

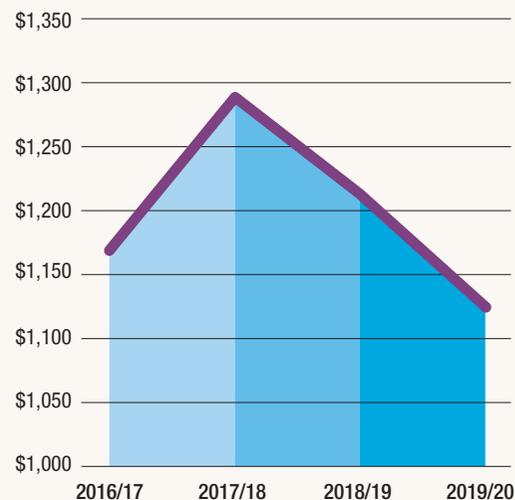
# AUSTRALIAN ENERGY MARKET COMMISSION

## ELECTRICITY PRICE TRENDS REPORT 18 DEC 2017

This report looks at factors driving residential power prices in NSW over the next two years July 2018-2020

### WHAT'S DRIVING THE ANNUAL BILL FOR A TYPICAL HOUSEHOLD IN NSW

\$ Annual electricity bill for a typical residential consumer



Market offer prices increased by 10.2% this year, and are estimated to decrease by an average 6.6% over the next two years, driven mainly by changes in wholesale electricity costs

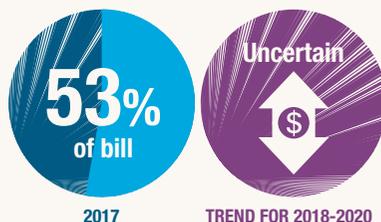
6.6% ↓ NSW

### THE COMPONENTS MAKING UP ELECTRICITY BILLS TODAY

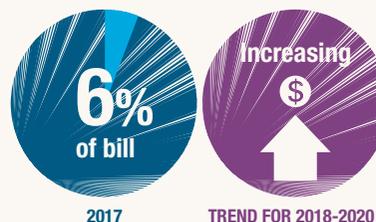
#### WHOLESALE COSTS



#### REGULATED NETWORKS COSTS



#### ENVIRONMENTAL COSTS



## COSTS AT A GLANCE



### WHOLESALE

The cost of generating electricity

- Wholesale costs increased by 30% this year due to the recent retirements of Northern and Hazelwood coal generators, and higher gas prices which increase the cost of operating gas-fired generators.
- Estimated to decrease by an average 20.5% each year over the next two years as new wind and solar generation enters the market and the Swanbank E gas generator in Queensland returns to service.



### NETWORKS

Poles and wires costs depend on regulator revenue determinations

Transmission and distribution costs are estimated to increase by an average 1% each year over the next two years.

However, this is uncertain due to the Australian Competition Tribunal's decision that the AER remake the 2014-19 revenue determinations for the NSW distribution businesses.



### ENVIRONMENTAL

Direct costs of government schemes like the renewable energy target

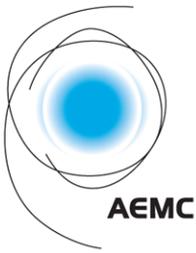
Environment policy costs are estimated to increase by an average 7.6% each year. These rising costs include RET certificates and energy saving schemes.

The NSW Climate Change Fund's costs are expected to decrease.



### RESIDUAL

The residual component reflects costs and risks incurred by retailers, and their profit or loss. It also includes calculation errors in the costs of other supply chain components. It does not represent retail margins.



## New South Wales residential electricity price trends

### 2017 Residential electricity price trends report

**Households in New South Wales will see prices drop by an estimated 6.6% each year over the next two years from 1 July 2018 as more variable wind and solar generation comes online.**

But over time, without investment in replacement dispatchable capacity, wholesale costs will start to rise again as older generators exit. Uncertainty is stopping investment and will put upward pressure on prices in the medium term.

The AEMC's annual report on price trends provides an overall picture of factors driving electricity prices for households in each state and territory. While the report is not a forecast of prices, it analyses cost trends across the electricity supply chain including generation, the regulated networks sector; and price impacts resulting from government environmental and system security policies.

The report found residential electricity prices in New South Wales rose by around 10% this year, largely due to a 30% increase in wholesale energy costs following the closure of Northern and Hazelwood coal power stations, and higher gas prices which increase the cost of operating gas-fired generators.

