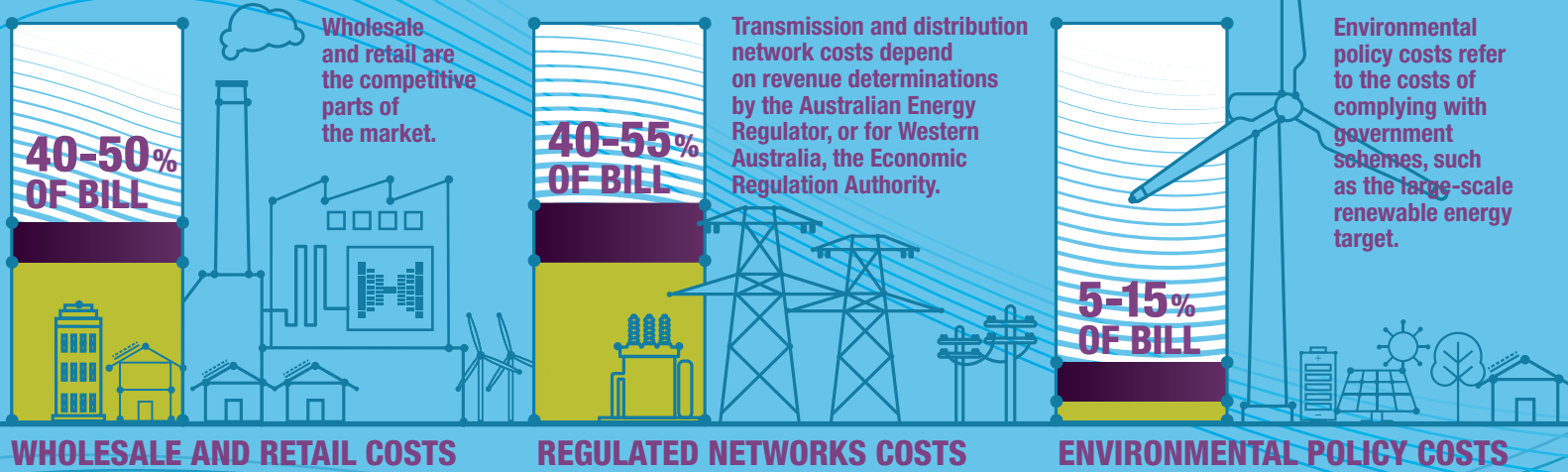


AEMC 2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

PRICES RISING WITH VARIATION BETWEEN REGIONS

Average residential electricity prices are expected to rise, driven by significant increases in wholesale costs following retirement of two large generators. The generation mix is changing as more wind and solar enters the market and coal-fired generators retire. Electricity flows across regions are changing too, leading to greater price variations.

THE COMPONENTS THAT MAKE UP YOUR ELECTRICITY BILL



PRICE DRIVERS IN OUR EVOLVING MARKET

Across most states average wholesale costs are estimated to increase by between 5% and 15% each year over 2015/16 to 2018/2019, largely driven by the closure of Hazelwood and Northern power stations, while electricity consumption remains flat.

Wholesale electricity costs are a key driver in customer bills and are increasingly connected with:

Emissions policy – the large-scale renewable energy target has led to substantial investment in wind generation – contributing to closure of coal-fired plant and recent increases in wholesale and retail prices.

The wholesale gas market – the price for gas affects electricity prices through gas-fired power stations, which are expected to play a larger role in the market.

System security – the increased reliance on renewable non-synchronous generation affects the technical characteristics of the system and the ability to supply reliable, secure energy. There is likely to be a need for additional services to manage system security, potentially impacting retail prices over the longer term.

