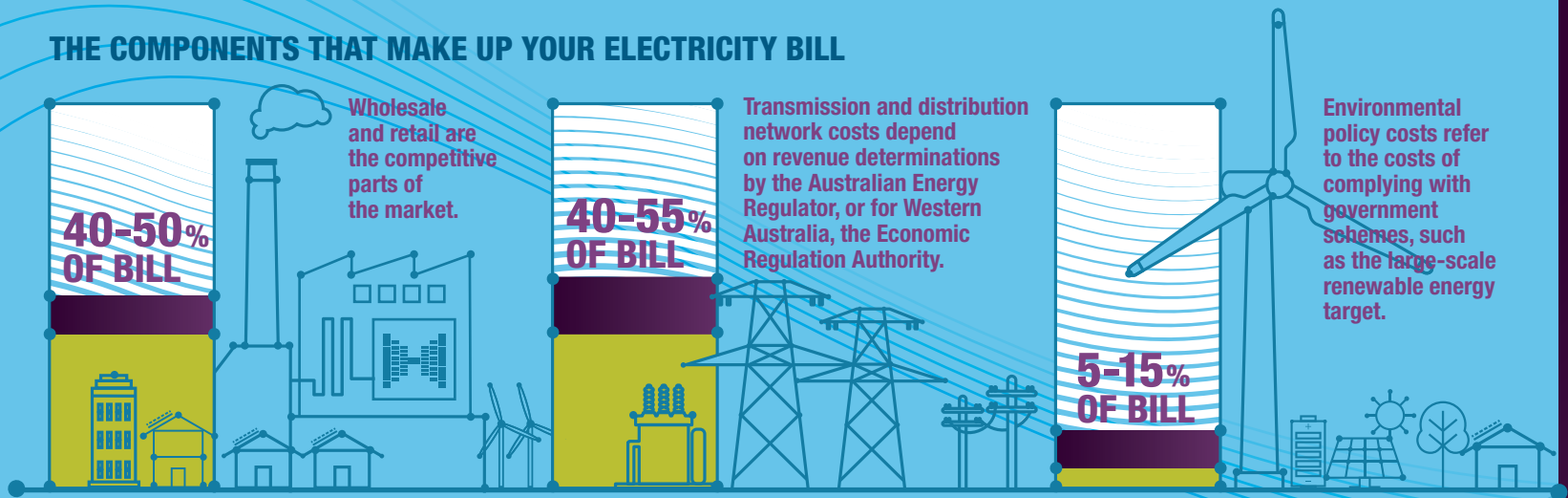
AEMC 2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

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 are the competitive parts of the market.

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

WHOLESALE AND RETAIL COSTS | **REGULATED NETWORKS COSTS** | **ENVIRONMENTAL POLICY COSTS**

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

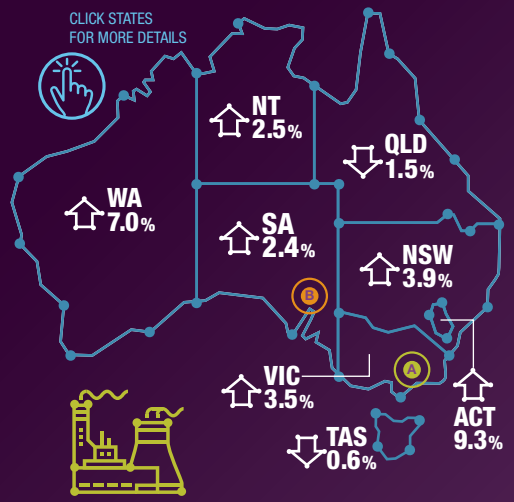
Well designed and integrated emissions reduction and energy policies can reduce emissions while delivering reliable, secure energy at the best price for consumers. The AEMC is advising energy ministers on the mechanism to achieve emissions reductions at the lowest cost to consumers.

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

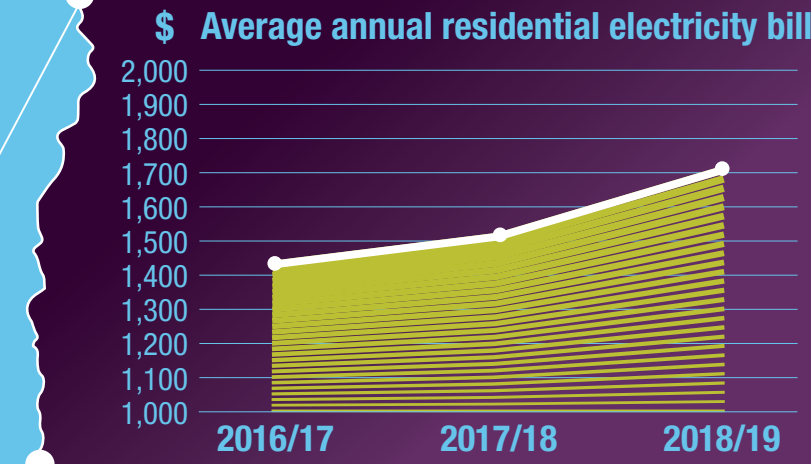
The owners of Hazelwood power station, which provides around 20% of Victoria's electricity, made a commercial decision to close in 2017. This will lead to large changes in electricity flows across regions and wholesale costs.

