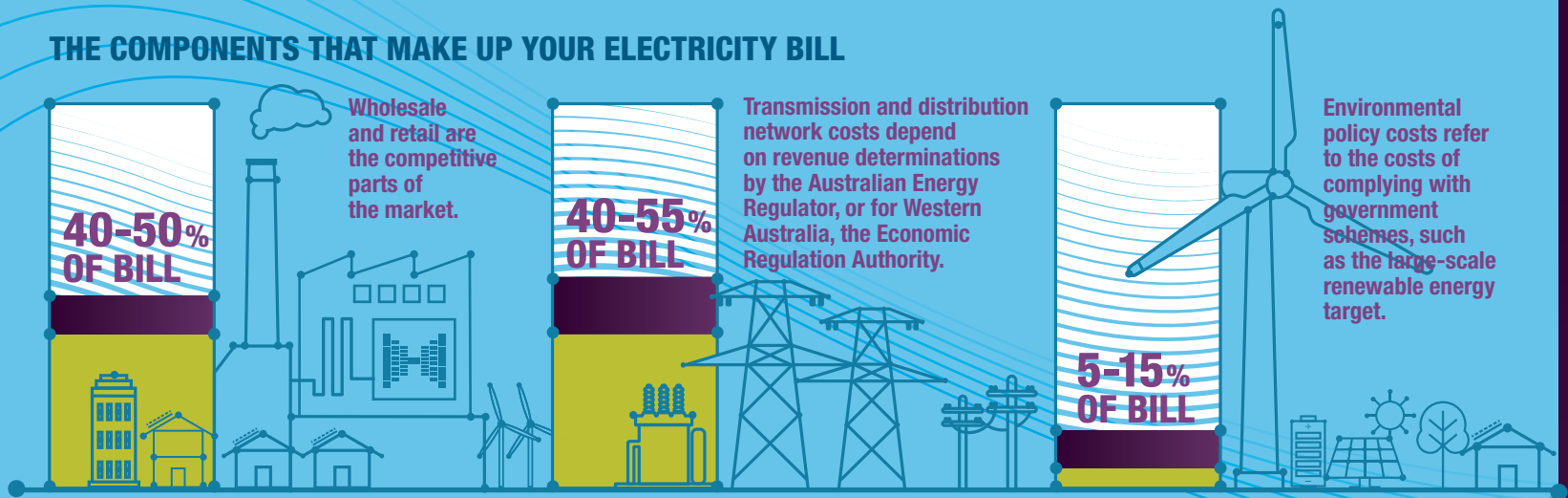
AEMC 2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

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



WHOLESALE AND RETAIL COSTS

Wholesale and retail are the competitive parts of the market.

REGULATED NETWORKS COSTS

Transmission and distribution network costs depend on revenue determinations by the Australian Energy Regulator, or for Western Australia, the Economic Regulation Authority.

ENVIRONMENTAL POLICY COSTS

Environmental policy costs refer to the costs of complying with government schemes, such as the large-scale renewable energy target.

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

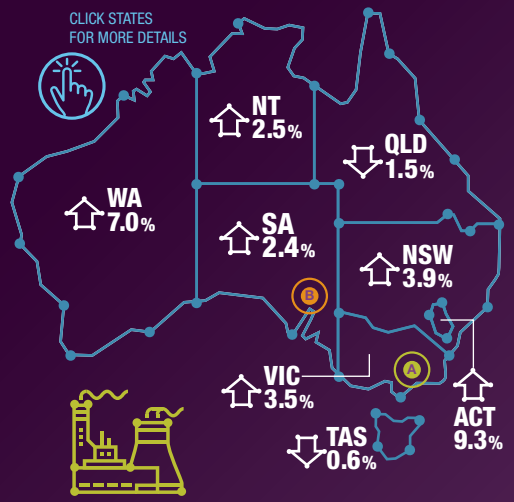
Well designed and integrated emissions reduction and energy policies can reduce emissions while delivering reliable, secure energy at the best price for consumers. The AEMC is advising energy ministers on the mechanism to achieve emissions reductions at the lowest cost to consumers.

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.