The AEMC is responding to the interconnected nature of this market transformation in strategic ways

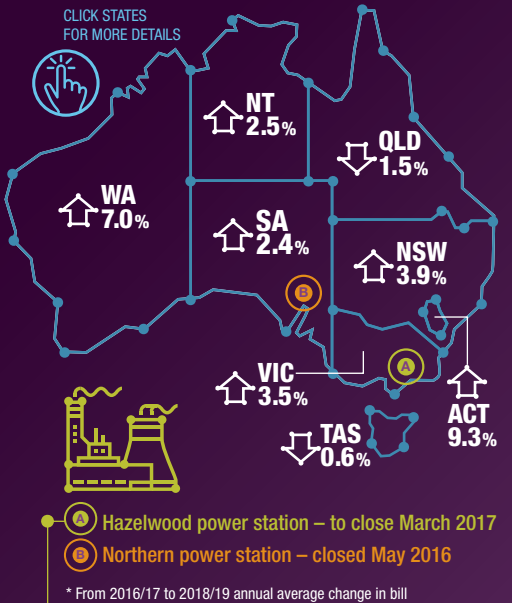
Well designed and integrated emissions reduction and energy policies can reduce emissions while delivering reliable, secure energy at the best price for consumers. The AEMC is advising energy ministers on the mechanism to achieve emissions reductions at the lowest cost to consumers.

A more efficient gas market lowers the wholesale cost of electricity by decreasing the costs of operating gas-fired generators. In 2016, following the AEMC's gas market review, governments committed to implementing a gas market reform package to enable faster and more efficient gas trading along the east coast.

The AEMC's power system security review is developing and implementing new market frameworks to support the entry of new technologies and participants in a way that delivers secure energy at the least cost for consumers.

AVERAGE ANNUAL PRICE TRENDS BETWEEN 2016/17 and 2018/19*

Trends in the underlying cost components of residential electricity bills vary across the country and over time as a result of differences in population, climate, consumption patterns, government policy and other factors.



PRICE IMPACTS OF HAZELWOOD POWER STATION CLOSURE

The owners of Hazelwood power station, which provides around 20% of Victoria's electricity, made a commercial decision to close in 2017. This will lead to large changes in electricity flows across regions and wholesale costs.

Increase in annual typical bill in 2018/19*



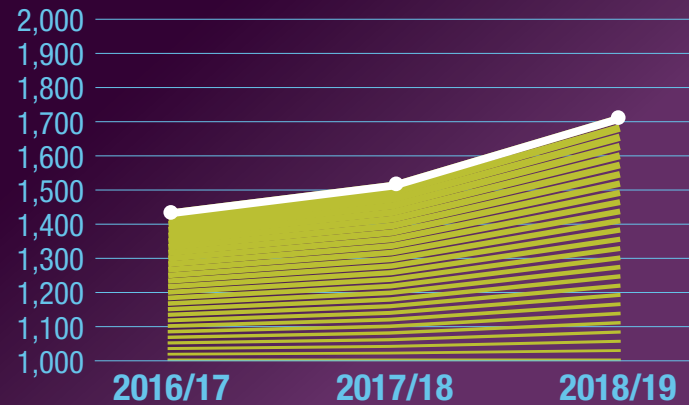
*Compared to a scenario where Hazelwood power station did not retire

2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

Higher costs are expected across all bill components – wholesale and retail, network and environmental policies – with environmental policy costs having the largest increase mainly due to the increased costs of Feed-In Tariff schemes. Network costs are uncertain due to ongoing legal proceedings.