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

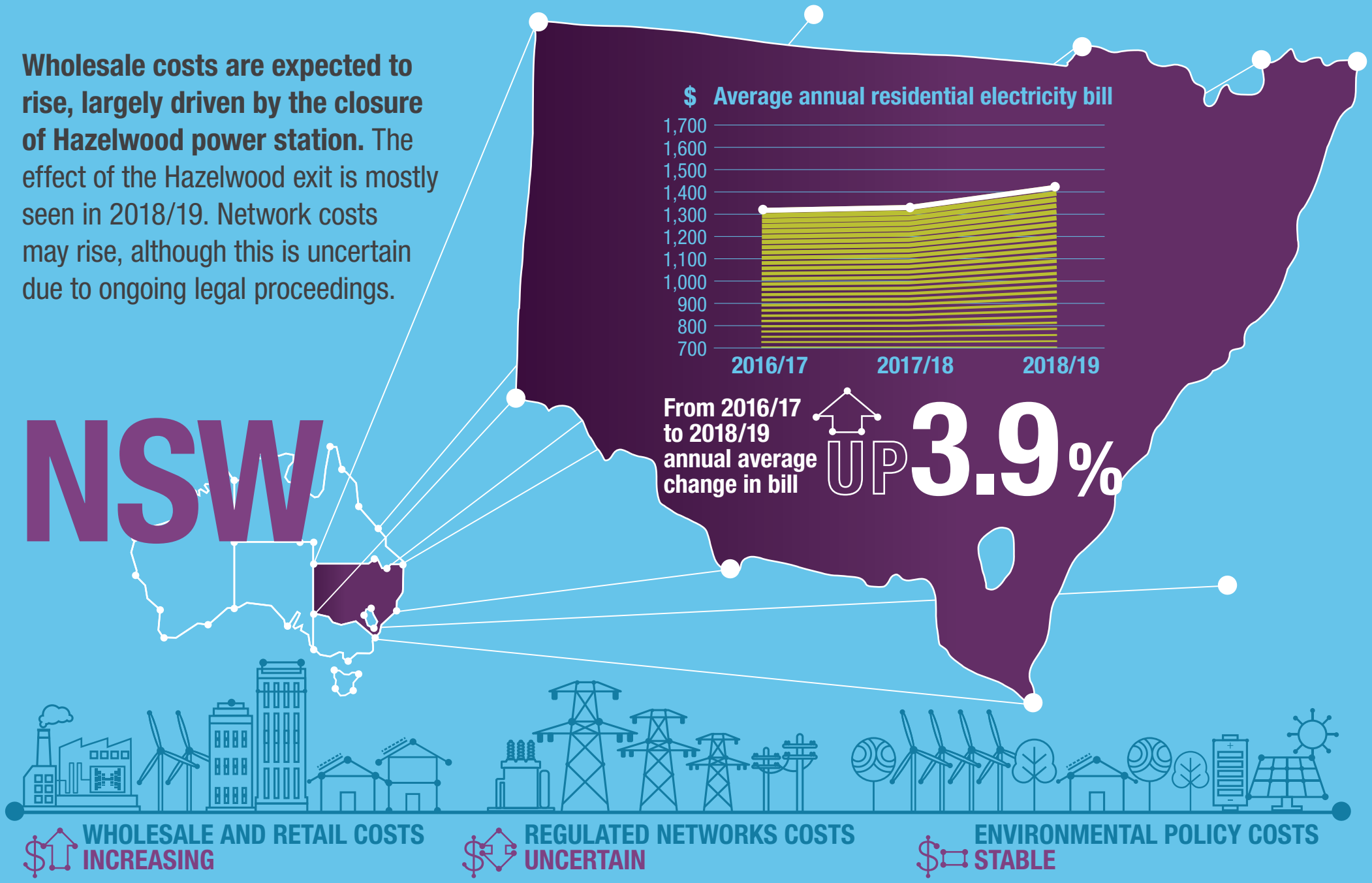
WHOLESALE AND RETAIL COSTS INCREASING

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

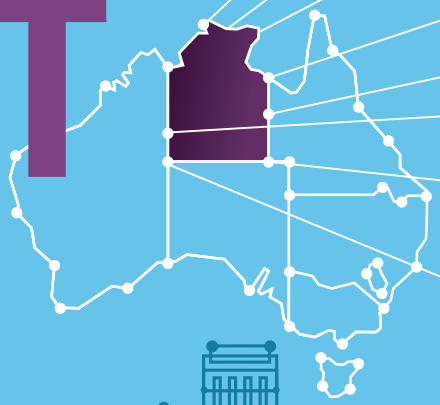
REGULATED NETWORKS COSTS UNCERTAIN

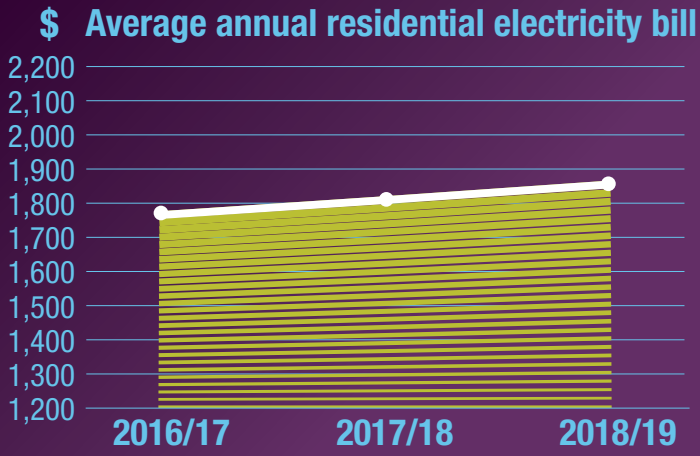
ENVIRONMENTAL POLICY COSTS STABLE