A Hazelwood power station – to close March 2017

B Northern power station – closed May 2016

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

PRICE IMPACTS OF HAZELWOOD POWER STATION CLOSURE

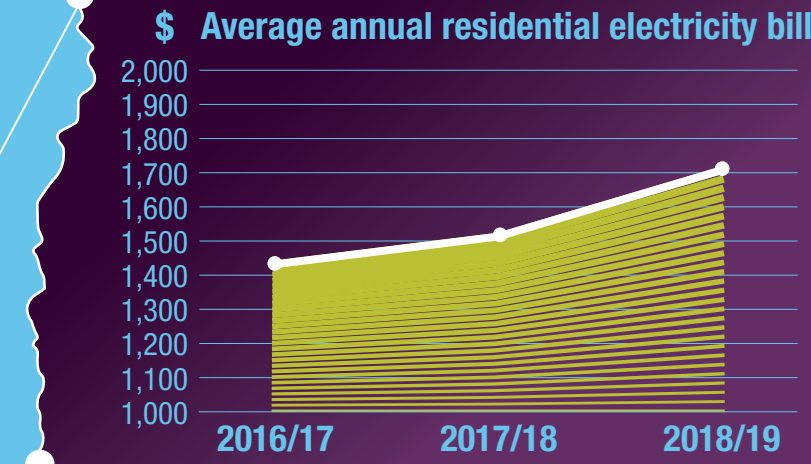
The owners of Hazelwood power station, which provides around 20% of Victoria's electricity, made a commercial decision to close in 2017. This will lead to large changes in electricity flows across regions and wholesale costs.

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.



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

UP **9.3%**

ACT

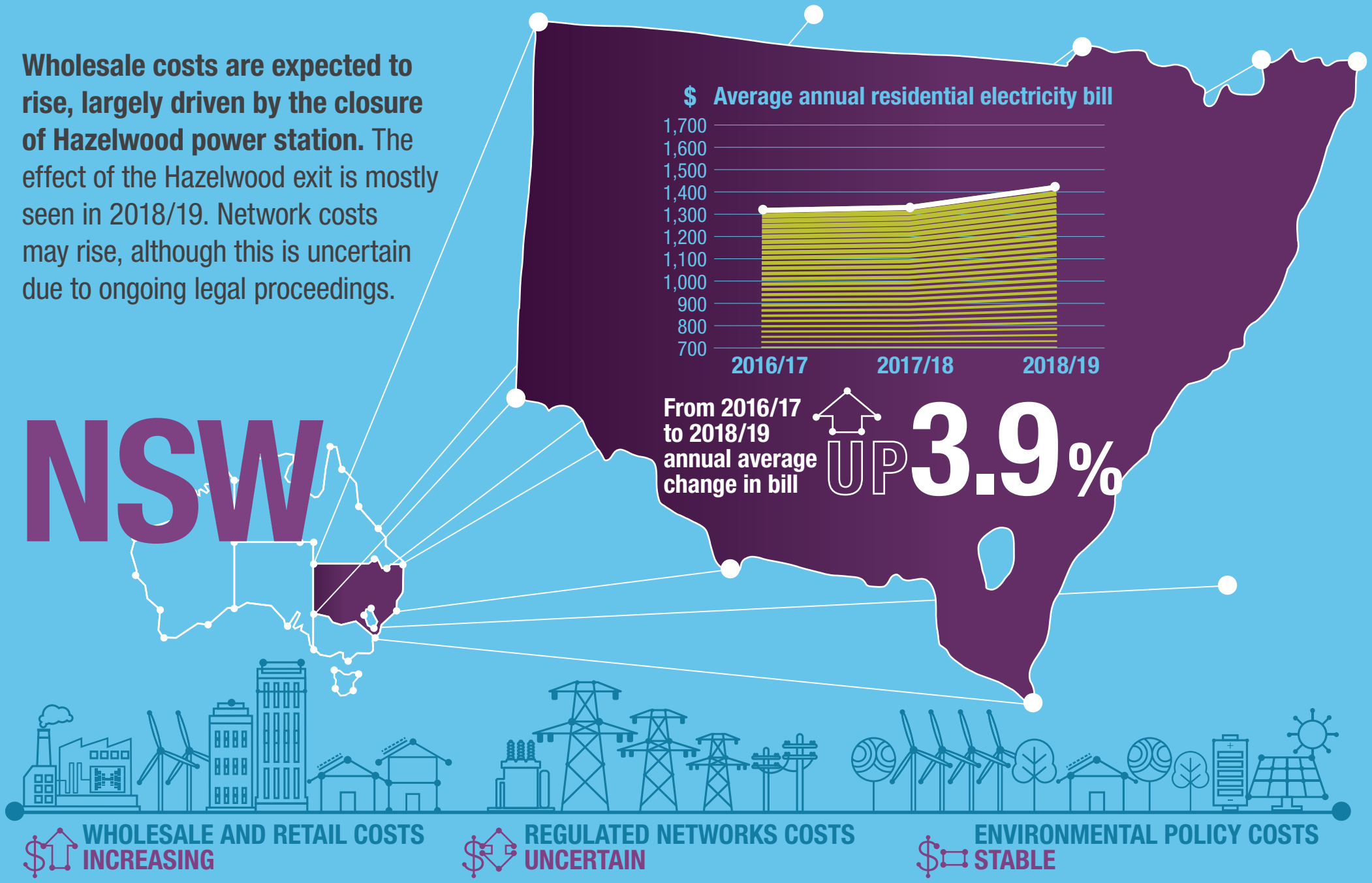
WHOLESALE AND RETAIL COSTS INCREASING

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.