But these price rises are expected to reverse over the next two years as more wind and solar generation comes online and a Queensland gas generator returns to service. More supply means downward pressure on prices.

While welcoming the expected price falls, AEMC Chairman John Pierce cautioned that without investment in replacement dispatchable generation, wholesale costs will start to rise again in the medium term.

"Older, unprofitable thermal generators are exiting the market – reducing the supply of dispatchable energy," said Mr Pierce.

"Without new investment, wholesale prices will go up again and remain volatile, and the rollercoaster will be repeated."

To this end, the AEMC is working with other market bodies on the Energy Security Board on the national energy guarantee design.

"We have a window right now for the COAG Energy Council to continue its work on mechanisms that can work in the long term interests of consumers and keep the lights on as the energy sector continues to restructure," Mr Pierce said.

Network costs, which make up around half of the typical residential electricity bill in New South Wales, are estimated to be flat, although there is some uncertainty due to the Australian Competition Tribunal's decision that the AER must remake the 2014-2019 revenue determinations for the NSW distribution businesses.

Environmental policy costs, which make up around 6% of the bill, are estimated to increase by around 7.6% each year over the next two years. The main drivers are the rising cost of certificates under the large-scale renewable energy target and the cost of the state government's energy efficiency scheme.

“Without new investment, wholesale prices will go up again and remain volatile, and the rollercoaster will be repeated.”

## Background

Price trends identified in the report are not a forecast of actual prices. They are a guide to factors which may drive prices up or down. Actual prices will be influenced by how retailers compete in the market, the outcomes of network regulatory processes, and changes in government legislation.

Actual consumer bills will be affected by all these drivers as well as customers' individual consumption choices, and local factors like the weather, the availability of mains gas, and the prevalence of solar PV systems.

## Modelling for price trends in New South Wales

The report estimates electricity prices for the most common type of New South Wales residential electricity consumer (the 'representative consumer').

The representative consumer is defined by their electricity consumption characteristics including:

- total annual electricity consumption
- quarterly electricity consumption, to reflect seasonal changes in power use
- use of off-peak tariffs
- gas use
- the number of people in the household.

For New South Wales, the report uses a figure of 4,215 kWh for annual electricity consumption based on AER bill benchmarking data. This data is from a survey of around 8,000 households (across all jurisdictions except Western Australia) where participants are asked about their homes and the way they use electricity.

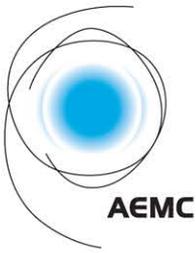
In New South Wales the representative consumer is a two-person household with no pool, no off-peak 'controlled load' tariff, but with a mains gas connection.

To develop representative retail prices for New South Wales, the AEMC collected standing and market offers from the AER's Energy Made Easy website for 2016-2017 and 2017-2018.

## Media:

Communications Director, Prudence Anderson 0404 821 935 or (02) 8296 7817  
Communications Specialist, Bronwyn Rosser 0423 280 341 or (02) 8296 7847

18 December 2017



New South Wales – 18 December 2017

## Residential electricity price trends report 2017

### The 2017 residential price trends report identifies cost drivers across the entire electricity supply chain from 2016-17 to 2019-20.

The AEMC provides detailed analysis of forces for change in Australia's energy markets. We provide governments and stakeholders with the data they need to make market transformation work in the long term interest of consumers. This report provides an overall picture of factors driving electricity prices for households in each state and territory.

#### Key findings for New South Wales

The key supply chain cost components examined in the report include wholesale electricity purchase costs, regulated network costs and environmental policy costs.

Annual electricity prices for the representative consumer on a market offer in New South Wales:

- increased by 10.2 per cent from 2016-17 to 2017-18 due to higher wholesale electricity costs, driven by the retirement of Northern and Hazelwood generators and increasing gas prices
- are expected to decrease by an annual average of 6.6 per cent in 2018-19 and 2019-20. The expected decreases are largely attributable to decreases in wholesale electricity costs driven by expected new generation (approximately 4,100 MW across the NEM) and the return to service of the Swanbank E generator (385 MW in Queensland).

In addition, in NSW, regulated network costs are uncertain in the two years to June 2020 due to the AER being required to remake revenue determinations for the NSW distribution network providers for the 2014-19 regulatory control period.