ACT

\$ Average annual residential electricity bill



From 2016/17
to 2018/19
annual average
change in bill

UP **9.3%**



WHOLESALE AND RETAIL COSTS

INCREASING



REGULATED NETWORKS COSTS

UNCERTAIN



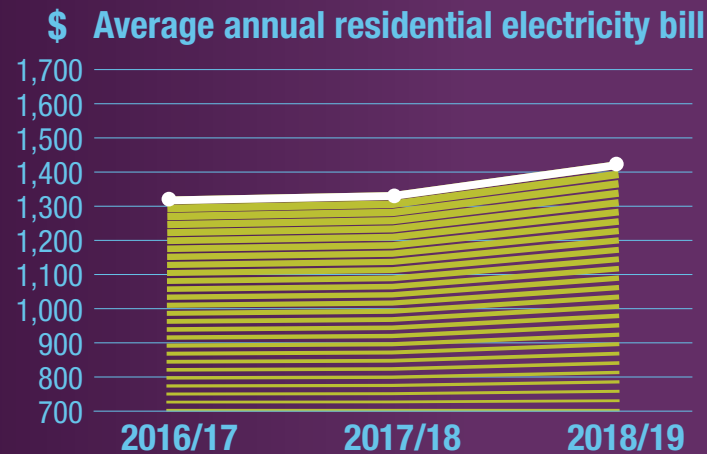
ENVIRONMENTAL POLICY COSTS

INCREASING

2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

Wholesale costs are expected to rise, largely driven by the closure of Hazelwood power station. The effect of the Hazelwood exit is mostly seen in 2018/19. Network costs may rise, although this is uncertain due to ongoing legal proceedings.

NSW



From 2016/17
to 2018/19
annual average
change in bill



UP 3.9%



WHOLESALE AND RETAIL COSTS

INCREASING



REGULATED NETWORKS COSTS

UNCERTAIN



ENVIRONMENTAL POLICY COSTS

STABLE

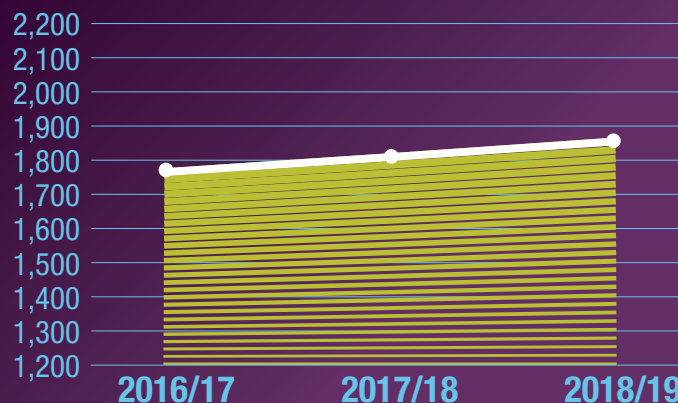
2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

Residential electricity prices in the NT are set by the territory government. The prices paid by consumers are less than the cost of supply.

NT



\$ Average annual residential electricity bill



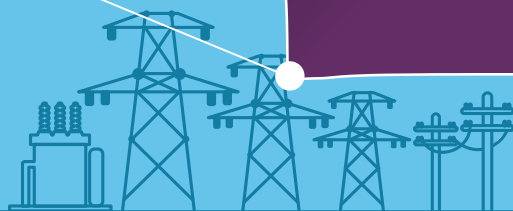
From 2016/17
to 2018/19
annual average
change in bill



UP 2.5%



WHOLESALE AND RETAIL COSTS



REGULATED NETWORKS COSTS

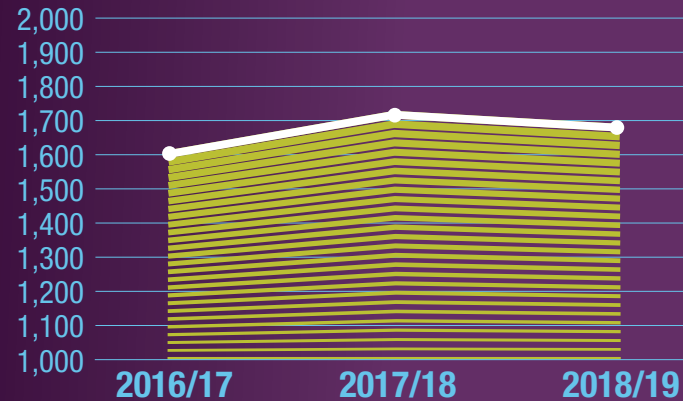


ENVIRONMENTAL POLICY COSTS

2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

Wholesale costs are expected to rise, largely due to the closure of Hazelwood power station, followed by a slight decrease in 2018/19 as more wind power comes on line. Network costs may increase slightly, although this is uncertain due to ongoing legal proceedings.