WHOLESALE AND RETAIL COSTS INCREASING

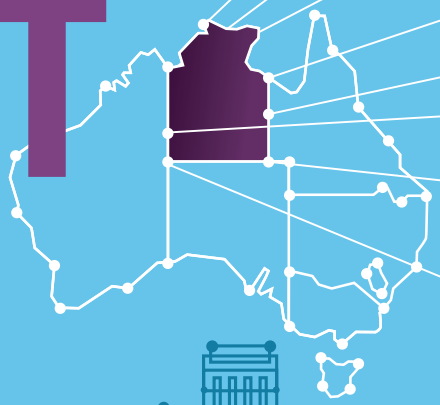
REGULATED NETWORKS COSTS UNCERTAIN

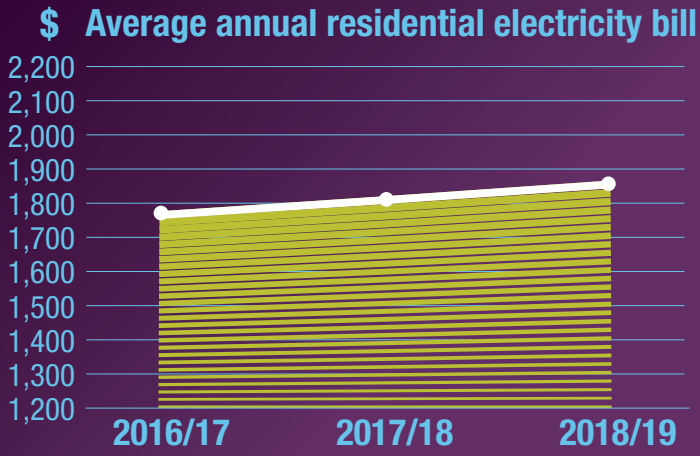
ENVIRONMENTAL POLICY COSTS STABLE

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





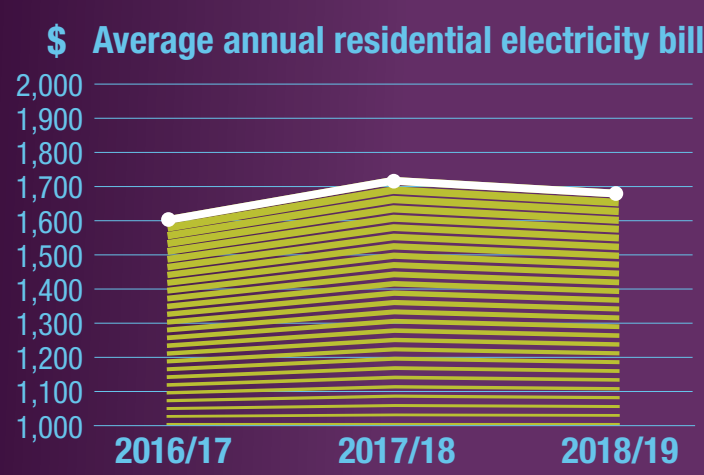
From 2016/17 to 2018/19 annual average change in bill

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.