#### Background

The expected movements in electricity prices for a representative consumer in New South Wales have been based on an annual consumption level calculated from on benchmark value data published by the Australian Energy Regulator (AER). The AER published updated benchmark values in December 2017. These new figures have been used in the report. The annual consumption of the representative consumer in New South Wales is 4,215 kWh per year.

Average electricity prices in this report are specific to the representative consumer in NSW and may not reflect pricing outcomes for all residential consumers.

**Price trends identified in this report are not a forecast of actual prices.** They are a guide to factors which may drive prices up or down. Actual prices will be influenced by how retailers compete in the market, the outcomes of network regulatory processes and changes in government legislation. Actual consumer bills will be affected by all these drivers as well as customers' individual consumption choices, and local factors like the weather, and where they live.

**The key driver of the trend in annual electricity bills is wholesale electricity purchase costs.**

**Trends in residential electricity prices**

Residential electricity market offers for the representative consumer in New South Wales increased by 10.2 per cent from 2016-17 to 2017-18. However, prices are expected to:

- decrease by 5.8 per cent in 2018-19
- decrease by 7.3 per cent in 2019-20.

This is equivalent to an average annual decrease of 6.6 per cent from 2017-18 to 2019-20.

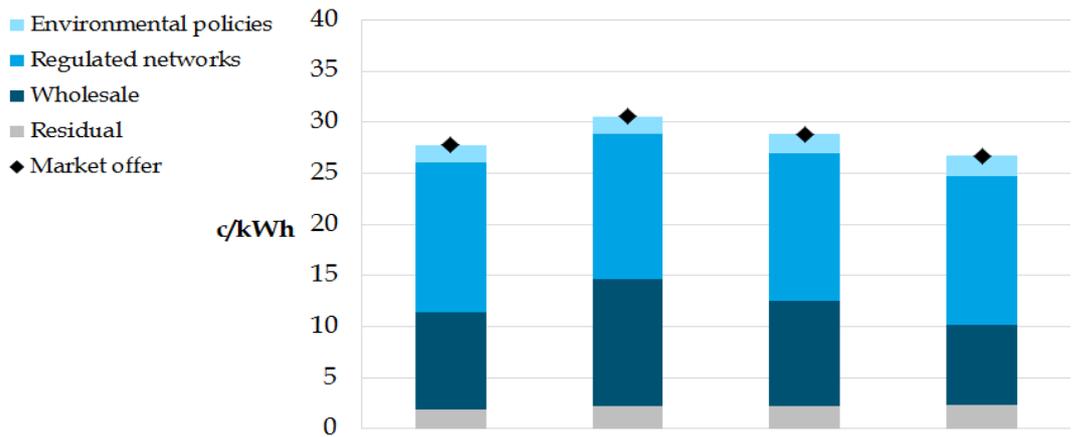
In New South Wales consumers can choose between a market offer and a retail standing offer. Approximately 77 per cent of small customers in New South Wales are on a market offer (small customers includes residential and small business customers).

The table below provides information on the total annual bill for a representative consumer in New South Wales on a market offer and a standing offer.

New South Wales	2016-17
Standing offer total annual bill	\$1,380
Market offer total annual bill	\$1,169

**Trends in supply chain cost components**

The below figure shows the expected movements in the supply chain cost components for the representative consumer on a market offer in New South Wales.



	2016/17 Base Year		2017/18 Current Year		2018/19		2019/20	
	c/kWh	\$/yr	c/kWh	\$/yr	c/kWh	\$/yr	c/kWh	\$/yr
<b>Environmental policies</b>	<b>1.65</b>	<b>\$70</b>	<b>1.71</b>	<b>\$72</b>	<b>1.85</b>	<b>\$78</b>	<b>1.98</b>	<b>\$83</b>
LRET - LGC cost	0.64	\$27	0.76	\$32	0.89	\$37	1.03	\$43
SRES - STC cost	0.36	\$15	0.32	\$14	0.33	\$14	0.32	\$14
Climate Change Fund	0.48	\$20	0.41	\$17	0.40	\$17	0.39	\$16
Energy saving scheme	0.17	\$7	0.21	\$9	0.23	\$10	0.25	\$10
<b>Regulated networks</b>	<b>14.63</b>	<b>\$617</b>	<b>14.23</b>	<b>\$600</b>	<b>14.44</b>	<b>\$608</b>	<b>14.53</b>	<b>\$612</b>
Transmission	3.20	\$135	3.03	\$128	3.10	\$131	3.19	\$135
Distribution	11.43	\$482	11.19	\$472	11.34	\$478	11.33	\$478
<b>Wholesale</b>	<b>9.57</b>	<b>\$403</b>	<b>12.44</b>	<b>\$524</b>	<b>10.26</b>	<b>\$433</b>	<b>7.87</b>	<b>\$332</b>
<b>Residual</b>	<b>1.89</b>	<b>\$80</b>	<b>2.19</b>	<b>\$92</b>	<b>2.25</b>	<b>\$95</b>	<b>2.31</b>	<b>\$97</b>
<b>Market offer</b>	<b>27.74</b>	<b>\$1,169</b>	<b>30.57</b>	<b>\$1,289</b>	<b>28.80</b>	<b>\$1,214</b>	<b>26.69</b>	<b>\$1,125</b>