\$ Average annual residential electricity bill



From 2016/17
to 2018/19
annual average
change in bill



UP 2.4%

SA



**WHOLESALE AND RETAIL COSTS
INCREASING**



**REGULATED NETWORKS COSTS
UNCERTAIN**



**ENVIRONMENTAL POLICY COSTS
STABLE**

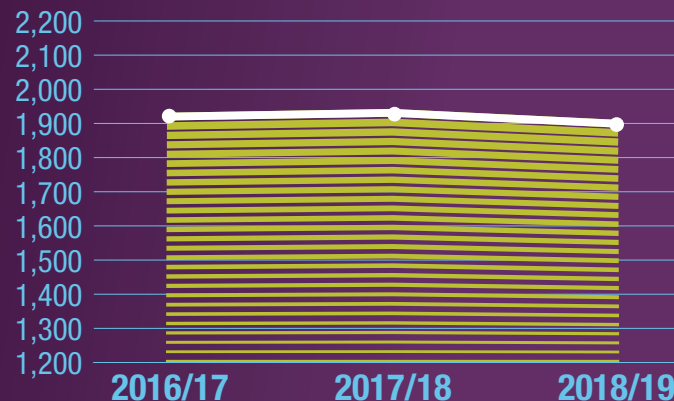
2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

Residential electricity prices in Tasmania are set by the Office of the Tasmanian Economic Regulator.

Wholesale costs are expected to rise, largely driven by the closure of Hazelwood power station. This is offset by decreasing network costs.

TAS

\$ Average annual residential electricity bill



From 2016/17
to 2018/19
annual average
change in bill

DOWN
0.6%



WHOLESALE AND RETAIL COSTS

INCREASING



REGULATED NETWORKS COSTS

DECREASING



ENVIRONMENTAL POLICY COSTS

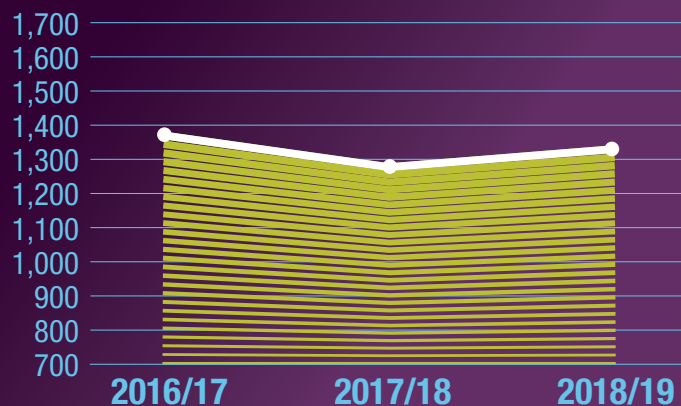
STABLE

2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

Increasing wholesale costs, largely driven by the closure of Hazelwood power station, are expected to be offset by decreases in QLD Solar Bonus Scheme costs.

QLD

Average annual residential electricity bill



From 2016/17
to 2018/19
annual average
change in bill

DOWN
1.5%



 **WHOLESALE AND RETAIL COSTS
INCREASING**

 **REGULATED NETWORKS COSTS
STABLE**

 **ENVIRONMENTAL POLICY COSTS
DECREASING**

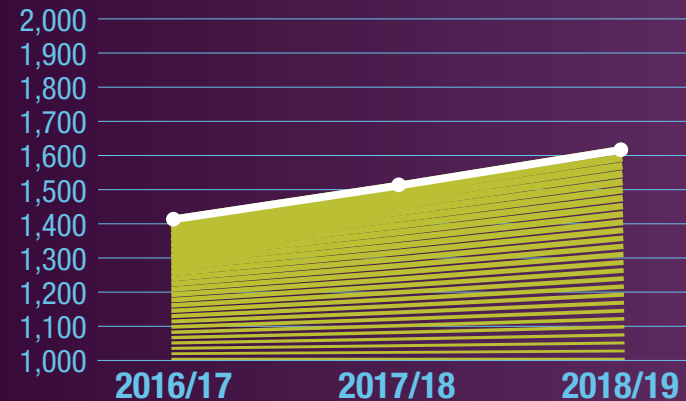
2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

Residential electricity prices in WA are set by the state government.

The prices paid by consumers are currently less than the cost of supply. The expected increase in the cost of supply is mostly due to higher wholesale costs.