From 2016/17 to 2018/19 annual average change in bill **UP 2.4%**

SA

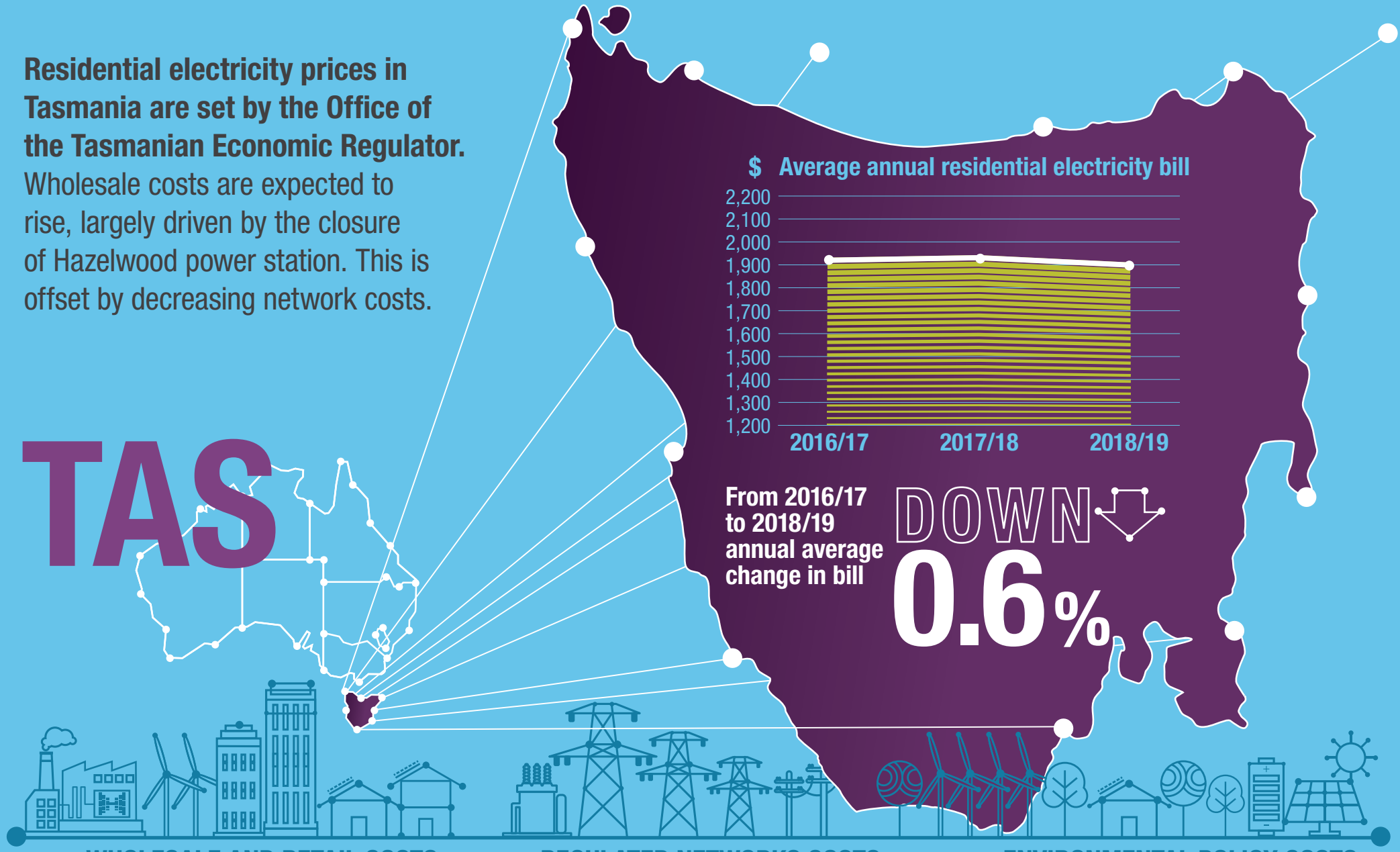
WHOLESALE AND RETAIL COSTS INCREASING

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.