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



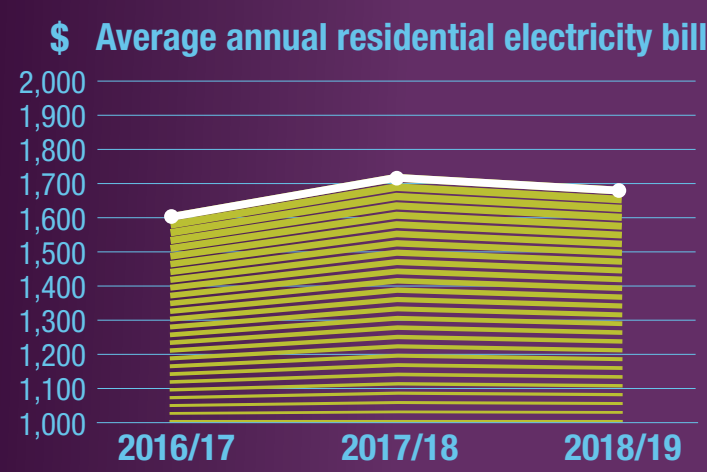


From 2016/17 to 2018/19 annual average change in bill **UP 2.5%**

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

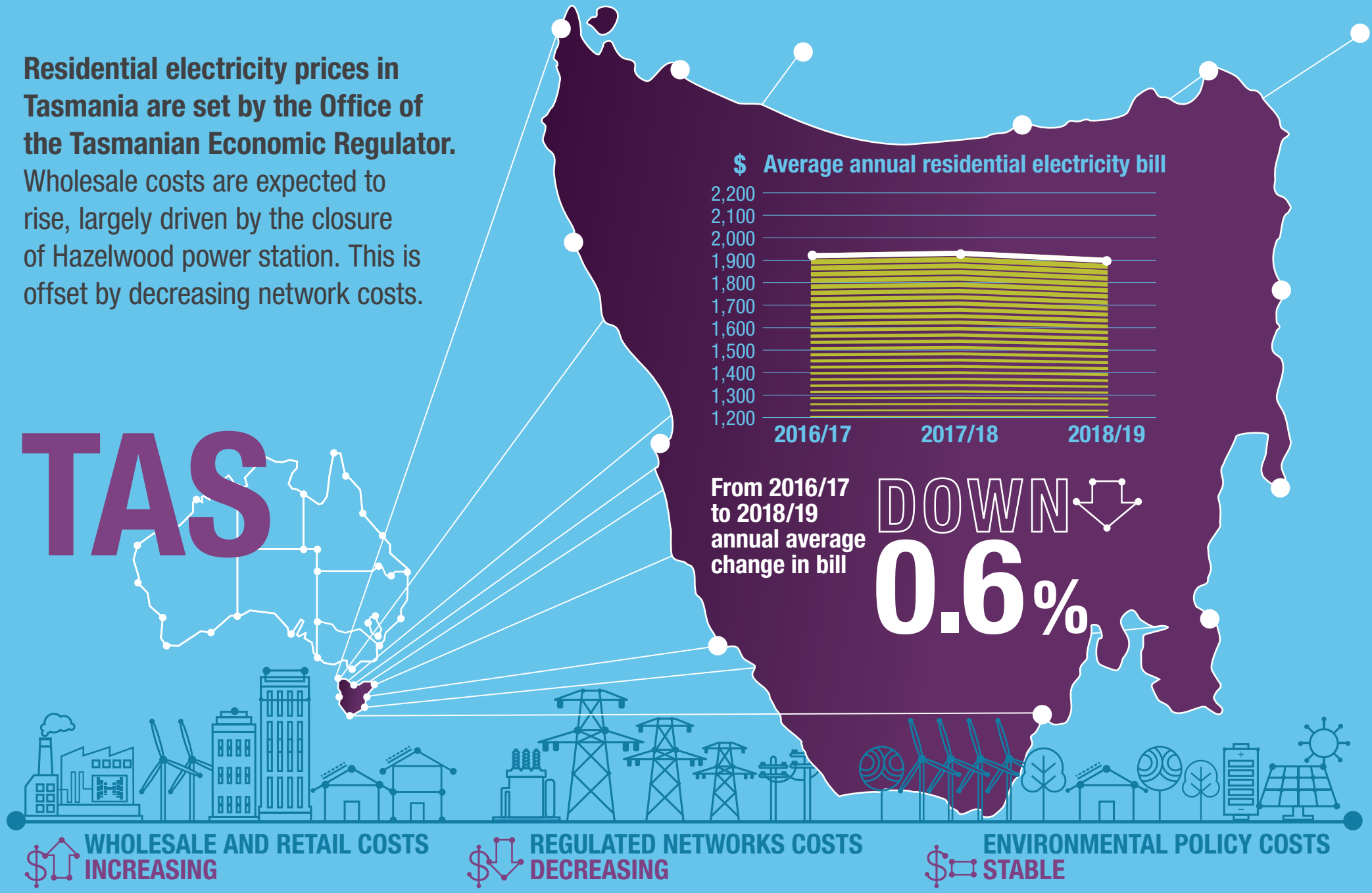
WHOLESALE AND RETAIL COSTS INCREASING

REGULATED NETWORKS COSTS UNCERTAIN

ENVIRONMENTAL POLICY COSTS STABLE

2016 RESIDENTIAL ELECTRICITY PRICE TRENDS REPORT

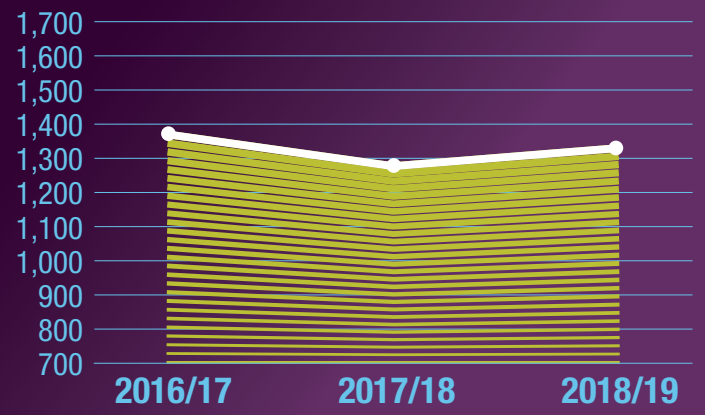
Residential electricity prices in Tasmania are set by the Office of the Tasmanian Economic Regulator. Wholesale costs are expected to rise, largely driven by the closure of Hazelwood power station. This is offset by decreasing network costs.