WA

\$ Average annual residential electricity bill



From 2016/17 to 2018/19 annual average change in bill



UP 7.0%



WHOLESALE AND RETAIL COSTS

INCREASING



REGULATED NETWORKS COSTS

STABLE



ENVIRONMENTAL POLICY COSTS

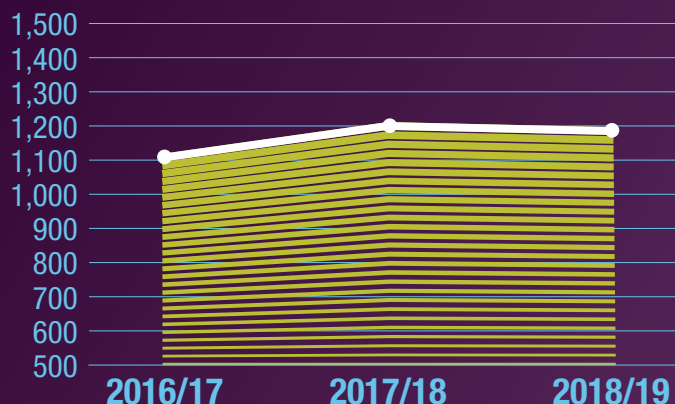
STABLE

2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

Wholesale costs are expected to rise, largely due to the closure of Hazelwood power station, followed by a slight decrease in 2018/19 as more wind power comes on line. Network costs may decrease, although this is uncertain due to ongoing legal proceedings.

VIC

\$ Average annual residential electricity bill



From 2016/17
to 2018/19
annual average
change in bill

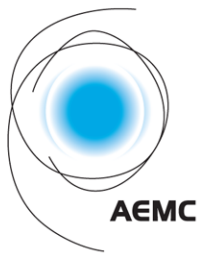
UP **3.5%**



 **WHOLESALE AND RETAIL COSTS
INCREASING**

 **REGULATED NETWORKS COSTS
UNCERTAIN**

 **ENVIRONMENTAL POLICY COSTS
STABLE**



NEWS

Western Australia electricity price trends

2016 Residential Electricity Price Trends report

Average residential electricity prices in Western Australia are expected to increase over the next two years, but will remain less than the cost of supply.

The AEMC's annual report on household price trends looks at what is driving changes in the underlying cost components of household electricity bills. It analyses the competitive market sectors of wholesale generation and retail; the regulated networks sector; and price implications from government environmental policies.

AEMC Chairman John Pierce said although electricity prices in Western Australia are set by the Western Australian Government, an analysis of underlying costs found that wholesale costs will rise over the coming years.

"Residential electricity prices in Western Australia are expected to rise by 7 per cent on average for each of the next two years based on the trend announced in the State Budget," said Mr Pierce.

Prices would need to increase by 7.9 per cent to reflect the total estimated costs of supply based on 2016/17 prices.

Wholesale electricity costs are expected to increase by 4 per cent over the next two years in Western Australia based on modelling undertaken for the AEMC. This increase reflects an increase in forecast capital costs.

Network costs, which make up around half of a residential electricity bill, are expected to remain stable in Western Australia. This is due to decreases in capital expenditure on the transmission network balancing out increases in operational expenditure on the distribution network.

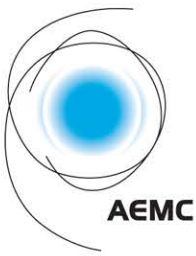
Environmental policy costs are also likely to remain stable over the next two years. These are the costs associated with the Large-scale Renewable Energy Target and the Small-scale Renewable Energy Scheme that require retailers to source a proportion of their electricity from renewable sources.

Mr Pierce said price trends would affect individual households differently depending on how each consumer uses electricity.

"No two households use energy in the same way. Knowing how much power you use and when, will be the key tool in controlling electricity costs in the future," Mr Pierce said.

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

14 December 2016



Western Australia – 14 December 2016

2016 Residential Electricity Price Trends: Final Report

The 2016 Residential Electricity Price Trends report (the report) identifies drivers of movement in electricity prices from July 2016 to June 2019.