WHOLESALE AND RETAIL COSTS INCREASING

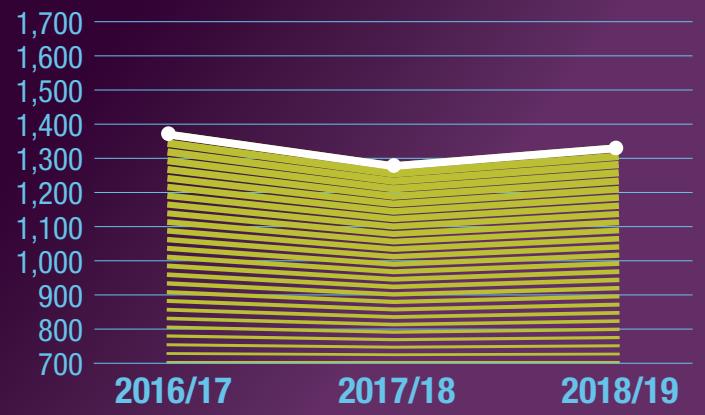
REGULATED NETWORKS COSTS DECREASING

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



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

DOWN 1.5%

WHOLESALE AND RETAIL COSTS INCREASING

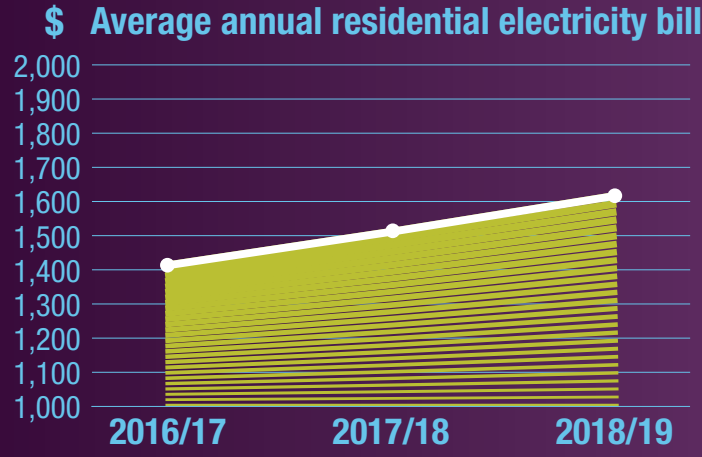
REGULATED NETWORKS COSTS STABLE

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



From 2016/17 to 2018/19 annual average change in bill UP **7.0%**

WHOLESALE AND RETAIL COSTS INCREASING

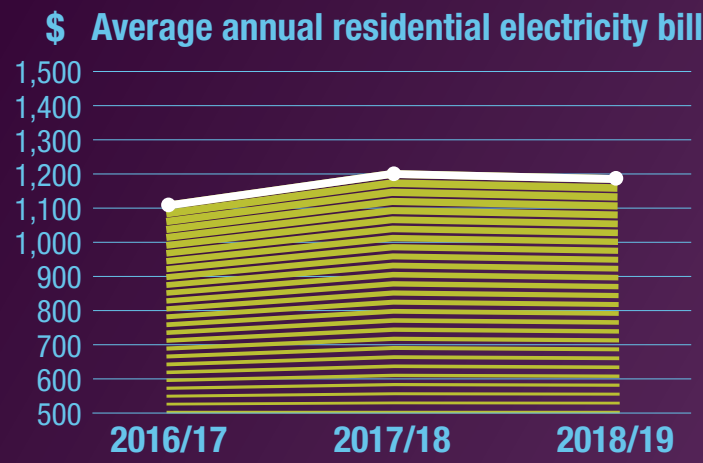
REGULATED NETWORKS COSTS STABLE

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



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

AEMC

NEWS

ACT residential electricity price trends

2016 Residential Electricity Price Trends report

Average residential electricity prices in the ACT are expected to rise over the next two years due to the increased cost of Feed-In Tariff schemes and rising wholesale costs following the retirement of Hazelwood power station.

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 the report found that ACT electricity prices are expected to rise by 9.3 per cent on average for each of the next two years, as consumers are impacted by a combination of higher wholesale costs and environmental policy costs, while demand remains flat. The largest impact will be from the increased cost of the solar feed-in tariff scheme, although prices are also being pushed higher in the ACT due to the closure of Hazelwood power station in Victoria.

"Across the national electricity market the generation mix is changing – with the large-scale renewable energy target leading to substantial investment in wind generation. This is contributing to the closure of coal-fired plants and increasing wholesale and retail prices," said Mr Pierce.

The report estimates that a typical ACT consumer will pay an extra $45 for their electricity in 2018/19 due to Hazelwood retiring, compared with Hazelwood continuing to operate.

The report found a range of factors will drive wholesale electricity costs over the longer term.

"Wholesale electricity costs are a key driver in customer bills. These costs are increasingly connected with the mechanisms used to achieve emissions policy objectives – that is, how the energy sector will contribute to the emissions reduction target set by the government as part of the Paris commitment," said Mr Pierce.

System security costs will also increasingly drive wholesale costs.

"Having more renewable non-synchronous generation affects the technical characteristics of the electricity system. We can expect that additional services will be needed to manage system security, potentially impacting retail prices over the longer term," Mr Pierce said.

Electricity prices are also affected by the price for gas through gas-fired power stations, which are expected to play a larger role in the market in the future.

"Any future increase in the price of gas will result in higher input costs for generators, flowing through to higher costs in the wholesale electricity market," said Mr Pierce.

"The report says that gas prices are expected to remain flat but this is a volatile sector."

Network costs, which make up around half of a residential electricity bill, are uncertain due to the current legal challenge of distribution network revenues by the ACT network business.

AUSTRALIAN ENERGY MARKET COMMISSION LEVEL 6, 201 ELIZABETH STREET SYDNEY NSW 2000
T: 02 8296 7800 E: AEMC@AEMC.GOV.AU W: WWW.AEMC.GOV.AU

Mr Pierce said price trends would impact individual households differently depending on how each consumer uses electricity, and how willing they are to switch to a better energy deal where market offers are available.