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

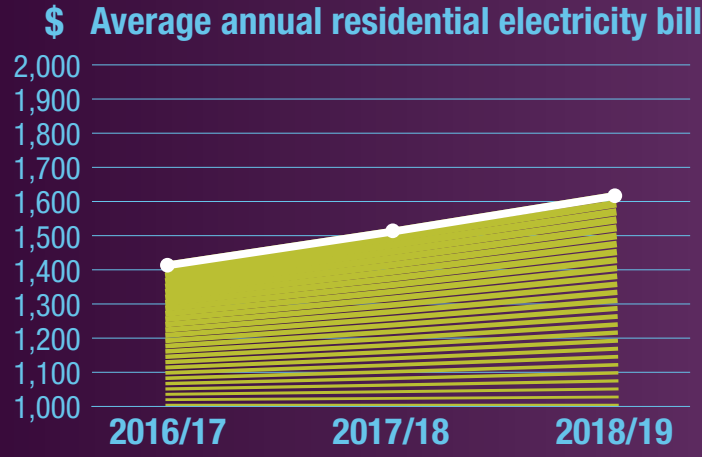
REGULATED NETWORKS COSTS STABLE

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

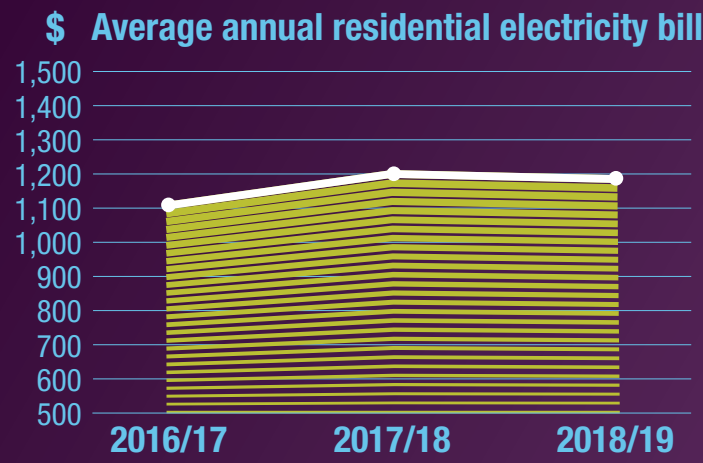
REGULATED NETWORKS COSTS STABLE

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

Electricity prices rising with variation between regions

2016 Residential Electricity Price Trends report

Average electricity prices are expected to increase in most states and territories over the next two years as wholesale costs rise 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 shows the retirement of coal-fired generators will increase residential electricity prices in most places.

"Prices are likely to rise in most parts of Australia over the next two years, but expected to fall slightly in south east Queensland and Tasmania," Mr Pierce said.

Wholesale costs are estimated to increase by between 5% and 15% each year over 2015/16 to 2018/19 in most states and territories, while demand remains flat.

The closure of the Hazelwood power station in Victoria will lead to wholesale price increases in most states. The report estimates the national average residential bill will be $78 higher in 2018/19 due to Hazelwood retiring, compared with Hazelwood continuing to operate.

The report also shows significant variation in wholesale prices across the states.

"The changing generation mix, with more solar and wind entering the market and coal-fired generators retiring, means that electricity flows and wholesale prices are also changing. This is leading to greater variation in residential bills depending on where you live, and how much electricity you use," said Mr Pierce.

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 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 expected to increase slightly across most jurisdictions, although there is some uncertainty due to the current legal challenge of distribution network revenues in New South Wales, the Australian Capital Territory, South Australia and Victoria.

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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.

Mr Pierce said price trends would affect 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 in most jurisdictions 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

AEMC

INFORMATION

Commonwealth – 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 (comprising wholesale and residual retail components), the regulated network component and environmental policy component.

On a national basis, residential electricity prices are expected to increase by an annual average of 2.5 per cent over the two years to June 2019.

The trend in residential electricity prices largely reflects:

- rising wholesale costs in 2017/18 due to the expected retirement of Hazelwood power station and higher regulated network costs, that are partially offset by a decrease in environmental policy costs; and
- higher costs across all three cost components in 2018/19.

Trends in the underlying supply chain cost components and drivers of trends will vary across jurisdictions and over time. This reflects differences in population, climate, consumption patterns, government policy and other factors across the states and territories. The way these trends affect an individual consumer will depend on how that consumer uses electricity. This is particularly relevant as the consumption profiles of consumers become increasingly diverse.

Background

The report provides information on the supply chain components expected to affect the trends in residential electricity prices for each state and territory of Australia from 2016/17 to 2018/19. The report seeks to strengthen consumer understanding and engagement in the electricity market by providing information on the drivers of potential movements in prices.

The report analyses trends in the competitive market sector (comprising wholesale and residual retail market components), 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

Nationally, residential electricity prices are expected to increase by an average annual rate of 2.5 per cent for the average national consumer for the two years to June 2019. Price trends and drivers vary between the states and territories due to local conditions and government policies, as shown by the differences in average annual movements in Table 1.

Residential electricity prices are expected to increase, mostly driven by higher wholesale electricity costs.

Under the terms of reference provided to the AEMC by the COAG Energy Council, a national level summary where the jurisdictional estimates are weighted to determine nationally indicative prices and cost components must be included in this report.

As the national numbers are an average of jurisdictional results that are, in some cases, already averages of several different network regions, they do not reflect the actual costs faced by consumers in Australia. Due to this averaging process, the trends are only indicative.

Jurisdictional estimates have been weighted by the number of residential connections in each jurisdiction. As such, the trends in the national summary most closely reflect the cost trends in the most populous jurisdictions. This also means that the national summary is more representative of trends in the National Electricity Market (NEM) that covers the eastern states.