Key findings

The key supply chain cost components under analysis are the wholesale and retail component, regulated network component and environmental policy component.

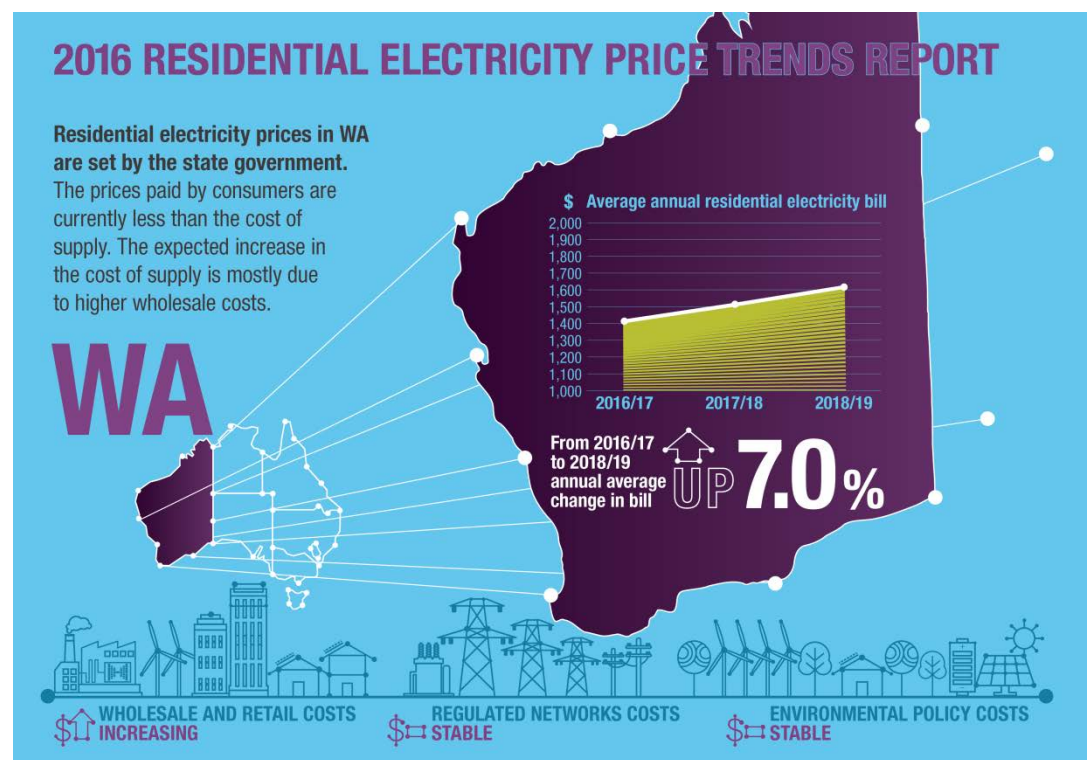
Residential electricity prices in Western Australia are set by the Western Australian Government, which subsidises electricity prices such that the prices paid by consumers are less than the cost of supply. As a result, the retail price paid by consumers does not follow price trends or necessarily reflect the underlying costs of supplying electricity. In 2015/16, the residential price would have needed to increase by around 11 per cent to reflect the total estimated cost of supply.

Residential electricity prices in the South-West Interconnected System (SWIS) are expected to have an average annual increase of 7.0 per cent over the two years to June 2019, for the representative consumer.

The estimated residential electricity supply cost increases are mainly driven by higher wholesale electricity costs.

The Western Australian Government is currently undertaking a wide-ranging review of the electricity market. Retail price deregulation for households and businesses has been announced as part of the reform.

Any changes that occur as a result of this review may affect future residential retail prices within the period.



Increases in the total residential electricity supply costs are mostly driven by rises in wholesale electricity costs.

Background

The report presents expected movements in electricity prices for a representative consumer in the SWIS, using an annual consumption level that was provided by the Western Australian government.

- The annual consumption of the representative consumer in Western Australia is 5,198 kilowatt hours (kWh) of electricity each year.
- Average electricity prices in this report are specific to the representative consumer and may not reflect the pricing outcomes for all residential consumers.