“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.

Reforms are underway to give consumers greater control over how they manage and use energy:

- From 1 July 2017 network businesses will be required to structure their prices to better reflect the consumption choices of individual consumers. This aims to give consumers price signals about the cost of using electricity in different ways and at different times, so they can make more informed energy choices.
- New rules to open up competition in metering come into force from 1 December 2017 and will give consumers more opportunities to access a wider range of new energy products and services with real time information about their energy use.

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

14 December 2016

Lots of new wind and solar generation has entered in response to mechanisms like the large-scale renewable energy target.

Now the generation mix is changing as old coal-fired power stations leave the market. Contract supply is shrinking and prices are rising.

AEMC

INFORMATION

Australian Capital Territory – 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.

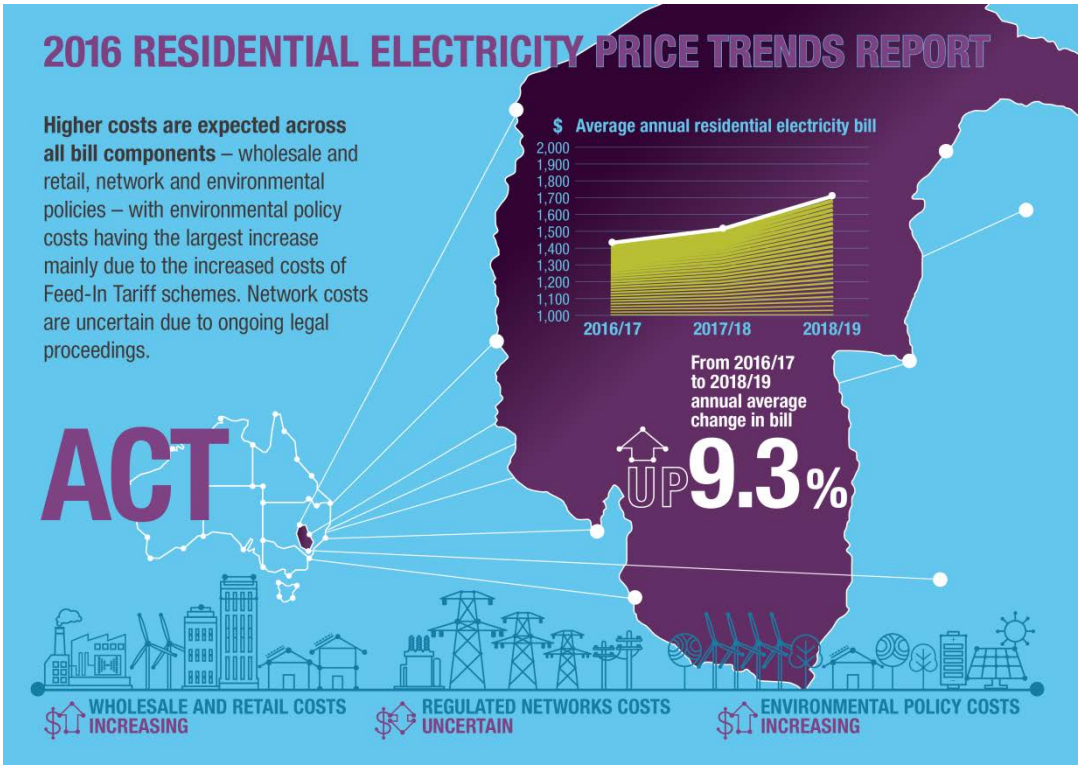
Key findings

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

Residential electricity prices in the Australian Capital Territory (ACT) are expected to increase by an annual average of 9.3 per cent over the two years to June 2019, for the representative consumer on a *standing offer*.

The trend in residential electricity prices is expected to be driven by increases across all cost components with environmental policy costs having the largest rise.

The trend in regulated network costs is subject to more than the usual degree of uncertainty due to ongoing legal proceedings.



Increased prices across the reporting period are due to higher costs across all bill components with environmental policy costs having the largest increase.

Background

The report presents expected movements in electricity prices for a representative consumer in the ACT, using an annual consumption level that was calculated from benchmark values published by the Australian Energy Regulator (AER).

- The annual consumption of the representative consumer in the ACT is 7,312 kilowatt-hours (kWh) of electricity each year.
- Average electricity prices in this report are specific to the representative consumer and do not reflect the pricing outcomes for all residential consumers.

This report analyses trends in the competitive market sector (comprising wholesale and residual retail market components), the regulated networks component and government environmental policies. The report shows how these trends affect overall prices paid by residential consumers, and identifies the relative contribution of these drivers to electricity price movements.

