 determination provides discretion to the retailers in setting their tariffs. This element of the determination is not being reviewed as part of the annual review.</p>
<p>PIAC recommends that IPART conduct its household survey in Country Energy's area.</p>	<p>Subject to being provided sufficient budget, IPART intends to include country areas in its household survey.</p>

## F Financial benefits to retailers under the Solar Bonus Scheme

Currently retailers make a financial gain from customers participating in the Solar Bonus Scheme. In recognition of this, they typically share this gain with customers by offering premiums on top of the statutory feed-in tariffs. These premiums are typically an additional 6-8 c/kWh.

As Chapter 7 discussed, IPART is recommending that the retailers contribute to the costs of the scheme. We recognise that this will reduce or eliminate their financial gain, and thus is likely to also reduce or eliminate the premiums they offer scheme participants on feed-in tariffs.

This appendix responds to a request for IPART to explain how the Solar Bonus Scheme benefits retailers under gross feed in arrangements<sup>212</sup>, and why we recommend that the retailers redistribute the financial gains they are making from the Solar Bonus Scheme to the NSW Government to offset the costs of the scheme.<sup>213</sup>

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<sup>212</sup> Solar Bonus Scheme participants can opt for net feed in arrangements. However, the vast majority of customers would opt for the gross feed in arrangements.

<sup>213</sup> PIAC submission, p 5.

## F.1 Financial benefits to the retailer

The Solar Bonus Scheme is currently structured so that retailers receive a financial benefit. This is because they earn revenue from the customers participating in the scheme based on these customers' *gross* electricity consumption, but they pay the market operator (AEMO) for the electricity these customers use on a *net* consumption basis (that is after netting off the energy supplied by the customers' solar panels).<sup>214</sup> This benefit goes to retailers, regardless of whether their customers are on the 60c/kWh or 20 c/kWh rate.

Under the Solar Bonus Scheme:

- ▼ The participating customer pays the retail price for their total gross consumption and receives the statutory feed-in tariff for the total electricity their solar panels. As noted above, they may also receive an additional 6-8 c/kWh premium on this tariff.
- ▼ The distributor pays the statutory feed-in tariff for the electricity generated by the customer's panels, and recovers that money from the NSW Government or through a levy on the electricity prices paid by all customers.
- ▼ The retailer collects its retail price for the customer's total gross consumption and pays the distributor the network charges for the customer's gross consumption. However, it pays the AEMO for the energy it purchases for the customer's **net** consumption (total consumption less generation) at the spot price. The retailer may choose share this gain with customers by offering customers a premium to the statutory feed in tariff.

This means that the retailer recovers its energy purchase costs (through retail prices) based on gross consumption, but pays these costs based on net consumption, which results in it making a financial gain. The size of this gain differs, depending on whether the Solar Bonus Scheme participant is a net consumer or producer. However, the vast majority of participants are net consumers.

Box F.1 and Figure F.1 illustrate the financial gain to a retailer using a hypothetical customer who is a net consumer. We note that the financial benefits to the retailer would be less for a customer who is a net producer.

<sup>214</sup> The retailer charges a customer for its total consumption on the relevant tariff. It pays the distributor on the total consumption. However, AEMO sums the generation and consumption and only charges the retailer for the net amount of energy consumed. The retailer therefore earns the whole retail tariff from the customer but only faces energy costs for the net amount. Retailers have been sharing this financial benefit with customers through the premium rates offered on the feed-in-tariff.

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### Box F.1 An illustration of the financial benefit that retailers gain under the Solar Bonus Scheme

For illustrative purposes, let's assume that a household participating in the Solar Bonus Scheme consumes 6000 kWh and produces 2000 kWh in a year and is on the 60c/kWh feed in rate. These flows are represented in Figure F.1.

#### The **customer**:

- ▼ **Pays** their retailer the applicable retail price for the entire 6000 kWh. In our example the price is 17 c/kWh,<sup>a</sup> which includes allowances for energy purchase costs, NEM fees, losses, retail costs, retail margin and network charges.
- ▼ **Receives** the statutory feed-in tariff from the distributor of 60c/kWh for the 2000 kWh of electricity generated. In practice the distributor pays the retailer who passes it through to the customer, but Figure F.1 shows the distributor paying the customer for simplicity.
- ▼ **Receives** any premium rates on the feed-in tariff that their retailer offers (eg, an additional 6c/kWh) for the 2000 kWh of energy produced. This is a market offering that can be changed subject to the retailer notifying the customer in accordance with the Regulation (clause 22 of the *Electricity Supply (General) Regulation 2001*) and the terms of the contract.

#### The **distributor**:

- ▼ **Pays** the 60c/kWh for the 2000 kWh of electricity generated to the customer (in practice through the retailer).
- ▼ **Recovers** the costs of the 60c/kWh for the 2000 kWh of electricity generated through funding arrangements determined by the NSW Government, which could include funds from the Climate Change Fund, a special Solar Bonus Scheme levy or funds from consolidated revenue.
- ▼ **Receives** from the retailer the network tariff of 9 c/kWh in our example for the 6000 kWh consumption.