This report analyses trends in wholesale and retail components, the regulated networks sector of the electricity industry and the effect of government environmental policies.

Price trends identified in this report are not a forecast of actual prices, but rather a guide as to what may influence prices based on current expectations, assumptions and government legislation. Prices in 2017/18 and 2018/19 will be set by the Western Australian Government.

Trends in residential electricity prices

Retail prices are set by the Western Australian Government. Residential electricity prices for the representative consumer in the SWIS increased by 3.0 per cent in 2016/17. Retail prices are expected to increase by:

- 7.0 per cent in 2017/18; and
- 7.0 per cent in 2018/19.

This is equivalent to an average annual increase of 7.0 per cent over the two years to June 2019. These movements are based on the trend announced in the 2016/17 State Budget (for 2017/18 and 2018/19).

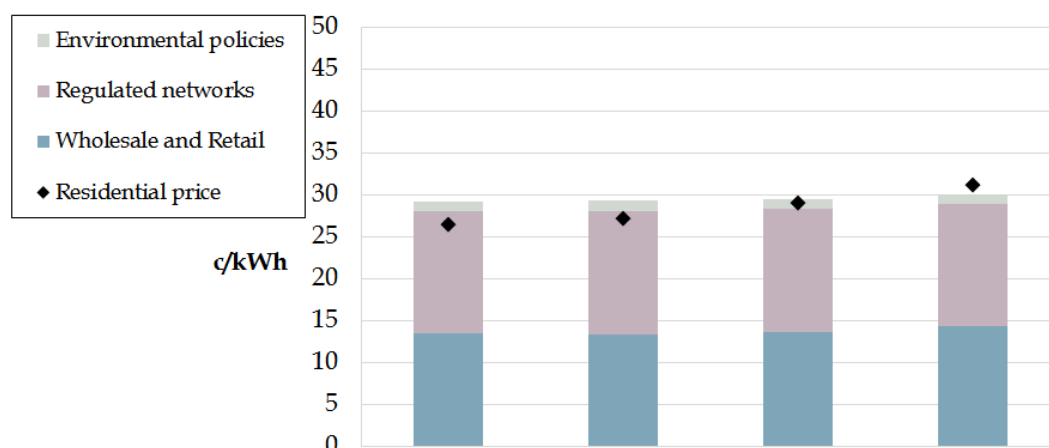
In 2015/16, a representative consumer using 5,198 kWh per year paid the government set price and had a total annual bill of \$1,371 (exclusive of GST). This is less than the estimated total cost of supply of \$1,517 (exclusive of GST), as shown in the table below.

WA	2015/16
Total annual bill for representative consumer paying government set price	\$1,371
Estimated total cost of supply	\$1,517

Residential prices are expected to increase across the reporting period for most jurisdictions, mostly driven by higher wholesale electricity costs.

Trends in supply chain cost components

The figure shows the expected movements in the supply chain cost components for the representative consumer in Western Australia.



	2015/16		2016/17		2017/18		2018/19	
	c/kWh	\$/yr	c/kWh	\$/yr	c/kWh	\$/yr	c/kWh	\$/yr
Environmental policies	1.11	\$58	1.22	\$63	1.12	\$58	1.23	\$64
LRET - LGC cost	0.64	\$33	0.81	\$42	0.75	\$39	0.87	\$45
SRES - STC cost	0.46	\$24	0.41	\$21	0.38	\$20	0.36	\$19
Regulated networks	14.54	\$756	14.80	\$769	14.69	\$764	14.59	\$758
Transmission	1.67	\$87	1.50	\$78	1.48	\$77	1.47	\$77
Distribution	12.86	\$669	13.31	\$692	13.21	\$686	13.12	\$682
Wholesale and Retail	13.54	\$704	13.30	\$691	13.68	\$711	14.32	\$744
Wholesale	11.28	\$586	10.99	\$571	11.31	\$588	11.88	\$618
Retail	2.26	\$117	2.31	\$120	2.36	\$123	2.44	\$127
Estimated total supply cost	29.18	\$1,517	29.32	\$1,524	29.49	\$1,533	30.14	\$1,567
Residential price	26.38	\$1,371	27.17	\$1,412	29.07	\$1,511	31.11	\$1,617

In summary, the expected movements in each of the electricity supply chain components for Western Australia from 2016/17 to 2018/19 are:

Wholesale and retail costs consist of the wholesale electricity component and the costs associated with retailing electricity to residential consumers. They comprise approximately 45 per cent of the total cost of supply for Western Australia in 2016/17. They are expected to increase at an average annual rate of 3.8 per cent over the two years to June 2019.