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. Actual price movements will be influenced by how retailers compete in the retail market, the outcomes of network regulatory processes and any changes in government legislation.

Trends in residential electricity prices

Residential *standing offer* electricity prices for the representative consumer in the ACT increased by 6.2 per cent from 2015/16 to 2016/17. Prices are expected to increase by:

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

This is equivalent to an average annual increase of 9.3 per cent from 2016/17 to 2018/19.

Approximately 24 per cent of consumers in the ACT have switched to a competitive *market offer* from the regulated *standing offer*.

In 2015/16, a consumer on the regulated *standing offer* using 7,312 kWh per year had a total annual bill of $1,348, exclusive of GST. This consumer may have saved around $41, or 3.1 per cent, by switching from the regulated *standing offer* to the representative *market offer* of $1,307.

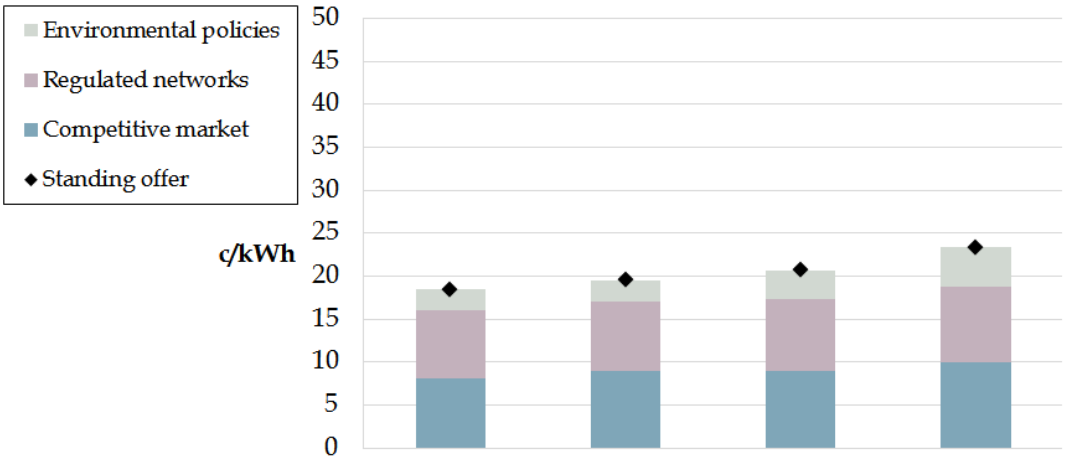
Table: ACT *standing* and *market offers* for a representative consumer

ACT	2015/16
***Standing offer* total annual bill**	$1,348
***Market offer* total annual bill**	$1,307
Saving by switching to representative *market offer*	$41 or 3.1%

Trends in supply chain cost components

The figure shows the expected movements in the supply chain cost components for the representative consumer on a *standing offer* in the ACT.

Changing wholesale electricity costs are largely driven by variations in inter-regional electricity flows.



	2015/16		2016/17 Current Year		2017/18		2018/19	
	c/kWh	$/yr	c/kWh	$/yr	c/kWh	$/yr	c/kWh	$/yr
Environmental policies	**2.43**	**$178**	**2.52**	**$185**	**3.39**	**$248**	**4.61**	**$337**
LRET - LGC cost	0.64	$46	0.80	$59	0.74	$54	0.86	$63
SRES - STC cost	0.46	$33	0.40	$29	0.37	$27	0.36	$26
FIT schemes	0.83	$61	0.83	$61	1.79	$131	2.90	$212
EEIS	0.51	$37	0.49	$36	0.49	$36	0.49	$36
Regulated networks	**7.93**	**$580**	**8.06**	**$590**	**8.39**	**$614**	**8.78**	**$642**
Transmission	2.35	$172	2.38	$174	2.45	$179	2.55	$186
Distribution	5.58	$408	5.68	$415	5.94	$434	6.23	$456
Competitive market	**8.07**	**$590**	**8.99**	**$657**	**8.91**	**$652**	**9.99**	**$730**
Wholesale and Retail								
Standing offer	**18.44**	**$1,348**	**19.57**	**$1,431**	**20.69**	**$1,513**	**23.37**	**$1,709**

The expected movements in each of the electricity supply chain components for the ACT from 2016/17 to June 2018/19 are summarised below:

Competitive market costs consist of the wholesale electricity component and the costs associated with retailing electricity to residential consumers. They comprise approximately 46 per cent of an ACT residential electricity bill in 2016/17. They are expected to increase at an average annual rate of 5.4 per cent from 2016/17 to 2018/19.