TABLE 1: Annual average residential electricity price movements to June 2019

Jurisdiction	Average annual price movement July 2017 to June 2019
Queensland	1.5 per cent decrease
New South Wales	3.9 per cent increase
Australian Capital Territory	9.3 per cent increase
Victoria	3.5 per cent increase
South Australia	2.4 per cent increase
Tasmania	0.6 per cent decrease
Western Australia	7.0 per cent increase
Northern Territory	2.5 per cent increase

The national weighted average consumption level is 5,246 KWh per year. At this consumption level, the national average total annual bill in 2015/16 is $1,296, exclusive of GST.

Commonwealth	2015/16
National average total annual bill (5,246kWh)	$1,296

Figure 1 shows the national weighted average trend in residential electricity bills for the national weighted average consumption level.

FIGURE 1: Annual national electricity bill trend

Trends in the national summary most closely reflect the cost trends in the most populous jurisdictions.

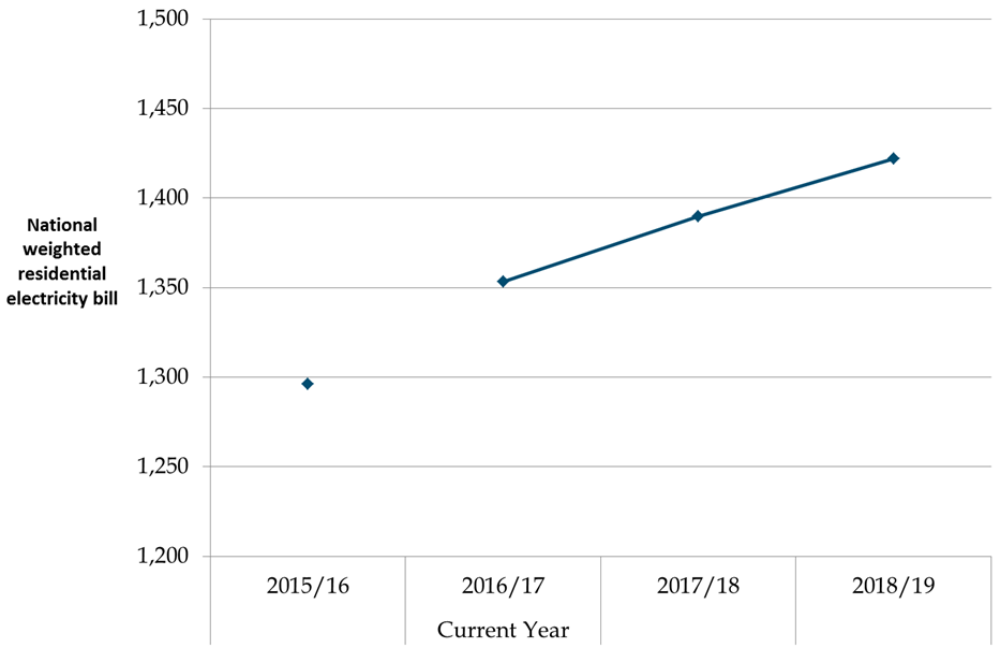
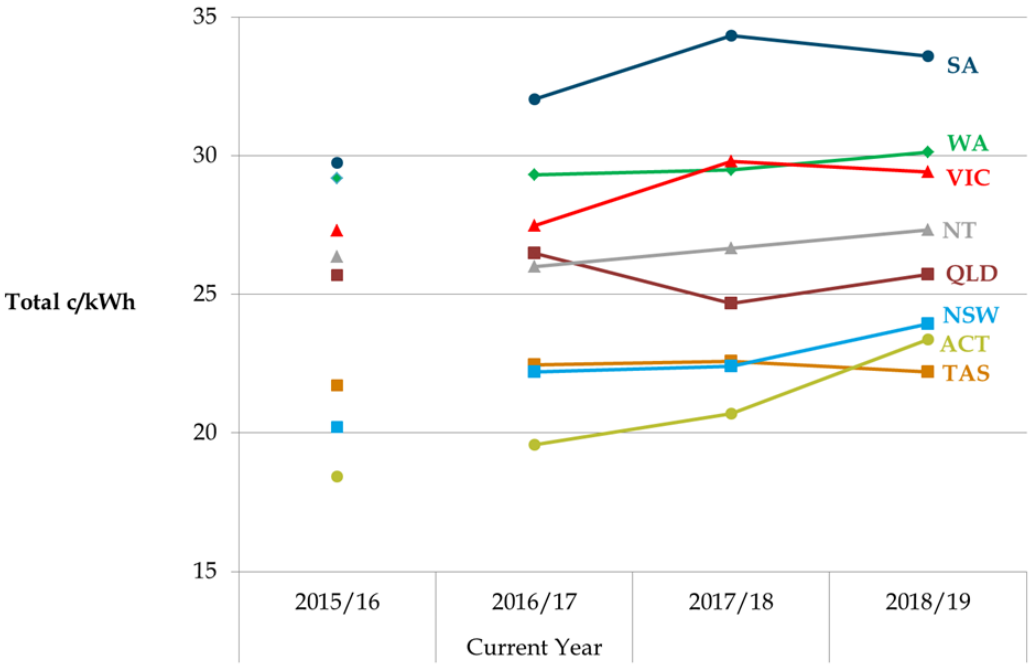