Wholesale costs estimates are based on the AEMC's Long Run Marginal Cost modelling and are expected to increase at an average annual rate of 4.0 per cent over the two years to June 2019. This can be attributed to a slight increase in capital, fixed operating and maintenance costs in 2018/19, reflecting a slight increase in the forecast capital costs. There is a decrease in fuel costs over the reporting period, reflecting a forecast decrease in gas prices in Western Australia.

The government-owned utility, Synergy, is the only retailer for electricity users who consume less than 50 MWh per year. However, Synergy provides several different offers and consumers may find that one of the offers is most suited to their individual circumstances.

Regulated network costs consist of transmission and distribution costs and comprise approximately 51 per cent of the total cost of supply for Western Australia in 2016/17. They are expected to decrease at an average annual rate of 0.7 per cent over the two years to June 2019. Transmission and distribution networks in Western Australia are operated by the state-owned corporation, Western Power. Western Power's Approved Revised Access Arrangement and annual price lists have been used to estimate network prices. The current determination covers the first two years of the reporting period. There is no access

arrangement for 2017/18 and 2018/19; it is assumed that network prices will be held constant (nominal) for this period.

Transmission network costs are expected to decrease at an average annual rate of 0.8 per cent over the reporting period. This trend is based on decreases in capital expenditure in the transmission network. Western Power is currently meeting its service level targets despite significant under-spending of capital expenditure under previous access arrangements.

Distribution network costs are expected to decrease slightly at an average annual rate of 0.7 per cent over the two years to June 2019.

Over the entire reporting period, 2015/16 to 2018/19, distribution network costs are expected to increase slightly, which reflects Western Power's 2012-17 access arrangement. Cost increases during this period are mostly due to increases in operational expenditure, resulting from forecast growth in the size of the network, greater customer numbers and increasing labour costs.

Environmental policy costs comprise approximately 3.8 per cent of the total cost of supply for Western Australia. They are expected to increase at an average annual rate of 0.5 per cent over the two years to June 2019. These higher costs are as a result of on-going wind generation investment driven by the Large-scale Renewable Energy Target (LRET) scheme design.

The national picture

The underlying supply chain cost components and drivers of those trends vary across jurisdictions as a result of population, climate, consumption patterns, government policy and other factors. Against this background residential prices are expected to increase across the reporting period for most jurisdictions, driven to a greater or lesser degree by the same factors influencing Western Australia.

Q&A

What will electricity prices be in Western Australia?

Residential electricity prices in Western Australia are set by the Western Australian Government, which subsidises electricity prices such that the prices paid by consumers are less than the cost of supply. Residential electricity prices in the South-West Interconnected System (SWIS) are expected to have an average annual increase of 7.0 per cent over the two years to June 2019, for the representative consumer

Why are costs going up?

The cost of electricity supply is made up of wholesale, retail, network and environmental policy costs. The retail prices paid by consumers do not necessarily reflect underlying costs, nor follow cost trends, as prices are set by the Western Australian Government. Trends in the overall cost of electricity supply will be driven by higher wholesale, retail and Large-scale Renewable Energy Target costs.

How does Western Australia compare to other jurisdictions?

Trends in electricity costs and bill components vary across jurisdictions and over time. This reflects difference in population, climate, consumption patterns, government policy and other factors across states and territories. The way these trends affect an individual consumer will depend on how that consumer uses electricity.

Against this background, residential prices are expected to increase across the reporting period for most jurisdictions, driven mainly by rising wholesale electricity costs.

For information contact:

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

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

14 December 2016