In the ACT, competitive market costs are expected to decrease slightly in 2017/18 before increasing from 2017/18 to 2018/19.

- The effect of the Hazelwood power station retirement is mostly seen in 2018/19 as during 2017/18 the Victoria-NSW interconnector is constrained frequently, limiting the effect of higher wholesale electricity prices in Victoria.
- In 2018/19, wind generation investment occurs in the southern states driven by the Large-scale Renewable Energy Target scheme design. As a consequence, the Victoria-NSW interconnector is mostly unconstrained in this year and the higher wholesale electricity prices from the southern states flow into the ACT.

For a representative ACT customer, power bills will be about $45 higher in 2018/19 than they would have been if Hazelwood was still expected to operate (a rise of 2.7%).

In the 2016/17 retail price determination, the Independent Competition and Regulatory Commission (ICRC) increased the allowance for retailer operating costs by 2 per cent and retail margins by 6 per cent for the regulated *standing offer*. The actual costs of retailing

electricity in the ACT are not directly observable. The retail component is estimated as a residual for 2017/18 and 2018/19 and includes errors in the estimates of other supply chain cost components. It is important to recognise that offers can vary significantly over time. Retailers have different business models and cost structures. Current estimates of the retail component are unlikely to be a true reflection of individual retailers' operating costs and return on investment.

Regulated network costs are uncertain due to ongoing legal proceedings.

Regulated network costs consist of transmission and distribution costs and comprise approximately 41 per cent of an ACT residential electricity bill in 2016/17. They are estimated to increase at an average annual rate of 4.4 per cent for the two years to June 2019. This is uncertain due to the ongoing legal challenge over distribution network revenues for the 2015-19 regulatory determination period.

Transmission network costs are expected to increase at an average annual rate of 3.3 per cent over the two years to June 2019. The trend in regulated transmission charges in these years reflects the smoothed annual revenue in the AER's final decision for Transgrid for the 2014-18 regulatory period.

Distribution network costs are estimated to increase at an average annual rate of 4.8 per cent over the two years to June 2019. The trend is uncertain due to ongoing legal proceedings. The regulated distribution network costs are based on escalating forward for the remaining years of the reporting period the 1.5 per cent growth rate in the ActewAGL 2016/17 enforceable undertaking.

ActewAGL Distribution made an application to the Australian Competition Tribunal for a review of the AER's distribution determination. In February 2016, the Tribunal decided to set aside the distribution network revenue determination. In March 2016, the AER then applied to the Federal Court for judicial review of the Tribunal's decision. The judicial review commenced in October 2016, however the outcome had not been decided by 30 November 2016.

The timing and outcomes of the judicial review, the remaking of the final revenue determination by the AER (if required) and any subsequent processes, remains uncertain, and may affect network cost trends.

Environmental policy costs currently comprise approximately 13 per cent of an ACT residential electricity bill. They are expected to increase at an average annual rate of 35 per cent over the two years to June 2019. This reflects increases in the cost of the Large-scale Renewable Target and the ACT solar and wind feed-in tariff schemes.

Under the design of the ACT Government's "contract for difference" large scale feed-in tariff, the generators receive payment from the distribution network business equal to the difference between spot price income from the NEM and the agreed feed-in tariff strike price. The distribution business passes through the cost of these payments to consumers. When the spot price income exceeds the strike price, the generators pay the difference back to the distribution network business. In the case where overall wholesale costs are rising, there is a reduction in the feed-in tariff costs that are passed through to consumers. However this reduction in the environmental policy component of the bill would likely be offset by an increase in the wholesale electricity component of the bill.

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 the ACT.

Q&A

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

What will electricity prices be in the ACT?

For a representative consumer on a *standing offer,* residential electricity prices in the ACT are expected to increase by an annual average of 9.3 per cent over the two years to June 2019.

Why are prices going up?

Electricity prices are made up of wholesale, retail, network and environmental policy costs. Trends in the ACT electricity prices over the two years to June 2019 will be driven by higher costs across all cost components with environmental policy costs having the largest increase.

What is the effect on power bills of Hazelwood power station retiring?

For a representative ACT customer, power bills will be about $45 higher in 2018/19 than they would have been if Hazelwood was still expected to operate.

How does the ACT compare to other jurisdictions?

Trends in electricity prices 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.

How do consumers get a better deal?

Consumers can choose from the range of different electricity offers available in the market. A comparator website like energymadeeasy.gov.au can help consumers select the best offer for them. Actual savings will depend on consumers' individual circumstances.

For information contact:

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

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

14 December 2016