Figure 2 shows the trend in the price for the representative residential consumer in each jurisdiction estimated on a c/kWh basis over 2016-19.

FIGURE 2: Price trend for representative consumer across jurisdictions (c/kWh)



The effect of higher wholesale electricity costs on jurisdictional bills depends on:

- **the proportion of wholesale costs in a bill, and**
- **the consumption level of the representative consumer.**

Figure 3 shows that electricity bills are mostly expected to increase across jurisdictions from 2016/17 to 2018/19. Note that these bills should not be directly compared between jurisdictions. Bills are estimated for a 'representative consumer' and the consumption levels are different for each jurisdiction. Table 2 sets out the representative consumer's consumption level for each jurisdiction which are based on AER and jurisdictional data.

FIGURE 3: Annual bill for the representative consumer across jurisdictions ($ per year)

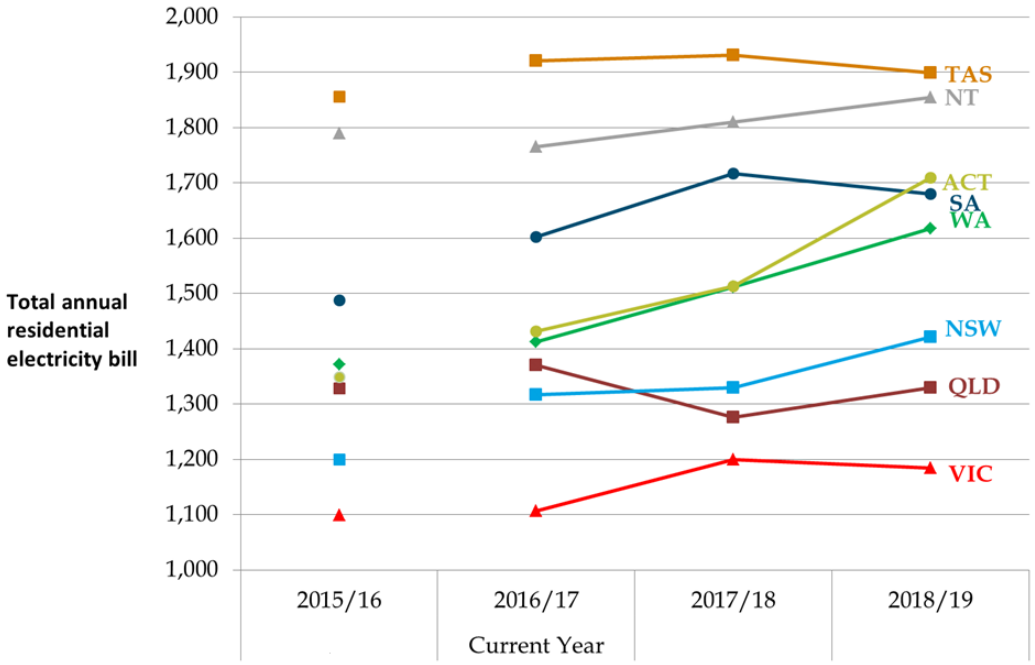


Table 2: Consumption levels for the representative consumer in each jurisdiction

	SE-QLD	NSW	ACT	SA	VIC	TAS	WA	NT
Total annual consumption (kWh)	5,173	5,936	7,312	5,000	4,026	8,550	5,198	6,790

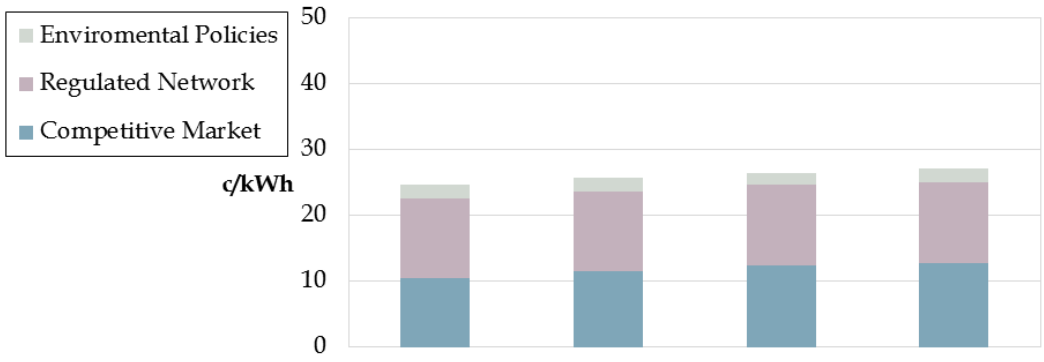
Trends in supply chain cost components

Figure 4 shows the expected movements in the supply chain cost components for the average national consumer across the reporting period.