The expected movements in each of the electricity supply chain cost components for New South Wales from 2017-18 to 2019-20 are summarised below:

**Wholesale electricity purchase costs:** these costs include purchases from the spot market and financial contracts, ancillary services, market fees and energy losses from transmission and distribution networks.

Regulated network costs are uncertain in the two years to June 2020 due to the AER being required to remake revenue determinations for the New South Wales distribution businesses for the 2014–19 regulatory period.

In New South Wales, wholesale market costs comprised approximately 34.5 per cent of the representative market offer in 2016-17. Wholesale market costs are expected to:

- increase by 30.0 per cent in 2017-18
- decrease by 17.5 per cent in 2018-19
- decrease by 23.3 per cent in 2019-20.

This is equivalent to an average annual decrease of 20.5 per cent from 2017-18 to 2019-20.

The drivers of wholesale market costs are set out in key findings above.

**Regulated network costs:** these costs include transmission and distribution network service providers' costs associated with providing the necessary infrastructure to enable the power system to operate as a connected system. The regulated network costs comprised approximately 52.7 per cent of the representative market offer in 2016-17.

Transmission network costs are expected to increase at an average annual rate of 2.6 per cent from 2017-18 to 2019-20. Regulated transmission charges are based on transmission use of system charges in New South Wales distributors' approved annual pricing proposal for 2017-18, while 2018-19 and 2019-20 costs are based on the revenue growth rate in the AER's draft decision for Transgrid for the 2018-23 regulatory period.

Distribution network costs are expected to increase at an average annual rate of 0.6 per cent from 2017-18 to 2019-20. This trend is uncertain due to the Australian Competition Tribunal's decision that the AER remake the 2014-19 revenue determinations for the New South Wales distribution businesses. Regulated distribution network charges in 2017-18 are based on enforceable undertakings and in 2018-19 charges are based on the escalation rate in the 2017-18 enforceable undertakings. In 2019-20, charges are based on distributor's revenues being kept constant in nominal terms with 2018-19.

**Environmental policy costs:** these costs are related to policies introduced by Commonwealth and New South Wales governments including the Renewable Energy Target, the Climate Change Fund and energy efficiency schemes. In 2016-17, environmental schemes comprised 6.0 per cent of the representative market offer and are expected to comprise an increasing proportion from 2017-18 to 2019-20.

The costs associated with the large-scale generation certificate scheme under the large-scale renewable energy target are expected to increase at an average annual rate of 16.3 per cent from 2017-18 to 2019-20.

The small-scale technology certificate costs under the small-scale renewable energy scheme are expected to decrease at an average annual rate of 0.1 per cent from 2017-18 to 2019-20.

The Climate Change Fund's costs are expected to decrease at an average annual rate of 3.5 per cent from 2017-18 to 2019-20. Costs for the New South Wales energy efficiency scheme, the Energy Savings Scheme, are expected to increase at an annual average rate of 7.2 per cent from 2017-18 to 2019-20.

### The national picture

The underlying supply chain cost components and the impact of those trends vary across jurisdictions as a result of population, climate, consumption patterns, government policy and other factors. Against this background, residential prices nationally follow the same general trend as that seen for New South Wales. This is as a result of the trend in wholesale electricity purchase costs which is the key driver of the price trends during the reporting period.

For information contact:

AEMC Chairman, **John Pierce** (02) 8296 7800

AEMC Chief Executive, **Anne Pearson** (02) 8296 7800

Media: Communication Director, Prudence Anderson 0404 821 935 or (02) 8296 7817

18 December 2017