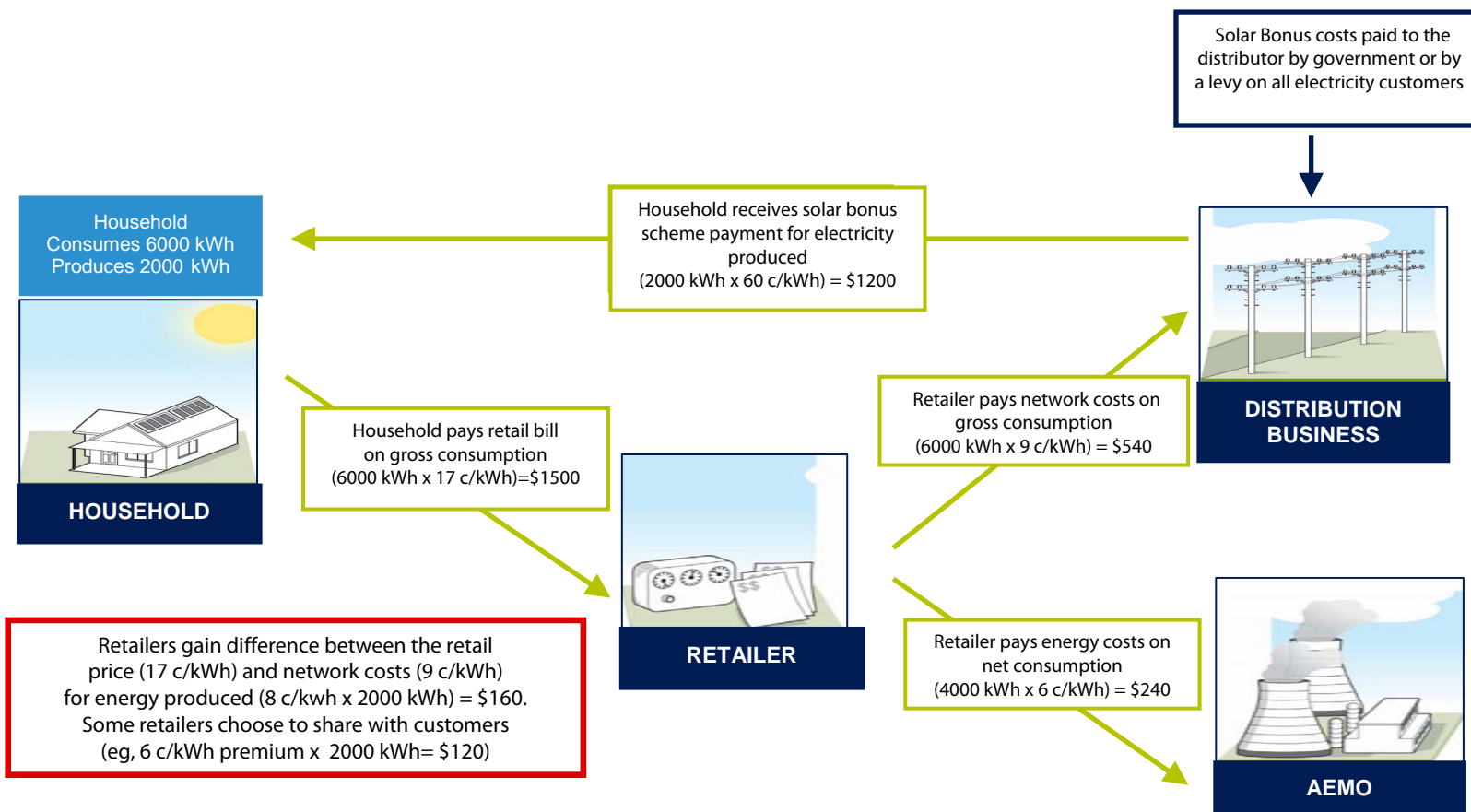
#### The **retailer**:

- ▼ **Pays** AEMO the pool price for 4000 kWh of electricity (there may be additional financial flows for financial hedges). AEMO deduct the electricity produced from the PV system from the energy consumed by that household and bills the retailer for the net amount of energy consumed.
- ▼ **Pays** the distributor 9 c/kWh for 6000 kWh of network charges.
- ▼ **Receives** the 17 c/kWh for the 6000 kWh of consumption by the customer.

<sup>a</sup> The financial benefit is the same regardless of whether it is a regulated tariff or a negotiated tariff.

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**Figure F.1 An illustrative example of financial flows under the Solar Bonus Scheme under gross feed in arrangements**



## F.2 Why retailers should contribute to scheme costs

Requiring retailers to transfer some of the financial benefit they receive under the scheme would reduce amount of funds required to be recovered from customers, or foregone by taxpayers, to pay for the scheme. We note that the other gross feed-in tariff scheme in Australia, the ACT Scheme, requires retailers to contribute 6c/kWh towards the cost of the scheme.<sup>215</sup>

Therefore we have recommended that the NSW Government require retailers to contribute to the costs of the Solar Bonus Scheme, recognising the financial gain that they make under the gross feed-in tariff arrangements. We acknowledge that this contribution would reduce or eliminate the feed-in tariff premiums offered by retailers.

To set the retailer contribution would require analysis of prices, spot prices and customer characteristics. Under these arrangements, the retailer would most likely cut or eliminate their 6-8 c/kWh premium. However, these premiums are discretionary and can be changed subject to the retailer notifying the customer in accordance with clause 22 of the *Electricity Supply (General) Regulation 2001* and the terms of the contract.

The retailers make the same financial gain regardless of whether the customer is on the 20 c/kWh or 60c/kWh feed in tariff. Retailers should be required to redistribute the financial gains to the NSW Government that they make from all Solar Bonus Scheme participants and not just those eligible for the 60c/kWh feed in tariff.

If the retailers are not required to contribute to scheme costs, the costs will need to be recovered through higher electricity prices for all customers or borne by taxpayers.

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<sup>215</sup> Independent Competition and Regulatory Commission, *Electricity Feed-in Renewable Energy Premium: Determination of Premium Rate – Final Report*, March 2010, p 37.