Over the reporting period:

- **competitive market costs are expected to increase,**
- **regulated network costs are uncertain, and**
- **environmental policy costs are expected to be stable**

FIGURE 4: National summary of supply chain cost components



	2015/16		2016/17 Current Year		2017/18		2018/19	
	c/kWh	$/yr	c/kWh	$/yr	c/kWh	$/yr	c/kWh	$/yr
Environmental policies	**2.08**	**$ 109**	**2.18**	**$ 114**	**1.87**	**$ 98**	**2.02**	**$ 106**
LRET	0.64	$ 33	0.81	$ 42	0.74	$ 39	0.86	$ 45
SRES	0.46	$ 24	0.40	$ 21	0.37	$ 20	0.36	$ 19
FIT Schemes	0.84	$ 44	0.79	$ 41	0.58	$ 31	0.60	$ 32
Other state schemes	0.15	$ 8	0.18	$ 10	0.18	$ 9	0.19	$ 10
Regulated networks	**12.24**	**$ 642**	**12.07**	**$ 633**	**12.20**	**$ 640**	**12.38**	**$ 649**
Transmission	2.32	$ 122	2.18	$ 114	2.07	$ 108	2.08	$ 109
Distribution	9.92	$ 520	9.89	$ 519	10.14	$ 532	10.29	$ 540
Competitive market	**10.38**	**$ 545**	**11.55**	**$ 606**	**12.41**	**$ 651**	**12.71**	**$ 667**
Wholesale and retail								
Total	**24.71**	**$ 1,296**	**25.80**	**$ 1,353**	**26.49**	**$ 1,390**	**27.11**	**$ 1,422**

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

Competitive market costs consist of the wholesale electricity component and the costs associated with retailing electricity to residential consumers. They are expected to increase at an average annual rate of 4.9 per cent over the two years to June 2019.

Overall, competitive market costs are expected to increase:

- in 2017/18, due to the retirement of Hazelwood power station (1,600 MW) in Victoria and relatively flat forecast consumption; and
- in 2018/19, due to relatively higher wholesale electricity prices from the southern states (Victoria, South Australia and Tasmania) flowing into the more populous New South Wales and Queensland. This occurs because the Victoria to New South Wales interconnector is mostly unconstrained in this year

The costs of retailing electricity in many of the jurisdictions are not directly observable. The retail component is a residual 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.

The trend in regulated network costs is uncertain due to ongoing legal proceedings.

Regulated network costs consist of transmission and distribution costs and are expected to increase at an average annual rate of 1.3 per cent over the two years to June 2019. Over the reporting period, network costs:

- increase in Queensland;
- are subject to more than the usual amount of uncertainty in New South Wales, ACT, South Australia and Victoria due to ongoing legal proceedings; and
- are stable in all other jurisdictions.

The trend in the regulated network component is uncertain in New South Wales and the ACT due to the potential outcomes of judicial reviews and the AER's remade 2014-19 final distribution determinations. In addition, there is uncertainty regarding the next steps in the process, their timing and the eventual effect on allowable revenues for the New South Wales and ACT distribution businesses.

The trend in the regulated network component is also uncertain in:

- Victoria due to the potential outcomes of merits reviews of the AER's final distribution revenue determinations; and
- South Australia due to potential outcomes of the judicial review application before the Federal Court.

Environmental policies are expected to decrease at an average annual rate of 3.8 per cent over the two years to June 2019. This is due to higher large-scale generation certificate (LGC) costs and increases in jurisdictional schemes being offset by decreases in costs associated with feed-in tariff schemes and Small-scale Technology Certificate (STC) costs under the Small-scale Renewable Energy Scheme (SRES).

Environmental policies under development, such as proposed state and territory renewable energy targets have not been included in the environmental policy cost component. These will affect future trends in residential electricity prices.

Q&A

What will electricity prices be nationally?

On a national basis, weighted average residential electricity prices are expected to increase over the reporting period at an annual average rate of 2.5 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. On a national basis, trends in electricity prices over the two years to June 2019 will be driven by increasing wholesale costs, largely driven by the commercial decision to close the Hazelwood power station.

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